MExpress

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Mechanical Engineering Department's Official Newsletter

Volume No. 08 Issue No. 10

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Mechanical Engineering Association

Department of Mechanical Engineering

KUMARAGURU COLLEGE OF TECHNOLOGY

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Dr. P. S. Samuel Ratna Kumar
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Dr. C. Velmurugan
Professor

Dr. B. N. Sreeharan
Assistant Professor - III

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Ms. P. Kirubashini

Ms. S. Santhiya

Mr. T. K. Sri Yashwanth

Mr. N. S. Barath

CONTENTS

From the Editors...

Dear Readers,

As we turn the pages of the 94th issue of our departmental newsletter, we're reminded that excellence is not a destination—but a journey walked together, with purpose and pride. This edition is more than a summary of events; it is a celebration of ideas ignited, goals achieved, and horizons widened.

In the spirit of academic vigour, our faculty have led impactful programmes, delivered thought-provoking paper presentations, and enriched the scholarly world through publications, books, and insightful book chapter contributions. Their dedication echoes through every manuscript they've reviewed, and every idea translated into a patent or consultancy initiative.

Recognition has followed in the form of awards, while participation in key events and faculty upskilling initiatives demonstrate our commitment to staying future ready. Strong industry linkages continue to bridge theory and practice, enriching our ecosystem with real-world relevance.

Our students, as always, have brought energy and enthusiasm to the fore—through competitions, projects, and activities that reflect their growing confidence and curiosity. Each achievement, big or small, adds colour to the canvas of our department.

And through the snapshots we share, you'll see moments that words can't fully capture but certainly remember.

To every contributor, supporter, and reader—thank you for being part of this journey. Here's to continuing our story with passion, purpose, and pride.

Warm regards,

Editors....

PROGRAMMES ORGANIZED

Capgemini MEDA Training 2025 was organized by the department from 23-12-2024 to 30-05-2025 (4 Months). **Mr. J. Abdullah**, Chief Technical Officer, CAD Solutions, **Dr. N. Sangeetha,** Senior Associate Professor, **Mr. P. D. Devan,** Assistant Professor - II, **Dr. T. Karuppusamy**, Assistant Professor – III, **Mr. S. Subbiah,** Assistant Professor – II, **Dr. B. N. Sreeharan,** Assistant Professor – III, provided the training. The entire training programmes was coordinated by **Dr. M. A. Vinayagamoorthi,** Assistant Professor – III.

A Workshop on Industrial Research Proposal Development and Funding Acquisition was organized in the department on 16-05-2025. **Mr. G. S. Sankar**, Engineering Manager, Caterpillar India, Chennai was the resource person. The workshop was coordinated by **Mr. R. S. Mohankumar,** Assistant Professor – II.

An outreach programme titled **"Machine Engineering Career Orientation"** was jointly organized: by the department with Charitham, Coimbatore on 10-05-2025 for the school students and their Parents to understate career opportunities in mechanical sciences. **Mr. K. Manikanda Prasath,** Assistant Professor – II, organized and coordinated the programme.

Dr. M. Balaji, Associate Professor, coordinated Annual Stock Verification in the campus on 28-04-2025 where Inventory Stock of 21 departments were inspected by a dynamic team of around 40 faculty, with the aim of identifying Scrap, Obsolete, Repairable, Non-Repairable and Missing items by and large.

PAPER PRESENTATIONS

Dr. M. Thirumalai Muthukumaran, Assistant Professor – III, presented his paper titled "An approach for solving transportation problem using possibility interval valued intuitionistic fuzzy soft sets" in the Third IEEE International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation organized by KCT during 04-04-2025 and 05-04-2025.

Dr. S. Sivakumar, Assistant Professor – III, presented a couple of his papers titled "Design and Performance Evaluation of a Wireless Energy Transfer System for Dynamic Charging of Electric Vehicles" and "Assistive lower limb exoskeletons for elderly patients: FEA based design and performance optimization" in the Third IEEE International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation organized by KCT during 04-04-2025 and 05-04-2025.

