



# IMPACT NEWS LETTER

## Issue #2

**Jan 2025 – June 2025**

KCG Nagar, Old Mahabalipuram Road, Karapakkam,  
Chennai-600 097 [www.kcgcollege.ac.in](http://www.kcgcollege.ac.in)

## Vision of the Department

The department aspires to become a globally recognized centre of excellence by producing competent professionals in Mechanical Engineering to serve as a valuable resource for industry and society.

## Mission of the Department

- ◆ Impart intellectually rigorous and holistic education to the students in the field of Mechanical Engineering.
- ◆ Establish state-of-the-art facilities for research and consultancy work.
- ◆ Enhance the knowledge and skills of the faculty with the latest advancements in the mechanical engineering domain.
- ◆ Mentor the students to develop research and entrepreneurial capabilities.
- ◆ Inculcate a high degree of professionalism and contribute to the needs of industry and society.

## Programme Educational Objectives

The graduates after completion of the degree will

<b>PEO1</b>	Excel as competent professional or entrepreneur or researcher in related fields of Mechanical Engineering.
<b>PEO2</b>	Analyze, design/develop innovative solutions for real world engineering problems using appropriate modern tools.
<b>PEO3</b>	Exhibit professionalism, ethical attitude and adapt to the changes in the industry and society supporting sustainable development.
<b>PEO4</b>	Lead and manage teams for effective execution of projects.

## From the Editor's Desk

Hello everyone,

We, the Mechanical Engineers, are delighted to present this edition of our department newsletter IMPACT for the year 2025. This issue highlights the various noteworthy activities and accomplishments of our department, showcasing the vibrant academic and co-curricular environment that defines us.

Through these pages, you will find comprehensive coverage of events, student initiatives, innovative projects, faculty achievements, and collaborative efforts that reflect the spirit of growth and excellence within our department.

It is truly heartening to witness the enthusiasm and dedication of all contributors who made this publication possible. The Editorial Board sincerely appreciates the valuable time and effort invested by everyone involved in bringing this edition to life.

With Warm regards,  
Editorial Team – IMPACT

## Editorial Board

**Editor:** Dr. M Vignesh Kumar

**Co-Editors:** HARRISH KISHORE V – IV Year Mechanical Engg.  
SRI SURIYA S – IV Year Mechanical Engg.

**Student Reporters:** HEMANATHAN SHENOY S – III Year Mechanical Engg.  
ABDUL GHAFFAR SHAKIR I – III Year Mechanical Engg.  
ALICE MARIYA W – II Year Mechanical Engg. SARAVANAN P – II Year Mechanical Engg.

## About the Department

Established in 1998 and permanently affiliated to Anna University, the Department of Mechanical Engineering has consistently evolved as a hub of academic quality and professional learning. The department is dedicated to delivering outcome-oriented education that fosters strong technical foundations, ethical values, and professional competence among students.

To address the changing needs of industry and society, the department regularly updates its curriculum in line with emerging technologies and engineering practices. Teaching and learning activities are organized across the core areas of Design Engineering, Manufacturing Engineering, and Thermal Engineering, and are reinforced through modern laboratory facilities, experiential learning approaches, and project-centric pedagogy. Students are actively encouraged to translate theoretical knowledge into practical applications through internships, industry-integrated projects, and extensive laboratory exposure, thereby enhancing their analytical, problem-solving, and design capabilities.

During the period January 2025 – June 2025, the department conducted and supported a wide range of academic and professional initiatives such as workshops, seminars, expert talks, industrial visits, internships, project evaluations, and faculty development programmes. Student professional associations, including SAE, ASHRAE, and the IEI Students' Chapter, played a significant role in promoting technical awareness, leadership development, and teamwork among students.

As a partner institution of IIT-PALS, the department maintained active participation in IIT-PALS initiatives. Both students and faculty benefited from masterclasses, technical lectures, mentoring sessions, and innovation-oriented programmes, gaining exposure to advanced engineering concepts and expert insights from IIT faculty and industry specialists.

Supported by a committed faculty team, effective industry collaboration, and a culture of continuous improvement, the Department of Mechanical Engineering remains focused on developing competent, responsible, and globally competitive engineering professionals.

