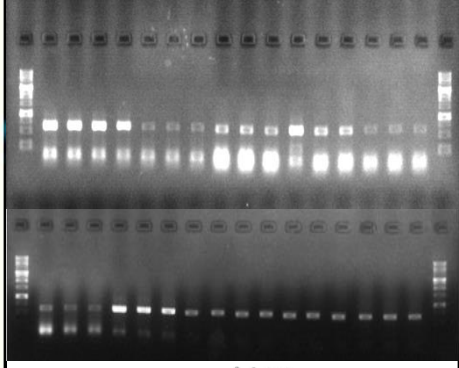
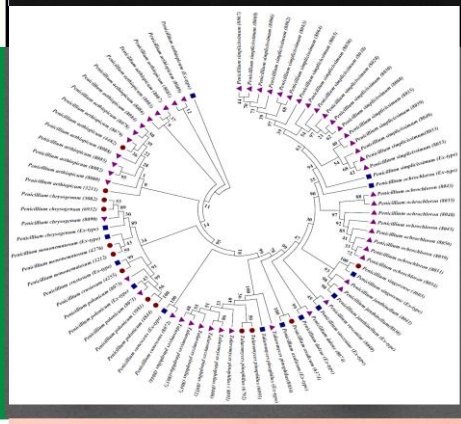
भाकृअनुप
ICAR

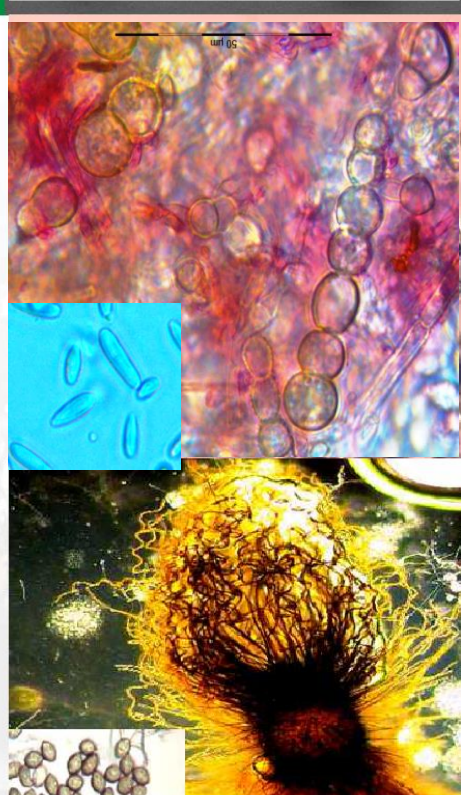
National Agricultural Higher Education Project (NAHEP) Sponsored

Short term Training Programme

GENOMICS-ASSISTED MOLECULAR SYSTEMATICS OF FUNGI







September 9-17, 2019

Course Director
Deeba Kamil

Course Co-ordinators
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भारतीय कृषि अनुसंधान संस्थान

Center for Advanced Agricultural Science and Technology (CAAST)

Division of Plant Pathology
ICAR-Indian Agricultural Research Institute
New Delhi 110 012

Short term Training Programme
on
GENOMICS-ASSISTED MOLECULAR SYSTEMATICS OF FUNGI

September 9-17, 2019

The Indian Agricultural Research Institute, New Delhi, invites applications from M.Sc, M.Tech. and Ph.D. students studying in concerned subject under Agricultural Universities/ Central Universities/ UGC recognized Private Universities/ICAR Institutes for a one-week training programme on **"Genomics-assisted molecular systematics of fungi"** sponsored by National Agricultural Higher Education Project (NAHEP), ICAR-IARI, New Delhi, scheduled from September 9-17, 2019.

Objective

The major objective of the training programme is to train young students on the application of genomic tools for fungal taxonomy with special relevance to DNA barcoding, molecular phylogeny and whole genome sequencing. The recent advances on fungal taxonomy will facilitate students to update their skill on fungal systematics. The proposed training program would, therefore, be an opportunity for researchers on a national level to have active interactions and experiences to hone their skills in the area of genomics assisted fungal taxonomy. Hands-on training in this topic will be imparted in addition to lectures by eminent experts so that the participants could apply the same in their research programmes.

Eligibility

M.Sc, M.Tech. and Ph.D. students of Agricultural Universities/ Central Universities/ UGC recognized Private Universities/ICAR Institutes are eligible to apply. The number of participants will be limited to twenty five (25) ONLY.

How to apply

Complete application form in the prescribed format forwarded by head of the institute or departmental authorities should reach the Course Director, NAHEP-Centre for Advanced Agricultural Science and Technology (CAAST) sponsored training, Division of Plant Pathology, ICAR-IARI, New Delhi on or before 15th August 2019; application form can be downloaded from www.nahep-caast.iari.res.in. Selected candidate will be intimated by email on or before 20th August 2019.

Venue

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

For Practicals: PG laboratory, Division of Plant Pathology, ICAR-Indian Agricultural Research Institute, Pusa Campus, New Delhi-110012.

TA/DA & Accommodation

The participants will be provided to and fro fare restricted to AC-II-Tier train fare or any state road transport services as per the ICAR guidelines. Participants should produce a certificate that they have not been given TA/DA by their host institute (Head of the Department/Institute). Boarding and lodging for the participants will be provided at the ICAR guest houses/hotels and the charges will be met by the training programme.

About NAHEP-CAAST

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

About the training programme

Fungi are one of the most important groups of organisms on the planet. They are used in food (Mushrooms and Morels); baking industry; production of enzymes, antibiotics, hormones and different organic acids; organic matter decomposition; symbiotic relation with plants and are potential biotic threats to crop production. Authentic identification of fungi is essential as wrong identification would result in wrong interpretations in research programmes. Moreover most of these fungal groups are vast, diverse and complex, making the identification task equally complicated and difficult. Diversity studies on various groups of fungi will facilitate the Indian scientists to update the latest developments in fungal taxonomy through detailed descriptions of genera /species; establishment of evolutionary relationships; taxon-based through development of databases and whole genome sequencing. This area can also be utilized further for need based molecular characterization / DNA barcoding and chemotaxonomy through chemo-profiling for bioactive compounds produced by fungi. Recently, our group has been instrumental in successfully demonstrating the genomics-assisted molecular systematic and whole genome sequencing. In the proposed training, these success stories will be demonstrated with the main objective to provide a practical presentation on polyphasic taxonomy of fungi.

Course Outline

The CAAST training has the following components:

A. Lectures on principles and practices of basic & advanced morphological and molecular tools and techniques used in Mycology and Plant Pathology.
The lectures will be delivered in the forenoon of the day during the training period.

B. Demonstration of the advanced research facilities
Visit to facilities like TEM, SEM, Confocal Microscope, Genome sequencers, Bioinformatic data center, Phenomics facility etc.

C. Group activities for case studies
Student groups will be given a set of plant pathogens and microorganisms to characterize using genomic tools.

D. Interactive discussion presentation and Quiz
Each student is expected to make a short presentation of their present work and future work plan on pathogenomics and microbial genomics programme of their choice organism. Presentation will be facilitated by coordinators during evening hours on all days during the programme. Students are also encouraged to bring their own biological material to work with.

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