

**SIES COLLEGE OF ARTS, SCIENCE AND COMMERCE (AUTONOMOUS),
SION WEST, MUMBAI - 400 022**

DEPARTMENT OF BIOTECHNOLOGY

A. Title of the Seminar/Workshop/Conferences:

RUSA sponsored 'Online Workshop for Developing & Refining Skills in Bioinformatics'

B. Background:

Bioinformatics is an integrative field in life sciences that combines biology and information technology. Being a combination of different branches of life sciences, the field employs methodologies and tools to study large volumes of biological data (genomic, RNA, protein, etc) in order to organize, store, systematize, visualize, annotate, query, understand and interpret those data. It has proven quite useful in medicine as the complete sequencing of the human genome has helped to unlock the genetic contribution for many diseases. Its applications include drug discovery, personalized medicine, preventative medicine and gene therapy.

C. Aims/Objectives:

The online workshop on Bioinformatics is intended to:

- inculcate the basic skills required for analysis and interpretation of biological data among the students
- integrate the applications of information technology with Biotechnology through virtual labs and simulation-based software

D. Location:

Online platform (MS teams)

E. Target audience/participants with expected number:

30 participants with a science background at HSC level and having access to a PC/laptop (Windows 7 & above).

F. Details of Sessions:

Detail of Lecturers Delivered/Sessions held:

Sr. No.	Date	Lecture Title	No. of Lecture/ Session
1.	12/02/2022	Literature Database	01
2.	13/02/2022	Nucleic acid Database	01
3.	26/02/2022	Protein Database	01
4.	27/02/2022	BLAST – Part 1	01
5.	05/03/2022	BLAST – Part 2	01
6.	06/03/2022	MSA & Phylogeny using Clustal Omega	01
7.	12/03/2022	MSA & Phylogeny using MEGA X	01
8.	13/03/2022	Primer Designing; Practice & Concluding Session	1.5

G. Session and name of Resource Persons:

Dr. Tejas Prakash Chirmade, Project Scientist, CSIR-National Chemical Laboratory, Pune

H. Expected outcome:

The participant will be introduced to the basic concepts in user-end bioinformatics, efficient use of various databases and sequence analysis programs. Furthermore, they will have hands-on experience with different tools and software to handle sequence data and analyse it to gain meaningful outcomes. This will thus enable students to:

- Learn about literature databases (PubMed, Google scholar) and refine the search skills using keywords to retrieve relevant data
- Understand the nucleic acid and protein databases; Retrieve and store relevant genomic, CDS and protein data using various keywords
- Perform pairwise alignment using different types of BLAST tools and analyse the results
- Perform multiple sequence alignment using CLUSTAL & MEGA X and understand the phylogenetic relationships between the organisms wrt evolution
- Design the primers for PCR
- Hone their skills in interpreting and managing biological data



