



The Oxford College of Science



Accredited by NAAC with A+ grade in cycle III

Recognized by the Govt. of Karnataka; Permanently affiliated to Bangalore University & Approved by AICTE, New Delhi

Recognized by UGC under section 2(f) & 12(B); Recognized by GoK for BISEP (formerly BTFS)

Supported by DST GoI under FIST program, Supported by DBT GoI under DBT-STAR College

16s Regions

- The 16S rRNA gene sequence is about 1,550 bp long and is composed of both variable and conserved regions.
- Conserved-structure has changed very little over time due to their important function
- Hypervariable regions-more tolerant of mutations

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 bp

CONSERVED REGIONS: unspecific applications
VARIABLE REGIONS: group or species-specific applications

Dr. A. Gandhimathi

Sangeetha M, Siri Hebbar, G

Epigenomics

EPIGENETIC MECHANISMS

- Epigenetic modification
- Environmental influences
- Developmental processes
- Epigenetic inheritance
- Age

HEALTH ENDPOINTS

- Alcohol
- Alcohol-related diseases
- Alcohol disorders
- Mental health

Dr. A. Gandhimathi

DEEKSHITHA M, Varsha Vishnu, PraKash KG

Overview of Metagenomics analysis

Metagenome Sequencing

Quality Control

What is there?

- Transcriptomic Diversity
- Phylogenomic Diversity
- Phylogenomic Diversity
- Genomic Diversity
- Repeat Distribution

Marker Gene Analysis

- Binning
- Assembly

What are they doing?

- Gene Prediction
- Functional Annotation
- Gene Diversity
- Repeat Screen
- Protein Family Diversity
- Functional Diversity

Comparative Metagenomics

- Inter-community Similarity
- Metastata Correlations
- Biomarker Detection

Dr. A. Gandhimathi

Sangeetha M, Siri Hebbar, G

EVENT: Unlocking the Code : An Introduction to Genomics

DATE & TIME: 30th September 2024, 10:00 AM

VENUE& MODE : BI lab & Online Mode

RESOURCE PERSON: Dr. A. Gandhimathi, Independent Senior Consultant- Upsurge Labs, Biostica Services, Symbiont Life Sciences

NO. OF STUDENTS PARTICIPATED: 104

PROGRAMME COORDINATOR: Dr. Kamatchi C

A guest Lecture on “Unlocking the Code : An Introduction to Genomics ”, made students understand the concepts of genomics and its applications along with integrated sequencing knowledge. The regulated expression of blueprints known as epigenomics and exploring the microbial diversity and function in environments were discussed in the lecture.