



# IMPACT NEWS LETTER

## Issue #1

**July 2023 – Dec 2023**

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

Greetings!

We are pleased to present this issue of the Department of Mechanical Engineering newsletter, IMPACT, documenting the academic and co-curricular activities of the department for the period July 2023 – December 2023. This edition captures the steady progress, dedication, and collective efforts of our students and faculty during the semester.

The newsletter provides an overview of the dynamic learning environment within the department and showcases various initiatives undertaken during this period. It highlights students' engagement in academic coursework, projects, internships, research activities, technical events, and competitions, along with their active participation in seminars, workshops, industrial visits, and professional development programmes. Faculty achievements in teaching, research, mentoring, and scholarly pursuits are also featured.

The sustained commitment of our students, faculty members, and staff has been instrumental in strengthening a culture of academic excellence, innovation, and teamwork. The Editorial Team sincerely thanks all contributors for their valuable inputs and cooperation in bringing out this edition of IMPACT.

We welcome feedback and constructive suggestions from our readers, which will guide us in enhancing the quality and impact of future editions.

With Warm regards,  
**Editorial Team – IMPACT**

## Editorial Board

**Editor:** Dr. M Vignesh Kumar

**Co-Editors:** JAYARAMAN K – IV Year Mechanical Engg.  
MUKESH KANNA M – IV Year Mechanical Engg.

**Student Reporters:** SRI SURIYA S – III Year Mechanical Engg.  
HARRISH KISHORE V – III Year Mechanical Engg.  
E HARINI – II Year Mechanical Engg.  
ABDUL GHAFFAR SHAKIR I – II Year Mechanical Engg.

## About the Department

The Department of Mechanical Engineering, established in 1998 and permanently affiliated to Anna University, continues to function as a centre of academic excellence with a strong emphasis on quality education, research, and professional development. During the period July 2023 – December 2023, the department effectively leveraged the Autonomous status of the institution, which had been conferred in the preceding semester, to enhance academic flexibility, curriculum delivery, and outcome-based education practices.

The Department is committed to preparing industry-ready graduates by offering a curriculum aligned with contemporary technological advancements and societal needs. Academic activities are structured around the core domains of Design Engineering, Manufacturing Engineering, and Thermal Engineering, supported by well-equipped laboratories, project-based learning, and experiential teaching-learning methodologies. Students are encouraged to translate theoretical knowledge into practical applications through internships, industry-linked projects, and hands-on laboratory work, thereby strengthening their analytical, problem-solving, and design skills.

During this period, the department organized and facilitated several academic and professional development initiatives, including workshops, seminars, expert lectures, industrial visits, internships, project reviews, and faculty development programmes. Student professional bodies such as SAE and IEI Students' Chapter actively contributed to enhancing students' technical competence, leadership abilities, and collaborative skills.

As a partner institute of IIT-PALS, the department continued to engage students and faculty in IIT-PALS masterclasses, mentoring programmes, and innovation-focused activities, providing valuable exposure to advanced technologies and expert guidance from IIT faculty and industry professionals.

With a dedicated faculty team, effective utilization of autonomy, strong academic-industry linkages, and a culture of continuous improvement, the Department of Mechanical Engineering remains steadfast in its mission to nurture competent, responsible, and globally competitive engineering graduates.

## Academic Toppers 2022-2023 (Even Semester)

### IV Sem

First Place



SRI SURYA S  
(8.36 GPA)

Second Place



HARRISH KISHORE V  
(8.2 GPA)

### VI Sem

First Place



PRAKASH KOUNDINYAN G  
(8.56 GPA)

Second Place



DHANASEKAR R  
(8.44 GPA)

### VIII Sem

First Place



HARI KISHORE N  
(9.14 CGPA)

Second Place



SNEHA C  
(9.10 CGPA)

## ANNA UNIVERSITY RANK HOLDER B.E – Mechanical Engineering



## GUEST LECTURES/SEMINARS/WORKSHOPS

### Guest lecture on Angel Investment/VC Funding Opportunity for Early Stage Entrepreneurs

A guest lecture on “Angel Investment / VC Funding Opportunities for Early-Stage Entrepreneurs” was conducted on 12 August 2023 for students of the department. The session was delivered by Dr. S. Muthuselvan, Innovation Ambassador and Associate Professor (IT). The lecture provided valuable insights into the startup funding ecosystem, covering the roles of angel investors and venture capitalists, stages of startup funding, investment evaluation criteria, and the importance of business models, pitch decks, and scalability. The session effectively enhanced students’ understanding of entrepreneurial finance and motivated aspiring innovators to explore startup and innovation-driven career pathways.



