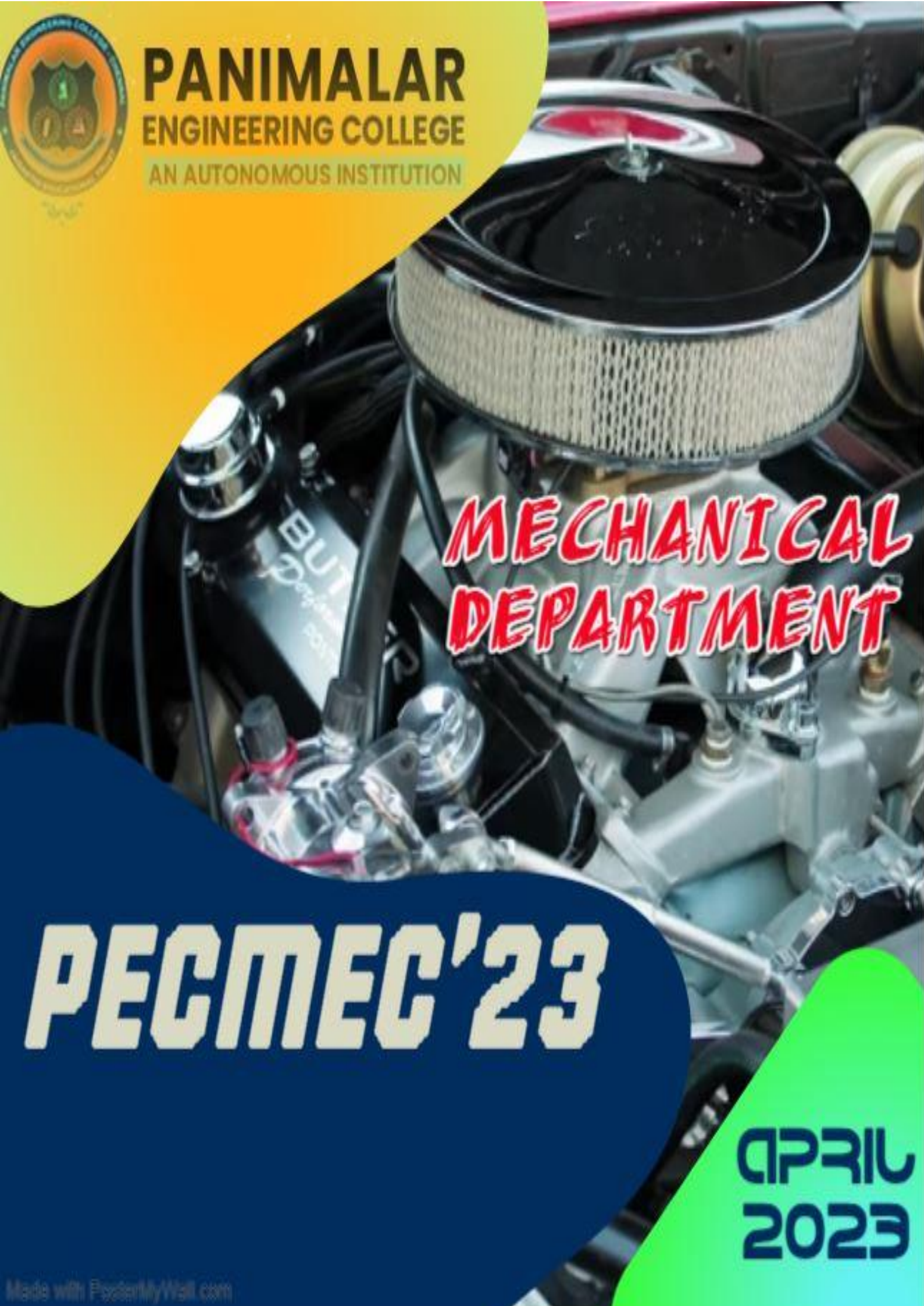
PANIMALAR
ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION
MECHANICAL
DEPARTMENT
PECMEC'23
APRIL
2023

