VELLORE INSTITUTE OF TECHNOLOGY (VIT)

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr.G.Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence.

RANKING & ACCREDITATION

Vellore Institute of Technology (VIT) has emerged as one of the best institutes of India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique.

- Engineering and Technology subject areas of VIT are the 240th best in the World and the 9th best in India, and eight subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2023)
- The 8th best University, the 11th best research institution and the 11th best engineering institution in India (NIRF Ranking, Govt. of India 2023)
- Ranked among the top 600-800 universities of the world (THE World University Ranking 2024)
- NAAC Accreditation with A++ grade (3.66 out of 4)
- The 173rd best Institution in Asia (QS - Asia University Rankings 2023)

SCHOOL OF MECHANICAL ENGINEERING

This school started functioning right from 1984, the year in which our institution began. The School of Mechanical Engineering offers 3 undergraduate and 6 post-graduate programs. The pride of the school lies in the significant research funding received from several National and International agencies. The Department of Science and Technology, Govt. of India has recognized the school for its research activities and supported it in 2003, 2010 and 2022 under the FIST scheme. Mechanical and Manufacturing Engineering is ranked within the top 10 in India and top 251-300 in the world as per QS World University Rankings by Subject 2023.

AUTOMOTIVE RESEARCH CENTRE (ARC)

ARC was established in 2005 with funding from DST under the FIST scheme. To strengthen the infrastructure and research related to the future direction of the global automotive industry, the centre has been equipped with state-of-the-art facilities. ARC is engaged in cutting-edge research in the areas of combustion engines, alternative fuels, autonomous vehicle development, and electric vehicles (EVs).

VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SERB DIA

TWO DAY WORKSHOP ON

DECARBONISATION STRATEGIES FOR AUTOMOTIVE AND AVIATION: TECHNOLOGIES AND CHALLENGES

11th - 12th March 2024

Session Venue : Main Building 210

Registration Link: https://events.vit.ac.in/

Organized by

Automotive Research Centre & School of Mechanical Engineering

Sponsored by

Science and Engineering Research Board, India

WORKSHOP ORGANIZERS

CHIEF PATRON

Dr. G. Viswanathan,
Founder and Chancellor

PATRONS

Mr. Sankar Viswanathan, Vice President
Dr. Sekar Viswanathan, Vice President
Dr. G.V. Selvam, Vice President
Dr. VS Kanchana Bhaaskaran, Vice Chancellor I/C
Dr. Partha Sharathi Mallick, Pro-Vice Chancellor
Dr. Jayabarathi T, Registrar
Dr. Devendranath Ramkumar K,
Dean, School of Mechanical Engineering
Dr. E. Porpatham,
Director, Automotive Research Centre

ADVISORY COMMITTEE

Dr. Arun Tom Mathew,
Associate Dean, SMEC
Dr. B Ashok, HOD,
Automotive Engineering, SMEC
Dr. Asokan M A, HOD,
Thermal and Energy Engineering, SMEC
Dr. Pandivelan C, HOD,
Manufacturing Engineering, SMEC

CONVENORS

Dr. Thangaraja J., +919894397963
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DAY 1 — 11 MARCH 2024

9:30 to 10:00 am - Registration (Main building portico) and Inauguration (Rajaji Hall)

10:00 to 10:45 am - Dr. RAMAKRISHNAN E., Senior Expert – Power Train Electronics, Robert Bosch Engineering and Business Solution,Coimbatore India

Chief Guest Lecture "Industry expectations from the academic community on the global automotive sector"

10:45 to 11 am - Refreshments

11:00 to 12:00 pm - Dr Pramod S Mehta
Visiting Distinguished Professor,
IIT Indore

"Sustainability Analysis for Biodiesel Fuels—A Holistic Approach "

12:00 to 13:00 pm - Dr. Rajnish Kumar,
Professor, Department of Chemical Engineering,
IIT Madras.

