



**KUMARAGURU**  
college of technology  
character is life

# MExpress

Mechanical Engineering Department's Official Newsletter

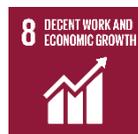
**MECHANICAL  
ENGINEERING  
ASSOCIATION**



## KUMARAGURU COLLEGE OF TECHNOLOGY

**Department of Mechanical Engineering**

**Mechanical Engineering Association**



### REACH US AT



da.mec@kct.ac.in



mea\_kct



MEAKCT



meakct

### EDITORS



**Dr. P. S. Samuel Ratna Kumar**  
Assistant Professor - III & Head



**Dr. B. N. Sreeharan**  
Assistant Professor – III

## ASSOCIATE EDITORS



**Ms. P. Kirubashini**



**Ms. S. Santhiya**



**Mr. T. K. Sri Yashwanth**



**Mr. N. S. Barath**



**Ms. K. Gayathri Sreha**



**Mr. P. G. Renith**

**CONTENTS**

Details	Page
Editors' Portfolio	4
Departmental Activities	5
Programmes Organized	5
Faculty as Resource Persons	8
Papers Presented	8
Paper Publications	9
Manuscripts Reviewed	9
Ph. D. Completion	10
Industry Linkage	10
Patents	11
Programmes Participated	11
Upskilling	12
Student Activities	13
Student Paper Presentations	13
Student Participations	14
Snapshots	15
Vision, Mission, POs, PSOs and PEOs	17

## EDITORS PORTFOLIO

**Dear Readers,**

It is with great joy and renewed energy that we present to you this month's departmental newsletter—an edition that reflects not just activities and achievements, but the heartbeat of a thriving academic community.

Our faculty members have taken center stage as resource persons, presented papers at prestigious platforms, published impactful research, reviewed manuscripts, and continued their professional growth with admirable commitment. The celebration of Ph.D. completions and the granting of patents stand as proud reminders of our academic depth and innovative spirit.

Our industry linkages grew stronger, opening pathways for meaningful collaborations and real-world relevance. Faculty participation in conferences, workshops, and continuous upskilling initiatives reflects our belief that learning is a lifelong journey—one that evolves with purpose and passion.

Equally inspiring are the contributions of our students. Their enthusiasm fills this issue through their activities, paper presentations, and vibrant participation across events and competitions. Their growth mirrors the values we aim to nurture—curiosity, confidence, and creativity. The snapshots in this edition freeze moments we cherish: achievements, teamwork, celebrations, and the everyday sparks of inspiration that shape our department.

May we continue moving forward—with purpose, pride, and the persistent pursuit of excellence.

Warm regards,  
Editors....



## DEPARTMENTAL ACTIVITIES

### ■ Programmes Organized

#### Industry-led Session on Personal Investment Management



An insightful industry-led seminar on **Personal Investment Management** was organized within KCT on **7th October 2025**. The session was coordinated by **Mr. K. Manikanda Prasath**, Assistant Professor - II and featured **Mr. Gowtham Dhamocharasamy**, a distinguished Social Entrepreneur and Founder of **FINCLINIQ, Coimbatore**.

The event attracted **50 participants**, offering them practical knowledge and strategies for effective personal investment planning. The interactive session emphasized financial literacy and smart investment approaches, empowering attendees to make informed decisions for their future.

#### Industry-led Session on Kinematics of Machinery

On **27th October 2025**, KCT hosted an engaging seminar on **Kinematics of Machinery**, coordinated by **Dr. N. Sangeetha**, Senior Associate Professor and **Dr. T. Karuppusamy**, Assistant Professor - III. The session featured

**Mr. Dineshkumar G**, Senior Mechanical Design Engineer at **Eppinger Tooling Asia Private Limited**, who shared his expertise on advanced mechanical design concepts and real-world applications of kinematics in modern engineering. With **130 participants**, the seminar provided valuable insights into industry practices, bridging the gap between academic learning and practical implementation.



## Guest Lecture on New Product Development

The Department organized an insightful **Guest Lecture on “New Product Development”** on **10th October 2025**. The session featured industry experts **Mr. A. Sasikumar A** and **Mr. R. Saravanan** from **Capgemini Engineering**, who shared their expertise on the latest trends and methodologies in product development. The lecture was attended by students from the **2023–2027 and 2022–2026 batches**, with **37 participants** actively engaging in discussions.



The event was coordinated by **Dr. M. A. Vinayaga Moorthi** and provided students with valuable insights into real-world practices, bridging the gap between academic concepts and industry applications.