### Session on “Opportunities for Higher Studies and Research at Arizona State University”

A session on “Opportunities for Higher Studies and Research at Arizona State University” was organized on 06 October 2023 and held at Hindustan University. The session was delivered by Prof. Arunachala Kannan, Professor at Arizona State University (ASU). 21 students from Mechanical Engineering attended the session and got benefitted. The lecture provided comprehensive insights into postgraduate and doctoral programmes at ASU, research opportunities, interdisciplinary focus areas, admission requirements, funding avenues, and international exposure available to students. The session was highly informative and motivated students to pursue global academic and research opportunities, thereby broadening their perspectives on higher education and international research careers.



### Pre-Placement Workshop on ‘Sustainability’

A Pre-Placement Workshop on “Sustainability” was organized by the Placement Cell on 19th October, 2023 and conducted by Illumine Industry. The session aimed to create awareness among students about the importance of sustainability in modern industries and its growing relevance in career opportunities. The resource team highlighted sustainable business practices, environmental responsibility, and the role of engineers in achieving long-term industrial growth. The workshop provided valuable insights into industry expectations and helped students understand how sustainability principles are integrated into corporate decision-making and employability skills.

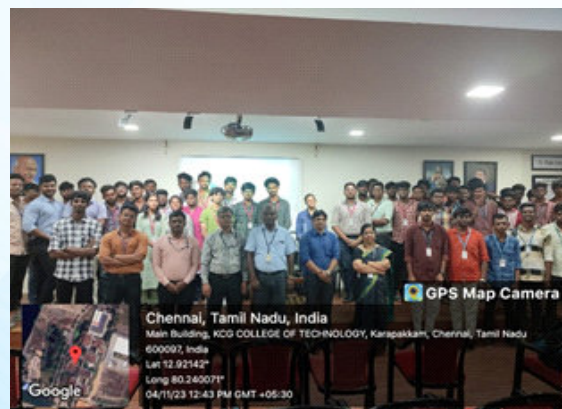
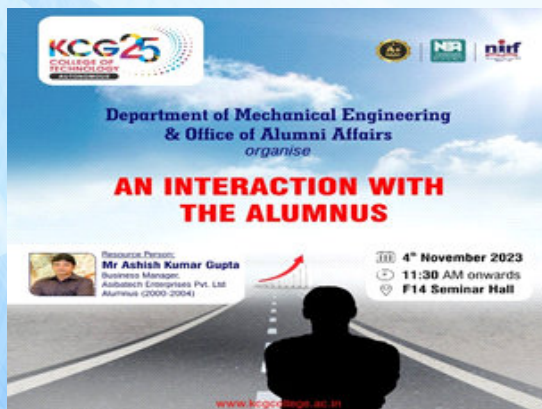
## Expert talk on “Opportunities for Mechanical Engineers”

An Expert Talk on “Opportunities for Mechanical Engineers” was conducted on 28 October 2023 by Mr. E. Karunakaran, Section Manager – Product Engineering (Chassis Systems). The session provided valuable insights into diverse career pathways available for mechanical engineers across core industries, product development, and emerging technology domains. The speaker emphasized industry expectations, skill requirements, and the importance of continuous learning, helping students gain clarity on career planning and professional growth in the mechanical engineering field.



## An Interaction with the Alumnus on “Opportunities in Industry”

An Interaction with the Alumnus on “Opportunities in Industry” was organized on 04 November 2023 and delivered by Mr. Ashish Kumar Gupta, Business Manager, Asibatech Enterprises Pvt. Ltd., an esteemed alumnus (2000–2004 batch) of the department. The session offered practical insights into current industrial trends, career opportunities, and the transition from academia to industry. Drawing from his professional experience, the speaker motivated students to develop industry-relevant skills, entrepreneurial thinking, and adaptability to succeed in the evolving engineering landscape.



