

VPM's B N Bandodkar College of Science, (Autonomous) Thane
NATIONAL CONFERENCE ON 'MICROBIOME' - THE STORY UNTOLD
(2021-2022)

Report of Second Pre-conference Workshop

“Understanding the tools of trade”

Departments of Biotechnology, Microbiology, Biochemistry, Botany, Human Science and Interdisciplinary science V.P.M.'s B.N. Bandodkar College of Science, Thane, had organized the **second pre-conference workshop** “Understanding the tools of trade” for National Conference on '**Microbiome**' - **The Story Untold** on 10th and 11th December 2021.

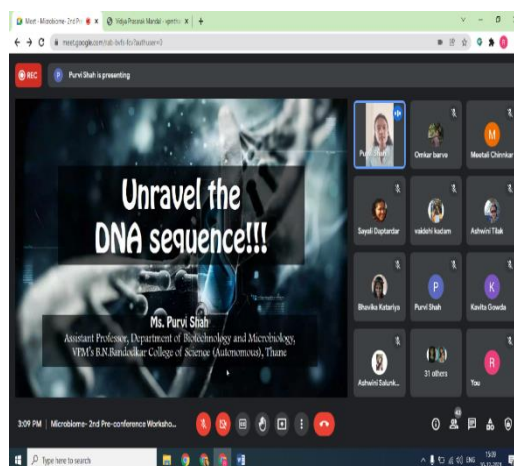
The pre-conference workshop was organised with an aim to enable the student to prepare for the conference and equip them with basic understanding of techniques. The Second pre-conference workshop had 3 sessions –

- **Session I – Unravel the DNA sequence by Ms Purvi Shah.**
10th December 2021, 3.00-5.00pm
- **Session II- Essential Bioinformatics by Ms Ashwini Tilak.**
11th December 2021, 11.00-1.00pm
- **Session III- Essential Bioinformatics by Ms Judith Talker.**
11th December 2021, 3.00-5.00pm

Ms. Mitali Chinaakar, Assistant Professor, Department of Biochemistry, compered the event. The event began with welcome by Ms Mitali Chinaakar followed by the Sarasvati Vandana. After the welcome address Dr. Moses Kolet, Principal, V.P.M.'s B.N. Bandodkar College of Science, Thane gave his introductory remarks. Sir welcome the participants and gave best wishes to the organising committee for smooth conduction of the event. He also highlighted the importance of these preparatory sessions and motivated students to participate in large numbers.

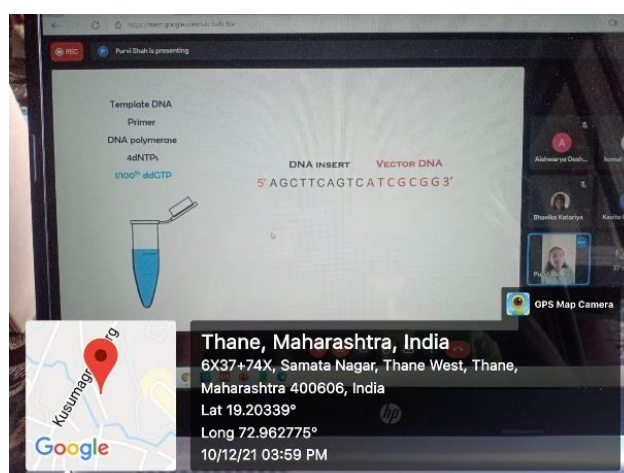
Dr. Jayeshree Pawar, Organising Secretary briefly explained the conceptualization of the National Conference. Later she elaborated on various themes and gave an overview of all the activities that were organised till date under the umbrella of Microbiome- the Story Untold. Madam mentioned about the Logo Competition, Poster Competition and First Pre conference Workshop.

The first session of workshop ‘**Unravel the DNA sequence**’ was taken by Ms Purvi Shah, Assistant Professor Department of Biotechnology and Microbiology. This session began with Introduction of Ms Purvi Shah by Mr Omkar Barve, a TY biotechnology student.



