



Department/ School Name: Biotechnology / School of Engineering and Technology
Academic Year 2025-26
Report on Expert Talk

1. Event Title: Expert Talk on Building Bioprocess: The Engineering behind Industrial Fermenters

2. Event Date: 20th February 2026

3. Event Conduction Duration: 11.00 am to 12.00 pm

4. Event Venue: Department of Biotechnology, Sandip University, Nashik.

5. Name of Event Coordinators with contact details:

- Dr. Varsha Rani, Head, Department of Biotechnology (varsha.rani@sandipuniversity.edu.in)

6. Event Outline :

The Department of Biotechnology organized an Expert Talk on “Building Bioprocess: The Engineering Behind Industrial Fermenters” for the students and faculty members to provide insights into the industrial aspects of bioprocess engineering and fermentation technology. The resource person for the session was Ms. Bhumika Bhamare, Bioprocess Engineer at ZETA Biopharma.

The program commenced with a warm welcome of the expert by Dr. Varsha Rani, Head, Department of Biotechnology. She introduced the speaker and highlighted her professional achievements and expertise in the field of bioprocess engineering. Dr. Varsha Rani also emphasized the importance of understanding industrial bioprocesses and engineering principles for biotechnology students aspiring to build careers in the biopharmaceutical and biotechnology sectors.

During her lecture, Ms. Bhumika Bhamare provided a comprehensive overview of Bioprocess Engineering and explained the crucial role of a bioprocess engineer in the biotechnology and biopharmaceutical industries. She discussed the diverse responsibilities undertaken by bioprocess engineers and elaborated on the career opportunities available for students with a B.Tech. Biotechnology background.

The expert gave detailed insights into the planning and design of industrial fermenters and explained how the overall design of a fermentation system is developed for establishing a bioprocess industry. She highlighted the significance of engineering design, process optimization, and scale-up strategies in ensuring efficient production and product quality. Through practical examples from industry, she demonstrated how proper fermenter design directly influences process performance, productivity, and regulatory compliance.

Ms. Bhamare further emphasized that a strong understanding of both theoretical and practical aspects

of bioprocess engineering is essential for professional growth in this sector. She introduced participants to industry-relevant software tools such as AutoCAD and INOSIM Process Simulation Software (Digital Twins) and explained how proficiency in these technologies can significantly enhance employment opportunities in the bioprocess and biopharmaceutical industries.

The session also covered important aspects of industrial operations, including process automation, quality assurance, process specifications, commissioning, validation, and process simulation. She explained how these factors contribute to achieving the desired product quality and ensuring successful regulatory approvals. In addition, she discussed the various parameters and components involved in process engineering and their role in the successful operation of industrial bioprocesses.

Towards the end of the session, Ms. Bhamare highlighted the wide range of biotechnology-based industries that offer excellent opportunities for internships and placements. She encouraged students to develop interdisciplinary skills combining biotechnology, engineering principles, and digital tools to meet the evolving demands of the biotechnology industry.

The expert talk was attended by students of Second Year B.Tech. Biotechnology, faculty members of the Department of Biotechnology. The session was highly informative and interactive, and the participants expressed their satisfaction with the knowledge and practical insights shared by the expert. The program concluded with a formal Vote of Thanks delivered by Ms. Anshal Hunge, a student of Second Year B.Tech. Biotechnology, who expressed gratitude to the expert speaker, faculty members, and participants for making the event successful and enriching.

Outcome of the Programme:

The expert talk proved to be highly beneficial in enhancing the participants' understanding of industrial bioprocess engineering and provided valuable guidance regarding career opportunities in the biotechnology and biopharmaceutical sectors.

7. Event photos.

B

Bhumika Bhamare (Presenting)



Building Bioprocess: The Engineering Industry behind Industrial Fermenters and other equipment

Bhumika S Bhamare
Engineer - Bioprocess
ZETA GmbH

"_____ behind the medicines in market"

HOD Biotechnology

Bhumika Bhamare

Gautam Ana...

K

Komal Upadhyay

G

Gauri Gawande

Sakshi Mishra

P

10 others

J

Jayant Parpalliwar

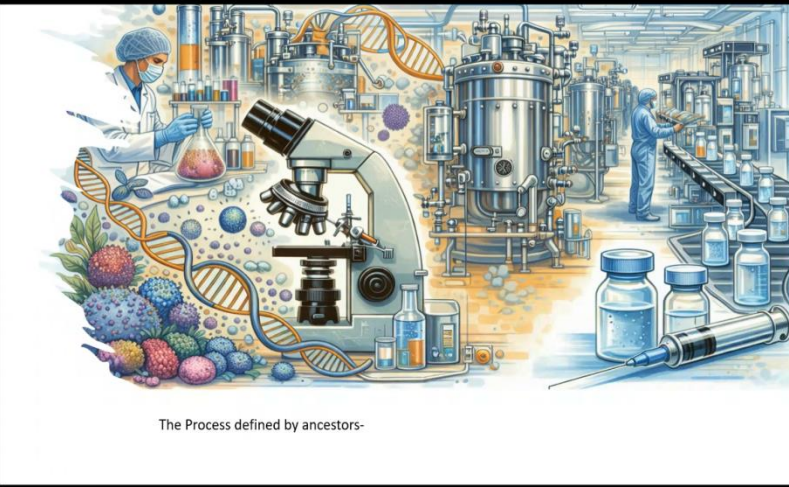
K

Khushi Pagar (outside Sandip University) joined

11:13 AM | Expert Lecture on Building Bioprocess: The En...

B

Bhumika Bhamare (Presenting)



The Process defined by ancestors-

H

HOD Biotechnology

Bhumika Bhamare

Gautam Ana...

Shambhavi gaware

Khushi Pagar

achal hunge

K

G

J

Sakshi Mishra

Arihant Bhamare (outside Sandip University) joined

11:28 AM | Expert Lecture on Building Bioprocess: The E...