## Course on “Electric Vehicle Technology and Manufacturing”

During the ODD Semester of the Academic Year 2023–24, a specialized course on “Electric Vehicle Technology and Manufacturing” was offered to Mechanical Engineering students under the NAAN MUDALVAN Scheme, in association with TANSAM. The programme provided students with valuable exposure to emerging trends in electric mobility, covering key aspects such as EV components, powertrain technologies, battery systems, manufacturing processes, and industry practices. The course enhanced students’ technical competence and industry readiness by bridging the gap between academic learning and real-world applications in the rapidly growing EV sector.

## Workshop with Hands on Training on Composite Development

A One Day Workshop with Hands-on Training on “Composite Development” was conducted on 04th August 2023 in collaboration with Vignesh Decadrives Pvt. Ltd. The programme provided participants with practical exposure to composite materials, including their properties, fabrication techniques, and industrial applications. Through interactive sessions and hands-on activities, students gained insights into modern composite development processes, strengthening their understanding of advanced materials and their relevance in automotive and engineering applications.



## SERB Sponsored Three Day Seminar on “Accelerating the Electric Vehicle Revolution: Driving Sustainable Mobility in the G20 Era’

A Three-Day SERB Sponsored National Seminar on the theme “Accelerating the Electric Vehicle Revolution: Driving Sustainable Mobility in the G20 Era” was conducted from 23rd to 25th August 2023 by the Department of Mechanical Engineering. The seminar focused on emerging trends, technologies, and policy perspectives related to electric vehicles and sustainable mobility, aligned with global G20 priorities. Eminent experts from academia, research organizations, and industry delivered technical sessions covering EV powertrains, energy storage systems, charging infrastructure, and sustainability challenges. The programme witnessed active participation from students and faculty of the host institution as well as other institutions, fostering interdisciplinary learning, knowledge exchange, and awareness of future opportunities in the EV domain.



## Webinar on “Designing and Modeling of Battery Pack using MATLAB”

A webinar on “Designing and Modeling of Battery Pack using MATLAB” was organized by ISIE India on 05th August 2023. Our department faculty and students attended this webinar and got benefitted. The session highlighted the preference for lithium-ion batteries in electric vehicles, explaining their advantages and key performance features. It also covered load calculation, C-rate concepts, and demonstrated battery pack simulation using MATLAB, along with an overview of BMS and BTMS. The webinar enhanced students’ understanding of EV battery design and safety aspects.

## 'PALS Industry-Assisted Lecture Series on Electric Vehicles'

The PALS Industry-Assisted Lecture Series on Electric Vehicles was organized and conducted by IIT-PALS on 10th, 17th, 24th, and 31st August, and 7th September 2023. Third-year and final-year Mechanical Engineering students actively participated in the series. The lectures provided industry-oriented insights into electric vehicle technologies, system integration, energy storage, power electronics, and future trends in EVs. The series effectively bridged the gap between academic learning and industrial practices, enhancing students' technical awareness and career readiness in the EV domain.



## Workshop with Hands-on Training on "Robotics"

A One Day Workshop with Hands-on Training on "Robotics" was conducted on 31 October 2023 for Final Year Mechanical Engineering students. The programme was organized by the Department of Mechanical Engineering and conducted by the Department of Mechatronics Engineering. The workshop provided practical exposure to robotic systems, sensors, actuators, and basic programming, enabling students to understand the integration of mechanical, electrical, and control systems. The hands-on sessions enhanced students' practical skills and strengthened their understanding of robotics applications in modern manufacturing and automation.



A One Day Workshop with Hands-on Training on “NDT Methods and its Applications” was conducted on 03 November 2023, organized by the Department of Mechanical Engineering. The programme was conducted by Mr. Jithin Ram and Mr. C. P. Venkatesh, CRG Engineers from SMEC Automation Pvt. Ltd. The workshop introduced students to various Non-Destructive Testing (NDT) techniques and their industrial applications. Through practical demonstrations and interactive sessions, students gained insights into quality inspection, defect detection, and reliability assessment, enhancing their understanding of NDT practices used in modern industries.