Mr. V. R. Navaneeth, Assistant Professor – II, presented his paper titled "Lifesaving Wheelhouse" in the international conference on innovations in materials science, technology, engineering and management for sustainable development organized at St. Joseph's College of Engineering during 30-03-2025 and 31-03-2025.

Dr. K. K. Arun, Assistant Professor – III, presented his paper titled "Optimal Charging Control of No-Insulation HTS Magnets Using Pontryagin's Principle and Advanced Nizar Optimization Technique" in the 5th International Conference on Trends in Material Science and Inventive Materials (ICTMIM 2025) organized by Rohini College of Engineering and Technology, Kanyakumari during 07-04-2025 and 09-04-2025.

Dr. C. Velmurugan, Professor, presented his paper titled "Numerical analysis of shock wave boundary layer interaction and separation bubble control in scram jet intake" in the International Conference on New-Gen technologies for sustainable development organized by Nehru group of Institutions during 27-03-2025 and 29-03-2025.

Dr. M. A. Vinayaga Moorthi, Assistant Professor – III, presented his paper "Design of under ride guards in trucks for enhanced accident prevention" in the Fourth National level Research Conclave 2025 organized by PSG College of Technology during 15-05-2025 and 16-05-2025.

PAPER PUBLICATIONS

Mr. P. D. Devan, Assistant Professor – II, published his paper entitled "Investigation on Mechanical and Damping Characteristics of Silk Fiber Reinforced Polypropylene Composites" in the International Journal of the Textile Association, a Scopus indexed journal.

Dr. S. Rajesh, Assistant Professor – II, published his paper entitled "Investigating the Parameters of Carbon Fiber Nylon Composites Using the Fused Deposition Modeling Process to Determine the Mechanical Characteristics and Properties of the Composites" in the Springer Link Journal, a Scopus indexed journal.

Dr. S. Sivakumar, Assistant Professor – III, published his paper entitled "Performance analysis of gasification coupled with IC engine for emission control: enhancing environmental sustainability" in the Global NEST Journal, a Scopus indexed journal.

Dr. S. Thirumurugaveerakumar, Associate Professor, published his paper entitled "Investigation on Mechanical and Damping Characteristics of Silk Fiber Reinforced Polypropylene Composites" in the International Journal of the Textile Association, a Scopus indexed journal.

Dr. B. N. Sreeharan, Assistant Professor – III, published his paper entitled "Investigation of Cost-Effective Corrosion-Resistant Mold Material for Enhanced Durability in Injection Molding of Reprocessed HDPE Material" in the International Journal of Recent Trends in Mechanics. He also published another paper titled "Evaluation of Internal Combustion Engines: Performance, Efficiency, and Technological Advancements" in the International Journal of Fluid Mechanics and Mechanical Design.

Mr. V. R. Navaneeth, Assistant Professor – III, published his paper entitled "Life-Saving Wheelhouse" in International Research Journal on Advanced Engineering Hub.

Dr. M. Balaji, Associate Professor, published his paper entitled "Inventory Costs Analysis through lean concepts in the Mattress Industry" in the International Research Journal of Engineering and Technology. He also published another paper titled "Process Improvement using Drying technique in Coir Pith Industry" in the same journal.

Dr. M. A. Vinayaga Moorthi, Assistant Professor – III, published his paper entitled "Smart Wheel Bot: An IoT-Driven Obstacle Avoidance System for Wheelchairs" in the International Journal of Advance Research, Ideas and Innovations in Technology.

Dr. S. Rajesh, Assistant Professor – II, published his paper entitled "Design and Analysis of Brake Disc Reinforcement with AA6061 Metal Matrix Composites: A Green Approach" in the International Journal of Recent Trends in Mechanics.

