



GUEST LECTURE

Sustainable Plastic Biodegradation – Vadose Zone Bacteria Assisted Bio-stimulation

Department of Biotechnology, KL University

Date: 14 August 2026 (Friday)

Time: 3:30 PM – 5:00 PM

Mode: Online

1. Introduction

The Department of Biotechnology, KL University, organized an online guest lecture on “Sustainable Plastic Biodegradation – Vadose Zone Bacteria Assisted Bio-stimulation.” The lecture focused on the role of microbial technologies in developing sustainable approaches for plastic biodegradation and environmental management. The programme provided students with an opportunity to learn from an invited academic expert and to understand the relevance of microorganisms in addressing plastic pollution.

2. Guest Speaker

The guest lecture was delivered by Dr. Shabina Ashraf, Assistant Professor, Department of Biosciences and Engineering, NIT Calicut. The poster identifies Dr. Ashraf as the Guest Speaker for the programme.

3. Organizing Department

The programme was organized by the Department of Biotechnology, KL University. Dr. Nadeem Siddiqui, Assistant Professor, Department of Biotechnology, KL University, is identified on the event poster as the organizer.

4. Objectives of the Guest Lecture

- To introduce students to sustainable approaches for plastic biodegradation.
- To understand the potential role of bacteria in the degradation of plastic materials.

- To introduce the concept of vadose-zone bacteria-assisted bio-stimulation.
- To highlight the application of microbial technologies in sustainable environmental solutions.
- To provide students with exposure to current research-oriented topics in biotechnology and environmental microbiology.

5. Overview of the Lecture

The central theme of the lecture was sustainable plastic biodegradation using bacterial biostimulation in the vadose zone. The event poster describes the session as an insightful lecture on cutting-edge microbial technologies driving sustainable environmental solutions. The topic connects biotechnology with environmental sustainability by considering microorganisms as biological agents that may contribute to the breakdown and management of persistent plastic waste.

6. Session Proceedings and Visual Observations

The photographs show students attending the programme in a classroom equipped with a projection system. In one photograph, the lecture is being conducted through an online video-conferencing platform and the speaker is visible on the projected screen. The classroom audience is seated and participating in the session. These photographs provide visual evidence of the online guest lecture being attended by students at KL University.

7. Academic Relevance to Biotechnology

The topic is relevant to biotechnology because it demonstrates how microorganisms and microbial processes can be considered for environmental applications. Plastic pollution is a major environmental challenge, and biological approaches provide an important research area for biotechnology. Exposure to such topics helps students connect concepts from microbiology, environmental biotechnology, bioprocessing, and sustainability with emerging research.

8. Key Learning Outcomes

- Students were introduced to a research-oriented approach for sustainable plastic biodegradation.
- The session emphasized the importance of microbial technologies in environmental problem solving.
- Students gained exposure to the concept of bacteria-assisted bio-stimulation in the vadose zone.
- The lecture helped connect biotechnology with environmental sustainability and waste-management challenges.
- Students received academic exposure to research being discussed by an external expert from NIT Calicut.

9. Conclusion

The online guest lecture on Sustainable Plastic Biodegradation – Vadose Zone Bacteria Assisted Bio-stimulation was an informative academic programme organized by the Department of Biotechnology, KL University. The session introduced students to an environmentally important biotechnology topic and highlighted the potential significance of microbial technologies in sustainable environmental solutions. The participation of students and the interaction with an invited academic expert made the programme useful for enhancing awareness of contemporary research areas in biotechnology.

10. Photographic Evidence



Students attending the guest lecture in the classroom while the online session is projected on the screen.



Online interaction with the guest speaker displayed through the classroom projection system.



Event poster for the online guest lecture featuring the topic, guest speaker, date, time, mode, and organizer.

11. Event Details at a Glance

Particular	Details
Programme	Online Guest Lecture
Topic	Sustainable Plastic Biodegradation – Vadose Zone Bacteria Assisted Bio-stimulation
Guest Speaker	Dr. Shabina Ashraf
Designation	Assistant Professor, Department of Biosciences and Engineering, NIT Calicut
Date	14 August 2026 (Friday)
Time	3:30 PM – 5:00 PM
Mode	Online
Organized By	Department of Biotechnology, KL University
Organizer	Dr. Nadeem Siddiqui, Assistant Professor, Department of Biotechnology, KL University