International conference on Environmental Microbiome and Synthetic Biology

IIT Kharagpur
21st March -27th March 2027

Overview:

This workshop, organized as part of the Platinum Jubilee Celebrations of IIT Kharagpur, aims to provide hands-on training in environmental microbiomics and synthetic biology. The program emphasizes a balance between foundational concepts and practical sessions, enabling participants to work with real-world datasets and apply effective microbial design strategies.

Themes:

Microbiome Data Analysis and Bioinformatics

- Amplicon-based microbiome analysis
- Shotgun metagenomics: concepts and applications
- Microbiome diversity, statistics, and visualization
- Functional annotation and pathway analysis
- Microbial network and interaction analysis
- Microbial ecology and ecosystem functioning
- Biogeochemical cycling and functional microbiomics
- Introduction to bioinformatics

Synthetic Biology and Microbial Design

- Principles of synthetic biology and genetic engineering
- Microbial chassis design
- Synthetic biology for sustainability

Target Participants:
PhD/ PG students

Registration deadline: To be announced
Link for registration:

Prospective Resource Persons:

- **Prof. Victor de Lorenzo**
  Head of Systems Biology Program,
  CSIC
- **Prof. Juan-Luis Ramos**
  Professor at Spanish National Research Council, Madrid
- **Prof. Pablo I Nikel**
  Professor & Group Leader
  Technical University of Denmark
- **Prof. Douglas Bartlett**
  Professor Emeritus,
  Scripps Institution of Oceanography
- **Dr. Sanjay Swarup**
- **Associate Professor**
  Department of Biological Sciences
  National University of Singapore
- **Dr. Avinash Sharma**
  Scientist E,
  NCCS, Pune
- **Prof. Ch Venkata Ramana**
  Professor
  Department of Plant Sciences
  University of Hyderabad

Convenor: **Prof. Pinaki Sar, Department of Bioscience and Biotechnology**
IIT Kharagpur

Co-convenor: **Prof. Preeti Srivastava, Department of Biochemical Engineering and Biotechnology, IIT Delhi**
Prof. Vinay Patel, Department of Bioscience and Biotechnology
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