Dr. P. S. Samuel Ratna Kumar, Professor and Head, published a paper titled "Impact of molybdenum di-silicide coated AA5052 anode in an alkaline electrolyte for aluminium air battery" in the International Journal of Journal of Alloys and Compounds, Volume 1028, 15 May 2025, 180677.

MANUSCRIPTS REVIEWED

Dr. M. Thirumalai Muthukumaran, Assistant Professor – III, reviewed a manuscript titled "Improving Wear Resistance of Aluminium Alloy by Reinforcing TiB2 & ZrO2" for the International Conference on Research Advancements and Innovations in Sustainable Engineering.

Dr. K. K. Arun, Assistant Professor – III, reviewed a manuscript titled "Cavity Sensing for Defect Prevention in Injection Molding" for Journal of Engineering Research and Sciences. He also reviewed another manuscript titled "Design and Development of a 24 kWh Lithium Cobalt Oxide (LiCoO2) Battery Pack for Achieving a 300 km Vehicle Range" for the MAT Journals Pvt. Ltd.

Dr. V. Manivel Muralidaran, Assistant Professor – III, reviewed a manuscript titled "Structural Integrity and Interactions of Materials in Civil Engineering Structures" for the international conference SIIMCES-2025.

Dr. B. N. Sreeharan, Assistant Professor – III, reviewed a manuscript titled "Microstructure, Mechanical and Corrosion Properties of Weld Claddings Suitable to Offshore Equipment Produced by the GMAW-RE Process: Effect of Overlapping" for the International Journal of the Brazilian Society of Mechanical Sciences and Engineering published by Springer.

BOOKS AUTHORED

Dr. K. K. Arun, Assistant Professor – II, authored a book titled "Programming for Robotics", published by Alpha International Publication, ISBN: 978-93-5762-871-6.

Dr. S. Rajesh, Assistant Professor – II, authored a couple of books titled "Next-Gen Tribology: Exploring Interfaces from Micro to Macro" and "Advancements in Composite Materials" published by Lab Lambert Publishing with ISBN: 978-620-5-63333-5 and 978-620-8-44670-3 respectively.

BOOK CHAPTER PUBLISHED

Dr. S. Sivakumar, Assistant Professor – III, published a couple of book chapters titled "Fuzzy Logic in Mechanical Systems: Enhancing Control and Decision-Making" and "Mathematical Modeling for Big Data Analytics" in the book entitled Innovations in Mathematics and Statistical Research, published by Bhumi Publishing, India bearing ISBN 978-93-48620-58-3.

AWARDS

Dr. T. Karuppusamy, Assistant Professor – III, was awarded a BSS Diploma in Naturopathy and Yogic Science from Bharat Sevak Samaj.

Dr. K. K. Arun, Assistant Professor – III, awarded by Springer Nature as Editor of Distinction Award 2025 for reviewing the Manuscripts.

CONSULTANCY

Dr. N. Sangeetha, Senior Associate Professor, provided consultancy to M/s. Jeyaletshmi Machine Works, Coimbatore on good will basis on Design of control systems for textile machines.

PATENTS

Dr. S. Sivakumar, Assistant Professor – III, and **Dr. S. Rajesh**, Assistant Professor – II, registered for a patent titled "Innovative design of a 10kW double throat two stage gasifiers for tar emission reduction".

Dr. M. Thirumalai Muthukumaran, Assistant Professor – III, registered for a patent titled “Manufacturing DIE unit”.

Mr. P. D. Devan, Assistant Professor – II, and **Mr. V. R. Navaneeth,** Assistant Professor – II, registered a patent titled "A System and Method for Automated Tumor Detection and Classification in Histopathological Images Using Artificial Intelligence”.

Dr. S. Sivakumar, Assistant Professor – III, **Dr. S. Rajesh,** Assistant Professor – II, **Mr. P. Pradeep,** Assistant Professor – II, registered for a patent titled “Design for a smart polishing apparatus for surface finishing”.