# Academic Toppers

## 2024-2025 (Odd Semester)

### III Sem

First Place



MANU PARTHASARATHY  
(9.125 GPA)

Second Place



SIVANI S  
(8.2 GPA)

### VII Sem

First Place



SRI SURYA S  
(8.81 GPA)

### V Sem

First Place



HEMANATHAN SHENOY S  
(8.9 GPA)

Second Place



CHINMAY MANDAL  
(8.11 GPA)



NANDHA KUMAR  
(8.11 GPA)



SRI SANJAY B  
(8.11 GPA)

## Guest Lectures/Seminars/Workshops

### Seminar on “Future Automotive & the Impact of Electric Vehicles”

As part of the Institution of Engineers (India) [IE(I)] Student Chapter activity, the Department of Mechanical Engineering, KCG College of Technology, organized a seminar on “Future Automotive & the Impact of Electric Vehicles” on 07 March 2025 at the S13 Seminar Hall, from 02:30 p.m. to 03:30 p.m. The seminar was delivered by Mr. Vijayakumar Velusamy, Senior Manager – Electronics, Valeo, Chennai, who provided valuable insights into emerging trends in the automotive sector, with a strong focus on electric vehicle technologies, power electronics, energy management systems, and future mobility solutions. The session highlighted industry expectations, technological challenges, and career opportunities in the evolving EV ecosystem.

The seminar was highly beneficial to students and faculty, enhancing their awareness of sustainable automotive technologies and reinforcing the objectives of the IE(I) Student Chapter in promoting professional competence and industry interaction.



### Seminar on CX in Automotive Technologies

As part of the SAE Student Chapter activity, the Department of Mechanical Engineering, KCG College of Technology, organized a seminar on “CX in Automotive Technologies” on 18 March 2025 at the S13 Seminar Hall, from 11:00 a.m. to 12:30 p.m. The seminar saw active participation from students and faculty members.

The session was delivered by eminent industry experts Mr. Narayanan Ramanathan, DGM & Competency Head, and Mr. Kesavamoorthi Venugopal, Deputy General Manager, RNTBCI, Chennai. The speakers shared valuable insights on the growing importance of Customer Experience (CX) in the automotive industry, focusing on customer-centric design, digital transformation, and emerging automotive technologies.

The seminar enhanced participants’ understanding of current industry practices and future trends, bridging the gap between academic learning and industry expectations, and reinforcing the objectives of the SAE Student Chapter in promoting professional and technical development.



## Industrial Visits

### Industrial Visit to Urbaser Sumeet, Chennai

The students of II and III Year Mechanical Engineering participated in an industrial visit to Urbaser Sumeet, one of the largest waste management companies, at its Alandur and Royapetah facilities in Chennai on 06 February 2025. A total of 46 students took part in the visit.

The visit provided practical exposure to solid waste management systems, including waste collection, segregation, processing, recycling, and disposal methods. Students gained insights into modern waste management technologies, environmental sustainability practices, and large-scale operational management, bridging the gap between theoretical concepts and real-world industrial applications. The visit enhanced students' understanding of sustainable engineering solutions and environmental responsibility.



### Industrial Visit to National Institute of Ocean Technology (NIOT)

Students of II and III Year Mechanical Engineering participated in an industrial visit to the National Institute of Ocean Technology (NIOT) on 05 April 2025, with 46 students taking part in the visit.

During the visit, students were introduced to NIOT's cutting-edge research activities in ocean engineering, deep-sea technologies, offshore structures, ocean energy, and underwater robotics. Experts from NIOT explained the design, fabrication, and testing of subsea systems, autonomous underwater vehicles (AUVs), and moored buoy systems, highlighting their relevance to mechanical engineering applications.

The interaction sessions helped students understand the multidisciplinary nature of ocean technology, career opportunities in marine and offshore sectors, and the importance of sustainable utilization of ocean resources. The visit significantly enhanced students' practical knowledge, research awareness, and industry exposure, complementing their academic curriculum.



