TALEO Job Number: 220672
Job Title: (Medior) Scientist Interoperability and Security
NATO Grade: A2/G15
Post number: DRDP AS32
Basic MONTHLY salary (12x per year): 5378,03
Closing Date: 26 Sept 2022

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.

Do you have experience working with Maritime Unmanned Systems, in particular with Command, Control, and Communications (C3)? Are you interested in working in an International Organization located on the Ligurian coast of Italy? If so, CMRE is looking for you! We are looking for a scientist to contribute to the development of NATO standards for enabling military operations with coordination of multiple heterogeneous Maritime Unmanned Systems and Man-Unmanned Teaming.

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

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 comprises the four following sections:

1. Antisubmarine Warfare (ASW)
2. Mine Countermeasures (MCM)
3. Data & Environmental Knowledge and Operational Effectiveness (D-EKOE)
4. Maritime Unmanned Systems Enablers (MUSE)

The position is within the MUSE Section. The Scientist will work within the “Maritime Unmanned Systems Interoperability Security and Standards” Project within the Maritime Unmanned Systems Enablers (MUSE) Programme, responsible to support the program of work in developing and investigating innovative scientific research.

The expected scientific focus is the area of coordination and collaboration of heterogeneous Maritime Unmanned systems (MUS), where CMRE aims at developing data models and secure command and control architectures. CMRE is particularly interested in developing Interoperability capabilities and promote standards in the field of:

- Command, Control and Communications (C3) of Maritime Unmanned Systems (MUS)
- Enabling military operations with coordination of multiple heterogeneous MUS.
- Man-UnManned Teaming (MUMT)
- MUS Safety and Security
- Unmanned Systems of Systems

The Scientist will contribute (in coordination and under guidance of the Section Head) to the scientific and conceptual developments of the programme of work towards achieving set objectives.

Being part of a horizontal programme, the scientist will work in close collaboration with researchers in the Anti-Submarine Warfare, Mine Countermeasures, Maritime Surveillance, Military Oceanography, Engineering and Information Technologies Programmes to support the overall execution of the CMRE Programme of Work.

**PRINCIPAL DUTIES**

Reporting to a Project Leader or a Section Head and working within a matrix structure, the incumbent leads and/or contributes to:

- Conceptual aspects and development of C3 system architectures for distributed heterogeneous MUS;
- Conceptual aspects of software service design supporting MUS C3;
- Conceptual aspects related to unmanned systems co-assurance for safety and security;
• Standardization efforts to achieve interoperability of unmanned system of systems

He or she:
• Validates interoperability concepts;
• Validates security and Safety of MUS;
• Implements prototype systems realizing research elements for use in mid-TRL exercises and experiments
• Participates and supports the organization of sea trials and/or simulated experiments;
• Takes active part in other research tasks in coordination with CMRE programmes.
• Conducts research tasks and produces reports as outputs;
• Attends meetings, conferences, and panels;

SPECIAL REQUIREMENTS AND ADDITIONAL DUTIES

Flexibility Clause

• The incumbent may be required to perform other related duties even in other parts of the organization as directed.

• As required by the Program of Work, the incumbent may be asked to participate in working groups or project teams and to coordinate and organize the work of other scientists and staff.

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 administrative environment but may include work on board of a vessel. The duties are performed indoor and outdoor subject to changing conditions and can involve physical labor. Undesirable working conditions may apply.

Certification

The incumbent needs to be holder a fit for sea certificate in line with the International Maritime Organization (IMO) and International Labour Organization (ILO) standards before taking up duty or capable of getting it during the first 6 months of employment.

ESSENTIAL QUALIFICATIONS

Professional/Experience

• Experience in Maritime Unmanned Systems development;
• Experience in design and development of Command and Control Architectures for Unmanned Systems;
• Experience in the practical usage of software and data modelling tools
• Programming: knowledge of, at least, one of the following programming languages, the knowledge of more programming languages will be considered a plus:
• C++
• Python
• C#
• Java
• Solid knowledge and scientific experience in physics, mathematics, engineering or related fields, demonstrated by a record of accomplishment of scientific and/or technical publications in the fields of Unmanned Systems, Software Architecture, Communications Engineering, or related field(s);
• Excellent skills in documenting the work done and reporting scientific results in technical and/or scientific publications;
• Demonstrated ability to coordinate work of a team;

Education/Training

A minimum requirement of a Bachelor’s degree at a nationally recognised/certified University in a related discipline (e.g. computer science, physics, mathematics, engineering etc.) and 2 years post-related experience in computer science, physics, mathematics, engineering or in a related field with a specific focus on robotics.

or

Exceptionally, the lack of a university degree may be compensated by the demonstration of a candidate’s particular abilities or experience that is/are of interest to CMRE, that is, at least 6 years extensive and progressive expertise in duties related to the function of the post.

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

• A MSc. or Ph.D. degree in physics, mathematics, engineering or related technical field with a specific focus on robotics;
• Experience in programming of Unmanned Systems;
• Exposure on aspects related to autonomy in MUS;
• Good knowledge of version control software (i.e. git);
• Navy operational education/training;
• Experience with Linux systems at user level;
• Experience with embedded software for Cyber Physical Systems;
• Experience working in a team that applies agile methodologies;
• Experience working with Navy and/or Defence organizations;
• A broad experience of collaboration with academia, industry and National labs in the field of underwater technology;
• Knowledge of NATO structure and objectives.
• Standard Language English 4444 (Listening, Speaking, Reading and Writing);
• Other NATO language, French, (besides mother tongue) at proficiency 3333.
**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.flt?job=220672&lang=en](https://nato.taleo.net/careersection/2/jobdetail.flt?job=220672&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.