Volume No. 09
Issue No. 08

APRIL 2026

MExpress

Mechanical Engineering Department's Official Newsletter



KUMARAGURU COLLEGE OF TECHNOLOGY

Department of Mechanical Engineering

Mechanical Engineering Association

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EDITORS PORTFOLIO

From the Editors...

Dear Readers,

This month's newsletter captures the department's consistent efforts in academic excellence, professional development, and industry engagement. A variety of **Programmes Organized**, including **Industry-Led Sessions** and **Guest Lectures**, enriched student learning by connecting theory with real-world practices. Faculty contributions as **Resource Persons** further reflected the department's expertise and outreach.

The department recorded noteworthy **Achievements & Awards**, alongside impactful **Paper Publications**, **Manuscript Reviews**, and **Patents**, highlighting a strong and growing research culture. Meaningful **Industry Linkages** strengthened collaboration across consultancy, training, and innovation-driven initiatives.

Faculty members actively participated in **Programmes at national and international levels**, with focused efforts on **Faculty Upskilling** through FDPs, workshops, and webinars in emerging domains. Student engagement remained vibrant through **Student Activities**.

Overall, this month's activities demonstrate the department's commitment to relevance, excellence, and sustained growth through collaborative and learner-centric initiatives.

Warm regards,
Editors





DEPARTMENTAL ACTIVITIES

Programmes Organized

TNWISE 2026- Women's Hackathon - Tamil Nadu Women in Science and Engineering



Department in collaboration with the Tamil Nadu Centre of Excellence for Advanced Manufacturing (TANCAM), organized the TNWISE 2026 Women's Hackathon on 12th March 2026 with the theme **"Smart Agriculture and Rural Innovation"**, aiming to empower women in science and engineering through real-world problem solving. The event saw 977 participants across 364 teams from 91 institutions. Two teams secured first prize, representing Sri Ramakrishna Engineering College and KGISL Institute of Technology. **Mr. R. S. Mohankumar,** Assistant Professor – II was the overall coordinator of the event.



Industry - led Session

Department organized an Industry-Led Session on “Gearbox Design and Its Applications” on 26 March 2026 (Thursday) via Google Meet. The session was conducted to provide students with industry-oriented insights into gearbox design and its practical applications. **Mr. Shankar G Subburathinam,** Manager Engineering, Advanced Materials Technology Integrated Drivetrain, Large Power Systems Division, Caterpillar India, Thiruvallur, was the resource person. The event was coordinated by **Dr. C. Velmurugan**, Professor, **Dr. N. Sangeetha**, Senior Associate Professor and **Mr. P. D. Devan**, Assistant Professor-II, contributing to an engaging and informative learning experience for participants.



Guest Lecture



Department organized an industry expert session for the course U18MEE0046 – Tool and Die Design on the topic “Design of Bending and Drawing Dies” on 25 March 2026. The session was delivered by **Mr. A. Jeyaraj**, Project Manager at TANCAM, for current third-year Mechanical Engineering students, providing valuable industry insights. **Mr. R. S. Mohankumar,** Assistant Professor – II, was the coordinator.



Faculty as Resource Person



Dr. M. Thirumalaimuthu Kumaran, Assistant Professor III, delivered a session in a one-day guest lecture on “Problem Solving Techniques on Finite Element Analysis” on 27 March 2026 organized by the Department of Mechanical Engineering of Dr. N.G.P. Institute of Technology, Coimbatore.





Dr. M. Balaji, Associate Professor, delivered a session on **“Industry 4.0: Evolution and Impact”,** on 17 March 2026 and at Kumaraguru School of Business, offering students an insightful understanding of the rapidly evolving technological landscape. **Dr. Balaji**, also acted as a Doctoral Committee (DC) member in the Fourth DC Meeting for the confirmation of provisional registration of research scholar **Mr. Shakthivel M R** (Reg. No. 23142697171). The meeting was organized by SNS College of Engineering, Coimbatore, and scheduled on 26 February 2026 in physical mode under the supervision of Dr. R. Sudhakaran, Professor & Head, Department of Mechanical Engineering.