## National Level Technical Symposium 'VIVANTA'23'

The Department of Mechanical Engineering along with the other departments together successfully organized a Two-Day National Level Technical Symposium, VIVANTA'23, on 22nd and 23rd September 2023 with the theme "Inspiring Innovation." The symposium provided a vibrant platform for students to showcase their technical knowledge, creativity, and problem-solving skills. The event featured a wide range of technical and non-technical competitions, including paper presentations, project expos, quizzes, design challenges, and hands-on events across various engineering disciplines. The symposium was graced by the Chief Guest, Mr. M. Srinivasan, Deputy Director, CVRDE, DRDO, who addressed the students on emerging technologies, research opportunities, and career pathways in core engineering sectors.



**KCG COLLEGE OF TECHNOLOGY**  
Autonomous  
Affiliated to Anna University  
KCG College Road, Karapakkam, OMR, Chennai-600 057  
Proudly Presents





**THEA Code 1311**

## 2024-25 NATIONAL LEVEL TECHNICAL SYMPOSIUM

**IT**

**EEE**

Computer Graphics  
Basic Electric Switchgear  
Power System Protection  
Electrical Design  
Power Transmission

**MECH**

Use Polymer  
Non Flaming  
Overload Device  
RCBO Assembly

**CIVIL**

Soil & Bridge  
Drummers  
Paper Presentation

## 2025

**CSE**

Smart Grid  
Basic Data Bits  
Computer Graphics  
Cyber Security Challenges

**AUTO**

New Year Wind  
Intercept Ground  
Design & Design  
Design Spectrum

**AI & DS**

Optical  
Paperwork  
Image Analysis  
Shallow Design Execution

## 2026

**FT**

Welding  
Paper Presentation  
Product Presentation  
AI Software Simulation

**ECE**

Software  
Machine Learning  
Electronics  
Software

**AERO & ASE**

Paper Presentation  
Aero CAD Modeling  
Motor Robot & Control  
Air Craft Investigation

## 2027

**EE**

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**ME**

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## 2028

**IT**

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**MECH**

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**CIVIL**

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## 2029

**CSE**

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**AUTO**

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**AI & DS**

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## 2030

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**ECE**

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**AERO & ASE**

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## 2031

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## 2032

**IT**

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## 2033

**CSE**

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**AUTO**

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**AI & DS**

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## 2034

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**ECE**

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**AERO & ASE**

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## 2035

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## 2036

**IT**

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## 2037

**CSE**

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**AUTO**

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**AI & DS**

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## 2038

**FT**

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**ECE**

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**AERO & ASE**

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## 2039

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**ME**

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**CIVIL**

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## 2040

**IT**

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**MECH**

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**CIVIL**

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## 2041

**CSE**

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**AUTO**

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**AI & DS**

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## 2042

**FT**

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**ECE**

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**AERO & ASE**

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## 2043

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**ME**

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**CIVIL**

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## 2044

**IT**

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**MECH**

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The Management, Staff & Students  
cordially invite you for the