PROGRAMMES PARTICIPATED

Mr. V. R. Navaneeth, Assistant Professor – II, participated in an FDP on AI-Driven robotics and industrial automation for industry 4.0 transformation from 14-04-2025 to 18-04-2025, organized by O.P. Jindal University, Raigarh, C.G. India. He also participated in an International conference on Innovations in Materials Science, Technology, Engineering and Management for Sustainable Development from 30-03-2025 to 31-03-2025, organized by St. Joseph's College of Engineering

Mr. K. Manikanda Prasath, Assistant Professor – II, participated in a Seminar on NAAN MUDHALVAN - NIRAL THIRUVIZHA 2.0 on 20-05-2025 organized by Anna University Regional campus Coimbatore. He also participated in an FDP on Innovative Teaching and Learning pedagogy from 19-05-2025 to 24-05-2025, organized by Research Foundation of India.

Dr. S. Sivakumar, Assistant Professor – III, participated in an FDP on Next generation renewable energy technologies: transformative approaches for sustainable development from 06-05-2025 to 10-05-2025, organized by Swami Keshvanand Institute of Technology.

Dr. N. Sangeetha, Senior Associate Professor, participated in a Webinar on Simscape Onramp on 16-05-2025 organized by Mathworks Training services.

Mr. B. Jeeva, Assistant Professor – II, participated Innovation Ambassador Training – Reskilling programme through online mode (21 sessions with 21 contact hours) conducted by Ministry of Education (MoE) Innovation Cell and AICTE, India. Completed on May 27th, 2025.

Dr. M. Balaji, Associate Professor, participated in an FDP and completed an online course on Ethics in Engineering Practice from 24-02-2025 to 12-04-2025, organized by NPTEL.

FACULTY UPSKILLING

Mr. B. Jeeva, Assistant Professor – II, Completed Eight weeks Coursera course on "Introduction to Thermodynamics: Transferring Energy from Here to There" on May 8th, 2025, from University of Michigan through Coursera.

Mr. S. Sivakumar, Assistant Professor – II, completed an online course on Intelligent Machining through Coursera.

Mr. P. D. Devan, Assistant Professor – II, completed following online courses on Material Jetting and Stereolithography and Introduction to Additive Manufacturing Processes through Coursera.

Mr. K. Manikanda Prasath, Assistant Professor – II, completed following online courses through Coursera:

1. Foundations of Business Strategy
2. Business Growth Strategy
3. Advanced Business Strategy

Dr. V. R. Muruganantham, Associate Professor, completed an online course on Quality Improvement and Management, through Coursera.

Dr. V. Muthukumaran, Professor, completed an online course on Fundamentals of Fluid Power through Coursera.

Dr. S. Thirumurugaveerakumar, Associate Professor, completed an online course on Introduction to Basic Game Development using Scratch through Coursera.

Dr. S. Sivakumar, Assistant Professor – III, completed following online courses through Coursera.

1. Cutting-edge Technology in Air Conditioning System
2. Basics of Air Conditioning & Heat Load Calculation
3. Air Conditioning Equipment Selection, Design and Sizing

Dr. N. Sangeetha, Senior Associate Professor, completed following online courses through Coursera.

1. Innovative Teaching with ChatGPT
2. Generative AI Primer

Dr. M. Thirumalai Muthukumaran, Assistant Professor – III, completed following online courses through Coursera.

1. Material Jetting and Stereolithography
2. Foundation of Structural Dynamics

Dr. M. A. Vinayaga Moorthi, Assistant Professor – III, completed an online course on Basics of Engineering Metrology through Udemy.

Dr. B. N. Sreeharan, Assistant Professor – III, completed a Specialization in Everyday Excel and completed following online courses through Coursera.