Dr. Tara Menon

Co-ordinator

Department of Biotechnology

13.03.2022

Annexures 1: Detail of the Resource persons

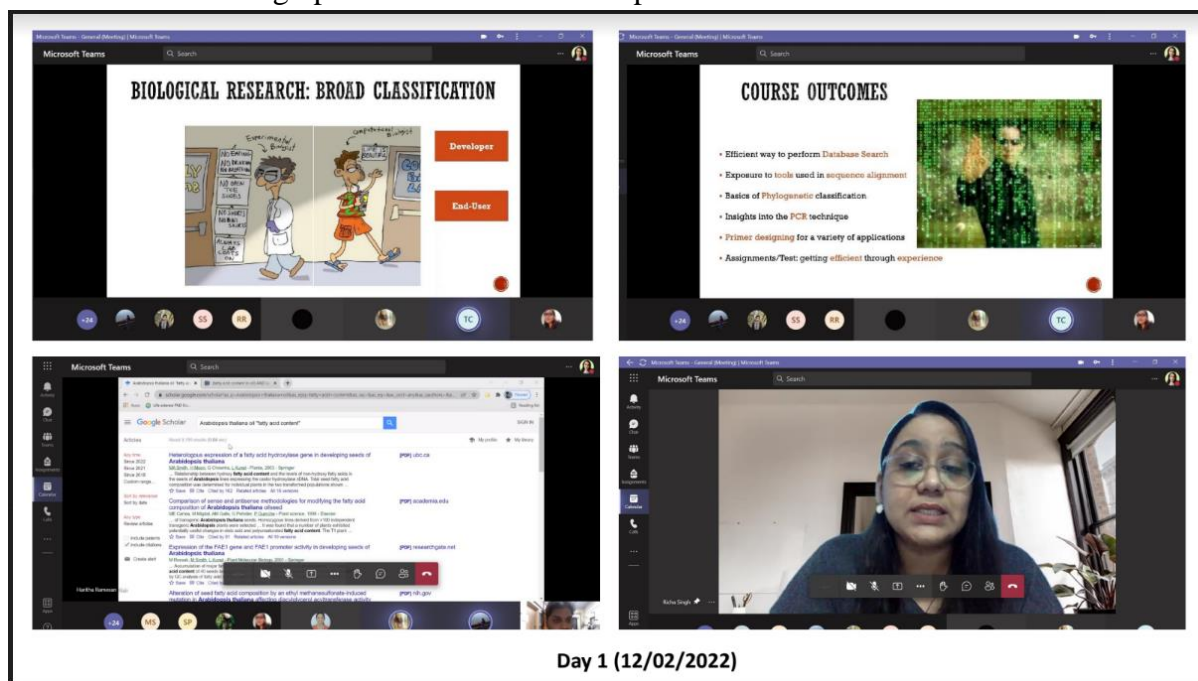
- Dr Tejas Chirmade is currently working as Project Scientist at CSIR- National Chemical Laboratory, on "Development of economical recombinant Human Insulin Lispro ". He is also the Founding Director of a start-up, ZOEACS Life Science LLP, which focuses on research (academic and applied) and education. The company is currently involved in conducting skill development programs for students and faculty members of life sciences. Dr Tejas pursued his doctorate from the CSIR-National Chemical Laboratory, Pune during which he was awarded a research fellowship from UGC. He did his BSc in 2007 in Microbiology from the University of Mumbai. In 2009, he completed two Masters degrees – one in Microbiology from the University of Mumbai and another in Clinical Research & Regulatory Affairs from Sikkim Manipal University. He has also served as Lecturer in the Department of Biotechnology, K.J. Somaiya College from 2009 to 2012. He has several publications in peer-reviewed journals. His area of expertise includes gene cloning, data mining, primer-designing, proteomics and mass-spectrometry.

