

Society of Automotive Engineers Collegiate Chapter MBCET



The Society of Automotive Engineers is India's leading resource of mobility technology which primarily aims to incorporate automotive interests among the student community. The SAE head office is located in Chennai. The collegiate chapter of Mar Baselios College of Engineering and Technology Thiruvananthapuram is the 100th official Collegiate chapter in the southern section. The chapter was initiated with 90 student members and 2 faculty advisors from the Mechanical Engineering Department. The official Inauguration of the chapter was held on 11th December 2021, Saturday and the details are described below.

The SAE chapter focuses on various transport means that run through air, road & water. The students are encouraged to participate in various events like SAE BAJA, SAE AERO Design, and SAE Supra events. The MBCET chapter has decided to build a campus utility vehicle as a curtain raiser project and a separate team consisting of 25 members has started the work which includes both the Design & Manufacturing phase. In addition, various events and online lectures are going on as per the SAE calendar schedule, and most members are actively participating in those programs.

Student Work /: CAMPUS UTILITY VEHICLE

The launch of the indigenously developed electric utility vehicle Environ a campus utility vehicle, was held on 18 August 2023 at the college Amenity center. Hon: Minister for Transport Govt of Kerala Adv Antony Raju flagged off the vehicle in the benedictory presence of Moran Mor Baselios Cardinal Cleemis Catholicos, Head of the Syro Malankara Catholic Church, Patron and Manager MBCET. The vehicle has been developed by the Department of Mechanical Engineering as a project of SAE MBCET Chapter.



The Team comprised of:

SENIOR FACULTY ADVISOR: Mr. MOBIN M MATHEW, Assistant Professor, Dept. of ME

CO-FACULTY ADVISOR: Mr. ABHIRAM R NAIR, Assistant Professor, Dept. of ME

Student members are:

AASHISH B NATH

ABHIJITH T

ADITYA PRASAD

ANJITH MADHAV D

ASWATHY MOHAN

ASWIN SS

BHARATH MAHEENDRA

FARZAN SHIBU

GOUTHAM GIRISH

MANU SANTHOSH

MOHAMMED SHEHIN

PRANAV P

SIVAN NAIR

The members of SAE MBCET of Mar Baselios College of Engineering and Technology (Autonomous) have completed the construction of an electric vehicle from the ground up. The project funded by the college, aims at providing a new and more sustainable means of transport throughout the Bethany Hills.

Under the guidance of their faculty advisor Asst Professors Mr. Mobin M Mathew and Mr. Abhiram R Nair, the student team and faculty have spent countless hours researching, designing, and constructing the EV. The electric vehicle, aptly named Environ, aims to provide an environment-friendly means of transport without compromising on performance. Equipped with an advanced battery system, the Campus Utility Vehicle/ Environ offers an impressive range on a single charge, while providing advanced battery management systems and monitoring metrics. It comes equipped with a 5kW PMSM motor and 72-volt 150 Ah battery, ensuring that there are no performance lags whatsoever.

What sets this project apart is that it was a combined collaborative effort between the students and the faculty. From conceptualization to execution, students with inputs from their advisors, made use of the various skills that they acquired throughout their engineering journey. Through active

participation and hands-on learning, they overcame numerous challenges and have achieved the required results at the end.

It is also important to note that the vehicle was developed as per the specifications deemed necessary by the college administration and what would be best for its overall working based on the terrain and nature of road available. The team consisting of nearly 10 people have ensured that the vehicle is practical in its application.

SAE MBCET Lecture Meet

On the 28th of March 2024, the SAE faculty development Committee organized a lecture event centered on the topic of "Sustainability in Aviation". The event took place in online mode, and it was attended by over 15 SAE members. The keynote speaker for the event was Ms. Geeta Sabne who is the Associate Technical fellow at Boeing Private Limited

Ms. Geeta Sabne initiated the lecture by inquiring whether the audience possessed knowledge of diverse industrial practices and methodologies, predominantly emphasizing aviation. Subsequently, he elucidated the distinct techniques employed in such industries through a practical illustration.

The poster is for a webinar titled "Sustainability in Aviation". It features the SAEINDIA logo (Society of Automotive Engineers INDIA) and the BOEING logo at the top. The text reads: "SAEINDIA Faculty Development Committee In Association With BOEING INDIA Presents Webinar on SUSTAINABILITY IN AVIATION". The date and time are "28 March 2024 @ 4:00 P.M to 5:00 P.M". A "REGISTER NOW!" button with a QR code is located in the bottom right. The speaker is "Ms. Geeta Sabane, ATF (Associate Technical Fellow), Boeing". At the bottom, contact information is provided: "Mr. Ilango | +91 88704 71511 | ilangois@saeindia.org | www.saeindia.org". The background of the poster shows a large commercial airplane flying in a blue sky.