*Valedictory of*

**A Two-Day National Level Technical Symposium**

**VVANTA'23**  
INDUSTRIAL INNOVATIONS

on 23<sup>rd</sup> September 2023 at 02:00 P.M



**Chief Guest**  
**Mr M Srinivasan**  
Deputy Director, CWRDE, DRDO

**Dr Anand Jacob Verghese**  
Chairman, Hindustan Group of Institutions

**Dr Annie Jacob**  
Director

**Dr M Muthukannan**  
Principal

## INTERNSHIPS UNDERGONE BY THE STUDENTS

During the Summer Vacation, a total of 26, III Year Mechanical Engineering students successfully completed two-week in-plant training/internship programmes at reputed industries and organizations across Tamil Nadu and Kerala. The training was undertaken during June–July 2023 in leading companies such as Aluminium Industries Ltd., Lucas-TVS, Rane Brake Lining Ltd., Brakes India, Siemens Centre of Excellence (Anna University), Hyundai Service Centre, Maruti Suzuki (AUTOTECH), Tata Motors, CARS India, Motherson Technology Services Ltd., PALFTEC R&D Pvt. Ltd., and other core manufacturing and service industries. The internships provided students with hands-on exposure to industrial practices such as manufacturing, quality control, maintenance, automotive systems, CAD/CAM, R&D, and emerging technologies like 3D printing. Interaction with industry professionals enhanced their technical skills, industry readiness, and understanding of work culture, safety practices, teamwork, and problem-solving abilities.

## INDUSTRIAL VISIT TO 'CSIR – STRUCTURAL ENGINEERING RESEARCH CENTRE AND CSIR MADRAS COMPLEX' CHENNAI

An industrial visit was organized for II, III, and Final Year Mechanical Engineering students to CSIR – Structural Engineering Research Centre (SERC) and CSIR Madras Complex, Chennai, on 26 September 2023, with the participation of 60 students. The visit provided valuable exposure to advanced research facilities, experimental laboratories, and large-scale testing of structural components. Students gained insights into structural analysis, material testing, seismic engineering, and the role of mechanical engineering in multidisciplinary research. The visit effectively bridged theoretical concepts with real-world research applications and enhanced students' awareness of national-level R&D activities.



# 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 Symposiums, Seminars, Workshops and Conferences

- ◆ Mechanical Engineering students actively participated in national-level symposiums, workshops, and technical events conducted by reputed institutions during the academic year.
- ◆ II Year students, S. Dhanush and R. Naveen Kumar, participated in the “Synced Solvers” event at the National Level Technical Symposium NEXODUS 2K23 held at Jeppiaar University on 19.10.2023.
- ◆ II Year student, J. Liyan Akash, took part in the Box Cricket event at NEXODUS 2K23, Jeppiaar University, on 19.10.2023, promoting teamwork and intercollegiate interaction.
- ◆ IV Year student, M. Mukesh Kanna, participated in the Cross Country Survivors event during the National Level Students’ Symposium organized by St. Joseph’s Group of Institutions on 02.09.2023.
- ◆ S. Arun Manickavasagam attended the Launchpad for Indian Motorsports Engineers (LIME) Workshop at Hindustan University from 27.10.2023 to 30.10.2023, gaining exposure to motorsports engineering and automotive innovation.
- ◆ The participation enhanced students’ technical knowledge, competitive skills, teamwork, and professional exposure, encouraging active engagement beyond the classroom.

## Paper Presentation by the Students

Hemanathan Shenoy, II Year Mechanical Engineering student, presented a research paper titled “Design and Analysis of Asymmetric Circular Flexure Hinges Using Micro Gripper for Compliant Mechanism” at the 5th International Conference on Advances in Additive Manufacturing Technologies (ICAAMT 2023) held at Chennai Institute of Technology (CIT), Chennai, from 27 to 29 November 2023. His participation provided valuable exposure to advanced research in compliant mechanisms and additive manufacturing technologies, contributing to the enhancement of his technical knowledge and research presentation skills.

## Paper Publication by the Students

- ◆ Final Year Mechanical Engineering students K. Karthikeyan, S. Astro Divine, and J. Jibin published a research paper titled “CFD Analysis of Air Intake Manifold System to Improve the Efficiency of Student Formula Car” in the International Journal of Vehicle Structures and Systems, highlighting their work in automotive aerodynamics and performance enhancement.
- ◆ Sairam C., Guhan Balaji S., and Adarsh A. Menon, Final Year Mechanical Engineering students, published a paper titled “Experimental Investigation on TIG Welded Copper B370 and Stainless Steel 434” in the International Journal of Vehicle Structures and Systems, showcasing experimental research in welding and material characterization.
- ◆ These publications reflect the students’ strong research orientation, technical competence, and active involvement in scholarly activities at the undergraduate level.