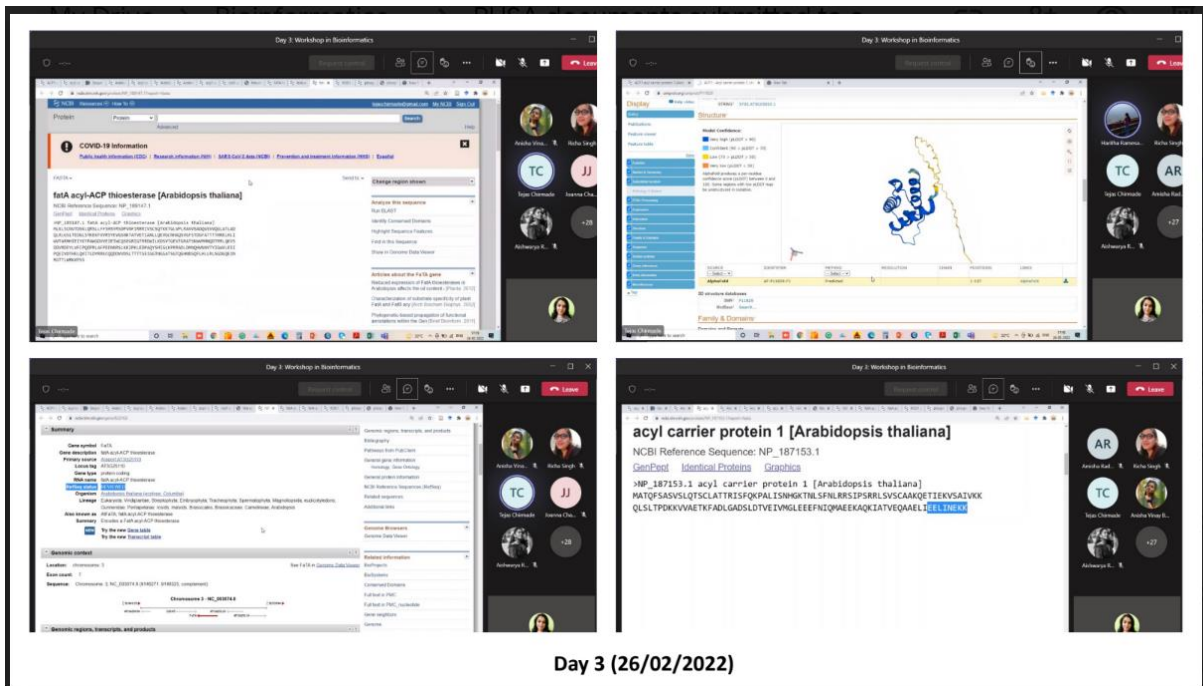
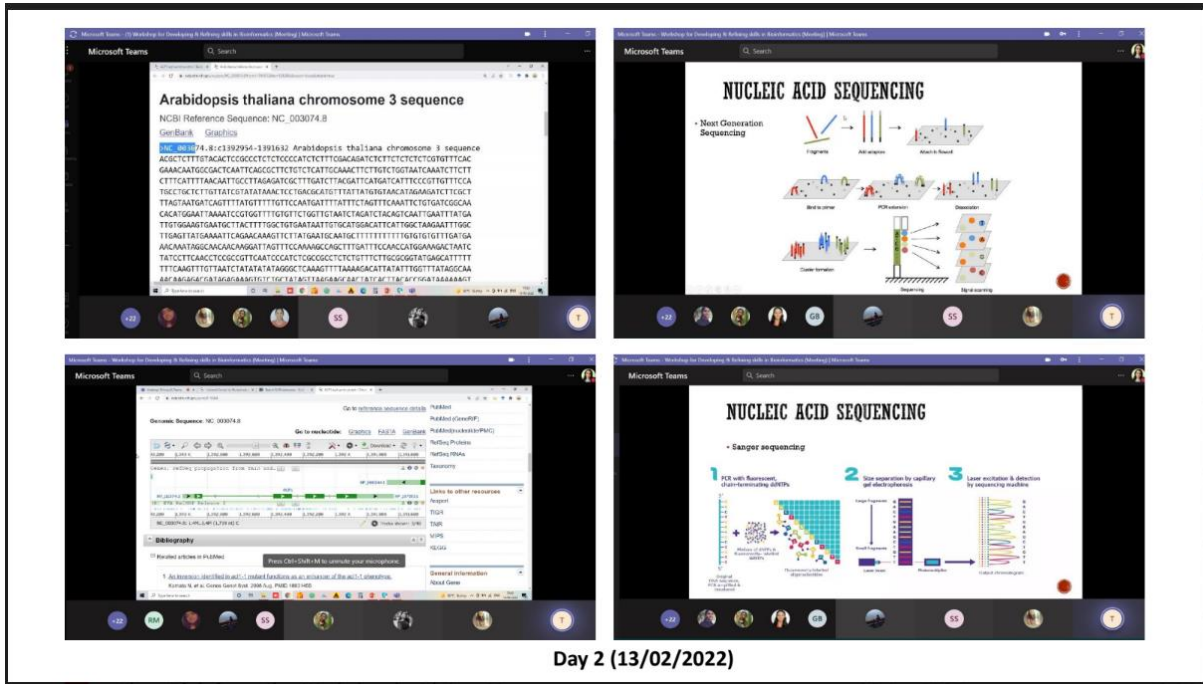
Annexures 2: List of Participants