PECMEC'23

MECHANICAL ENGINEERING

PANIMALAR ENGINEERING COLLEGE

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Bangalore Trunk Road, Varadharajapuram, Poonamallee, Chennai- 600 123

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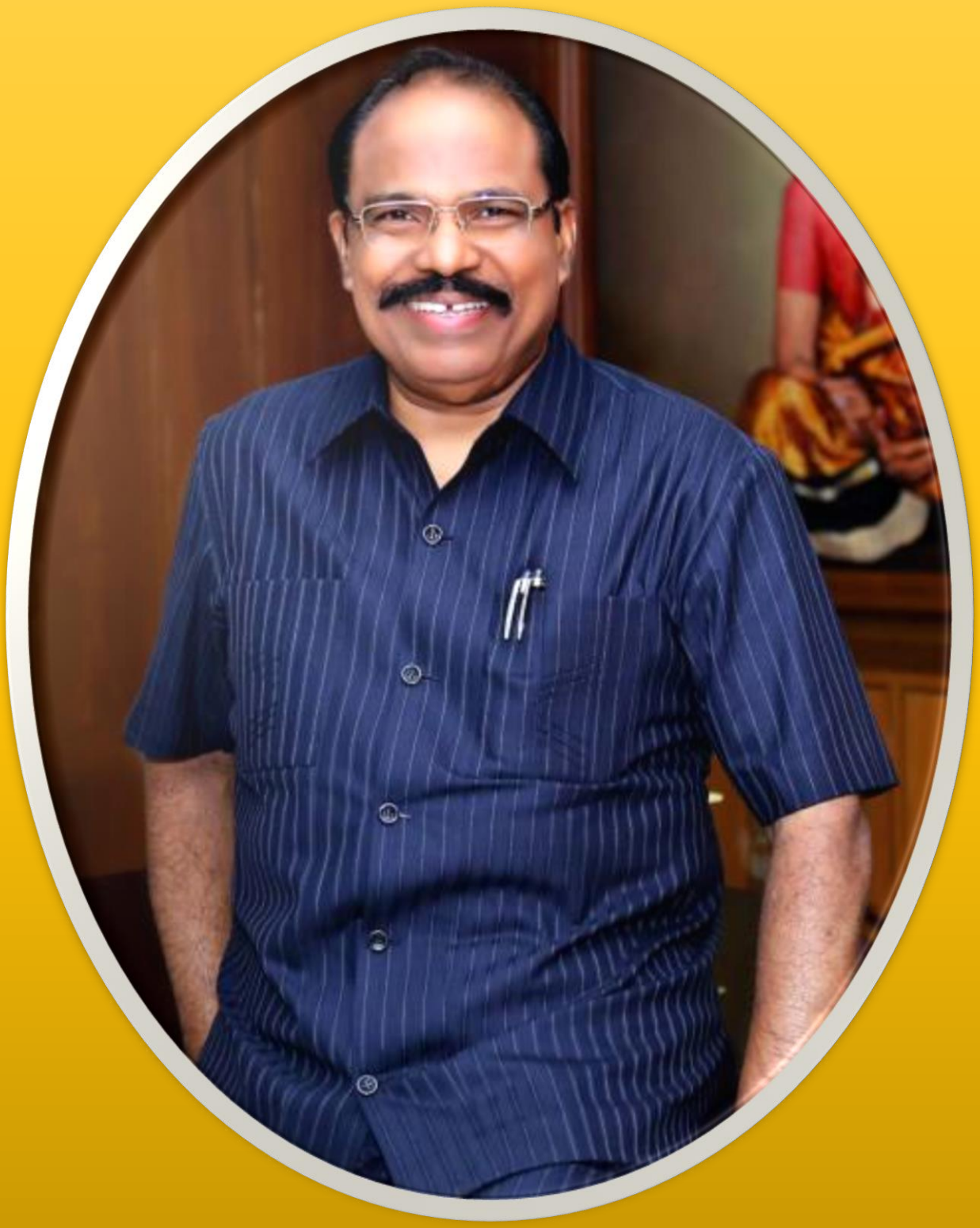
CHAIRMAN



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Dr. C. SAKTHIKUMAR, M.E., Ph.D.,

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Director

Dr. P. CHINNADURAI M.A., Ph.D.,

SECRETARY & CORRESPONDENT

Congratulations to the editorial team for all oftheir hard work and attention in putting the magazine together.

