### **How to Apply**

The complete application form in the prescribed format forwarded by the Head of the Institute or Department Authority should reach the Course **Director**. NAHEP-Centre for Advanced Agricultural Science and Technology (CAAST), Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110012 on or before 08th November 2023 over email castnahep.plantpatho@gmail.com (No need to send hard copy). Application form can be downloaded from www.iari.res.in and www.nahep-caast.iari.res.in.

Selected candidates will be intimated by email on or before 10<sup>th</sup> November 2023.

## Who can Participate

M.Sc. and Ph.D. students of ICAR-Deemed to be Universities / SAUs / CAUs / CUs / other UGC recognized Universities and Research Institutes are eligible to apply. A maximum of 25 students / research fellows will be selected for participation in the training programme. Working knowledge of computers is mandatory.

### **Important Dates**

Last Date for Applications : 08th November 2023 **Duration of Training** : Nov. 22 - Dec. 01, 2023 Intimation of Selection : 10<sup>th</sup> November 2023

The programme is coordinated by the PG School, **ICAR-IARI**, New Delhi

## **Financial Support**

Outstation selected students/research fellows shall be provided AC III tier train or bus fare by shortest route and free moderate lodging and boarding as per ICAR norms at IARI Guest House/ Trainee's Hostel. No registration fee will be charged for the course.

## **Organizers**

#### **Course Director**

Dr. Vaibhav Kumar Singh Senior Scientist, Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110 012 Email: vaibhav.singh@icar.gov.in Mobile: +91-9013786175

#### **Course Coordinators**

Dr. M.S. Saharan Head & Principal Scientist, Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110 012 Email: mssaharan7@gmail.com Mobile: +91-9416988856

Dr. Deeba Kamil

Senior Scientist, Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110 012 Email: deebakamil@gmail.com Mobile: +91-9212281285

#### Dr. B.M. Bashval

Senior Scientist, Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110 012 Email: bishnumavabashval@gmail.com Mobile: +91-9818386064

#### Dr. M.S. Gurjar

Senior Scientist, Division of Plant Pathology, ICAR-IARI, Pusa Campus, New Delhi 110 012 Email: malkhan\_iari@yahoo.com Mobile: +91-9999103422

### Venue

Lectures and Practicals : The Division of Plant Pathology, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Delhi 110 012.







## **National Agricultural Higher Education Project (NAHEP)**

### Sponsored

**Training Programme on** 

# **Population Diversity, Pathogenomics** and Development of Diagnostics of **Emerging Fungal Plant Pathogens**

November 22 - December 01, 2023

at

**Division of Plant Pathology**, ICAR-IARI, Pusa Campus, New Delhi 110 012



Organized by

Center for Advanced Agricultural Science and Technology (CAAST)

**ICAR-Indian Agricultural Research Institute** Pusa Campus, New Delhi 110 012

#### **About NAHEP-CAAST**

**Centre for Advanced Agricultural Science and Technology** (CAAST) is a new initiative & student centric sub-component of **World Bank** sponsored **National Agricultural Higher Education Project** (NAHEP) granted to IARI to provide a platform for strengthening educational & research activities of post graduate & doctoral students. CAAST theme for IARI is **Genomic assisted crop improvement and resource management** that specifically aims at inculcating genomics literacy & skills among the student.

#### **About the Organizing Institutes**

ICAR-Indian Agricultural Research Institute (IARI), New Delhi is the seat of green revolution in India, and continues to contribute to the food and livelihood security of the Nation. Besides, its enormous research contributions, IARI is the premier Institute for higher education in Agriculture in the Country. IARI was ranked as 'A' Institute by NAAC, and was given Special Institution Status by IoE Committee of UGC, Ministry of HRD, Govt of India.