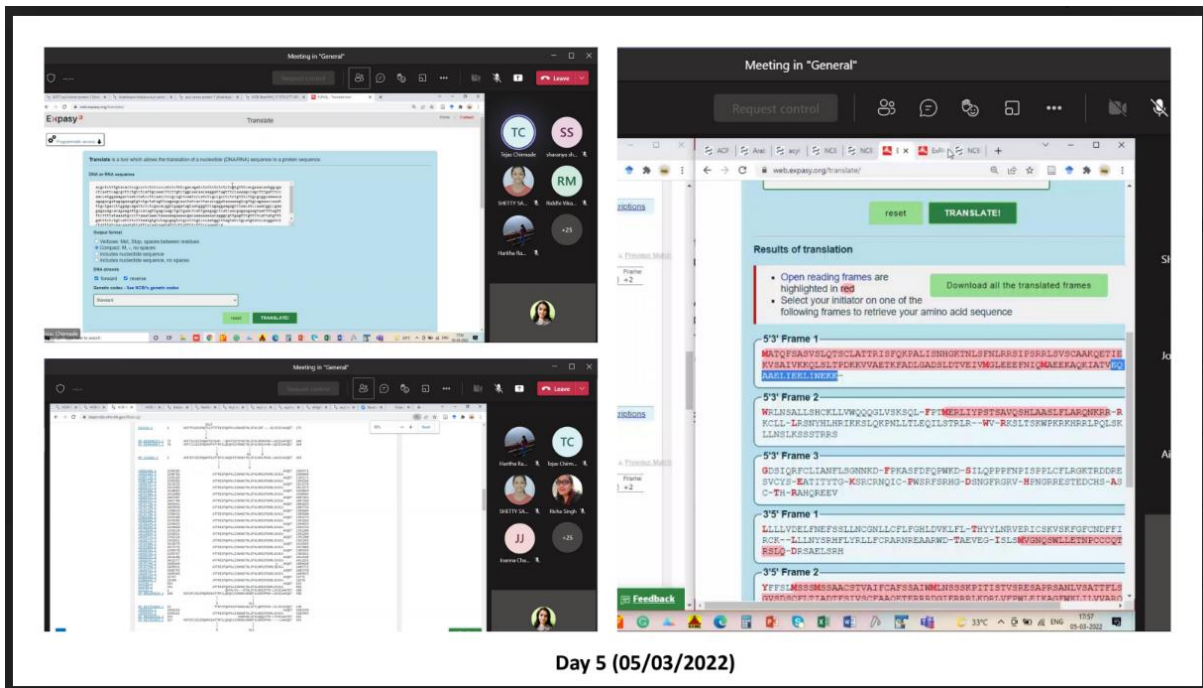
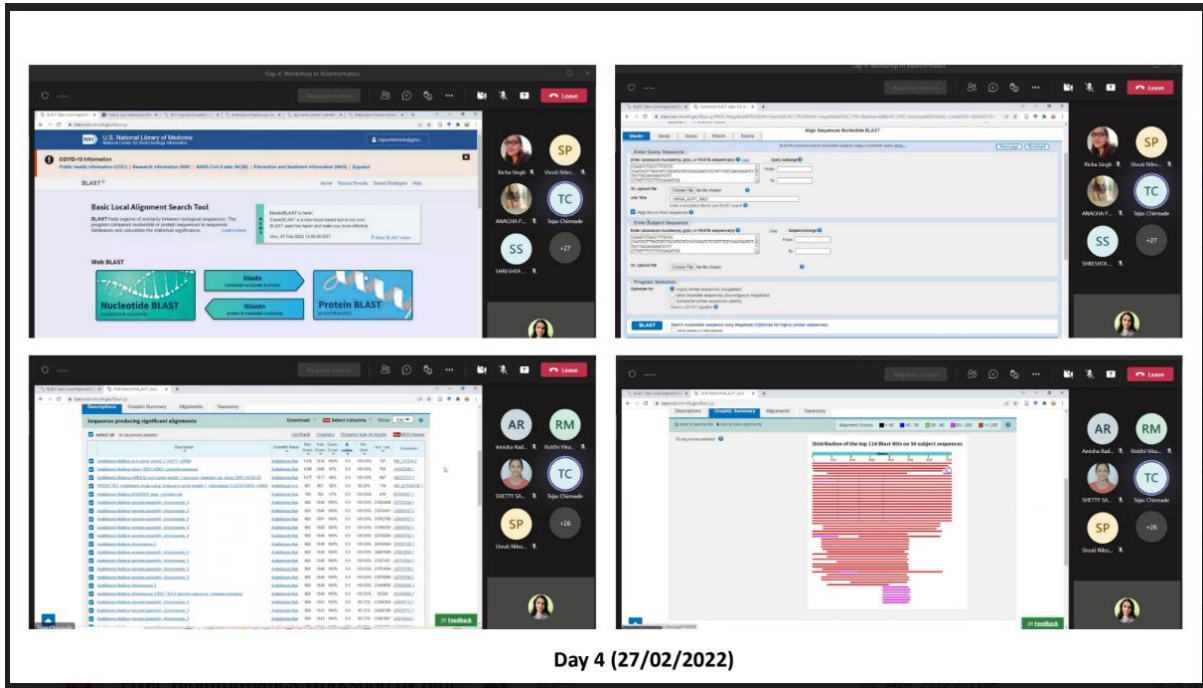
S. No.	Name
1.	Aishwarya Ramakrishnan
2.	Akshitha Balkrishna Someshwar
3.	Amisha Radhakrishnan
4.	Anagha Prakash Nair
5.	Anandita Anil Ghorpade
6.	Anisha Vinay Bhende
7.	Ashish Ravi Acharya
8.	Banupriya Swaminathan Iyer
9.	Bhavi Mashru
10.	Chandaria Hiral Manish
11.	Devika Rajeevan
12.	Gopika P P Bijumon
13.	Hrithik Rai
14.	Joanna Charis Johnson
15.	Laxmi Raju Pal
16.	Mabitha Mani
17.	Manika Sawant
18.	Nair Haritha Ramesan
19.	Riddhi Vikas Mhatre