Dr. K. K. Arun, Assistant Professor III, served as a Jury Member at TANCAM's Hackathon – TNWISE 2026, held on 12 March 2026, where he contributed to evaluating innovative solutions.



Achievements & Awards



Dr. K. K. Arun, Assistant Professor III, was awarded the Certificate of Achievement from JENRS as the Best Reviewer for the Journal of Engineering Research and Sciences, receiving the 2025 Best Reviewer Award on 24 March 2026 for his efforts in enhancing the quality of the peer-review process.

Paper Publication



Dr. S. Thirumurugaveerakumar, Associate Professor, published a research article titled **"Mechanical Properties Prediction in Austenitic Stainless Steels: Inelastic Constitutive Artificial Neural Networks"** in the Springer Nature a Scopus indexed Journal.

A research study titled **"Lean Carbon Mapping Approach to Optimize Paper Usage in Offset Printing Industries"** by **Dr. M. Balaji**, Associate Professor, was published in the IEOM Society International, USA journal.



Manuscript Reviewed



Dr. K. K. Arun, Assistant Professor – III, reviewed a manuscript titled "A Hybrid Experimental and Explainable Machine Learning Framework for Predicting Mechanical-Induced Degradation and Reliability in Lithium-Ion Batteries" for MAT Journals Pvt. Ltd.

Industry Linkage

LGB - Industry - Institute Interaction

Mr. P. Subbiah, Vice President – Research & Development, along with his team from LG Balakrishnan & Bros Limited (ROLON), visited the Department to explore potential collaboration in product development and research and development initiatives.



Patents



A patent titled **"An Artificial Intelligence-Based Adaptive HVAC Control System and Method for Optimized Thermal Comfort and Energy Efficiency"** has been filed by **Mr. P. Devan**, Assistant Professor II.



The design patent titled **"Eco-Friendly Waste Management System"** has been officially registered under Class 09-09 in the name **of Dr. Arun K K**, Assistant Professor III..

Programmes Participated



Mr. S. Sivakumar, Assistant Professor II, participated in the following programmes:

• **"Data Analysis using SPSS",** a 7-day Faculty Development Program hosted by Scrollwell (09–15 March 2026)

• **"Integrated Corrosion Assessment of Materials and Welded Joints: Characterization and Modelling Approaches",** a one-week FDP organized by Methodist College of Engineering & Technology (09–23 March 2026)

• **"Emerging Electric Vehicle Platforms, Advanced Computational Engineering, and AI-Driven Simulation",** a five-day FDP organized by SMEC, VIT-AP University (24–28 March 2026)

Faculty Upskilling



Mr. S. Sivakumar, Assistant Professor II, has successfully completed the online course **"AI for Design and Optimization",** authorized by the University of Michigan and offered through Coursera, enhancing his expertise in AI-driven design methodologies.



Dr. Sreeharan B. N., Assistant Professor III, has demonstrated notable achievements in data analytics and statistical learning by earning badges in

- "Correlation and Regression"
- "Design of Experiments"
- "Predictive Modelling & Text Mining"
- "Statistical Thinking for Industrial Problem Solving,"

presented by JMP and authorized by SAS through Coursera, further strengthening his analytical and problem-solving capabilities for industrial applications.



Mr. P. D. Devan, Assistant Professor II, has earned multiple certifications recognizing his academic and professional contributions. He successfully completed the online courses:

- **"Mechanics of Materials III: Beam Bending"**, authorized by the Georgia Institute of Technology
- **"EV Evolution: Comprehensive Introduction to EVs",** offered through Coursera, enhancing his expertise in structural analysis and electric vehicle technologies.

STUDENT ACTIVITIES

Student Achievements

Mr. Suriya Prakash U, a final-year student, successfully qualified in the Graduate Aptitude Test in Engineering (GATE) 2026 in the Mechanical Engineering stream, conducted by the Indian Institute of Technology Guwahati. He secured a GATE score of 530 with 41.33 marks, achieving an All India Rank of 2139 among 59,612 candidates who appeared for the examination held on 14 February 2026.



Vision, Mission, POs, PSOs and PEOs

KUMARAGURU college of technology
COIMBATORE – 641 049

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.