## Student Funded Projects – Achievements

The Department of Mechanical Engineering congratulates Mr. Jayaraman K and Mr. Prakash Koundinyan G for their active involvement in student-funded project initiatives during the academic year. They successfully completed the project titled "Spray Drying Technology – Jaggery Powder Production", sponsored by IIT Madras RuTAG (Rural Technology Action Group) under the RuTAG Winter Internship Programme with stipend, with the project report submitted on 20 September 2023. These accomplishments highlight the students' enthusiasm for research, innovation, and application of engineering solutions to real-world and rural challenges. The department extends its hearty congratulations and best wishes to the students for their future endeavors.

## Awards Won by the Students

- ◆ Mr. Dhanasekar R (IV Year – Mechanical Engineering) received the "Consistent Team Work Award" at the Industry Institution Summit (IIS 5.0) organized by IET Chennai Local Network, held at Hotel Feathers, Chennai on 01.09.2023, in recognition of his leadership and project contributions.
- ◆ Mr. Dhanasekar R (IV Year – Mechanical Engineering) also secured Third Place in the IIT PALS ANALYZE – Case Study Analyze Challenge under the theme Core Engineering for the project titled "Pedestrian Safety System in Cars", conducted at IIT Madras on 17.09.2023.
- ◆ Mr. K. Jayaraman and Mr. R. Dhanasekar (IV Year – Mechanical Engineering) won First Place in the NM Hackathon – Industry 4.0, conducted by TANSAM, for their project "Solar Powered UAV". The team received Siemens CAD software worth ₹1 lakh along with walk-in workspace access at TANSAM.
- ◆ Mr. H. Kaloosh won Second Prize in the singing competition organized by Prasar Bharati, Akashwani, Chennai, as part of G-20 public awareness initiatives. The event was held at Ethiraj College for Women, and the award was presented by the Hon'ble Governor of Telangana, Dr. Tamilisai Soundararajan, on 03.09.2023.
- ◆ Mr. Hari Raghul and Team (IV Year – Mechanical Engineering) secured First Prize with a cash award of ₹2,000 in the "Call of Duty – Mobile" event during the Inter-Collegiate Cultural Fest ETHEREAL, held at KCG College of Technology on 13th & 14th October 2023.

These achievements reflect the students' excellence in technical, cultural, and extracurricular activities, bringing pride to the Department of Mechanical Engineering.





## Students Participation and Achievements in Smart India Hackathon (SIH – 2023)

- ◆ Ms. E. Harini (II Year – Mechanical Engineering) and Mr. V. Harrish Kishore (III Year – Mechanical Engineering) emerged as Winners in the Hardware Category of the Smart India Hackathon 2023, held from 19th to 23rd December 2023, demonstrating strong innovation, teamwork, and problem-solving skills.
- ◆ Mr. K. Jayaraman and Mr. R. Dhanasekar (IV Year – Mechanical Engineering) actively participated in the Software Category of the Smart India Hackathon 2023, conducted from 19th to 20th December 2023, gaining valuable exposure to large-scale national-level innovation and competitive problem-solving.



## Students Achievements in Go Kart Challenge (FKDC Season 7)

KCG College of Technology proudly congratulates the INFERO RACING TEAM for their outstanding performance in the Go Kart Design Challenge (FKDC Season 7) organized by FMAE, held at Kari Motors, Coimbatore, from 29th October to 3rd November 2023. Competing against 30 finalist teams from across India, the team secured First Place in Acceleration with a cash prize of ₹10,000 and First Place in Aesthetics with a cash prize of ₹5,000, achieving an impressive All India Rank of 3. The remarkable achievement by the 18-member interdisciplinary team, led by students from Mechanical Engineering, reflects their technical excellence, design innovation, teamwork, and competitive spirit. The department applauds the team members for bringing laurels to the institution and wishes them continued success in future national-level engineering challenges.



## Students Achievement – World Records of Excellence

The Department proudly congratulates B. Sri Sanjay for his remarkable achievement of entering the World Records of Excellence by setting a record for the Longest Duration to Balance a Cricket Bat from the Handle on the Palm of the Hand (Teenager Category). He successfully balanced the bat non-stop for 3 hours, 3 minutes, and 33 seconds on 26 June 2023. This exceptional feat reflects his extraordinary concentration, endurance, and dedication, bringing great pride to the institution.