"Carbon dioxide capture and sequestration from sustainability view point"

13:00 to 14:00 pm - Lunch and Networking

14:00 to 15:00 pm - Dr. Panneerselvam Ranganathan,
Associate Professor,
Department of Chemical Engineering, NIT Calicut.

"Post combustion CO2 capture-conventional and intensified processes"

15:00 to 16:00 pm - Mr. Rajarajan Kesavelu, Senior Program Manager,
Mercedes- Benz, R&D, Bengaluru.

" Navigating the Path to Sustainable Mobility: Opportunities and Challenges in the Automotive Industry"

16:00 to 16:15 pm - Refreshments

16:15 to 17:00 pm - Dr. Senthilarasu S.,
Professor of Sustainable Energy Materials, SCEDT Engineering,
Teesside University,

"Decarbonising Aviation Industries using Biofuel-Advancements and Innovations"

17:00 to 17:30 pm - ARC lab visits

INTRODUCTION

As the world population is expected to reach around 9.7 billion by 2050, energy demand will continue to increase and concomitantly the environmental pollution. Black carbon, a key component of air pollution, poses significant threats to air quality, and climate stability. While conventional fossil fuels have fueled economic growth in sectors like automobile and aviation, their harmful emissions have severely impacted the environment. Therefore, a critical shift towards decarbonisation strategies, including low- carbon fuels, is crucial. According to the International Civil Aviation Organization, over 360,000 commercial flights have used Sustainable Aviation Fuels (SAF) at 46 different airports. The international aviation industry has set an inspirational goal to reach net zero carbon by 2050. Thus the proposed workshop offers an ideal opportunity to exchange technological ideas on decarbonisation related research topics.

TECHNICAL PROGRAM

The proposed workshop focuses towards the current challenges and upcoming technologies to attain net-zero carbon targets, specifically in the automotive and aviation sectors. This workshop invites researchers, industry professionals, policymakers, and all those committed to a sustainable future. This workshop will be organized by Vellore Institute of Technology, Vellore in relation to Net Zero Carbon Plan in India. It is scheduled for two days with various discussion forums and respective laboratory tours. The workshop covers wide range of topics including

- → Low Carbon Fuels and Case Studies
- → CCS (Carbon Capture and Storage)
- → Alternative Power Train Technologies
- → Energy Efficient Technologies

Registration Fee: 600 Rs. (GST inclusive)

Link: https://events.vit.ac.in/

Accommodation in VIT (subject to availability on payment basis).

DAY 2 — 12TH MARCH 2024

9:30 to 10:30 am - Dr. D. Sivakumar,
Associate Professor,
Aeronautical Engineering,
Indian Institute of Science,
Bengaluru.

"Camelina- and jatropha-derived aviation biofuel sprays from aircraft engine atomizers"

10:30 to 11:30 am - Dr. Karthikeyan P., BOYSCAST Fellow,
Professor, Department of Automobile Eng., PSG Tech, Coimbatore, India.

"Fuelcell Stack Development for Sustainable Transportation – Challenges and Issues "

11:30 to 11:45 am - Refreshments

11:45 to 12:45 pm - Mr. Himadri Shankar Das,
Managing Director,
LNI Swissgas, Bengaluru India.

" H2 the next decade gas .- How hydrogen gas is going to be the next game changer "

12:45 to 14:00 pm - Lunch and Networking

14:00 to 15:00 pm - Dr. V Ramsagar, Associate Professor
Department of Chemical Engineering
NIT Warangal.

"Sustainable energy technologies: Challenges and opportunities in CO2 mangament"

15:00 to 16:00 pm - Dr. Kulasekaran N.,
Deputy Director – CAE, VinFast Automobiles, Vietnam.

"Green transportation in land based Automobiles"

16:00 to 16:15 pm - Refreshments

16:15 to 17:00 pm - Dr. Balaji R., Valeo, Team Leader,
Group Technical centre, Chennai :

Circular Economy for automotive industry and its key challenges

17:00 to 17:30 pm - Quiz competition-Prize Distribution and vote of thanks