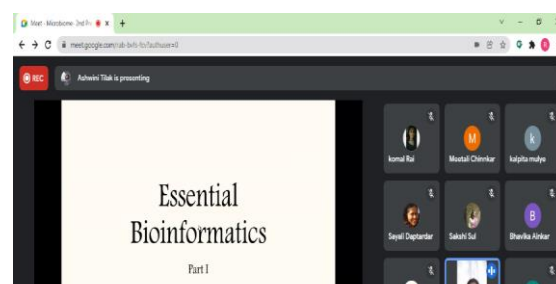
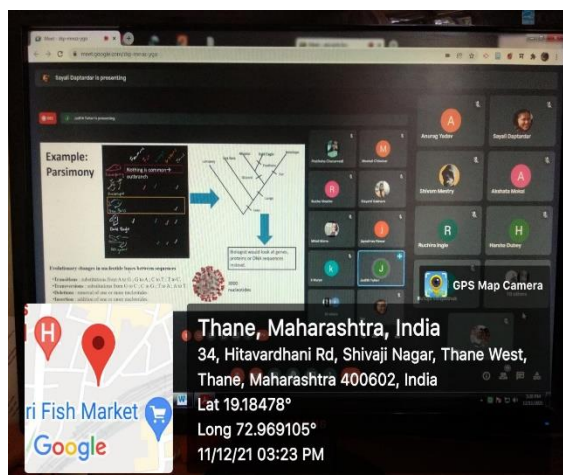
In this session Ms. Purvi explained about the Central Dogma of molecular biology and importance of sequencing 16s rRNA gene in Microbes. She elaborated on the use 16S rRNA gene sequencing is as a tool to identify bacteria at the species level and assist with differentiating between closely related bacterial species. An overview of a timeline on the study of DNA was discussed. She elaborated on the various DNA sequencing methods that are available and continued her session with detailed explanation of the Sanger Sequencing method for understanding the sequence of DNA. Automated DNA sequencing as a Modification of Sanger sequencing which utilizes a fluorescent dye to label the nucleotides instead of a radioactive isotope was briefly explained. Ms Puri Shah mentioned that Next-Generation Sequencing (NGS) of 16S rRNA gene is now one of the most widely used application to investigate the microbiota. She explained the techniques of Illumina sequencing technology, sequencing by synthesis (SBS), which are widely adopted next-generation sequencing (NGS) technology worldwide. This session concluded with interaction with the participants. **112 Participants attended the session.**

The second session of workshop “Essential bioinformatics “was taken by Ms. Ashwini Tilak, Assistant Professor Department of Biotechnology and Microbiology on 11th December 2021 from 11.00am to 1.00 pm. The session began with formal introduction of madam by Ms Komal Rai, TY Biotechnology student.

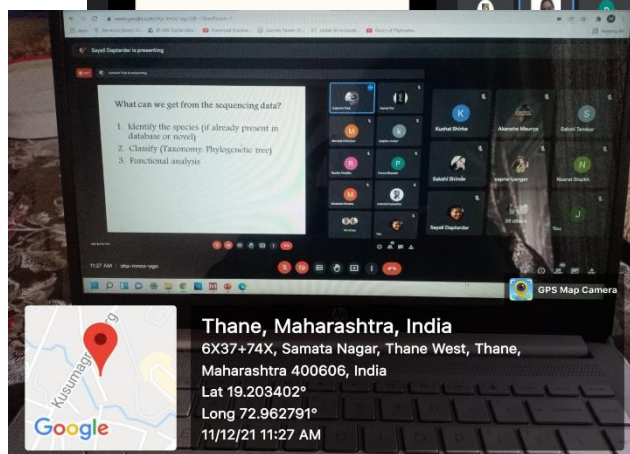


Ms Ashwini Tilak explained the broad concept of bioinformatics and need for amalgamation of wet lab techniques and virtual tools of data assessment. She mentioned various tools that are widely used today for data analysis. She emphasized on the need to analyse data with more precision and fastness. Madam demonstrated the use of **Basic Local Alignment Search Tool (BLAST)** in nucleotide and protein sequencing. She explained that The Basic Local Alignment Search Tool (BLAST) finds regions of local similarity between sequences. The program compares nucleotide or protein sequences to sequence databases and calculates the

statistical significance of matches. Ms Ashwini Tilak stepwise guided the participants to perform sequence alignment and analyse the results. This session concluded with interaction with the participants. **90 Participants attended the session.**



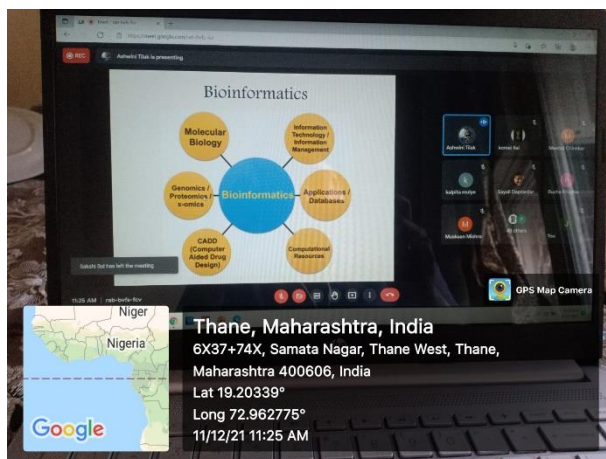
The third session of workshop “Essential bioinformatics” was taken by Ms. Judith Talker, Assistant Professor Department of Biotechnology and Microbiology on 11th December 2021 from 3.00pm to 5.00 pm. The session began with formal introduction of madam by Ms Sayali Malvankar, TY Biotechnology student.