The Division of Plant Pathology is more than 100 years old. It was originally established in 1905 as Mycology section of Imperial Agricultural Research Institute (IARI) at Pusa, Bihar to initiate mycological and plant pathological research in India. Disease diagnosis, detection of pathogens, Plant microbiome, genome sequencing and management of disease risks have been the main fabric of Divisional research. The Division has highly trained scientific, technical and field staff. It has well equipped laboratories to work on next generation sequencing, host pathogen interaction, diagnosis and characterization of plant pathogens, electron and confocal microscopy, advance molecular tools for disease diagnosis, tissue culture, plant transformation, Plant microbiome etc.

With this background, CAAST proposes a training programme sponsored by National Agricultural Higher Education Project (NAHEP) on "Population Diversity, Pathogenomics and Development of Diagnostics of Emerging Fungal Plant Pathogens" for the benefit of the post graduate and doctoral students, and potential stakeholders.

#### **About the Training Programme**

The major objective of the training programme is to train young students on the basic and strategic front of agriculture with particular reference to emerging fungal pathogens with latest advancement namely population diversity, pathogenomics and development of robust diagnostics.

Population diversity among fungal plant pathogens is a critical aspect of their pathogenicity and the development of effective diagnostics. Fungi, including emerging pathogens, exhibit genetic and phenotypic variability that can influence their ability to infect and damage crops. Understanding this diversity is essential for managing and mitigating the threats they pose.

Pathogenomics, the study of pathogen genomes, plays a pivotal role in this context. It involves analyzing the genetic makeup of fungal pathogens to identify virulence factors and potential vulnerabilities. By sequencing and comparing genomes, researchers can pinpoint unique genes or regions that contribute to the pathogen's ability to infect plants. This information guides the development of targeted control strategies.

Developing diagnostics for emerging fungal plant pathogens is also crucial for early detection and response.

Therefore, studying population diversity, leveraging pathogenomics, and developing advanced diagnostics are integral components of addressing emerging fungal plant pathogens. This holistic approach facilitates a better understanding of these pathogens and empowers agriculture with the tools needed to protect crops from devastating diseases.

The recent advances on emerging fungal pathogens will assist students to update their skill on identification, diversity analysis, genomics, diagnostics and management of important crop diseases. The proposed training program would therefore be an essential event for students of plant pathology ore related subjects on a national scale to have active interactions and experiences to hone their skills in the area of fungal pathology. Hands-on training in the topic will be imparted in addition to lectures by eminent experts so that the participants could apply the same in their research programmes.

<b>Application Form</b>				Photo
(May strike out which is not applicable)				)
1. Full Name (block letters) :   2. Course (Ph.D./M.Sc./Any others) :   3. Date of Birth :   4. Sex (Male/Female/Others): :   5. Category (UR/OBC/SC/ST): :   6. Discipline :   7. Domicile State :   8. Affiliation :   9. Address for Correspondence :   (including Phone, Fax & E-mail*) :				
Email must for intimation of selection 10. Educational Qualifications :				
Degree	onal Qualificat Board/ University	Subject	Year	Marks %/*0GPA
Ph.D.	University			707 OULA
M.Sc.				
B.Sc.				
Other				
*Up to the completed trimester for current students				
11. Professional Experience :				
12. M.Sc. & Ph.D. Thesis				
(Title & Objectives & Output)				
13. Current area of Research/ Project:				
14. Fellowship :				
15. Awards :				
16. Does your current Research / Project need fungal genome				
sequencing? :				
17. Publications :				
Date: Signature of the Applicant				
Place:				

**Format for No Objection Certificate (NOC):** Noc to be obtained from the Supervisor / Head of the Department / Institute of the parent institution.

#### No Objection Certificate

It is certified that Mr/Ms/Mrs.....is doing thesis/ project work under the guidance of Dr......(Designation) and he/she may be allowed for attending the NAHEP-CAAST Training on Population Diversity, Pathogenomics and Development of Diagnostics of Emerging Fungal Plant Pathogens. Institute do not have any Objection.

> Head of the Department/Institute (Signature with date, Seal)