I am pleased to report that the Mechanical Engineering Department contributes to society by producing competent and innovative professionals.

"Imagination is more important than knowledge," Einstein famously observed.

"Logic will take you from point A to point B, but imagination will take you everywhere."

Develop your imagination!

Dr. C. SAKTHIKUMAR, M.E., Ph.D.,

DIRECTOR

PECMEC'23 demonstrates the students' ability. The goal ofthe college magazine is to bring out hidden talents and abilities, as well as providing a forum for studentsto show...case their literary ability.

I'd want to offer my heartfelt gratitude to all of the contributors to this issue's pieces. This publication is available because of people's willingness to share their expertise, & perspectives with others

VISION

The Department of Mechanical Engineering will be globally recognized as a pioneer in Under Graduate Engineering Programs through itsexcellence in teaching and research, catering to the significant and evolving societal needs.

MISSION

Mission 1: To serve the society by developing competent engineers with outstanding leadership qualities and ethical values.

Mission 2: To address the progressive needs of the society and industry using modern engineering tools and cutting edge technologies.

Mission 3: To inculcate the importance of professional development within budding engineers through sustained learning.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1: Graduates will contribute to the industrial and societal needs as per the recent developments using knowledge acquired through basic engineering education and training.

PEO 2: Graduates will be able to demonstrate technical knowledge and skills in their career with systems perspective, analyze, design, develop, optimize, and implement complex mechanical systems.

PEO 3: Graduates will be able to work in multidisciplinary environment developing complex mechanical systems.

PEO 4: Graduates will work as a team or as an individual with utmost commitment towards the completion of assigned task using apt communication, technical and management skills.

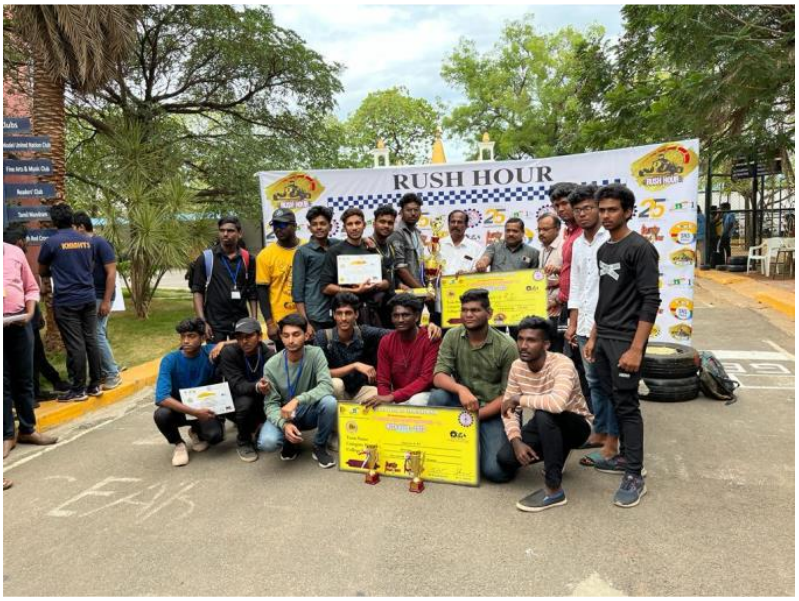
PEO 5: Graduate will recognize the importance of professional development by pursuing higher studies in various specializations.

STUDENT ACHIEVEMENTS

RUSH HOUR EVENT

he recent Rush Hour event was a thrilling showcase of creativity and engineering prowess, featuring our talented mechanical engineering students. This year, the competition was fierce, with teams presenting innovative solutions to real-world challenges. After an intense day of problem-solving, teamwork, and ingenuity, our students emerged victorious, clinching the first prize!