## Industrial Visit to Grundfos Pumps Pvt. Ltd.

Students of III Year Mechanical Engineering undertook an industrial visit to Grundfos Pumps Pvt. Ltd. on 07 April 2025, with 21 students participating in the visit. During the visit, students gained valuable insights into the design, manufacturing, assembly, and testing of high-efficiency industrial pumps. The technical team explained various aspects of pump components, hydraulic performance, quality assurance practices, and automation in pump manufacturing.

The visit also emphasized energy-efficient solutions, sustainable manufacturing practices, and Industry 4.0 integration adopted by Grundfos. This industrial exposure helped students relate theoretical concepts to real-time industrial applications and enhanced their understanding of modern manufacturing systems and professional practices in the mechanical engineering domain.



## Internship to Industries

As part of the academic curriculum and to enhance industry exposure, students of the Department of Mechanical Engineering (II, III, and IV Year) successfully underwent internships in various reputed industries during the academic year 2024–2025. The primary objective of these internships was to bridge the gap between theoretical knowledge and practical industrial applications.

A total of 50 students participated in internships across more than 25 reputed industries, including manufacturing, automotive, HVAC, forging, moulding, mechatronics, industrial services, and allied engineering sectors. Prominent organizations such as Schwing Stetter (India) Pvt. Ltd., Allison Transmission (India) Pvt. Ltd., Axles India Limited, Rane Group of Industries, Jindal Steel & Power, Samvardhana Motherson, Enmac Systems Pvt. Ltd., Sri Krishna Mouldings, Grundfos Pumps Pvt. Ltd., and others provided valuable industrial exposure to the students.

The average duration of the internships was two weeks, with some students undergoing extended internships ranging from three weeks to two months, depending on the industry requirements and academic level. During this period, students were exposed to real-time industrial environments, production systems, maintenance practices, quality assurance procedures, and safety norms.

Through these internships, students gained hands-on experience in manufacturing processes, CAD/CAM applications, HVAC systems, automotive components, pneumatic systems, industrial automation, quality control, and maintenance activities. Interaction with industry professionals and supervisors enabled students to understand workplace discipline, professional ethics, teamwork, and effective communication.

The internships significantly enhanced students' technical competency, problem-solving ability, and adaptability to industrial settings. Exposure to modern machinery, tools, and industry-standard software improved their practical skills and employability. Students also became familiar with industrial documentation practices, reporting formats, and quality standards followed in professional environments.

Feedback from industry mentors indicated that the students exhibited sincere involvement, discipline, punctuality, and eagerness to learn. The internship experience helped students identify their career interests, specialization areas, and preparedness for higher studies, projects, and placements.

Overall, the internship program proved to be highly beneficial in strengthening Industry–Institute Interaction, providing experiential learning, and improving students’ readiness for professional careers. The department plans to further enhance such collaborations to offer sustained industrial exposure, collaborative projects, guest lectures, and placement opportunities in the future.

## Students Participation and Achievements

The students of the Department of Mechanical Engineering actively participated in a wide range of academic, technical, professional, and co-curricular activities during the academic period, showcasing their enthusiasm for learning beyond the classroom and their commitment to holistic development.

### Participation in Seminars, Workshops, and Conferences

- ◆ A group of nine third-year Mechanical Engineering students attended a one-day workshop on “Natural Refrigerants Based HVAC&R Systems” organized by the Indian Institute of Technology Madras (IITM), Chennai, sponsored by ISHRAE, on 02 April 2025. The workshop provided valuable insights into eco-friendly refrigerants, sustainable HVAC&R technologies, and emerging trends in energy-efficient cooling systems. The sessions helped students understand the significance of green refrigeration practices and their role in reducing environmental impact.
- ◆ Two third-year Mechanical Engineering students, Mr. Hemanathan Shenoy and Ms. E. Harini, participated in a Motivational Seminar on “Pathway to Civil Services” organized by the Hindustan Professional Career Academy in association with the Centre for Professional and Career Development at Hindustan University on 11 April 2025. The seminar guided students on career planning, competitive examination strategies, and personal development, inspiring them to explore opportunities in civil services and public administration.
- ◆ Ten third-year Mechanical Engineering students visited ACREX 2025, South Asia’s largest exhibition on Air Conditioning, Heating, Ventilation, and Intelligent Buildings, sponsored by ISHRAE, held at Bangalore from 21 to 22 February 2025. The exhibition exposed students to the latest advancements in HVAC technologies, smart building solutions, energy management systems, and industry best practices. Interaction with industry experts and product demonstrations provided practical exposure to current industrial standards and innovations.