SAE Introduction to First Year Students

As part of introducing the first-year students to the various activities carried out by SAE chapter a series of lectures were taken by Senior students of SAE chapter. The session included various lectures activities and discussions regarding future proposed projects of SAE.



A. Lecture Meet: "Automotive Electronics"

Date: Tuesday, 30 January 2024

Time: 7:30 PM

Platform: Google Meet

Speaker: Dr. Sabu V. R., Associate Professor & Head, Automobile Engineering Division, Sree Chitra Thirunal College of Engineering, Thiruvananthapuram.

Overview:

This session provided a detailed understanding of the pivotal role electronics play in modern vehicles. It highlighted the transition from mechanical systems to sophisticated electronic controls, fostering a deeper understanding among participants of the innovations shaping the automotive industry.

Key Takeaways:

- Insights into ADAS (Advanced Driver Assistance Systems).
- Understanding of embedded systems in vehicles.
- Future trends in autonomous driving and vehicle electrification.

LECTURE MEET

SAEINDIA
SOUTHERN SECTION
Cochin Division

"Automotive Electronics"

MONDAY
29 JANUARY 2024
7.30 PM


<https://meet.google.com/yyb-kpki-xgu>

Dr. SABU V R,
ASSOCIATE PROFESSOR & HEAD,
AUTOMOBILE ENGINEERING DIVISION,
SREE CHITRA THIRUNAL COLLEGE OF
ENGINEERING, THIRUVANANTHAPURAM.

Certificates for participants on submission of feedback

B. Webinar: "Software Defined Vehicle"

Date: Tuesday, 5 March 2024

Time: 10:00 AM

Platform: Google Meet

Speaker: S. Shanmugham, Director, Design Desk (India) Pvt. Ltd.

Organized by: SAE India Cochin Division



The graphic is a vertical rectangular poster with a light blue and green gradient background. At the top left is the SAE INDIA logo, which includes the text 'Society of Automotive Engineers INDIA' and 'Cochin Division'. To the right of the logo, the word 'WEBINAR' is written in large, bold, blue capital letters. Below this, the word 'On' is centered in black. The main title, '"SOFTWARE DEFINED VEHICLE"', is written in bold black text and underlined. Below the title, it says 'Organized by SAE INDIA Cochin Division'. A circular portrait of S. Shanmugham, a man with short grey hair wearing a white shirt, is on the left side. Below the portrait, his name 'S.SHANMUGHAM' is written in bold blue letters, followed by 'DIRECTOR' and '(DESIGN DESK(INDIA)PVT LTD)' in black. To the right of the portrait, the date 'TUESDAY MARCH 5' and the time '10.00AM' are displayed in large, bold, black letters. At the bottom right, there is a camera icon and the URL 'https://meet.google.com/vvj-ytns-ghx'.

Overview:

This webinar focused on the evolution of traditional vehicles into software-defined vehicles (SDVs). It discussed the increasing reliance on software to control vehicle functionalities and how this shift is redefining the automotive landscape.

Key Takeaways:

- Introduction to SDVs and their role in the future of mobility.
- Understanding cloud-based automotive platforms.
- Real-world examples of SDVs in action, such as Tesla.

C. Talk: "Idea to Product Realisation"



Date: Wednesday, 6 March 2024

Time: 1:45 PM - 2:45 PM

Speaker: Mr. Armstrong A., Principal Member, R&D TAFE, Tractors and Farm Equipment Ltd.,

Platform: Google Meet.

Organized by: SAE India Collegiate Club

Overview:

This talk guided participants through the journey of turning innovative ideas into market-ready products, particularly in the context of automotive engineering. The speaker shared practical insights into prototyping, testing, and scaling up for production.

Key Takeaways:

- Practical strategies for product development.
- Overcoming challenges in design and manufacturing.
- Importance of cross-functional collaboration in engineering projects

Conclusion

The SAE Chapter's events in academic year 2023 - 2024 provided a platform for students and professionals to engage with industry experts, explore emerging trends, and enhance their knowledge of cutting-edge technologies in the automotive and mechanical domains. The chapter's initiatives successfully bridged the gap between academia and industry, inspiring participants to innovate and excel in their fields.