

# Job Description for Professional Posts

<b>Position and Grade:</b>	Associate Plant Pathology/Weed Science (Junior Professional Officer-JPO) - P2
<b>Organizational Unit:</b>	Plant Breeding and Genetics Laboratory (PBGL) Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture (NAFA) Department of Nuclear Sciences and Applications (NA)
<b>Duty Station:</b>	Seibersdorf, Austria
<b>Type/Duration of Appointment:</b>	Fixed Term / 2 years

## Organizational Setting

The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture is located in the Department of Nuclear Sciences and Applications of IAEA in Vienna. The Joint Division assists Member States of the Food and Agriculture Organization of the United Nations (FAO) and the International Atomic Energy Agency (IAEA) in using nuclear techniques and related technologies to improve food security, to alleviate poverty and to promote sustainable agriculture. It does so by coordinating and conducting applied research, providing technical and advisory services, laboratory support and training, and collecting, analysing and disseminating information.

The Joint Division consists of five Sub-Programmes in the areas of: animal production and health; plant breeding and genetics (PBG); insect pest control; soil and water management and crop nutrition; and food safety and environmental protection. Each Sub-Programme has a Section located in Vienna and a Laboratory, as part of the FAO/IAEA Agriculture & Biotechnology Laboratories, located in Seibersdorf, 45 km southeast of Vienna.

The Plant Breeding and Genetics Section and Laboratory assist Member States with the development of mutation induction methodologies and integrated applications of mutation breeding techniques for crop improvement and biodiversity, contributing to the sustainable intensification of crop production systems.

## Main Purpose

The JPO is responsible for assisting in the development of research protocols in the field of plant pathology and weed science. The JPO will be based in the Plant Breeding and Genetics Laboratory and reports to the Plant Breeding and Genetics Laboratory Head. The JPO works in concert with other staff members of the PBG Sub-Programme who use innovative R&D activities and provide support to human capacity building that relate to the development and adaptation of technologies for developing superior crop varieties in the FAO and IAEA Member States. The incumbent carries out his/her tasks in the context of crop mutation breeding incorporating the use of nuclear techniques and efficiency-enhancing biological technologies.

## Role

The Associate Plant Pathologist/Weed Science is a researcher who, under the supervision of the Laboratory Head, applies the scientific method to develop protocols and methods for addressing Member States' identified problems requiring the Sub-Programme's interventions,

inputs to informed decisions on strategies for addressing the problems, designs and implements relevant experiments, collates and analyses the resulting data and reports the findings in appropriate high impact media.

## Partnerships

In addition to personal contacts with the Laboratory Head to receive instructions and assignments, the JPO will work closely with staff members of Plant Breeding and Genetics Laboratory. He/She will primarily be involved in Coordinated Research Program activities relating to plant pathology and weed science in the context of crop improvement for disease resistance and control of parasitic weeds. He/She also contributes to fostering collaborative relationships with Member States' institutions, to leverage implementation of sub-Programme activities and facilitate programme delivery.

## Functions / Key Results Expected

The incumbent is expected to contribute to the development of varied screening assays for biotic stresses and parasitic weeds in support of crop mutation breeding of the SICPS Sub-Programme. He/She will, with technical support and supervision, carry out mostly laboratory and glasshouse experiments and will also be involved in the validation of laboratory results under field activities. The focus will be on developing protocols and technology packages for pre-field screening of plants for resistance to biotic stresses and for control of parasitic weeds to enhance the efficiency of mutation breeding for biotic stress and parasitic weeds. Specifically, he/she will be involved in one or more of the following:

1. Participate in the development of lab or greenhouse-based phenotypic screening assays for biotic stresses and parasitic weeds to enhance the efficiency of selecting desired mutant plants.
2. Participate in the development of robust molecular diagnostic assays in support of crop mutation breeding program for resistance to biotic stresses or parasitic weeds
3. Participate in the validation of pre-field screening assays under field conditions in relevant FAO/IAEA Member States
4. Contribute to training activities in relevant areas
5. Contribute to the publication of scientific results in peer-reviewed journal articles and in form of protocols in suitable media
6. Contribute to the production of other internal and external information materials relating to the above and highlighting the activities of the Laboratory.

## Knowledge, Skills and Abilities

- Knowledge of plant pathology, weed science, molecular biology
- Knowledge of strategies for molecular diagnostics of plant disease
- Understanding of induced crop mutagenesis;
- Good planning, organizational and analytical skills with ability for setting priorities as well as independence in judgement and task implementation;
- Ability and willingness to impart knowledge, especially to trainees;
- Interpersonal skills to work effectively in a multidisciplinary team and a multicultural environment;
- Good organizing skills: Ability to prioritize work assignments, organize own schedule, perform work independently, and meet deadlines

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## Education, Experience and Language Skills

- Advanced University degree in plant pathology, molecular plant disease diagnostics, plant disease screening or related disciplines;
- At least 2 years of postgraduate experience in research and development activities relating to the application of plant pathology or weed science, molecular techniques, and other relevant biotechnologies related to crop improvement
- Publication record in peer-reviewed journals would be an advantage;
- Fluency in spoken and written English is essential. A working knowledge of at least one additional official Agency language (Arabic, Chinese, French, Russian and Spanish) would be an advantage, while a working knowledge of German would be useful.

<b>Internal Human Resources use only:</b>	
Effective Date:	
Occupational Group(s):	
Post Number:	

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