The event was filled with excitement as participants raced against the clock to demonstrate their projects. Each team presented unique designs and concepts, reflecting their hard work and dedication. Our students' project stood out for its originality and practical application, impressing both judges and peers alike.Following the announcement of the winners, the Head of Department and faculty members gathered to congratulate the students on their remarkable achievement. "Your commitment to excellence and innovative thinking is truly commendable," the Head of Department remarked. Faculty members echoed these sentiments, praising the students for their teamwork and perseverance.



This victory not only highlights the capabilities of our mechanical engineering students but also reinforces the supportive environment fostered by our department. As we celebrate this achievement, we look forward to more opportunities for our students to shine and push the boundaries of engineering innovation. Congratulations to the winning team! technical expertise but also outperformed their rivals to clinch the title of overall champions. The event celebrated student excellence in automotive engineering and fostered a spirit of innovation and teamwork, reinforcing the importance of hands-on learning in engineering education.

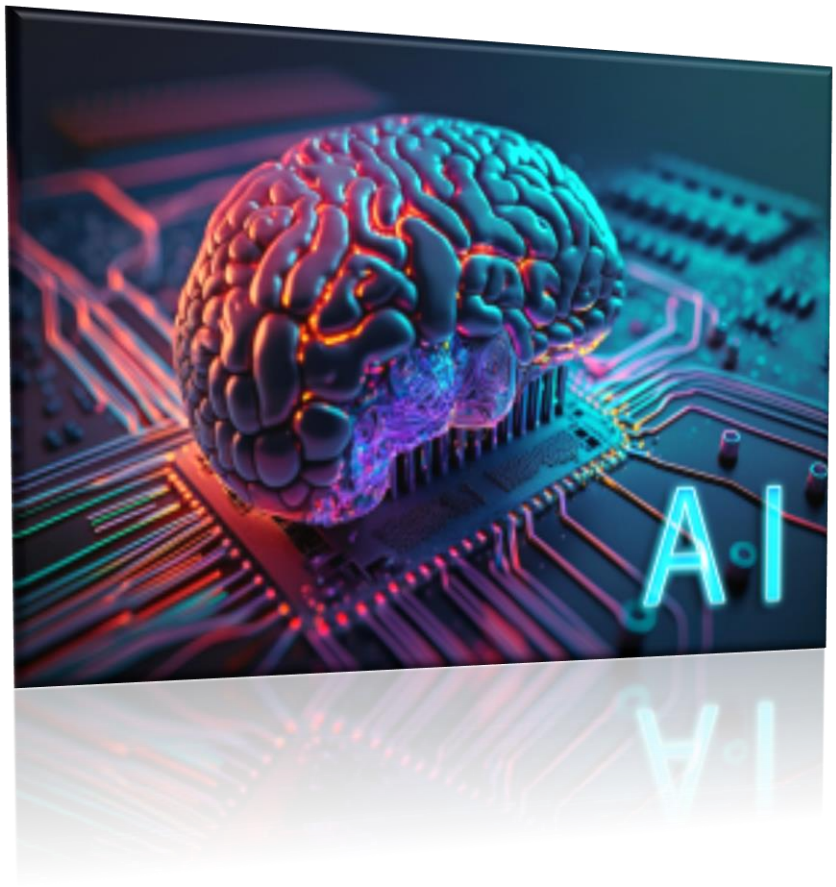
INTERNALTIONAL WORKSHOP ON IC ENGINE, ELECTRIC VEHICLE AND HYBRID VEHICLE

The International Workshop on IC Engine, Electric Vehicle, and Hybrid Vehicle was a resounding success, held on July 27-28, 2023, and tailored for our second-year mechanical engineering students. Organized by TOP Engineers in collaboration with the Department of Mechanical Engineering, the workshop aimed to provide an in-depth understanding of contemporary automotive technologies. Over the two days, participants engaged in a series of interactive sessions and hands-on activities led by industry experts and renowned speakers. The