Ms Judith Talker focused on Phylogenetic Analysis in the talk. She introduced the participants with concept of phylogenetic as the study of the evolutionary development of a species or a group of organisms or a particular characteristic of an organism. Taking recent example of Covid Outbreak, madam uncovered an otherwise difficult topic with very easy and relatable example. She demonstrated the use of Molecular Evolutionary Genetics Analysis (MEGA) computer software for conducting statistical analysis of molecular

evolution and for constructing phylogenetic trees. This session concluded with interaction with the participants. **98 Participants attended the session.**

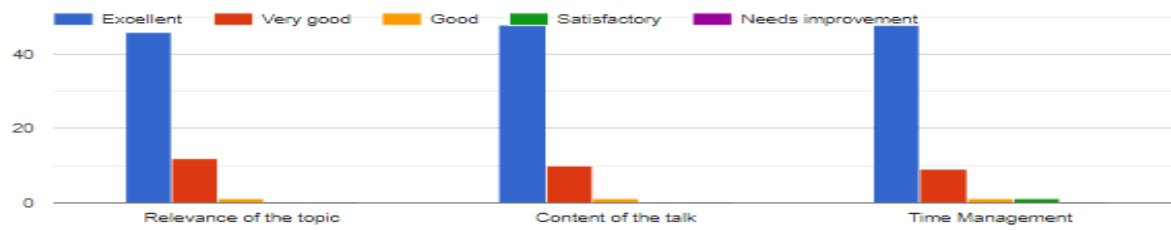
The two-day pre conference workshop concluded by vote of thanks and concluding remarks from Dr. Kalpita Muley, Organising Secretary.



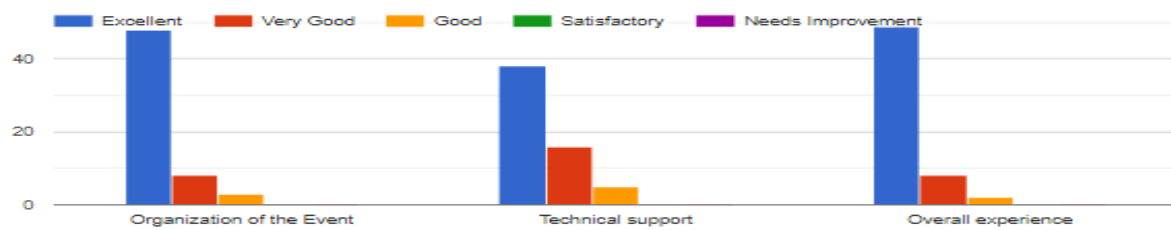
FEEDBACK ANALYSIS-

85% Females and 15% males attended the session. Participants found the overall organisation of the sessions excellent.

Feedback about the Session by Ms. Purvi Shah (Select any one among the five options)



Kindly Rate your overall experience. (Select any one among the five options)



SESSION I

What was your takeaway from the event?

53 responses

I learnt so much new things about the dna sequencing.

Knowledge

It was helpful

Learnt about advancement in bioinformatics

Microbiome

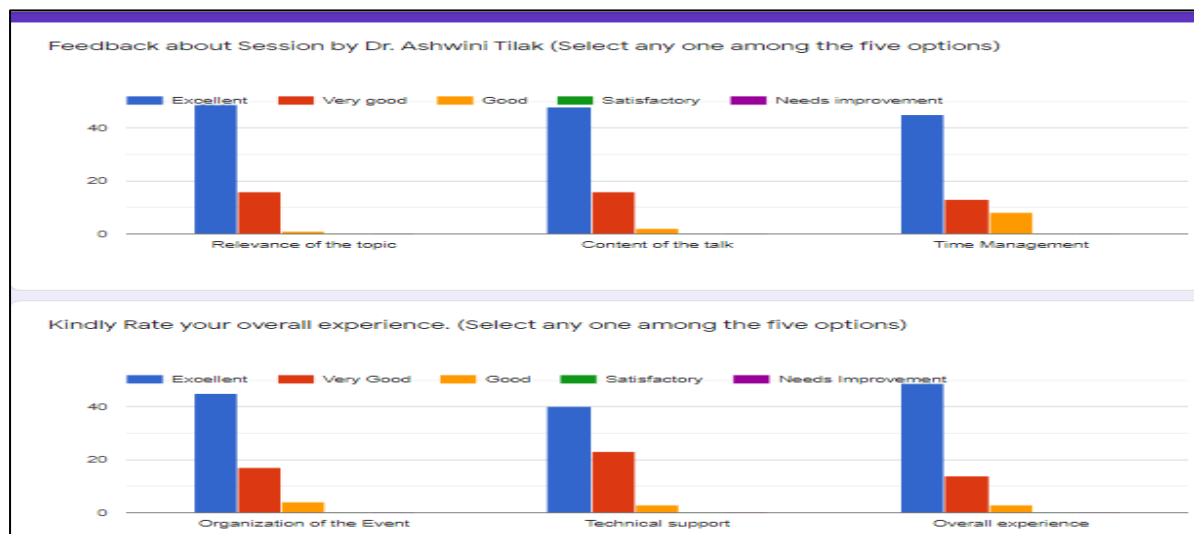
It was interesting to know about these tools. It was explained in easy and simple way.