Overall, participation in these academic and professional events significantly enriched the students’ technical competence, career awareness, and industry orientation. Such activities play a vital role in strengthening experiential learning and keeping students abreast of emerging trends in Mechanical Engineering.





## Value Added Program

A five-day training program on "Product Design using Fusion 360" was conducted from 27 January 2025 to 31 January 2025, organized by Autodesk and delivered through ICT Academy, and coordinated by the Department of Mechanical Engineering. The program had a total participation of 100 students, out of which 27 students were from the Mechanical Engineering department, along with students from Automobile, Aeronautical, Aerospace, and Mechatronics Engineering disciplines.

The training emphasized hands-on exposure to 3D modelling, parametric design, assembly modelling, simulation basics, and product visualization using Autodesk Fusion 360. The sessions enhanced students' proficiency in modern product design tools and strengthened their understanding of industry-oriented design practices.

As a recognition of the department's continued efforts in promoting advanced engineering education, the institution was honoured with the Autodesk Centre of Excellence Award by the Honourable Minister for Information Technology, Dr. P. T. R. Palanivel Rajan, Government of Tamil Nadu, during BRIDGE'24. This achievement reflects the department's commitment to excellence in skill development and industry-aligned learning.



## Participation in CII Mystic South – Global Linkage Summit

III Year Mechanical Engineering students, E. Harini and Hemanathan Shenoy, participated in the CII Mystic South – Global Linkage Summit (Southern Region) held at Taj Hotel, Chennai, on 10 and 11 February 2025. The seminar focused on emerging trends in Industry 4.0 and Smart Manufacturing, bringing together industry leaders and professionals.

The summit featured expert sessions by Mr. Srivats Ram, Wheels India, who delivered insights on Industry 4.0 practices and industrial transformation, and Mr. S. N. Subrahmanyam, Larsen & Toubro, who addressed advancements and implementation strategies in smart manufacturing systems. The interactions provided students with first-hand exposure to global industrial practices, digital transformation initiatives, and future-ready manufacturing technologies.

Participation in this CII-organized activity enabled the students to broaden their industrial perspective, understand real-world applications of advanced manufacturing concepts, and appreciate the role of leadership and innovation in modern engineering industries.

## Awards and Recognitions

Students of the Department of Mechanical Engineering demonstrated outstanding performance across a wide spectrum of national-level competitions, technical events, hackathons, design challenges, NCC activities, and innovation platforms during the academic year 2024–2025, bringing laurels to the institution.

- ◆ A team comprising Vasanthraj, Hemanathan, and Vishal Gurudev (II Year Mechanical) secured an impressive All India Rank (AIR) 26, 5th Rank in Tamil Nadu, and 2nd Rank in Chennai in the mBAJA SAEINDIA 2025 – CAE Competition, held at the NATRAX facility, Pithampur, Madhya Pradesh, highlighting their excellence in automotive design and simulation. Kamalakannan and Vishal Gurudev (II Year Mechanical) also represented the department in the GO-Kart Design Challenge (GKDC) at Kari Motor Speedway, Coimbatore.