workshop covered essential topics, including the fundamentals of internal combustion engines, the mechanics of electric vehicles, and the integration of hybrid systems. Students had the opportunity to explore the latest advancements in automotive engineering and discuss the future of sustainable transportation. In addition to technical presentations, the event fostered an environment for collaboration and networking, allowing students to connect with professionals and peers. Practical demonstrations provided valuable insights into the functioning of various vehicle systems, enhancing the learning experience. Feedback from participants highlighted the workshop's engaging format and the wealth of knowledge gained. This initiative not only enriched the academic curriculum but also inspired students to explore career opportunities in the evolving automotive industry. Overall, the workshop was a significant step towards empowering the next generation of engineers.

Artificial Intelligence – Makes Machines Smarter

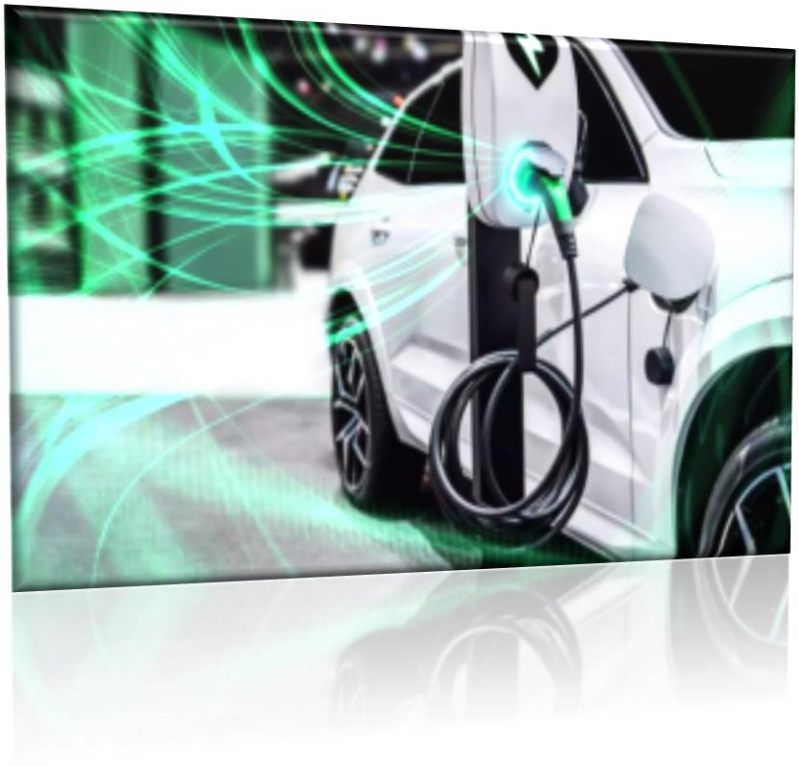
Have you heard about artificial intelligence (AI)? It refers to computer systems that can perform tasks normally requiring human intelligence, like recognizing



images or understanding spoken words. AI is what enables Siri and Alexa to understand voice commands! AI is making its way into all kinds of machines and mechanical systems these days. For example, AI powers the computer vision that lets self-driving cars “see” traffic lights and pedestrians. In factories, AI guides autonomous robots to optimize production.

Electric Vehicles – The future of automobiles

Replacing gasoline-powered cars and trucks with electric vehicles (EVs) powered by renewable energy is key to reducing emissions from transportation. Mechanical engineers design the powertrain systems that drive EVs.



Key areas of focus include improving batteries, electric motors, power electronics, and charging infrastructure.

DIGITALIZATION AND INDUSTRY 4.0

. Digitalization and Industry 4.0—the process of integrating digital technology into industrial and manufacturing processes—are transforming mechanical engineering, leading to what many call the Fourth Industrial Revolution. This revolution is characterized by the smart factory, where machines and products are connected to devices that allow for real-time tracking to optimize production efficiency and performance. Digital technologies are being incorporated into all aspects of engineering, from design and prototyping to the manufacturing process and maintenance. By combining robotics, real-time data and artificial intelligence, smart factories can make adjustments as soon as they're needed, often without the need for human intervention