1. Statistics for Business Analytics and Data Science A-Z™
2. Statistical Analysis Fundamentals using Excel
3. Judgmental Business Forecasting in Excel
4. Excel Skills for Business Forecasting
5. Excel Regression Models for Business Forecasting
6. Excel Power Tools for Data
7. Data Analysis
8. Everyday Excel – Part 3 (with Honours)

INDUSTRY LINKAGE

Dr. V. Muthukumaran, Professor and **Dr. S. Balaji,** Assistant Professor – III, visited M/s. Acoustics India Private Limited, Trichy on 08-05-2025 and had a discussion with Defence and Research Organisation experts at AIPL for DRDO funded project work.

SolidWorks Training for Capgemini engineers was organized in the department from 03-03-2025 to 04-04-2025. Training was coordinated by **Mr. R. S. Mohankumar**, Assistant Professor – II.

Dr. M. Balaji, Associate Professor, visited **M/s. Sri Sivasakthi Metal works,** Coimbatore on 17-05-2025 for industrial collaboration opportunities.

Faculty team comprising **Dr. M. A. Vinayaga Moorthi,** Assistant Professor – III, **Dr. V. R. Muruganantham,** Associate Professor, and **Mr. P. D. Devan,** Assistant Professor – II visited Coimbatore Productivity Council (CPC) for student internship opportunities for 1st and 2nd-year Mechanical Engineering students.

STUDENT ACTIVITIES

The Centre of Exemplary Learning (CoEL) successfully helped the **8th batch** students to get certified as SolidWorks Associate (CSWA) in Mechanical Design and as well as in Additive Manufacturing as detailed below.

No. of Certified Students in **Mechanical Design** – 34 students
No. of Certified Students in **Additive Manufacturing** – 30 students

Student Coordinators:

Mr. D. Melavasal Pandian D (22BME057)
Mr. R. Mohammed Salman R (22BME060)
Mr. A. Merunkumar A (22BME058)
Mr. V. Infant Maria Rosario V (22BME039)

Faculty Coordinator:

Dr. B. N. Sreeharan, Assistant Professor - III

List of students who were certified were given below.

S. No.	Roll No.	Name	Certification
1	22BAU019	JEFRI THIVYAN A	CSWA - Mechanical Design
2	22BAU019	JEFRI THIVYAN A	CSWA - Additive Manufacturing
3	22BAU055	YUVA SHRI V R	CSWA - Mechanical Design
4	22BAU055	YUVA SHRI V R	CSWA - Additive Manufacturing
5	22BME009	ARUN KUMAR S	CSWA - Mechanical Design
6	22BME009	ARUN KUMAR S	CSWA - Additive Manufacturing
7	22BME059	MITHUN T N	CSWA - Mechanical Design
8	22BME061	MOHAN R	CSWA - Mechanical Design
9	22BME113	SURENDRA R. K	CSWA - Mechanical Design
10	22BME113	SURENDRA R. K	CSWA - Additive Manufacturing
11	22BME118	TAMILARASU K	CSWA - Mechanical Design
12	22BME122	VIGNESH G	CSWA - Mechanical Design
13	22BME122	VIGNESH G	CSWA - Additive Manufacturing
14	22BME307	BASKARAN M	CSWA - Mechanical Design
15	22BME307	BASKARAN M	CSWA - Additive Manufacturing
16	22BME313	MITHILESH B	CSWA - Mechanical Design
17	22BME313	MITHILESH B	CSWA - Additive Manufacturing

