IAEA
International Atomic Energy Agency

Job Description for Professional Posts

Reference: NA2024/44	
Position and Grade:	Associate Soil Microplastic Officer, P2
Organizational Unit:	Soil and Water Management and Crop Nutrition Laboratory Soil and Water Management and Crop Nutrition Section Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture
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 Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture assists Member States of the Food and Agriculture Organization of the United Nations (FAO) and the IAEA in using nuclear techniques and related technologies to improve food security, alleviate poverty and promote sustainable agriculture. The Joint Centre consists of five Sections, each with an associated laboratory (located in Seibersdorf, 45 km south-east of Vienna), in the areas of: animal production and health; plant breeding and genetics; insect pest control; soil and water management and crop nutrition; and food and environmental protection.

The Soil and Water Management and Crop Nutrition Section and Laboratory assist Member States in developing improved soil and water management practices for sustainable intensification of agricultural production systems, the conservation of natural resources and the effective use of external inputs through applied and adaptive research and development activities, technology transfer and capacity building.

Main Purpose

The Associate Soil Microplastic Officer is responsible for assisting in the development of research protocols for the assessment of microplastics turnover and impact in agro-ecosystems using stable isotope methodologies.

Role

The Associate Soil Microplastic Officer is a junior expert. He/she will assist in the development of methodology for monitoring the fate of microplastics in soils, determining the effects of environmental factors on biodegradable plastics mineralization, and carrying out stable isotope analysis of microplastics in soil and plant samples. The incumbent will support the analysis of experimental data and results for protocol development and publication; he/she is also a technical and scientific writer.

Partnerships

The Associate AMR Officer reports to the SWMCN Laboratory Head and will work closely with staff members of the SWMCN Laboratory and Section. He/she will also be involved in related coordinated research activities relating to environmental pollution, in particular regarding microplastics.

Functions / Key Results Expected

Under the overall guidance of Head of the Soil and Water Management & Crop Nutrition Laboratory and its team, the Associate Soil Microplastic Officer will:

- Work on techniques and procedures for sampling, sample preparation and analysis on the fate of conventional and bioplastics and its degradation products in agricultural soils using carbon-13 and nitrogen-15 stable isotopes, compound specific stable isotope techniques for minimizing impact of microplastics in agricultural soils.
- Implement experiments in the laboratory and field using isotopically labelled polymers isotope, nuclear and related techniques for monitoring the fate of microplastics in soils and determining the effects of environmental factors on conventional and bioplastics degradation.
- Carry out stable isotope analysis of soil and plant samples.
- Develop methodologies for monitoring the fate of microplastics in agro-ecosystems using stable isotope techniques.

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**
Analytical thinking	Associate	Gathers and analyses information, identifying critical relationships and patterns among data and proposes workable solutions.
Commitment to continuous process improvement	Associate	Identifies opportunities for process, system and structural improvement as well as improving current practices, increasing effectiveness and achieving efficiency gains. Actively supports the application of sound quality management standards and process improvement.
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.
Judgement/ decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency's regulations and rules.

Expertise	
Expertise	**Description**
Soil and Water Management and Crop Nutrition	Strong understanding of fate of microplastics in agro-ecosystems.
Analytical methods in biogeochemistry	Practical experience in the use of analytical methods for determining the fate of organic pollutants in the laboratory and field.

Education, Experience and Language Skills

- University degree in agronomy, soil science, biology or environmental sciences with a major emphasis on microbiology.
- Minimum of two years of proven laboratory experience in soil science or microbiology in the field of microplastic or organic pollution or related environmental sciences.
- Experience in the use of isotopic and nuclear techniques for organic pollutants or microplastics is an asset.
- Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, Russian and Spanish) is an asset.