

Mohamed Sathak College of Arts and Science
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Sholinganallur, Chennai – 600 119.



REPORT ON CAMPUS TALK
entitled
*“Energy Conversions and Sustainability
Exploring Innovative Solutions for a Sustainable Future”*

Date: 17 August 2026

Time: 10.00 AM

Venue: Mini Conference Hall

SDGs Addressed

- ❖ **SDG 4 – Quality Education**
- ❖ **SDG 7 – Affordable and Clean Energy**
- ❖ **SDG 9 – Industry, Innovation and Infrastructure**
- ❖ **SDG 12 – Responsible Consumption and Production**
- ❖ **SDG 13 – Climate Action**

The **School of Biological Sciences, Mohamed Sathak College of Arts and Science**, in association with the **Internal Quality Assurance Cell (IQAC)**, successfully organized **Campus Talk** on **“Energy Conversions and Sustainability – Exploring Innovative Solutions for a Sustainable Future”** on 17 August 2026. This session served as an offline continuation of the online session conducted on 03 August 2026, providing students and faculty members with an opportunity for direct interaction with the resource person and deeper understanding of sustainable energy technologies.

The programme featured **Prof. Dr. Venkatesh Balan**, Associate Professor in Biotechnology, Department of Engineering Technology, Cullen College of Engineering & Technology Division, **University of Houston**, USA, as the resource person. The session focused on conventional energy resources, fossil-fuel processing, alternative biofuels, biomass resources, and the development of different generations of biofuels.

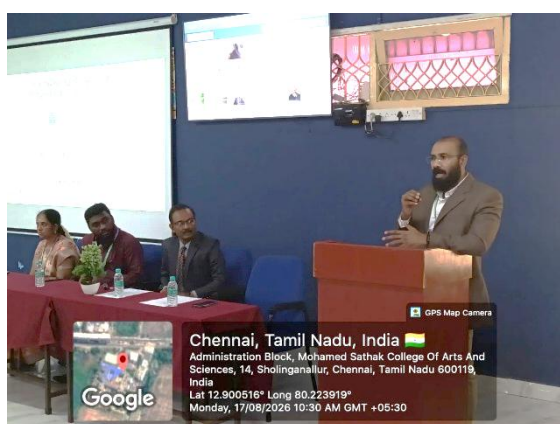
Objectives

The programme was organized with the following objectives:

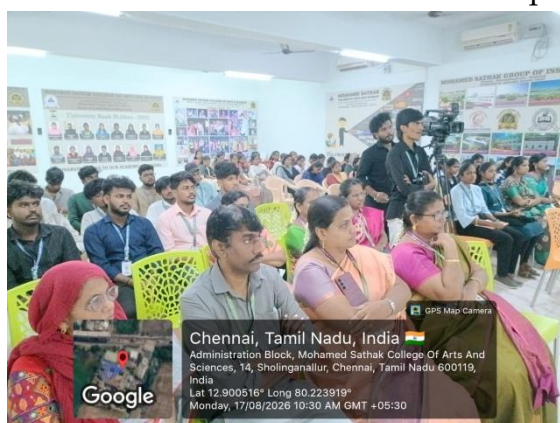
- To enhance students’ understanding of conventional and alternative energy resources.
- To introduce the principles involved in fossil-fuel extraction and crude oil processing.
- To familiarize participants with biomass as a renewable feedstock for biofuel production.
- To explain the evolution and characteristics of different generations of biofuels.

- To create awareness about sustainable alternatives to conventional fossil fuels.
- To encourage students to explore research and innovation in renewable energy and biotechnology.

The programme commenced with a Welcome Address by **Mrs. Nasreen Najeeb**, Assistant Professor, PG & Research Department of Biotechnology who welcomed the resource person, management representatives, faculty members, research scholars, and students. This was followed by the felicitation of **Prof. Dr. Venkatesh Balan** by **Dr. M. S. Mohamed Jaabir, Principal**, in recognition of his presence and contribution to the academic interaction. Further, the guest was honoured by both **Dr. M. S. Mohamed Jaabir, Principal** and **Dr. M. Syed Ali, Vice-Principal & IQAC Coordinator**. **Dr. A. Vaishnavi**, Assistant Professor, PG & Research Department of Biotechnology, formally introduced the resource person and highlighted his academic and professional profile.



Prof. Dr. Venkatesh Balan delivered an informative and technically engaging lecture on **energy conversion and sustainability**, beginning with conventional fossil-fuel resources and their extraction. He discussed **processing and distillation of crude oil** and **hydraulic fracturing (fracking)** as an approach associated with the extraction of fossil fuels and explained its relevance in the broader energy landscape. The discussion provided participants with an understanding of the continued dependence on fossil fuels and the need to develop sustainable alternatives.



A major focus of the session was the growing importance of **alternative biofuels** and the use of different **biomass resources as feedstocks** for energy

production. The speaker discussed the diversity of biomass that can be utilized for biofuel generation and emphasized the importance of identifying suitable renewable resources for sustainable energy conversion. The speaker also elaborated on the **different generations of biofuels**, explaining their progression from conventional feedstocks towards more advanced and sustainable biomass-based alternatives. The session emphasized the importance of developing energy technologies that can reduce dependence on fossil resources while supporting sustainable production and environmental responsibility.

The technical session was followed by an engaging **Question-and-Answer Session**, in which students and faculty members actively interacted with the resource person. Participants raised questions related to fossil-fuel technologies, biofuel production, biomass resources, and sustainable energy conversion.

Outcomes of the Programme

At the end of the session, participants were able to:

- Understand the basic principles associated with fossil-fuel extraction and crude oil distillation.
- Gain awareness of hydraulic fracturing and its relevance to conventional energy production.
- Recognize the potential of diverse biomass resources for biofuel generation.
- Understand the development and classification of different generations of biofuels.
- Appreciate the importance of alternative and renewable energy resources in reducing dependence on fossil fuels.
- Develop awareness of the role of biotechnology and innovative energy-conversion technologies in achieving sustainability.
- Gain motivation to explore research opportunities related to bioenergy, biomass utilization, and sustainable technologies.

The programme concluded with a Vote of Thanks by **Dr. Ganesh Babu**, Assistant Professor, PG & Research Department of Biotechnology who expressed sincere gratitude to the resource person, Management, Principal, Vice-Principal & IQAC Coordinator, faculty members, research scholars, students, and organizing team for their valuable contribution and participation.

The **Campus Talk** encouraged participants to recognize the importance of **renewable biomass, innovative conversion technologies, and responsible energy practices** in shaping a sustainable energy future.

Dr. M. Syed Ali

Vice-Principal & Head

PG & Research Department of Biotechnology

Mohamed Sathak College of Arts and Science