

# Job Description for Professional Posts

<b>Position ID:</b>	<b>NA201702-P2</b>
<b>Position and Grade:</b>	Associate Research Officer (Plant Pathology)
<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 to enhance crop biodiversity, contributing to the sustainable intensification of crop production systems.

## Main Purpose

The Associate Research Officer (Plant Pathology) is responsible for assisting in the development of research protocols in the field of plant pathology and/or weed science. He/She will be based in the Plant Breeding and Genetics Laboratory and reports to the Plant Breeding and Genetics Laboratory Head. The Associate Research Officer (Plant Pathology) works in concert with other staff members of the Laboratory who conduct strategic or applied R&D aimed at developing superior crop varieties in the FAO and IAEA Member States and who also support related human capacity building efforts. The incumbent carries out his/her tasks in the context of crop mutation breeding incorporating the use of nuclear techniques and efficiency-enhancing biotechnologies.

## Role

The Associate Research Officer (Plant Pathology) is 1) a researcher, conducting experiments in the field of plant pathology and/or weed science, developing protocols and methods to help address Member States' constraints in the area of plant pathology; 2) an analyst, designing and implementing relevant experiments, collating and analysing the resulting data and reporting the

findings in appropriate media; 3) 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 pathology or weed science;

## Partnerships

The Associate Research Officer (Plant Pathology) will work closely with staff members of the Plant Breeding and Genetics Laboratory. He/She will primarily be involved in Coordinated Research Program activities relating to plant pathology and/or weed science in the context of crop improvement for disease resistance and/or control of parasitic weeds. He/She may also contribute 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 protocols to improve the screening or detection of biotic stresses and/or parasitic weeds in the context of ongoing Coordination Research Programs. He/She will, with technical support and supervision, carry out mostly laboratory and glasshouse experiments and may also be involved in related field activities. The focus will be on developing protocols and technology packages to efficiently screen plants for resistance to biotic stresses and/or parasitic weeds with as overall goal to enhance the efficiency of mutation breeding for biotic stress and/or parasitic weeds. Specifically, he/she will be involved in one or more of the following:

1. Conducts inoculation experiments in the laboratory or greenhouse to screen for resistance to fungal or viral diseases, such as for example in coffee or banana.
2. Develops robust (molecular) diagnostic or screening assays to enhance the efficiency of crop mutation breeding for resistance to biotic stresses and/or parasitic weeds such as *Striga*
3. Conducts research in plant-weed interactions using for example microscopy techniques to support mutation breeding for resistance to weeds such as *Striga*
4. Contributes to training activities by teaching plant pathology principles, methods or techniques through practical courses or lectures
5. Analyses and publishes scientific results in the form of protocols or peer-reviewed journal articles
6. Contributes 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

- 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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