

REPORT

SEMINAR ON

Metagenomics: A New Direction in Ecology

12 December 2022, 11AM

By



DEPARTMENT OF BIOTECHNOLOGY
EMEA COLLEGE OF ARTS AND SCIENCE

Re-accredited with 'A' grade by NAAC
(Aided, affiliated to University of Calicut)
KONDOTTY, P.O. KUMMINIPARAMBA
MALAPPURAM (DIST), PIN. 673 638

SEMINAR

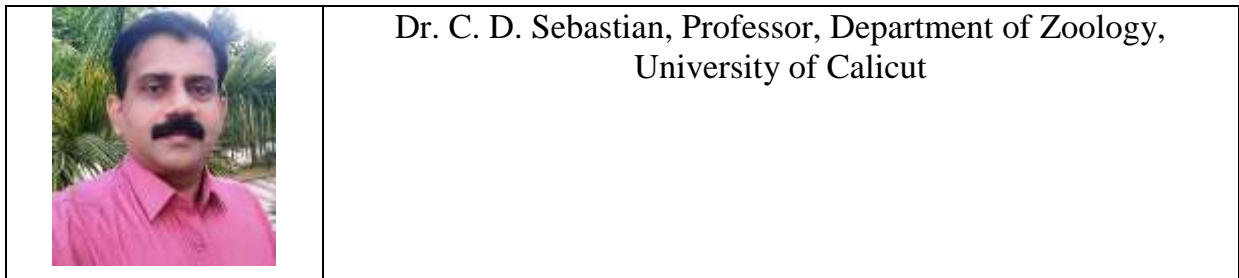
On

Metagenomics: A New Direction in Ecology

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The Department of Biotechnology, EMEA College of Arts and Science organized a webinar on 12 December 2022.

Resource Person:



Program:

The seminar was started at 11AM and Mr. Rinsad, Secretary, Biotechnology Association was the coordinator and welcome speech and Ms. Radwa, First year BSc Biotechnology delivered the vote of thanks. Dr. Mashhoor K, Head, Department of Biotechnology delivered the presidential address. Prof. Abdurazaque (Principal incharge), Mr. Fuad, Chairman, Students Union were addressed the gathering.

Description of Course content delivered in the seminar:

Metagenomics is the genomic examination of microorganisms through the direct extraction and cloning of DNA from a collection of microorganisms (also known as environmental and community genomics). Metagenomics was created in response to the indisputable finding that the great majority of organisms in the majority of earthly settings are as-yet-uncultured microbes. This proof came from analysis of 16S rRNA gene sequences amplified from the environment, a method that avoided the bias introduced by culture and resulted in the discovery of enormous new lineages of microbial life. The analysis of 16S rRNA genes revolutionised our understanding of the microbial world, however these studies mostly produced phylogenetic descriptions of the membership of communities with little information about the genetics, physiology, and biochemistry of the individuals. Studying the physiology and ecology

of environmental microbes is made easier by the second-tier technological advancement that metagenomics offers. Metagenomics has led to the identification of novel genes and gene products, such as the first bacteriorhodopsin of bacterial origin, novel small molecules with antimicrobial activity, and new members of known protein families. A community's energy and nutrition cycle, genome structure, gene function, population genetics and microheterogeneity, and lateral gene transfer between uncultured community members have all been revealed through the reassembling of numerous genomes. The use of metagenomic sequencing data will make it easier to develop improved culturing techniques to connect genomic analysis with pure culture investigations.



**BIOTECHNOLOGY ASSOCIATION
INAUGURATION & SEMINAR**


— ON —

**METAGENOMICS :
A NEW DIRECTION IN ECOLOGY**

Resource Person:

Dr. C.D. Sebastian
Professor, Department of Zoology,
University of Calicut

2022 Dec. **12** 11 AM @ Audio Visual Theater

 **DEPARTMENT OF BIOTECHNOLOGY
EMEA COLLEGE OF ARTS AND SCIENCE**
Re-accredited with 'A' Grade by NAAC
Kondotti, Malappuram (Dt) Kerala, Pin-673638

Co-ordinator: Rinsad (Secretary, Biotechnology Students Association)

Flyer of the Programme



Prof. PM Abdurazaque delivering principal address



Audience



Inaugurational address by CD Sebastian



Felicitation: Mr. Fuad, Chairman, College Union



Vote of Thanks: Ms. Radwa



Speech by Dr. CD. Sebastian