

Job Description for Professional Posts

Reference: NA2024/31

Position and Grade: Associate Research Scientist (Gamma Spectrometry), P2

Organizational Unit: Terrestrial Environmental Radiochemistry (TERC) Laboratory
Radiochemistry and Radiation Technology Section
Division of Physical and Chemical Sciences

Duty Station: Seibersdorf

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 Physical and Chemical Sciences is responsible for assisting and advising Member States in research and development for the nuclear sciences, especially the physical and chemical sciences. Specifically, the Division provides support to Member States in the following fields: production of radioisotopes and radiolabelled products for applications in health care and industry; radiation source applications; research reactor utilization; applications of accelerators and nuclear instrumentation; nuclear and atomic data for applications; controlled nuclear fusion and isotope hydrology and geochemistry.

The Terrestrial Environmental Radiochemistry (TERC) Laboratory assists IAEA Member States in enhancing the quality of their analytical measurements of radionuclides, trace elements and stable isotope ratios for monitoring and assessment of environmental pollution and climate change. This is accomplished by provision of reference products, such as matrix reference materials, validated procedures, proficiency tests, and guidelines for environmental protection, and through coordination of laboratory networks and training activities. Contributing to the IAEA Technical Cooperation programme, TERC supports the Member States in their development and capacity building by improving preparedness for emergency situations, analytical quality in Member States laboratories and providing training.

Main Purpose

Under the supervision of the Laboratory Head, the Associate Research Scientist (Gamma Spectrometry) carries out research related to the development of radioactivity screening techniques for environmental and related samples as implemented at Gamma Spectrometry Laboratory (GSL) of TERC. The incumbent will conduct experimental work to contribute to the improvement of the existing methods and will participate in methods development, determination of their characteristics and enhancement of performance of high resolution gamma spectrometry systems for the practical utilisation of gamma spectrometry measurements within GSL.

Role

As part of a team reporting to the Laboratory Head, the Associate Research Scientist (Gamma Spectrometry) is: (i) a technical specialist assisting in the development and implementation of gamma measurement related techniques, (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 (Gamma Spectrometry) builds and maintains working relationships with staff of the Gamma Spectrometry Laboratory engaged in gamma spectrometry technique(s) and with similar relevant staff of other laboratories of the Terrestrial Environment Radiochemistry Laboratory (TERC) and of other IAEA divisions. He/she also develops and builds networks with scientists and technical staff from Member State laboratories to exchange information on the development and the applications of radioactivity measurement techniques based on gamma spectrometry. The incumbent will collaborate with project officers and researchers on projects supporting the application of gamma spectrometry measurement techniques to environmental assessment as well as quality and safety purposes.

Functions / Key Results Expected

- Perform low-level measurements of radioactivity using gamma spectrometry technique
- Participate in the development of gamma measurement and analysis method(s) and technique(s)
- Participate in laboratory measurements of radioactivity in environmental samples collected for method development and for reference material characterisation
- Analyse and evaluate experimental data and infer conclusions for the preparation of technical reports and scientific manuscripts for publication
- Perform maintenance of routine equipment used in gamma spectrometry technique and provide instructions and training on use of the equipment to fellows of course participants.
- Perform other related duties as assigned.

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

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		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
Physical Science / Physics / Low Level Radiometrics Techniques	Knowledge in radionuclide measurements at environmental level
Physical Science / Environment / Environmental Radiochemistry	Basic knowledge in high resolution gamma spectrometry technique(s)

Education, Experience and Language Skills

- University degree in chemistry, physics or similar.
- Minimum of two-years of experience in environmental radioactivity measurements and analysis by gamma spectrometry
- Fluency in spoken and written English; working knowledge of another official IAEA language (Arabic, Chinese, French, Russian and Spanish), an asset.

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