S. No.	Roll No.	Name	Certification
18	23BAE031	S.MOHAMED AATHIL	CSWA - Additive Manufacturing
19	23BAE031	S.MOHAMED AATHIL	CSWA - Mechanical Design
20	23BAE060	VARSHAA R	CSWA - Additive Manufacturing
21	23BAE060	VARSHAA R	CSWA - Mechanical Design
22	23BAU026	MITHUN CHANDRU	CSWA - Additive Manufacturing
23	23BAU026	MITHUN CHANDRU	CSWA - Mechanical Design
24	23BAU030	NITHISH KUMAR M	CSWA - Additive Manufacturing
25	23BAU030	NITHISH KUMAR M	CSWA - Mechanical Design
26	23BAU034	PRATHISH RAJ B R	CSWA - Additive Manufacturing
27	23BAU034	PRATHISH RAJ B R	CSWA - Mechanical Design
28	23BMC034	NALIN G V	CSWA - Additive Manufacturing
29	23BMC034	NALIN G V	CSWA - Mechanical Design
30	23BMC046	SACHIN R	CSWA - Additive Manufacturing
31	23BMC046	SACHIN R	CSWA - Mechanical Design
32	23BMC054	SRINATH S	CSWA - Additive Manufacturing
33	23BMC054	SRINATH S	CSWA - Mechanical Design
34	23BMC057	SURYAKUMAR K	CSWA - Additive Manufacturing
35	23BMC057	SURYAKUMAR K	CSWA - Mechanical Design
36	23BMC060	VAISHNAV V S	CSWA - Additive Manufacturing
37	23BMC060	VAISHNAV V S	CSWA - Mechanical Design
38	23BMC065	VIKNESH RAM R	CSWA - Additive Manufacturing
39	23BMC065	VIKNESH RAM R	CSWA - Mechanical Design
40	23BME013	BARATH N S	CSWA - Additive Manufacturing
41	23BME013	BARATH N S	CSWA - Mechanical Design
42	23BME016	DEENADHAYALAN B	CSWA - Additive Manufacturing
43	23BME016	DEENADHAYALAN B	CSWA - Mechanical Design
44	23BME028	HAMSAVARDHINI A	CSWA - Additive Manufacturing
45	23BME028	HAMSAVARDHINI A	CSWA - Mechanical Design
46	23BME030	HARIDAR P	CSWA - Additive Manufacturing
47	23BME030	HARIDAR P	CSWA - Mechanical Design
48	23BME048	KISHORE G	CSWA - Additive Manufacturing
49	23BME048	KISHORE G	CSWA - Mechanical Design
50	23BME064	OSCAR RICHERD G	CSWA - Additive Manufacturing

S. No.	Roll No.	Name	Certification
51	23BME064	OSCAR RICHERD G	CSWA - Mechanical Design
52	23BME082	SANJAY G	CSWA - Additive Manufacturing
53	23BME082	SANJAY G	CSWA - Mechanical Design
54	23BME087	SNEHAA SENNIAPPAN	CSWA - Additive Manufacturing
55	23BME087	SNEHAA SENNIAPPAN	CSWA - Mechanical Design
56	23BME088	SREE RAJA MS	CSWA - Additive Manufacturing
57	23BME088	SREE RAJA MS	CSWA - Mechanical Design
58	23BME090	SRI YASHWANTH T K	CSWA - Additive Manufacturing
59	23BME090	SRI YASHWANTH T K	CSWA - Mechanical Design
60	23BME100	VENKATESH R	CSWA - Additive Manufacturing
61	23BME100	VENKATESH R	CSWA - Mechanical Design
62	23BME107	VISHNUVARDHAN.R	CSWA - Additive Manufacturing
63	23BME107	VISHNUVARDHAN.R	CSWA - Mechanical Design
64	22BME062	Mohana Sundaram M J	CSWA - Mechanical Design

- **Mr. C. R Venkatesh, Mr. M. P. Varun, Mr. S. Gowdharan**, under the supervision of **Dr. B. N. Sreeharan,** Assistant Professor – III, published their paper titled "A Comprehensive Review of Shrink Fit Technology for Tool Holding, Shrink Fit Method and Induction Heating Effects on Milling Operations" in the International Journal of Machine Design and Technology Vol. 1, Issue 1 (January – June 2025) pp: (12-29).

- The same team published another paper titled "Investigation of Cost-Effective Corrosion-Resistant Mold Material for Enhanced Durability in Injection Molding of Reprocessed HDPE Material" in the International Journal of Recent Trends in Mechanics e-ISSN: 2582-3213, Vol. 10, Issue 1 (January – June 2025) pp: (29-38).