## FACULTY PARTICIPATION AND ACHIEVEMENTS

The faculty members of the Department of Mechanical Engineering actively participated in various national-level conferences, workshops, and academic discussions, contributing to continuous professional development and enriching the academic ecosystem for students.

### Faculty Participation in Seminars, Workshops, and Conferences

- ◆ Dr. V. Gopal participated in a webinar on "Best Practices for Improving NIRF Ranking" organized by DELNET-IIT Delhi on 28 September 2023.
- ◆ Dr. S. Gopinath attended a workshop on "Recent Trends in Smart Antennas in mm Wave Technology" organized by RMK College of Engineering and Technology from 22–23 September 2023.

- ◆ Dr. M. Vignesh Kumar participated in the 7th International Conference on Technical Textiles and Nonwovens, organized by the Department of Textile and Fibre Engineering, IIT Delhi, held from 10–15 December 2023.

These faculty participations highlight the department's active involvement in academic enrichment, research dissemination, and continuous professional development.

## Faculty Participation in Faculty Development Programme

- ◆ Mr. I. Manikandan participated in a Five-Day FDP on "Electric Vehicle Technology and Manufacturing", organized by TANSAM (State level), from 24 July 2023 to 28 July 2023.
- ◆ Mr. I. Manikandan also attended a Three-Day FDP on "Virtual Labs" under the PALS VLAB 2023–2024 Initiative, organized in association with NITK Surathkal (State level), from 15 November 2023 to 17 November 2023.
- ◆ Dr. V. Gopal, Dr. S Gopinath and Mr. K Gobivel attended an FDP on "Fusion 360 – Unlock Your Design Potential", organized by Autodesk (State level), from 08 November 2023 to 10 November 2023.
- ◆ Dr. S. Gopinath participated in a National FDP on "Nanotechnology and Applications", organized by NITTTR, Chennai, from 10 July 2023 to 14 July 2023.
- ◆ Dr. S. Gopinath also attended a National FDP on "Refrigeration and Air Conditioning", organized by NITTTR, Chennai, from 24 July 2023 to 28 July 2023.
- ◆ Dr. S. Gopinath participated in a State-level FDP on "IPR: Convert Ideas to Patent – A Hands-on Programme", organized by KCG College of Technology, from 04 August 2023 to 08 August 2023.
- ◆ Dr. S. Gopinath successfully completed an International NPTEL FDP on "Product Design and Development" of four weeks duration during July–August 2023.
- ◆ Dr. S. Gopinath also completed an International NPTEL FDP on "Structural Analysis of Nanomaterials" of four weeks duration during July–August 2023.
- ◆ Dr. S. Gopinath attended a National FDP on "Advances in Materials and Manufacturing", organized by NITTTR, Chennai, from 25 September 2023 to 30 September 2023.

These faculty development programmes significantly contributed to strengthening technical expertise, pedagogical skills, and awareness of emerging technologies among the department staff.

## Faculty Contributions as Resource Person

Faculty members of the Department of Mechanical Engineering actively contributed to academic and professional development initiatives by serving as resource persons and reviewers in various programmes during the academic year 2023.

- ◆ Dr. S. Gopinath served as a Reviewer for the IEEE International Conference on Networks, Multimedia and Information Technology, held at Meenakshi Institute of Technology, Bangalore, from 01 to 02 September 2023, contributing to the evaluation of international research submissions. He also acted as a Resource Person for a session on Outcome-Based Education (OBE) – CO–PO Attainment Process at KCG College of Technology on 27 December 2023.

- ◆ Dr. M. Vignesh Kumar functioned as a Resource Person for a programme on Lean Business Canvas at KCG College of Technology on 26 June 2023, sharing insights on innovation, entrepreneurship, and lean startup practices.
- ◆ Dr. S. Jesudass Thomas participated as a Resource Person in an Academia Roundtable on “From Campus to Corporate: Bridging the Skills Gap and Cultivating a Future-Ready Workforce through Digitization”, organized by Knimbus X Skillsoft, on 09 November 2023.
- ◆ Mr. K. Gobivel acted as a Resource Person and shared his V-Lab Development Experience during the V-LAB FDP Batch-1, conducted by PALS, on 29 September 2023.



