IAEA
International Atomic Energy Agency

Job Description for Professional Posts

Reference: NA2025/38	
Position and Grade:	Associate Research Officer (IPCL), P2
Organizational Unit:	Insect Pest Control Laboratory Insect Pest Control Section Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture
Duty Station:	Seibersdorf, Austria
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 Insect Pest Control Section and Laboratory assist Member States with the development, dissemination and transfer of sterile insect and related environmentally friendly technologies for the area-wide integrated suppression, containment or eradication of major insect pests affecting crops, livestock and human health.

Main Purpose

The Associate Research Officer (IPCL) will be assisting, under the supervision and guidance of the Plant Pest Group of the Insect Pest Control Laboratory (IPCL) activities related to the development of research protocols in the field of plant pest management.

In particular, she/he will focus on the development of the sterile insect technique (SIT) for the Spotted Wing Drosophila (Drosophila suzukii). This species recently invaded Europe and the Americas where it incurs huge costs to agriculture in absence of efficient and environment friendly control solutions.

The Associate Research Officer is responsible for assisting the scientific staff of the IPCL with in the development of research protocols in the field of plant pest management. He/she will be based at the IPCL and reports to the Insect Pest Control Laboratory Head. The Associate Research Officer works in concert with other staff members of the Laboratory who conduct strategic or applied R&D aimed at developing the SIT against agricultural pests or disease vectors in the FAO and IAEA Member States and who also support related human capacity building efforts.

The SIT is under development to help tackle human disease vectors such as the Asian tiger mosquito, that transmit chikungunya, dengue, Zika, yellow fever, etc. Additionally, have been used efficiently against livestock pests, such as tsetse flies and screwworm and against several species if tephritid fruit flies, contributing for reduction of insecticide use and increase of the international trade of fruits and vegetables.

Role

The Associate Research Officer (IPCL) is: (i) a research scientist, conducting applied research and development (R&D) activities on the sterile insect technique; (ii) a team member, contributing to laboratory goals and providing inputs to informed decisions on R&D strategies and approaches to help address Member States constraints in the area of plant pest science, specifically on environmentally friendly SIT technology to manage populations of Drosophila suzukii (D. suzukii).

Partnership

The Associate Research Officer (IPCL) will work under the partnerships already established within the UN system as well as with other international organisations and the scientific and commercial communities by providing technical expertise. He/she will work under the supervision of the head of the Insect Pest Control Laboratory and the Leader of the Plant Pest Group. He/she will primarily be involved in R&D activities relating to the use of the sterile insect technique for the management of the invasive pest Drosophila suzukii. In addition, the incumbent will remain in close contact with the researchers from INRA Montpellier, collaborating on these aspects to boost and speed-up the development of the SIT technology package.

Functions / Key Results Expected

The incumbent is expected to contribute to the optimization of the larval diet for the mass-rearing of Drosophila suzukii, including the use of probiotic bacteria and yeast to improve the quality of larval and adult insects. He/she will assist with the implementation of laboratory, semi-field and greenhouse experiments to assess the quality of the sterile insects after the treatment with specific probiotics. The focus will be on developing technology packages that can be transferred to Member States that are planning mass-production of D. suzukii for use in SIT programmes to manage the pest.

He/she will also be assisting with one or more of the following activities:

- Develop or adapt quality control protocols to assess male sexual performance that can be easily transferred and applied in action programmes against D. suzukii in Member States.
- Training activities that focus on insect rearing principles, methods and techniques through practical courses or lectures.
- Analyses and publishing of scientific results in the form of procedures manuals or peer-reviewed journal articles.
- The production of other internal and external information materials relating to the above and highlighting the activities of the IPCL.

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.
Judgement/decision making	Associate	Consults with supervisor/manager and makes decisions in full compliance with the Agency's regulations and rules.
Knowledge sharing and learning	Associate	Actively seeks opportunities to learn by formal and informal means; learns from others, adopting and sharing best practice.
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**
Bioscience - Biological Dosimetry	Good knowledge of biological dosimetry and microbiology technics including microbiota and insect sterilization.
Information Technology Data Analysis	Competence in computer applications including word processing, spreadsheets, databases, data analysis, presentation graphics and statistical packages.
Animal Health Insect Pest Control	Good understanding of plant pests and their management strategies.
Bioscience Natural Sciences	Good knowledge on entomology and working knowledge on insect rearing and quality control protocols.

Education, Experience and Language Skills

- University degree in biology, ecology, or a related field. An advanced degree in entomology pest management, and/or insect rearing, or a related field would be an asset.
- Minimum two years' experience in experimental microbiology required.
- Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, Russian and Spanish) is an asset.

The incumbent may perform his/her work in areas involving exposure to radioactive materials. Therefore, as an Occupationally Exposed Worker, he/she must be medically cleared by VIC Medical Service and is subject to an appropriate radiation and health monitoring programme, in accordance with the IAEA's Radiation Safety Regulations.