



DEPARTMENT OF MICROBIOLOGY
UNIVERSITY OF DELHI SOUTH CAMPUS

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Report on outreach activities conducted by Department of Microbiology (2018-23)

As part of outreach activities, the Department of Microbiology has been regularly hosting visits of students of different colleges of University of Delhi, as well as of other Universities to our Department. In addition, the Department regularly organizes hand-on training workshops which are open to all citizen of India for participation and get trained on payment of nominal fees.

The visits to the Department allow the visiting students to get acquainted with advances in field of Industrial Microbiology and also include visit to our BioNEST incubator. The BioNEST-UDSC facility is well equipped, state-of-the-art infrastructure and biotechnology research laboratory facility maintained and lead by faculty of Microbiology, University of Delhi. Along with the sophisticated instruments like micro/ultrafiltration unit, tangential flow filtration unit, constant flow cell disruptor, sonicator, tabletop lyophilizer, industrial scale freeze drier, mini spray drier, protein purification system high performance liquid chromatography and gas chromatography etc BioNEST-UDSC has one of the best working fermenters ranging from 3L to 240L (working volume) in Delhi NCR region.

In these visits, the students from different colleges of University of Delhi and around participate. Students are accompanied by their faculties and staff. Tours like these help college students to visualize and experience real workstations, plants, highly sophisticated machines, big Fermentation facility and chance to interact with highly proficient and experienced faculties of Microbiology who lead this facility.

Here is a summary of visits organized for students of other colleges and University by Department of Microbiology in recent years, and the details of the training workshops organized in recent years.

- **Institute of Home Economics, University of Delhi**

Date: 22 Sept 2022

No of Participants: 28 Students along with teachers



- **Hansraj College, University of Delhi**

Date: 09 Nov 2022

No of Participants: 40-45 students accompanied by Dr. Archana Singh, Dr. Ridhi Khurana and Dr. Sahil Mehta.



- **Lady Shri Ram College, University of Delhi**

Date: 17 Feb 2023

No of Participants: 45 Students along with teachers



- **Miranda House College, University of Delhi**

Date : 20 March 2023

No of Participants: 40 Students along with teachers



- **South Asian University Students**

Date: 17 April 2023

No of participants: 28 participants along with teachers



- **Gargi College, University of Delhi**

Date: 6 Nov 2023

No of Participants: 39 students along with teachers



- **Khalsa College**

Date: 24 Nov 2023

No of Participants: 5 students along with teachers



WORKSHOPS

In addition, the Department faculty are also involved in organizing regular scientific workshops under BioNEST program. These workshops are of 3 days to 14 days durations, and provide practical hand-on trainings in field of molecular biology, animal cell culture, microscopy, and fermentation biology to interested students, faculty, and industrial persons from anywhere in India.

Here is a summary of such hands-on training workshops organized by the Department in BioNEST incubator in recent years.

- **Hands on workshops on Animal Cell Culture technology:** Five workshops have been organized for training participants on animal cell culture. A total of 54 participants from all over the country have been trained till date. These hands-on training workshop included modules for important cell culture techniques related to

cell line maintenance, passaging, cell counting, Cell Culture harvesting , cryopreservation and revival.

Dates of workshops:

- i. 15-19 Nov 2021 = 5 participants
- ii. 07-11 March 2022 = 10 participants
- iii. 06- 10 June 2022 = 12 participants
- iv. 04- 08 July 2022 = 12 participants
- v. 03- 05 Nov 2023 = 15 participants



- **Hands on workshop on Fluorescence Microscopy:** A total of 23 participants from all over the country have been trained till date. This workshop aims to provide a hands on training on live cell imaging, indirect immunofluorescence and a platform to learn about principles and applications of Fluorescence Microscopy

Dates of workshops:

- 13-14 July 2022 = 13 participants
- 02-03 June 2022 = 10 participants



- **Hands on workshop on Basic Molecular Biology techniques:** A total of 45 participants from all over the country have been trained till date

The highlights of this workshop were to train the participants in the techniques of transformation of plasmid DNA, isolation of plasmid DNA from mini cultures, Restriction digestion of DNA, & Analysis of DNA by agarose gel electrophoresis.

Dates of workshops:

- | | |
|--------------------------|-------------------|
| i. 29 Nov to 03 Dec 2021 | = 13 participants |
| ii. 21-25 Mar 2022 | = 4 participants |
| iii. 20-24 June, 2022 | = 13 participants |
| iv. 27 Jun- 01-Jul 2022 | = 15 participants |



- **Hands on workshop on PCR & RT-PCR techniques:** A total of 53 participants from all over the country have been trained till date.

This highlights of this workshop includes training the participants in the Gene Amplification by PCR and Analysis of gene expression by real-time PCR.

Dates of workshops:

- | | |
|---------------------------|-------------------|
| i. 21-24 Feb 2022 | = 25 participants |
| ii. 31-May to 01-Jun 2022 | = 13 participants |
| iii. 11-12 July 2022 | = 15 participants |



- **Hands on workshop on DNA and protein electrophoresis techniques:** A total of 5 participants from all over the country have been trained till date.

The highlights of this workshop is training the participants in analysis of Plasmid DNA by agarose gel electrophoresis. Analysis of protein over expression by SDS-PAGE analysis and detection of proteins in complex mixture by western blot analysis (ECL method).

Dates of workshops:

- 04-08 April 2022 = 11 participant
- 13-17 Jun 2022 = 4 participants



- **Hands on workshop on Fermentation Technology:** A total of 19 participants from all over the country have been trained till date.

The Fermentation Facility at BioNEST–UDSC has multiple fermenters ranging from 3L to 240L (working volumes) as well as instruments for downstream processing, capable of producing a wide range of bulk biologics. During the workshop on fermentation technology, the participants were given hands on experience on Media Preparation, Shake Flask expression studies, SDS PAGE analysis, Product Recovery and Batch & Fed Batch Fermentation strategies. Many Students, Research Scholars, Industrialists and Faculty members participated enthusiastically.

Dates of workshops:

- 15-19 Dec 2021 = 4 participant
- 20-24 Nov 2023 = 15 participants



- **Training workshop on HPLC:** A total of 10 participants from all over the country have been trained till date.

Dates of workshops:

- 28-29 march 2022 = 10 participant



- **Training workshop on GC**

Dates: 4 – 5 April 2022



- **Workshop on Entrepreneurship:** Approx. 100 to 125 participants from different colleges of University have been trained till date.

Dates of workshops:

- 20-Nov-2021
- 11-Nov-2021
- 01-Oct-2021
- 06-Oct-2021



SWAMI SHRADDHANAND COLLEGE
(UNIVERSITY OF DELHI)

Department of Microbiology
in collaboration with
BioNEST - UDSC
(University of Delhi, South Campus)
presents

NATIONAL WEBINAR
on
**Bio-Entrepreneurship and
Introduction to BioNEST-UDSC**

 **Vijay Kantharia**
CEO, BioNEST-UDSC University
of Delhi, South Campus
Date : November 11, 2021
Time : 4 pm
<https://meet.google.com/qw-ybmy-zeg>

SSNC
Prof. Praveen Garg
(Patron and Principal)
Dr. Anjana Kapoor
(T/C and Convenor)
Dr. A. Archana
(Co-convenor)
Dr. Parvinder Kaur
(Co-convenor)

BioNEST-UDSC
Prof. Swati Saha
(Coordinator)
Prof. Rani Gupta
(Nodal Officer)
Prof. Rajeev Kaul
(Joint Nodal Officer)
Prof. Y. P. Khanna
(Joint Nodal Officer)

Shivangi Mishra
(Student Co-ordinator)