## Industry-led Session on Modern Machining Processes

An **Industry Expert Session on “Modern Machining Processes”** was organized for **III-year Mechanical Engineering students** at KCT on **23rd October 2025**. The session aimed to provide students with practical insights into advanced machining techniques, their applications in modern manufacturing, and industry best practices.

The resource person for the session was **Dr. Srinivasan Surendran, Technical Trainer – Learning & Development** from **Smart Cliff Learning Solutions, Coimbatore**. His expertise and interactive approach enriched the students’ understanding of cutting-edge machining technologies, bridging the gap between classroom learning and industrial applications.



The session was coordinated by **Dr. S. Thirumurugaveerakumar**, Associate Professor and **Mr. P. D. Devan**, Assistant Professor – II.



## ■ Faculty as Resource Persons



On **11th October 2025**, **Mr. S. Prabhu**, Assistant Professor – II, served as a **Resource Person** for a session on **“Mental Wellness and Yoga”** organized by **PKR Arts and Science College**. The session aimed to promote holistic well-being among participants by emphasizing the importance of mental health and yoga practices in daily life. This local-level initiative provided valuable insights into stress management techniques and mindfulness, fostering a balanced approach to personal and professional life.

## ■ Papers Presented

Our faculty members showcased their research at the **First International Conference on Thermofluids Engineering (INCOTHERM 2025)**, organized by **IIT (Indian School of Mines), Dhanbad**, from **10th to 12th October 2025**.



- **Mr. B. Jeeva (Asst. Professor II)** presented two papers titled “*Drying Kinetics of Indian Mint Leaves: Forced Convection*” and “*Multiphase Modelling: CFD Simulation of Microfluidics Droplets Used for Advanced Drug Delivery*”.

- **Mr. S. Prabhu (Asst. Professor II)** also presented a paper on “*Drying Kinetics of Indian Mint Leaves: Forced Convection*”.



These international-level presentations reflect the department’s commitment to advancing research in thermofluids and computational modeling, contributing to innovative solutions in food processing and drug delivery systems.

## ■ Paper Publications



**Dr. B. N. Sreeharan**, Assistant Professor – III, published below mentioned two significant research articles in **MS Ramaiah Management Review**:

- “*Improving the Operational Efficiency through Optimization of Process Parameters of Friction Surfacing of Aluminium Alloy 7075 over Mild Steel and Stainless Steel*”
- “*A Framework for Predictive Decision Support System for Additive Manufacturing Techniques: Insights from Material Data*”

These publications highlight advancements in manufacturing processes and predictive decision-making frameworks, reinforcing the department’s commitment to cutting-edge research and industry-relevant solutions.

## ■ Manuscripts Reviewed

Faculty members have actively contributed to the global research community by serving as peer reviewers for reputed international journals:



- **Dr. C. Velmurugan** reviewed the paper titled “*Performance Evaluation of Green Water-Based Organic Coatings by Incorporating Plant-Based Additives Using Design Expert and Multiscale Analysis Techniques*” for the **Journal of Surfaces and Interfaces (SCI Indexed)**.

- **Dr. V. Muthukumaran** reviewed the paper titled “*Development of Flexible Nozzle Mechanism for a Variable Mach Number Wind Tunnel*” for the **International Research Journal of Engineering and Technology (SCI Indexed)**.



These contributions reflect the department’s commitment to maintaining high standards in research and supporting scholarly advancements worldwide.

## ■ Ph. D. Completion



Research Scholar, **Mr. S. Nandha Gopan** (Registration No: 17142691118) successfully completed his **Ph.D.** under **Anna University, Chennai** under the guidance of **Dr. M. Balaji**, Associate Professor. His doctoral work reflects his dedication and perseverance in advancing academic excellence.

## ■ Industry Linkage

On **13th October 2025**, **Dr. S. Ramanathan**, Assistant Professor – III, as part of **industry linkage activity** had a **field visit** to **IND-LAB Equipments Pvt. Ltd., Bangalore**. The objective of this visit was to **assess the quality, reliability, and compactness of various Mechanical Engineering laboratory equipment manufactured by the company**. This initiative provided valuable insights into industrial standards and practices, strengthening the academic–industry collaboration.



## Patents



**Dr. K. K. Arun**, Assistant Professor – III, filed the following patents as part of contributions to innovation and intellectual property:

- **Patent:** “A System and Method for Low-Latency Communication in Autonomous Vehicle Networks” on **17th October 2025** under Application No. **202541088671 A**.
- **Design Registrations:**
  - “Wind Turbine Blade” filed on **13th October 2025** (Application No. **461198-001**).
  - “Fibre Reinforced Polymer Beam Construction Machine for High Load Structures” filed on **16th October 2025** (Application No. **464941-001**).

