

# MECHAZINE

Volume: XXXV

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The Department of Mechanical Engineering proudly congratulates Dr. M. Venu, former Head of our department, on his appointment as the Principal of Vishnu Institute of Technology. This remarkable achievement is a testament to Dr. Venu's unwavering dedication, visionary leadership, and tireless commitment to academic excellence.

## THE HEAD SPEAKS:

We are proud to congratulate our former HoD, Dr. M. Venu, on his well-deserved promotion as Principal of Vishnu Institute of Technology. This quarter had impactful industrial visits, technical talks, and vibrant participation in fests like VALIANT 2K23. The department also saw significant student achievements and faculty contributions at national-level workshops and FDPs. As we begin the new year, I extend my best wishes to our hBAJA team competing in January 2024. May your efforts bring laurels to the department and institute. Let us continue striving for excellence together.

— Dr. N. Naga Krishna, HoD – ME

## Industrial Visits

Second-year Mechanical Engineering students visited various industries in Tanuku and Peravali on 5th November 2023. They observed sheet metal operations, casting processes, and the production of non-ferrous components, directly relating their academic knowledge to real industrial practices.

On 11th November 2023, students visited Nidadavole, where they explored Nandina Iron & Steels and Photons Food Processing Engineers. They gained valuable exposure to valve casting technologies and the design of food processing equipment used in rice mills and fish processing.

First-year students were taken to Sri Meena Foods, Kumudavalli, on 2nd December 2023. They observed the manufacturing of bread, rusks, and cakes, along with the working of material handling systems and food-grade machinery in a real-time production environment.

On 9th December 2023, another visit was organized to Shri Srinivasa Polymers, Bhimavaram. Students witnessed the Expandable Polystyrene (EPS) process used in making thermocol blocks and packaging boxes, helping them understand polymer processing and industrial mold design.





## From Campus to Core Tech Talk

On 9th November 2023, the SAE Collegiate Club of Vishnu Institute of Technology, Department of Mechanical Engineering, organized a guest lecture titled “College-2-Corporate: Orientation for Budding Engineers.” The session was delivered by Mr. Anurag Pemmaraju, Graduate Engineer Trainee at Nexteer Automotive India Pvt. Ltd., Chennai, and Technical Judge for SAEINDIA Southern Section events.

This interactive talk was designed to bridge the gap between academic learning and corporate expectations. Mr. Anurag shared practical insights, personal experiences, and essential tips to help students navigate the transition from college to the professional world with confidence and clarity. The session proved highly beneficial in shaping a real-world perspective among budding engineers.

The poster is for an event organized by the SAE Collegiate Club of Vishnu Institute of Technology (SAEISS Amaravathi Division). It features a background image of a laptop displaying a car wireframe model. The text on the poster includes the Vishnu Institute of Technology logo and name, the Department of Mechanical Engineering, the event title, the speaker's name and affiliation, the date and time, and logos for SAEINDIA Southern Section and the Institution's Innovation Council.

**VISHNU INSTITUTE OF TECHNOLOGY (A)**  
Department of Mechanical Engineering

SAE Collegiate Club of Vishnu Institute of Technology  
(SAEISS Amaravathi Division)  
Cordially Invites you for Lecture Meeting  
on  
**College-2-Corporate:  
Orientation for Budding Engineers**

**Mr. Anurag Pemmaraju**  
Nexteer Automotive India Pvt Ltd, Chennai

**Date: 9th November 2023 - Time: 11:00AM**

**SAEINDIA**  
SOUTHERN SECTION

**Institution's  
Innovation Council**



## DEPARTMENT EVENTS/ Achievements

On 21st October 2023, during an event held in Chennai, members of the Mechanical Engineering Department were honoured by SAEINDIA Southern Section for their outstanding contributions.

Dr. M. Venu, Professor and Head of the Department, received the prestigious Leadership Award for his exceptional service and role as Treasurer of the Amaravathi Division.

Mr. M. Vinod, Assistant Professor, was honoured with the Volunteer – Professional Member Award in recognition of his active involvement in SAE activities.

Mr. N. Bhaskar, a final-year student, received the Volunteer – Student Member Award, reflecting his commitment and enthusiasm in promoting technical excellence through SAE platforms.

These awards not only recognize individual dedication but also highlight the department's strong presence and active participation in national professional bodies.





## From VIT to World

The department hosted inspiring alumni sessions this quarter.

Mr. Venkatesh Veeravalli (2013–17 batch) shared his journey as a Compositing Artist in Chennai, introducing students to creative career paths in visual effects and how engineering skills can support media innovation.

Alumni Talk – Core Job Opportunities (18th Nov 2023)

Mr. Bendi Anil (2012–16 batch), Senior Engineer at Medha Traction, gave valuable insights into core mechanical job roles, emphasizing the importance of strong fundamentals, practical skills, and project experience for career growth.

Alumni Talk – Career Guidance (22nd Dec 2023)

Alumni from the 2011–15 batch guided third-year students on career planning, highlighting real-world expectations, building confidence, improving technical knowledge, and choosing paths that align with one's strengths and interests.



## TechPulse

### Recent Scientific Breakthroughs

- EV Gearbox Innovation for Two-Wheelers

IIT-M introduced a multi-speed transmission for electric scooters, significantly improving acceleration and range without compromising compactness.

- Soft Robotics for Delicate Assembly

Rice University's Mechanical Engineering department refined curing control techniques for silicone-based actuators, improving production accuracy for soft robotic grippers.

- CO<sub>2</sub> to Methanol Conversion Systems

Joint research by Indian Oil R&D and ETH Zurich led to mechanical setups that capture CO<sub>2</sub> emissions and convert them into methanol, offering sustainable applications for steel and chemical industries.

- Thermal Regulation Using PCM Composites

ISRO and Stanford University engineers integrated nano-PCM (Phase Change Materials) in thermal control systems, enhancing heat management in EV batteries and satellite payloads.



### Bio-Mimicking – Nature-Inspired Innovation

Bio-mimicking, or biomimicry, is the practice of studying and imitating nature's designs and systems to develop innovative solutions in science, engineering, and technology. Nature has evolved highly efficient structures and mechanisms over millions of years, offering valuable insights for human applications.

Examples of bio-mimicking include aerodynamic vehicles inspired by birds, bullet trains shaped like kingfisher beaks to reduce noise, self-cleaning surfaces based on lotus leaves, and shock-absorbing structures modeled after woodpecker skulls. This approach leads to sustainable, efficient, and often groundbreaking designs across fields like transportation, architecture, and materials science. Bio-mimicking bridges the gap between natural intelligence and human innovation.



## Gallery







## Startup Spark – Big Dreams, Small Beginnings

Startups begin with simple ideas and bold minds. Many, like Flipkart and Zomato, started small and grew big. Some become unicorns—valued over \$1 billion—but true success lies in solving real problems. Every startup begins with one question: “What if we try something new?”

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