IAEA
International Atomic Energy Agency

Job Description for Professional Posts

Reference: NA2025/60

Position and Grade:	Associate Research Scientist, Safeguarding Seafood Safety Amidst Climate Change, P2
Organizational Unit:	Marine Environmental Studies Laboratory Division of IAEA Marine Environment Laboratories
Duty Station:	Monaco
Type/Duration of Appointment:	FT – JPO, 1 year

Organizational Setting

The Department of Nuclear Sciences and Applications implements the IAEA's Major Programme 2, "Nuclear Techniques for Development and Environmental Protection". This Major Programme comprises individual programmes on food and agriculture, human health, water resources, environment and radiation technologies. These programmes are supported by laboratories in Seibersdorf, Monaco and Vienna. The Major Programme's objective is to enhance the capacity of Member States to meet basic human needs and to assess and manage the marine and terrestrial environments through the use of nuclear and isotopic techniques in sustainable development programmes.

The Division of IAEA Marine Environment Laboratories (NAML) consists of three laboratories, which are located in Monaco. The Division supports Member States in enhancing their capacity to use nuclear and isotopic techniques to understand marine and atmospheric environmental processes and dynamics, and to identify and address environmental problems caused by radioactive and non-radioactive pollutants and climate change.

The Marine Environmental Studies Laboratory (MESL) is the analytical support centre for isotopic and elemental analysis of trace elements, organic contaminants and long-lived radionuclides in the marine environment. It provides reference materials, recommends procedures and carries out proficiency tests and interlaboratory comparisons for quality assurance programmes for the determination of non-nuclear contaminants. It implements marine monitoring programmes in collaboration with regional laboratories and provides training in analytical techniques and metrology in chemistry.

Main Purpose

As a member of a team led by the Laboratory Head and Professional staff, the Associate Research Scientist will play a key role in the application, development, and optimization of analytical methods utilizing nuclear and isotopic techniques for assessing inorganic contaminants across various environmental matrices. She/he will participate in studies aimed at elucidating the distribution, behaviour, and transfer of inorganic contaminants within marine food webs, posing potential risks to seafood safety, and impacting human health and ecosystems, particularly under the stresses caused by climate change.

The successful candidate will be tasked with conducting experiments, collaboratively within the team, to assess the effects of climate change drivers (e.g. temperature, pH and oxygen levels) on the transfer, bioavailability and bio accessibility of contaminants in seafood. These efforts will entail the utilization

of both newly developed and existing techniques, ensuring a comprehensive analysis and understanding of marine pollutants that may hinder the attainment of Sustainable Development Goals (SDGs).

Role

The Associate Research Scientist is an environmental scientist with a robust foundation in analytical chemistry, responsible for designing and executing experiments. Under the supervision of the Laboratory Head and Professional staff , he/she will support the team: (i) running laboratory experiments; (ii) sample preparation; (iii) inorganic contaminants analysis using mass spectrometry (HR ICP-MS, ICP-MS, IRMS); (iv) developing and optimizing analytical procedures and methods to facilitate accurate and precise measurements of inorganic contaminants in environmental samples.

Partnerships

The Associate Research Scientist will collaborate as part of a team within a multidisciplinary environment. He/she will contribute to international collaborations focused on utilizing mass spectrometry (HR ICP-MS, ICP-MS), among other techniques, to evaluate the impacts of emerging inorganic pollutants. Additionally, he/she will assist in the implementation of research projects, such as Peaceful Use Initiatives (PUI), aimed at supporting NAML's subprogramme on solutions for the sustainable management of coastal and marine ecosystems. Furthermore, he/she may engage in collaboration with the Technical Cooperation (TC) Department of the IAEA TC Programme on these topics.

Functions / Key Results Expected

- Collaborate closely with the team to apply, develop and/or optimize analytical methods for measuring emerging inorganic contaminants employing mass spectrometry techniques.

- Conduct laboratory experiments and assessments of different aspects of marine pollution to elucidate its distribution, fate, and, critically, its impacts on seafood safety, ocean and human health, particularly under the pressure of climate change stressors.

- Prepare technical reports and scientific manuscripts for publication.

- Deliver training courses to fellows and other trainees in the laboratory, fostering skill development and knowledge transfer within the research community.

Competencies and Expertise (do not revise or edit)

Core Competencies		
Competence	**Occupational Role**	**Behavioural Indicator**
Communication	Individual Contributor	Communicates orally and in writing in a clear, concise and impartial manner. Takes time to listen and understand the perspective of others and proposes solutions.
Achieving Results	Individual Contributor	Takes initiative in defining realistic outputs and clarifying roles, responsibilities and expected results in the context of the Department/Division's programme. Evaluates

		his/her results realistically, drawing conclusions from lessons learned.
Teamwork	Individual Contributor	Actively contributes to achieving team results. Supports team decisions.
Planning and Organizing	Individual Contributor	Plans and organizes his/her own work in support of achieving the team or Section's priorities. Takes into account potential changes and proposes contingency plans.

Functional Competencies		
Competence	**Occupational Role**	**Behavioural Indicator**
Knowledge sharing and learning	Associate	Actively seeks opportunities to learn by formal and informal means; learns from others, adopting and sharing best practice.
Judgement/ decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency's regulations and rules.

Expertise	
Expertise	**Description**
Environmental Analytical Techniques	Good knowledge in analytical chemistry and environmental sciences.
Mass Spectrometry	Experience and ability to conduct laboratory analyses using mass spectrometry
Scientific and Technical Publishing	Good presentation skills and ability to prepare reports, publications and training materials.

Education, Experience and Language Skills

- University degree in chemistry, oceanography, environmental sciences, or a related scientific field, demonstrating expertise in environmental chemistry and analytical methodologies to evaluate inorganic pollutants in marine environments.
- A minimum of two years of professional experience in mass spectrometry.
- Track record of publications in marine environmental sciences, particularly emphasizing pollution and its impacts on marine ecosystems and seafood safety.
- Proficiency in spoken and written English is essential. Familiarity with other official IAEA languages (Arabic, Chinese, French, Russian, and Spanish) is advantageous. Working knowledge of French is desirable.