DNA sequence

New things to learn about covid virus , sequencing etc.

Get the information about bioinformatics field

SESSION II

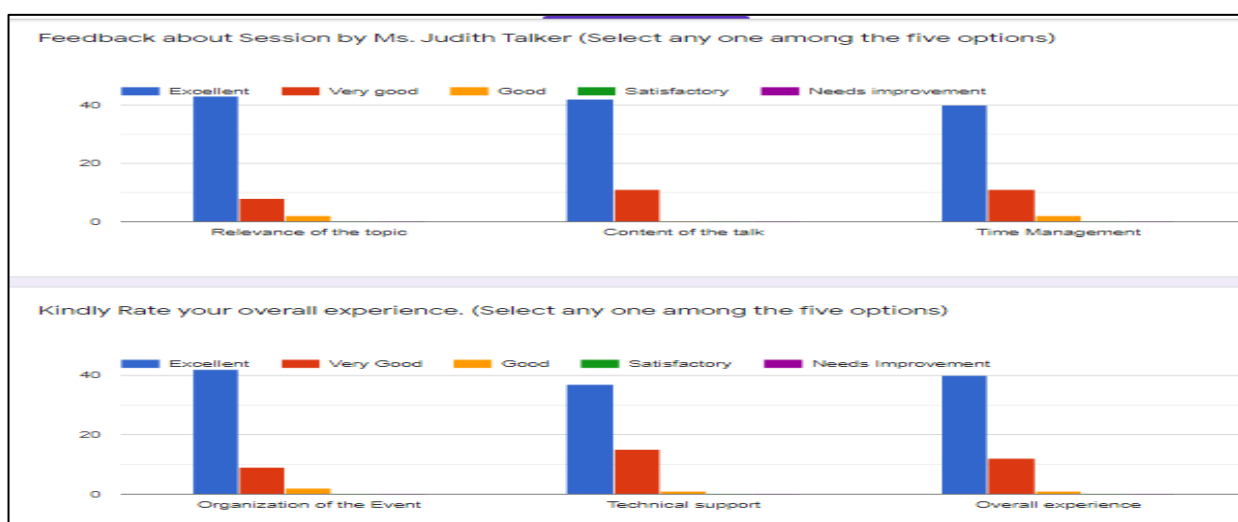


What was your takeaway from the event?

66 responses

- It it surely a mesmerizing topic
- I like the presentation and understood properly. Bioinformatics is very interested topic . Ashwini mam properly explain it.
- The event was so informative. It's helping me a lot
- Got new information about BLAST. And understood it well.
- The Concepts are revised and well understood.
- BLAST was good
- Learnt a lot of New things in this session
- It make me more interested in learning Bioinformatics
- Got to learn new topic of Bioinformatics

SESSION III



OUTCOME OF THE EVENT-

The speakers introduced the participants to various aspects in the field of MICROBIOME. The main purpose of the pre-conference workshop was to bridge the knowledge gap of students between the theoretical aspects and the current research / industry practices and preparing them for the actual conference. All three speakers from their respective fields



Got to learned new things about DNA and DNA technique

Got to learn something very new and different.

Get know about many new things in dna sequencing

It was a great experience.

Learnt new things about DNA and sequencing.

Agarose Gel electrophoresis

Everything was well explained and cleared

Knowledge

Learned a lot today about sequencing. It was very well explained by Purvi ma'am in simple and creative way. Thank you so much.

added valuable insights to the topic at hand and answered questions posted by participants making it more interactive and fruitful for all students. Overall, the pre-conference workshop achieved its intended results and was a success.