These filings reflect the department’s commitment to fostering innovation and contributing to sustainable engineering solutions.

## Programmes Participated



**Dr. S. Thirumurugaveerakumar**, Associate Professor, participated in the **AICTE Training and Learning (ATAL) Academy Faculty Development Program** on “**Advanced Manufacturing & Industry 4.0**”. The program was organized by **CSI College of Engineering** from **22nd to 27th September 2025** at the **national level**. Conducted in **online mode**, providing in-depth knowledge on cutting-edge manufacturing technologies and Industry 4.0 practices.

**Mr. P. D. Devan (Asst. Professor II)** participated in a **Webinar** on “**Smart Manufacturing 4.0: A New Era of Industrial Automation and Intelligence**” on **15th October 2025**, organized by **ICT Academy**.





**Mr. K. Manikanda Prasath (Asst. Professor II)** attended the **TN Global Startup Summit 2025** from **9th to 10th October 2025** at **CODISSIA Trade Fair Complex, Coimbatore**, gaining insights into entrepreneurial ecosystems.

**Dr. A. P. Arun (Asst. Professor III)** participated in the **ICT Academy webinar on Smart Manufacturing 4.0** on **15th October 2025**.



**Dr. K. K. Arun (Asst. Professor III)** attended two **national workshops**:

- *Advanced Materials and Manufacturing: Characterization and Applications* (22nd–26th September 2025) organized by **NIT Karnataka, Surathkal**.
- *Protecting Research Outcomes through Intellectual Property Rights* (20th September 2025) organized by **KCT**.

**Dr. C. Velmurugan (Professor)** participated in the **Aero Defence Conference 2025** from **7th to 9th October 2025** at **Chennai Trade Centre**, focusing on advancements in aerospace and defence technologies.



## ■ Upskilling



**Dr. S. Thirumurugaveerakumar (Associate Professor)** completed multiple **Coursera online courses** on **Circular Economy and Sustainable Product Development**, including:

- *Product Design for the Circular Economy*
- *Packaging Design for the Circular Economy*
- *Sustainable and Circular Product Development*



**Dr. B. N. Sreeharan (Asst. Professor III)** completed a series of **international webinars and courses** on **Excel Analytics and Innovative Teaching**, including:

- *Innovative Teaching with ChatGPT*
- Advanced Excel topics such as *Pivot Tables, Charts, Dashboard Design, and Data Visualization* organized by **Coursera** and **Maven Analytics**.

## STUDENT ACTIVITIES

### ■ Student Paper Presentations

Students from the department demonstrated their research capabilities by presenting papers at prestigious international conferences:

- **Ms. Kirubashini P (22BME050)** and **Mr. Aruthra S (22BME013)** presented their paper titled “*Drying Kinetics of Indian Mint Leaves: Forced Convection*” at the **First International Conference on Thermofluids Engineering (INCOTHERM 2025)** organized by **IIT (Indian School of Mines), Dhanbad** on **10th October 2025**. Their work was guided by **Mr. B. Jeeva** and **Mr. S. Prabhu**.
- **Mr. Manikandan M (22BME055)** presented “*Multiphase Modelling: CFD Simulation of Microfluidics Droplets Used for Advanced Drug Delivery*” at the same conference under the guidance of **Mr. B. Jeeva**.
- **Mr. T. Suresh (23PME01R)** presented “*Electrochemical Investigation on Ni-Cu-P Coated Anodes for Alkaline Aluminium Air Batteries*” at **UTB-STE Connect 2025**, organized by **Universiti Teknologi Brunei** on **22nd October 2025**, guided by **Dr. P.S. Samuel Ratna Kumar** which won the best presentation award.

## ■ Student Participations

Students from the department actively participated in various **national and international competitions**, showcasing their technical skills and innovative ideas:

- **Mr. Vignesh G (22BME122)** participated in a **National-level competition** at **Sri Ramakrishna Engineering College, Coimbatore** on **7th October 2025**.
- **Mr. Nithish N (23BME062)** represented KCT in a **National-level competition** organized by **PPG Business School** from **29th to 30th September 2025**.
- **Mr. T. Suresh (23PME01R)** participated in an **International competition** at **Universiti Teknologi Brunei** from **20th to 22nd October 2025**, demonstrating advanced research skills.
- A group of enthusiastic students from **second and third year** showcased their creativity and technical expertise in the **HACK-A-BIT Project Expo** under the **Mechanical Cluster** at KCT on **28th October 2025**. Participants included:

*Mr. Aditya N, Mr. Hariprassanna M, Mr. Harish Kumar J, Mr. Harsiv Adithya V, Ms. Clara D, Mr. Pawan K, Mr. Ajith S, Mr. Agileash PR, Mr. Sanjay G, Mr. Sri Yashwanth T K, Mr. Silambarasan M, Mr. Runic Kabilan M, Mr. Thayanidhi S, Mr. Vikash K, Mr. Venkatachalam M, Mr. Sukesh M, Mr. Tharun Nachiyappan Jawahar.*

These participations reflect the department's commitment to fostering innovation, entrepreneurship, and hands-on learning among students.

