

Training Programme in Microbial Diversity and Polyphasic Characterization of Microbes

CCMB proposes a training program focusing on various methods used in exploration of biodiversity (primarily microbial) and characterization of a bacterial species/strain. The management of biodiversity is essential not only to the ecosystem but also for mankind, especially under the present conditions of mass species extinction. In addition to research interest/potential strain characterization is essential for industries as well which rely on maintaining the axenic microbial culture and establishing their authenticity from time to time. Thus this training course, in addition to academicians, would be useful for entrepreneurs/industries in optimal characterization/utilization of microbial species.

Duration	:	4 weeks
No. of seats	:	20 to 25 No.s
Education Qualifications	:	B.Sc., B.Tech., B.V.Sc., MBBS (minimum),
Age group	:	21-50 years (relaxation for SC/ST/OBC as per GOI rules)
Date of Commencement	:	8 th January 2018
Venue of the Course	:	iHub; Annexe-II, CSIR-CCMB
Course Fee	:	Rs. 25,000/- (self/sponsored)
Residential/non-residential	:	Residential (accommodation provided)

Sponsorship: Established public/private sectors are welcomed to sponsor candidates of their interest.

Training Curriculum for the course:

I. Exploration of Non-cultivable biodiversity

- DNA isolation from Soil or water
- 16S rDNA amplification from community DNA
- Cloning of 16S rDNA, electroporation and sequencing, phylogenetic analyses (MG-RAST, PHYLIP, MEGA, Mothur)
- DGGE
- tRFLP

II. Polyphasic characterization of Microbes

- Morphological studies (Colony and cell morphology)
- Biochemical characterization (involves screening of several enzymes, proteins gels)
- Chemotaxonomic studies (include characterization of fatty acid methyl ester [FAME], lipids, Menaquinones, peptidoglycan, pigments etc)
- Genotypic characterization (fingerprinting of bacteria [ERIC-, BOX-, REP-PCRs, RAPD, tRFLP, 16S rDNA sequencing])
- Phylogenetic characterization of bacteria (PHYLP, MEGA)

Salient Features of the Training:

- 25% theory and 75% practical sessions are per the course curriculum.
- Hand-out information on teaching modules
- Tutorials (personal attention)
- Lectures are assisted with multimedia aids
- Central facility visits within the laboratory
- Evaluation by assignments and exams
- A certificate will be issued to the successful candidates