- **Mr. T. Suresh,** under the guideship of **Dr. P. S. Samuel Ratna Kumar,** Professor and Head, published a paper titled "Impact of molybdenum di-silicide coated AA5052 anode in an alkaline electrolyte for aluminium air battery" in the International Journal of Journal of Alloys and Compounds, Volume 1028, 15 May 2025, 180677.

- **Mr. J. Surya** and **Ms. S. Swetha** under the guideship of **Dr. M. A. Vinayaga Moorthi,** Assistant Professor – III, published a paper titled "Smart Wheel Bot: An IoT-Driven Obstacle Avoidance System for Wheelchairs", International Journal of Advance Research, Ideas and Innovations in Technology, ISSN: 2454-132X, Volume 11, Issue 3 - V11I3-1246

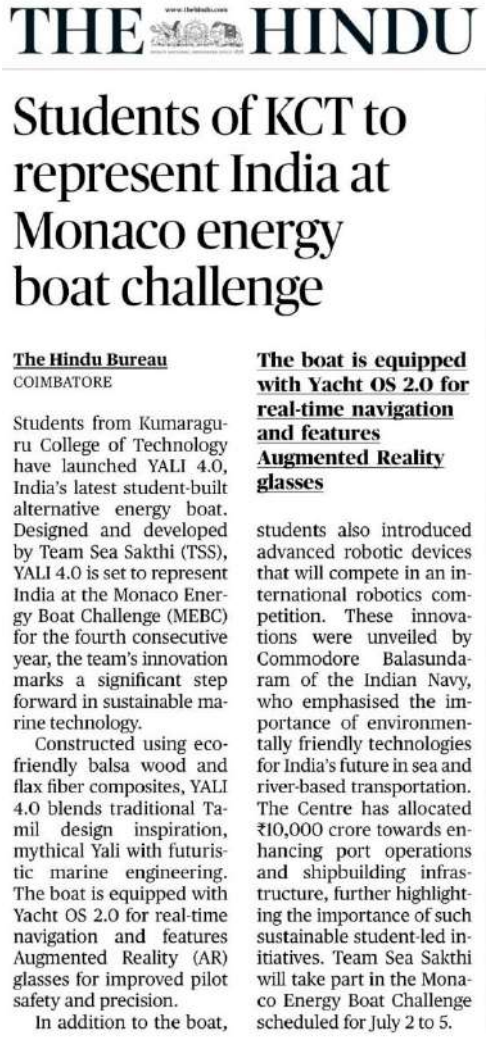
- **Mr. M. Baskaran, Mr. A. C. Aruneshwaran** and **Mr. K. S. Shyam**, under the supervision of **Dr. B. N. Sreeharan,** Assistant Professor – III, published a paper titled Evaluation of Internal Combustion Engines: Performance, Efficiency, and Technological Advancements in the International Journal of of Fluid Mechanics and Mechanical Design, e-ISSN: 2582-9165, Vol. 7, Issue 1 (January – June, 2025) pp: (39-57).

- **Mr. K. Tamilarasu** and **Mr. D. Jai Harish**, under the supervision of **Dr. M. A. Vinayaga Moorthi,** Assistant Professor – III, published their paper titled "Design and Development of a Semi-Automated System for Food Waste Disposal and Management" in the International Journal of Advance Research, Ideas and Innovations in Technology, ISSN: 2454-132X, Volume 11, Issue 1 - V11I1-1553)

- **Mr. S. Ajmal Batcha,** and **Mr. R. J. Aldrin,** presented their paper titled "Design of under ride guards in trucks for enhanced accident prevention" in the Fourth National level Research Conclave 2025 organized by PSG College of Technology on 15-05-2025 under the guideship of **Dr. M. A. Vinayaga Moorthi,** Assistant Professor – III.

- **Mr. J. Surya,** recognised as a Best Volunteer for Kumaraguru RC Forum in RIDE, CLUBS & FORUMS Awards.

