Organizing Committee

Patron
Prof. (Dr.) V.P. Mahadevan Pillai
Hon. Vice-Chancellor, University of Kerala

Convener
Dr. Swapna T.S.
Professor & Head, Dept. of Botany

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Members

Dr. P.M.Radhamany
Professor, Dept. of Botany, Director, School of Life Sciences, Uty. of Kerala

Dr. SuharaBeevy S
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Dr. Kamarudeenkunju M.
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Dr. Bindu R. Nair
Associate Professor, Dept. of Botany, University of Kerala

Dr. R. Rajalakshmi
Assistant Professor, Dept. of Botany, University of Kerala

Registration Fee: Faculty members/Scientists: = 5000/-
Research Scholars: = 3000/- Mode of payment will be
communicated to the selected candidate in due course.

Address for correspondence

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National Workshop on

Tools and Techniques in
Advanced Plant Science Research

December 5-12, 2019

DEPARTMENT OF BOTANY
UNIVERSITY OF KERALA
KARIAVATTOM, THIRUVANANTHAPURAM

BACKGROUND AND SCOPE

Workshops and training are the platforms to update researchers in their field of research. Such programs provide exposure to novel tools and methods and thus enable young researchers to take up the challenging, emerging fields of research in plant science. Often first hand exposure and acquisition of various skills, mold the researchers to address their problem effectively and in an efficient manner.

In the recent past, life science research and in particular plant science has undergone significant advancement due to the advent of most modern instruments, with automation and artificial intelligence in the field. For instance, conventional soxhlet based plant extraction has now largely transformed with highly efficient automated extraction, ultrasonic extraction, microwave assisted extraction or super critical fluid extraction. For the detection and quantification of metabolites instead of conventional methods, HPTLC, UPLC, High-Resolution QTOF Mass Spec are recommended nowadays. Due to the backing of ultra-powered computation and analysis, in silico molecular docking and drug design efficient, more accurate *in vitro* and *in vivo* pharmacological evaluation of drug molecules is made possible now. In the case of microscopy, advancement such as scanning tunneling electron microscopy (STEM) and confocal microscopy are widely applied to plant research. In plant genotyping, SNP based methods like Fluidigm SNP Genotyping and development of capillary electro phorogram based nucleic acid and protein characterization is getting attention. In the gene expression studies, researchers is getting largely rely on qRTPCR profile.

The proposed workshop entitled 'Tools and techniques in Advanced Plant Science Research' in brief, aims provide hands-on experience to modern research tools to young researchers.

MAJOR OBJECTIVES

· To familiarize modern plant extraction techniques, sample preparation for various detection and quantitation of metabolites

· To provide training on handling of various computational data analyses and molecular docking tools

· To make aware detailed methods of sample preparation and advanced microscopy such as STEM, confocal microscopy etc.

· To provide exposure to modern tools in plant genotyping and analysis of molecular data

· To acquaint with qRT-PCR operation and maintenance.

The workshop expected to serve as a platform for hands-on training on modern aspects of plant science research. Lecture classes will follow the practical sessions in diverse fields during the course.

The organizers have invited a galaxy of eminent scientists from reputed National institutions or technical experts from private labs to lead training and demonstrations on various sessions. Major training components of the workshop expected to cover technical lectures and practicals on phytochemical analysis, molecular docking and drug design and development, molecular techniques- (SCAR markers, SNPs, miRNA, DNA barcoding), gene expression studies, data analysis, microscopy (confocal and SEM), Scientific writing, reference management and IPR. It is a matter of great pleasure to invite faculty members, scientists and researchers to participate in the workshop.

ABOUT THE DEPARTMENT

Department of Botany, University of Kerala was established in the year 1959 at Kariavattom, Thiruvananthapuram, Kerala by Late Prof. (Dr.) A. Abraham, a visionary, an institution builder and a doyen in Cytogenetics and Plant Breeding. The Department actively serves the society through the dissemination of knowledge and training the younger generation through unique courses and offering training in frontier areas of Plant Sciences. The Department is internationally known for its major contributions in Cytogenetics and Cytotaxonomy. Department is conducting two postgraduate programme; viz.,I. M.Sc Genetics and Plant Breeding ii. M.Sc Biodiversity and Conservation. The Department is active in Plant Biotechnology research and has well-established Cell/Tissue culture and Molecular Biology Laboratories. More than 180 students/teachers have taken Ph.D from the Department on diverse topics and more than 280 students have completed their M.Philprogramme in Advanced Botany.

HOW TO APPLY

We invite applications from junior faculty and research scholars in Botany, Plant Biotechnology and Agriculture. Participation in the workshop will be by invitation only. The number is limited to 30 participants. Details are available in www.keralauniversity.ac.in. Applications including address, contact number, email ID, area of specialization/ area of interest, and a write-up on the reason for participation in the workshop (about 100 words) may be submitted to easiril@gmail.comon or before November 30, 2019.The selected candidates will be informed by mail.