

Two Days Workshop on "ADVANCE TECHNIQUES IN MOLECULAR BIOLOGY" February 20-21, 2024

PREAMBLE : Microorganisms are fundamentally important to the history and function of life on earth. They carry out a diverse array of metabolic activities, several of which were instrumental in creating conditions for the evolution of life and its sustenance thereafter. Microbiology is an ever growing field and expertise in basic microbiological techniques provides an edge to the student. Hence this workshop is designed to provide an extensive Hands on training in basic techniques used in Microbiology such as media preparation, isolation of micro-organisms, handling and purification of microbial cultures, use of different kinds of media in a Microbiology laboratory, various bacterial staining methods and differentiation of bacteria based on cultural, morphological and molecular characteristics.

ABOUT THE DEPARTMENT : The Department of Microbiology was established in the year 1998. It is well equipped with ultra-modern laboratory facilities for isolation, purification, identification and maintenance of microbes. The Department has a well-established microbial culture collection centre and provide material to several affiliated colleges including the Medical colleges. The department has 45 computers in network with 7 x 24h Wi-Fi facilities. The Department has its own departmental library with more than 4000 books and several national and international research journals. The Department regularly organizes workshops, seminars, lectures and exhibitions. The Department provides specialization in Food Microbiology, Medical, Industrial, Agricultural, Environmental Microbiology and Bioinformatics.

TECHNICAL PROGRAM

Day 1 (Session 1)

Microbiomics: basic techniques and applications

- Brief overview of sterilization methods & good laboratory practices.
- Introduction to various modes of antibiotic-mediated microbial killing and determination of zone of clearance.

Day 1 (Session 2)

Genomics-I: Introduction to Recombinant DNA Technology

- Isolation of genetic material (plasmid isolation) and Agarose gel electrophoresis.
- Restriction digestion, Ligation, and transformation into competent cells.

Day 2 (Session 1)

Genomics-II: PCR and qRT-PCR

- Introduction to PCR and amplification of 16srRNA followed by agarose gel electrophoresis.
- Introduction to quantitative Real Time-PCR (qRT-PCR).

Day 2 (Session 2)

Proteomics:

- Introduction to protein expression and purification (Ni-NTA affinity chromatography).
- Introduction to various PAGE and demonstration of SDS PAGE.
- Quiz.

PARTICIPANTS : Students of B.Sc. M.Sc., Research scholars, Post-docs from any university/institute/organization working in the area of Life Sciences.

MODE OF TRAINING : The workshop will consist of lectures, demos and hands on training sessions.

NUMBER OF PARTICIPANTS : 30

REGISTRATION DETAILS : Participants should fill the Google Form & upload the fee receipt. Registration Deadline : **19 February 2024.**

FEE : Rs. 300 per Student's / Research Scholars from Universities /Institutions/Organizations.

LINK FOR REGISTRATION:

<https://forms.gle/PThTmmzQK8RrsHbX7>

Registration is mandatory for the participants. Without fees submission, registration will not be considered.

BANK DETAIL:

Bank Name : Indian Bank, CCS University, Meerut
A/C Name : Main Sb Account, CCS University, Meerut
A/C Number : 20195822291
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GUEST OF HONOUR

Prof. Y. Vimala
Executive Council Member
(Governor Nominee),
C.C.S. University, Meerut



COURSE DIRECTOR

Prof. Jitender Singh
Head, Dept. of Microbiology

ORGANIZING SECRETARY



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Assistant Professor
Department of Microbiology



Dr. Devendra Kumar
Assistant Professor
Department of Microbiology



Dr. Mohan Chandra Joshi
Assistant Professor,
MCARS, Jamia Millia
Islamia, New Delhi

ORGANIZING COMMITTEE

- | | |
|---------------------------|---------------------|
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