- **Mr. S. Ajmal Batcha** has successfully completed a 12-week NPTEL online course on "Principles of Industrial Engineering".



THE HINDU

Students of KCT to represent India at Monaco energy boat challenge

The Hindu Bureau
COIMBATORE

Students from Kumaraguru College of Technology have launched YALI 4.0, India's latest student-built alternative energy boat. Designed and developed by Team Sea Sakthi (TSS), YALI 4.0 is set to represent India at the Monaco Energy Boat Challenge (MEBC) for the fourth consecutive year, the team's innovation marks a significant step forward in sustainable marine technology.

Constructed using eco-friendly balsa wood and flax fiber composites, YALI 4.0 blends traditional Tamil design inspiration, mythical Yali with futuristic marine engineering. The boat is equipped with Yacht OS 2.0 for real-time navigation and features Augmented Reality (AR) glasses for improved pilot safety and precision.

In addition to the boat,

The boat is equipped with Yacht OS 2.0 for real-time navigation and features Augmented Reality glasses

students also introduced advanced robotic devices that will compete in an international robotics competition. These innovations were unveiled by Commodore Balasundaram of the Indian Navy, who emphasised the importance of environmentally friendly technologies for India's future in sea and river-based transportation. The Centre has allocated ₹10,000 crore towards enhancing port operations and shipbuilding infrastructure, further highlighting the importance of such sustainable student-led initiatives. Team Sea Sakthi will take part in the Monaco Energy Boat Challenge scheduled for July 2 to 5.

Mr. T. Naveen Murugesh, Ms. V. Kamalikka, Mr. M. Dev Anandh and **Mr. Raghav,** students from our department are representing our country in Monaca Energy Boat Challenge.

SNAP SHOTS

Capgemini MEDA Training Students

Mr. Sankar during the workshop

Dr. Balaji during industrial visit

Mr. Manikandaprasath during Machine Engineering Orientation Programme Participants

Mr. Surya with his award

Mr. K. Arumugam, Senior Technical Associate involved in organizing international chess tournament at Sulur.

KUMARAGURU college of technology

COIMBATORE – 641 049

Department of Mechanical Engineering

INSTITUTE VISION:

The vision of the college is to become a technical university of International Standards through continuous improvement.

INSTITUTE MISSION:

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic, and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

DEPARTMENT VISION:

To achieve global recognition for the programs of the department by promoting innovation, sustainability, and leadership, contributing to the society.

DEPARTMENT MISSION:

1. To promote innovation in the Mechanical Engineering through curriculum, focusing on sustainability and ethical practices.
2. To create an active learning ecosystem for acquiring knowledge and skills in Mechanical Engineering.
3. To facilitate research in mechanical systems and sustainable technologies that have an impact on industry and society.

B. E. MECHANICAL ENGINEERING

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

PEO 1 : Graduates to pursue careers in Mechanical engineering and allied fields.
PEO 2 : Graduates to engage in the execution of multi-disciplinary engineering activities.
PEO 3 : Graduates to pursue professional development programs in Mechanical Engineering Science and Management.

PROGRAM OUTCOMES (PO's):

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.

M. E. INDUSTRIAL ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

PEO 1 : Graduates will be mid to higher level management / engineering professionals with responsibilities in engineering management, data analysis and business operations.

PEO 2 : Graduates will be engineering professionals, and technology leaders who would manage such functions as plant engineering, production, supply chain and quality management.

PEO3 : Graduates would function as educators or researchers in academic institutions.

PROGRAM OUTCOMES (PO's):

PO1 : An ability to independently carry out research /investigation and development work to solve practical problems.

PO2 : An ability to write and present a substantial technical report/document.

PO3 : Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

PO4 : Apply knowledge and competencies in manufacturing, analytics, supply chain, quality and engineering management.

PO5 : Apply principles of industrial engineering to solve problems in industry.

PO6 : An ability to work as part of interdisciplinary teams, communicate effectively, model and design engineering systems optimally.