- ◆ B. Sri Sanjay (III Year Mechanical) exhibited remarkable consistency in innovation and sustainability-focused events. He secured First Place in W'THON 2025 – Sustainability Hackathon at Anna University, winning a cash prize of ₹5,000, and also won First Prize in PALS innoWAH! Pre-Finals. He achieved 4th Runner-Up in Innovatex 2K24 Hackathon, participated in SRISHTI 2025 National Project Exhibition, a National-Level Hackathon sponsored by L&T and IEEE IAS, National Green Earth Challenge (Pre-finalist), BizCanvas, and Young Technocrats 2.0, showcasing strong entrepreneurial and research aptitude.
- ◆ In the area of NCC and leadership activities, E. Harini and Venkatraman Kesavan (III Year Mechanical) delivered exceptional performances in multiple intercollegiate competitions. They secured First Place in Contingent Drill and Flagship Events at Sir Theagaraya College Fest and won several prizes at CADO BHIM, CADO GURU, and CADO Fiesta competitions, including multiple First Prizes in Kholna Jodna, NIAP, Flag Area, along with Second and Third Prizes in drill and cultural events. Their achievements reflect discipline, teamwork, and leadership excellence.
- ◆ In design and innovation challenges, E. Harini (III Year) and E. Hemanathan (II Year Mechanical) received the Jury's Special Recognition Award at the India Design Week Challenge, organized by ICT Academy at Sri Sairam Engineering College.
- ◆ Vishal Gurudev (II Year Mechanical) also participated in the same event. E. Vasanthraj (II Year Mechanical) reached the Semi-Finals of SmartIDEathon-2024 at GITAM University, Bengaluru.
- ◆ Abdul Ghaffar Shakir (III Year Mechanical) earned a Verbal Mention at an MUN Conference held at SRM Institute of Science and Technology, Ramapuram, reflecting strong communication and global awareness skills.

Overall, the students' achievements across technical, innovation, sustainability, automotive, NCC, and professional development platforms underline the department's commitment to holistic student development, industry readiness, and excellence beyond the classroom.



## Students Placement

The Department of Mechanical Engineering achieved commendable placement outcomes for the 2020–2024 batch. Out of 18 students, 12 students were successfully placed in reputed industries and research organizations, 2 students are pursuing higher studies, and 1 student has become an entrepreneur. This resulted in an overall placement index of 83.3% for the batch.

The students secured opportunities across diverse sectors including construction, software, core mechanical industries, research institutions such as IIT Madras, and international assignments. The placements reflect the students' technical competence, adaptability, and readiness to meet industry and research demands, highlighting the department's continuous efforts in academic rigor, skill development, and career guidance.

This achievement stands as a strong indicator of the department's consistent focus on student progression and professional success.



# Faculty Participation and Achievements

## Faculty Contributions as Resource Person

- ◆ Mr. S. Kaliappan, faculty member of the Department of Mechanical Engineering, served as a Session Chair in two reputed international conferences, reflecting his academic expertise and professional standing in the research community. He chaired technical sessions at the International Conference on Innovations in Engineering, Management and Science (ICIEMS–2025), organized by the Research & Development Cell and Department of CSE, Harcourt Butler Technical University, Kanpur, in association with RSP Conference Hub, held on 31 January and 1 February 2025.
- ◆ He also acted as Session Chair at the International Conference on Advanced Data Analytics and Computing (ICADAC–2025), organized by Greater Kolkata College of Engineering and Management, Kolkata, on 1 March 2025. His contributions facilitated scholarly discussions, ensured quality research deliberations, and strengthened academic collaboration at the international level.

## Awards and Recognitions Received by the Faculty

The faculty members of the Department of Mechanical Engineering received prestigious recognition for their outstanding contributions to teaching, research, and academic leadership. Dr. M. Vignesh Kumar, Dr. V. Gopal, and Dr. S. Jesudass Thomas were conferred with the “Kalvi Bharathi Award”, a distinguished honour presented by Lions International and organized by the Lions Club of Shollinganalur. The awards were bestowed during the Teachers’ Day Celebrations held on 24 February 2025, recognizing their dedication, commitment, and exemplary service in higher education.

This recognition reflects the faculty’s sustained efforts in nurturing student excellence, promoting innovative teaching practices, and contributing meaningfully to institutional growth. The achievement brings pride to the department and reinforces its commitment to academic excellence, professional ethics, and societal development.

## Research Publications & Funding

### Paper Presentations by Faculty in Conferences

Dr. S. Kaliappan actively contributed to the 1st International Conference on Technology Enabled Economic Changes (InTech 2025) held at Amity University, Tashkent, on 28 March 2025. He presented four research papers focusing on emerging technologies such as Artificial Intelligence, Big Data Analytics, and Blockchain, emphasizing their role in data-driven decision-making, scalable analytics, predictive insights, and secure digital ecosystems.

The presentations highlighted the application of advanced digital technologies in transforming modern economic systems and enhancing trust, efficiency, and intelligence in decision-making processes. This academic contribution strengthened international research engagement and showcased the department’s commitment to interdisciplinary and globally relevant research.