**SNAP SHOTS**



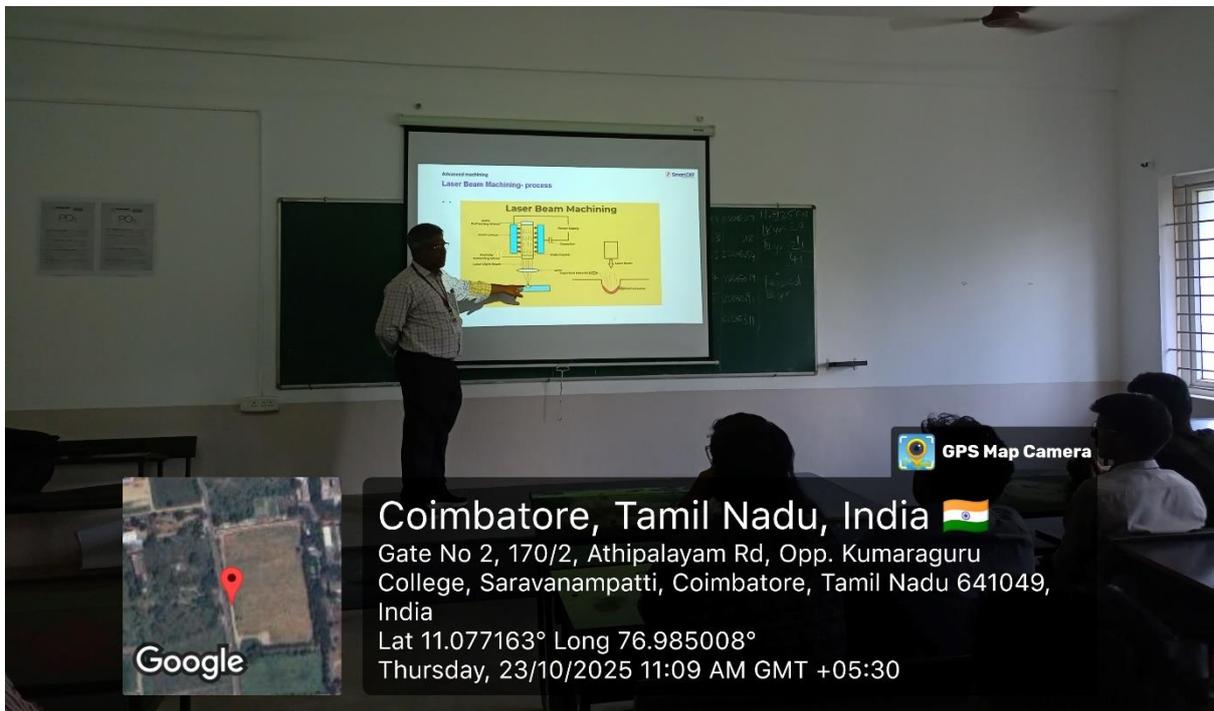
**Mr. K. Manikanda Prasath, @ industry-led seminar on Personal Investment Management.**



**Dr. Vinayagamoorthi @ guest Lecture on “New Product Development”**



**Mr. Prabhu @ Mental Wellness & Yoga**



**Industry led session on “Modern Machining Processes”**

## Vision, Mission, POs, PSOs and PEOs



### 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 of Mechanical Engineering

### 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.

\* Focused SDGs are: 4, 8, 9, 12, 13, 17

## **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 specified needs with appropriate consideration for public health and safety, and 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. Engineering Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

6. **The Engineer and The World:** Apply contextual knowledge to assess societal, health, safety, legal, cultural, and environmental issues, and demonstrate the knowledge of and need for sustainable development.
7. **Ethics:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of engineering practice, including inclusive and diverse behavior.
8. **Individual and Collaborative Teamwork:** Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.
9. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, including writing reports, design documentation, making presentations, and giving/receiving clear instructions.
10. **Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.
11. **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, including adaptability and tech awareness.

## 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.

**PEO 3:** 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.