

**Training Workshop**  
on  
**“Identification of Host Plant  
Resistance Response Using  
Defence Related Antioxidants  
and Enzymes”**  
**April 22-26, 2024**  
**Organized by**

Nuclear Institute for Agricultural and  
Biology  
(NIAB), Faisalabad



Pakistan Atomic Energy Commission  
(PAEC)  
Collaboration Center



**IAEA**  
International Atomic Energy Agency  
(IAEA)

**Course Organizer**

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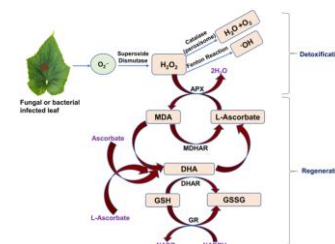
**INTRODUCTION**

Nuclear Institute for Agriculture and Biology (NIAB), an establishment of Pakistan Atomic Energy Commission (PAEC) is primarily an institution involved in goal oriented agricultural and biological research since 1972. NIAB is striving for agricultural development in Pakistan by developing high yielding and stress resistant crop varieties along with devising better plant protection measures. Plant Protection Division NIAB is involved in management of crop for their better health and production by decreasing incidence of diseases and infestation of insect pests below their economic threshold levels after careful field and laboratory analysis. NIAB is focusing on diverse research programs of plant protection, plant breeding, soil science and animal science, It has well-equipped labs that operate under strict guideline and accredited to ISO 9001:2015. Therefore the facilities and capabilities to perform quality testing service as per international standards are available. NIAB has also been affiliated with Pakistan Institute of Engineering and Applied Sciences (PIEAS) since 2014 for M.Phil. and Ph.D. degree programmes in Biological Sciences. Recently, International Atomic Energy Agency (IAEA) has conferred NIAB the status of its collaborating center (CC) owing to outstanding achievements of the institute. With the ambition and objective of community services Plant Protection

Division (PPD) is committed to train human resource on applied aspect of disease management, and also providing accurate and reliable testing/analysis of host plant defense response to public and private sectors. Molecular Phytopathology Group, PPD is hosting a five days training course/workshop on **“Identification of host plant resistance response using defence related antioxidants and enzymes”** w.e.f., 22-26 April, 2024 under the umbrella of NIAB-IAEA-CC.

**Objectives:**

- Learning of theoretical and practical applications of host plant resistance aiming to mitigate crop losses caused by pests and diseases
- Assessment of host plant antioxidant levels at post pathogen/pest attack revealing resistance
- Research alignment for plant protection and sustainable agriculture goals
- Provision of an opportunity to acquaint young scientists/scholars throughout the country focusing host plant defense mechanism and disease management



### Eligibility

Young researchers/scholars who are actively involved or opt for a career in Plant Sciences

### How to apply?

Please send the application form or your particulars mentioned in the form to the course organizer at 03346511036 and/or [sa\\_niab@yahoo.com](mailto:sa_niab@yahoo.com) by April 17, 2024. Application form can be downloaded from NIAB website ([www.niab.org.pk](http://www.niab.org.pk)).

**Selection:** Only 8-10 applicants will be selected. The selected candidates will be informed by April 18, 2024.

### Course Fee:

Professionals: Rs. 5000/-  
Students: Rs. 3000/-

### Outline of Training Program

This course would include the lectures as well as practicals regarding assays of defensive enzymes including Peroxidase, Poly Phenol Oxidase, and Catalase, Phenyl alanine ammonia lyase, Superoxide Dismutase and Total Chlorophyll contents. Furthermore, knowledge will be shared regarding important rice diseases and their management through resistance evaluation; Plant growth promoting bacteria mediated antioxidant enzymes for plant growth and improved phenotyping for disease resistance identification.

### PATRON IN CHIEF

Dr. Raja Ali Raza Anwar, HI, SI, PoP  
Chairman, PAEC

### PATRON

Dr. Masood Iqbal,  
CS/Member (Science), PAEC  
Dr. Zahid Mukhtar, CS/DG (A&B), PAEC

### ORGANIZING COMMITTEE

Dr. M. Yussouf Saleem (CS/ Director  
NIAB)  
Dr. Uzma Maqbool, DCS/Head ASD  
(Focal IAEA NIAB-CC)  
Dr. Sajid Nadeem (DCS, Head PPD)  
Dr. Sumaira Yousaf (PS/ Course  
Coordinator)  
Dr. Hafiz M. Imran Arshad (PS, PPD)  
Dr. Javed Asghar (PS, PPD)  
Dr. Kamran Saleem (PS, PPD)  
Mr. M. Irfan Tahir (Head Admin)  
Mr. Fakhar Imtaiz (Head LAO)  
Mr. Jafar Hussain (PS, DA/IT Group  
NIAB)

### For Further Information

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### APPLICATION FORM

Photo

Name:-----  
Official Position:-----  
Organization:-----  
Address:-----  
Phone (Off.)-----  
(Res.)-----  
Mob. No.:-----  
E-mail-----  
Date of birth:-----  
CNIC#-----  
Academic Qualification:  
Research/Training Experience:-----  
Particular interest for training:-----  
(Signature of Applicant)

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