## Research Publications – Faculty Achievements

During the period January to June 2025, the faculty members of the Department of Mechanical Engineering published a total of 12 research papers in reputed international journals and conference proceedings, reflecting the department's strong research culture and global academic engagement.

Out of these, 6 papers were published in high-impact Q1 journals such as Results in Engineering, Materials Research, Journal of the Australian Ceramic Society, and International Journal of Photoenergy, while 5 papers appeared in Q2-ranked journals and international conference proceedings, including SAE Technical Papers, AIP Conference Proceedings, Journal of Polymers and Composites and Journal of The Institution of Engineers (India).

The publications cover interdisciplinary research areas including advanced composite materials, sustainable materials, automotive engineering, thermal systems, renewable energy, machine learning applications, and virtual reality in engineering design. The consistent publication in indexed and peer-reviewed international platforms highlights the faculty's contribution to cutting-edge research and strengthens the department's academic visibility at the global level.

## Patent Publications – Faculty Achievement

Dr. S. Kaliappan has secured the publication of two patents on 30 April 2025, reflecting significant contributions to innovation in both product design and smart manufacturing systems. The first patent, titled "Ornamental Design for a Wearable Device for Monitoring and Improving Sleep Quality" (Application No.: 457186-001), focuses on the development of a design-oriented wearable solution aimed at enhancing health monitoring applications. The second patent, "Method for AI-Powered Predictive Maintenance in Smart Manufacturing Systems" (Application No.: 202541041995), presents an advanced AI-driven approach for improving equipment reliability and operational efficiency in Industry 4.0 environments.

These patent publications highlight the faculty member's commitment to innovative research, technology development, and intellectual property creation, strengthening the institution's impact in emerging engineering and digital technologies.

## Faculty Funded Projects – Sanctioned Grants

The Department of Mechanical Engineering has received a prestigious funded project under the AICTE IDEA Lab Scheme, with a total grant of ₹90,00,000 sanctioned for the establishment of the AICTE IDEA Lab. The project aims to promote innovation, hands-on learning, prototyping, and interdisciplinary product development among students and faculty.

The project is jointly coordinated by Dr. M. Vignesh Kumar, Associate Professor, and Dr. M. Arulprakasajothi, Professor, who serve as Co-Principal Investigators. The IDEA Lab will provide state-of-the-art facilities to encourage design thinking, research-driven innovation, industry-relevant problem solving, and startup initiatives within the campus.

This major funding support significantly strengthens the institution's innovation ecosystem and aligns with national initiatives such as Atmanirbhar Bharat, NEP 2020, and outcome-based engineering education, fostering creativity and entrepreneurial skills among learners.

## Books/Book Chapter Publications – Faculty Achievements

Faculty members of the Department of Mechanical Engineering have made notable academic contributions through the publication of scholarly books during the academic year 2024–2025, reflecting their commitment to teaching excellence, research, and knowledge dissemination.

- ◆ Dr. S. Kaliappan, Professor, Mechanical Engineering, KCG College of Technology, contributed as an author to a textbook titled “Dynamics of Machines.” The book was published by Charulatha Publications with ISBN: 978-93-6260-912-0 on 03 May 2025. The textbook provides comprehensive coverage of fundamental and advanced concepts in machine dynamics and serves as a valuable resource for undergraduate and postgraduate engineering students.
- ◆ Dr. V. Gopal, Assistant Professor/Mechanical Engineering contributed as an author to an international book titled “Navigating Leadership and Policy Management in Education,” published by IGI Global in 2025. His chapter, “Powers of Higher Education Leadership: Navigating Policy and Management in Academic Institutions,” appears on pages 103–136 and offers insightful perspectives on academic leadership, policy formulation, and institutional management in higher education. This contribution highlights the interdisciplinary engagement of the faculty beyond core engineering domains.

These publications underscore the department’s strong academic culture and its continuous efforts to contribute meaningfully to both technical education and educational leadership.

### EDITORS:

**Ms. Tephilla Joice P**

Assistant Professor,  
Department of Mathematics

**Ms. Pushpalatha U**

Assistant Professor (SG),  
Department of English