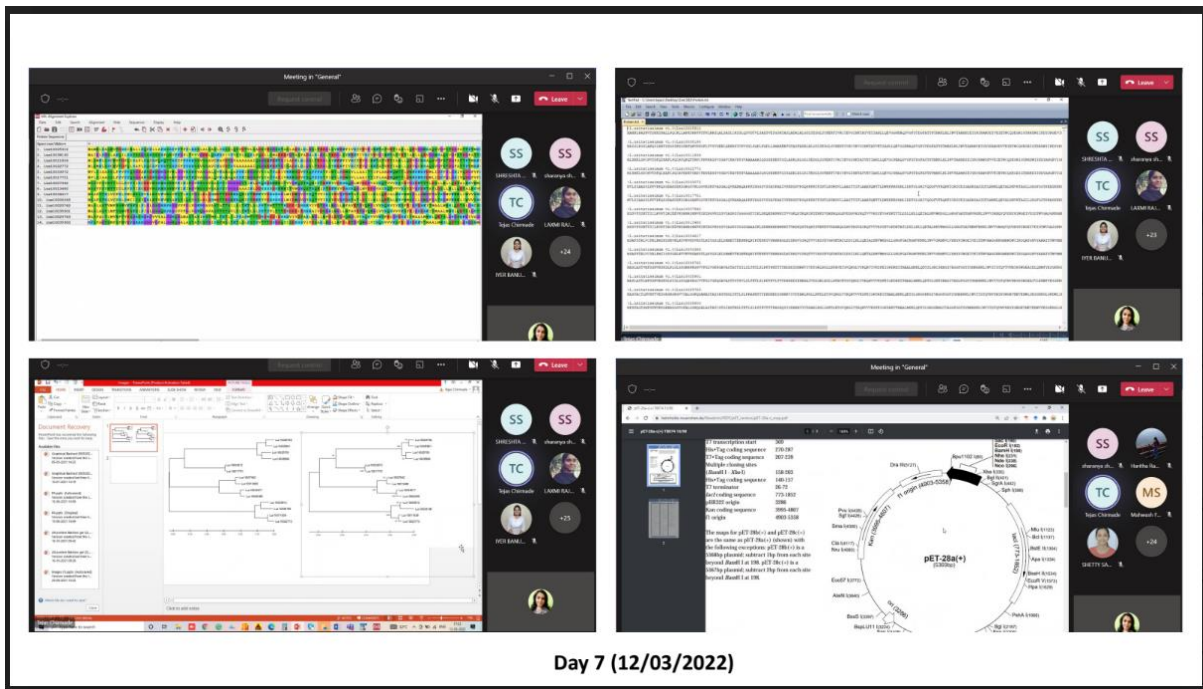
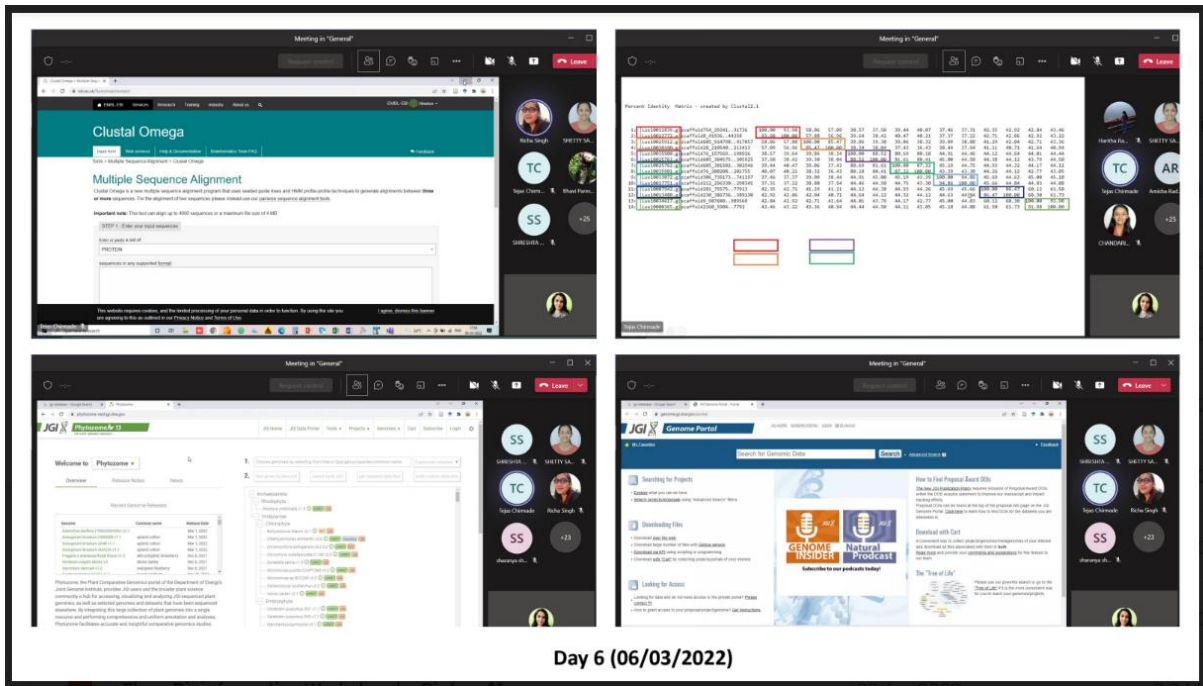
20.	Sanskruti Kokate
21.	Sasha Deepak Shetty
22.	Sharanya Shankar
23.	Sharon Santhosamani
24.	Shetty Saakshi Dinesh
25.	Shreshta Srinivasan
26.	Shruti Parmar
27.	Srushti Vishwajit Sagare
28.	Swarnavo Palit
29.	Syed Mahwash Fatima
30.	Tanvi Prakash Palande

