IAEA
International Atomic Energy Agency

Job Description for Professional Posts

Reference: NA2024/65

Position and Grade:	Associate Research Scientist, Radiotracer Techniques, P2
Organizational Unit:	Radiometrics 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, marine 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 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 Radiometrics Laboratory has expertise in the fields of marine radioactivity measurements, development of radioanalytical methods, low-level counting, modelling of marine dispersion and transfer of radionuclides, environmental and radiological assessments, marine database management, and radiotracer applications in oceanographic, pollution and climate studies. It collaborates with Member States to assist them in their development and to implement capacity building technical cooperation projects. It operates underground low-level counting facilities and is accredited for the production of Reference Materials. It also helps them to prepare for radiological emergency situations, carries out missions at sea, supports analytical quality in Member States laboratories and provides training.

Main Purpose

As part of a team led by the Laboratory Head, the Associate Research Scientist, Radiotracer Techniques carries out research related to the development and application of radiotracer techniques to the study of climate and environmental change. The researcher will conduct field and laboratory experimental work to sample and analyse natural and anthropogenic radionuclides used as tracers, with particular focus on the coastal area. The incumbent will participate in data analysis and modelling work as required for the interpretation of the radiotracer results to characterise environmental processes, pollution and climate-related change. She/he will contribute to scientific publications and reports, will be involved in

maintenance of field and laboratory equipment and will participate in the training of fellows and development of training materials.

Role

Under supervision of the Head of the Radiometrics Laboratory, the Associate Research Scientist, Radiotracer Techniques is: (i) a technical specialist assisting in the development and implementation of radiotracer techniques for the study of climate and environmental change, with particular focus on the coastal area, (ii) an analyst processing and analysing data, and (iii) a communicator preparing and presenting results through technical reports and scientific publications.

Partnerships

The Associate Research Scientist, Radiotracer Techniques builds and maintains working relationships with staff of the RML and other laboratories of the Environment Laboratories Division. The incumbent builds relationships with staff of the Nuclear Applications Department and other departments of the IAEA and other organisations and working groups, including collaboration with other international organisations and international projects, to ensure the effective utilisation of technical advances to the development and implementation of radiotracer techniques to climate and environmental change studies. He/she provide assistance to the team in developing and building networks with scientists and technical staff from Member State laboratories to exchange information on advances in the development and the applications of environmental radiotracer techniques. The Associate Research Scientist, Radiotracer Techniques collaborates with project officers and researchers on projects supporting the application of radiotracer techniques to environmental climate and environmental change studies and the characterisation of processes and pollution in the coastal area. The Associate Research Scientist, Radiotracer Techniques collaborates with the other specialists in nuclear analytical techniques in NAEL and will work closely with the Laboratory Head, Research Scientists and Research Assistants in RML.

Functions / Key Results Expected

- Participate in research on climate and environmental change using radioactive isotopes as tracers.
- Participate in field and laboratory measurements of natural and anthropogenic radionuclides used as tracers to characterise processes and pollution in the coastal area.
- Contribute to the development and implementation of tracer applications to studies of submarine groundwater discharge (SGD), pollution history, sedimentation and fingerprinting of sources of pollution.
- Analyse and evaluate experimental data and infer conclusions for the preparation of technical reports and scientific manuscripts for publication.

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**
Judgement/decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency?s regulations and rules.
Partnership building	Associate	Develops and maintains partnerships needed for his/her work. Establishes and nurtures positive relations with partners and stakeholders.
Technical/scientific credibility	Associate	Acquires and applies new skills to remain up to date in his/her area of expertise. Reliably applies knowledge of basic technical/scientific methods and concepts.

Expertise	
Expertise	**Description**
Chemistry/Radioanalytical Techniques	Knowledge of measurement techniques for environmental radioactivity analysis.
Environment/Environmental Database Contents Development and GIS Applications	Expertise in handling datasets and generating graphic data analysis products.
Environment/Environmental Modelling	Knowledge of models applied for sediment dating and radionuclide dispersion and transfer.
Environment/Environmental Radiotracer Techniques	Knowledge of natural and anthropogenic radioactivity in the environment and radiotracer applications.
Environment/Oceanography	Knowledge of coastal oceanography and knowledge of tracer oceanography.

Education, Experience and Language Skills

- University degree in physics, oceanography, environmental science.
- Minimum of two years of experience in environmental radioactivity, radioactivity measurements, computer modelling and environmental applications of radiotracers.
- Fluency in spoken and written English; working knowledge of another official IAEA language (Arabic, Chinese, French, Russian and Spanish) is an asset.