Annexures 3: Photographs of Seminar/Workshop

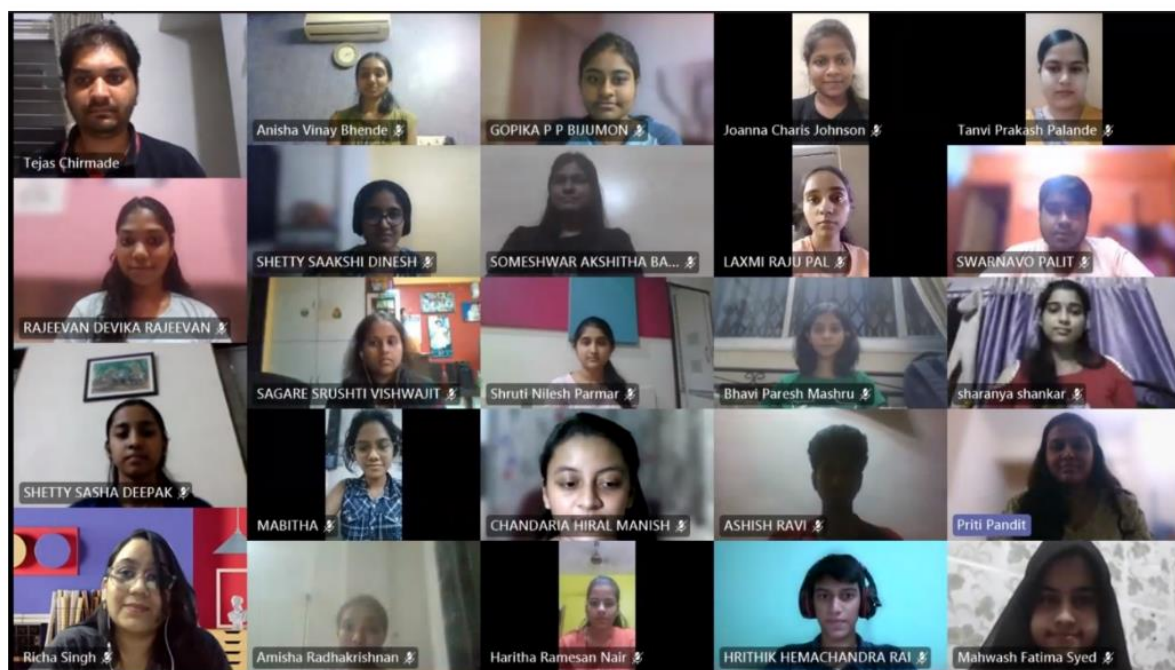








Day 8 (13/03/2022)



Dr. Tara Menon
Co-ordinator
Department of Biotechnology

13.03.2022