These engagements reflect the department’s strong academic presence and its faculty members’ commitment to knowledge sharing, quality assurance, and academic leadership beyond the institution.

## Awards and Recognitions Received by the Faculty

Faculty members of the Department of Mechanical Engineering received several prestigious awards and recognitions during the academic year, reflecting their excellence in research, mentoring, and long-standing service to the institution.

- ◆ Dr. D. Easu was conferred with the “Guru Devo Bhava” Award by Global Gleanagles on 5 September 2023, in recognition of his dedication and excellence in teaching and mentoring.
- ◆ Dr. M. Vignesh Kumar received the IET – Best Practitioner Award from the Institution of Engineering and Technology (IET) on 01 September 2023, acknowledging his professional contributions and best practices in engineering education.
- ◆ Dr. S. Gopinath was honored with the Best Performing Faculty Award by KCG College of Technology on 05 September 2023, for his consistent academic performance and institutional contributions.
- ◆ Dr. S. Gopinath was also recognized for his Exemplary Service as a Judge at the QS – Reimagine Education Awards 2023 on 06 November 2023, appreciating his role in evaluating global educational innovations.



# RESEARCH PUBLICATIONS & FUNDING

## Paper Presentations by Faculty in Conferences

Faculty members of the Department of Mechanical Engineering actively contributed to scholarly research by presenting their work at reputed national and international conferences during the academic year, demonstrating the department's strong research culture and interdisciplinary expertise.

- ◆ Dr. V. Gopal presented the paper titled "Design and Analysis of Asymmetric Circular Flexure Hinges Using Micro Gripper for Compliant Mechanism" at the 5th International Conference on Advances in Additive Manufacturing Technologies (ICAAMT 2023) held at Chennai Institute of Technology, Chennai, during 27–29 November 2023.
- ◆ Dr. V. Gopal also presented the paper "Parameters Affecting the Quality of Friction Stir Welding" at the same international conference, ICAAMT 2023, conducted at Chennai Institute of Technology, Chennai, from 27–29 November 2023.

## Research Publications by Faculty in Reputed Journals

During the period from July 2023 to December 2023, the faculty members of the Department of Mechanical Engineering published a total of 13 research papers in reputed national and international journals, reflecting the department's strong research culture and scholarly contribution. Among these, 2 papers were published in Q1 journals (Scientific Reports and Renewable Energy), and 3 papers appeared in Q2 journals (Energy Sources – Part A and Thermal Science). The remaining publications were featured in well-recognized Scopus-indexed international journals such as Materials Today: Proceedings, Engineering Research Express, Mechanika, International Journal of Vehicle Structures and Systems, Journal of the Brazilian Society of Mechanical Sciences and Engineering, and Springer Lecture Notes in Mechanical Engineering.

These publications span key research areas including renewable energy systems, nanofluids, heat transfer, composite materials, advanced manufacturing, CFD analysis, machining, and sustainable energy technologies, underscoring the department's commitment to high-quality research, innovation, and global academic visibility.

## Research Publications – Faculty Achievements

The Department of Mechanical Engineering proudly congratulates Dr. M Arulprakasajothi, Professor, on being recognized among the World's Top 2% of Scientists for the year 2023, as ranked by Elsevier–Scopus in collaboration with Stanford University. This prestigious global recognition highlights his outstanding research contributions, scholarly impact, and sustained excellence in the field of engineering research. The department extends its heartfelt congratulations and best wishes to Dr. M Arulprakasajothi for this remarkable achievement, which stands as an inspiration to students and faculty alike and brings great pride to the institution.



## Patent Publications – Faculty Achievement

- ◆ Dr. D. Easu was granted an Indian patent titled “Automated Lift System” on 19 December 2023, showcasing innovation in automated mechanical systems.
- ◆ Dr. V. Gopal published an Indian patent on “Natural Fibre Composites for 3D Printing Applications” on 01 December 2023, contributing to sustainable materials and additive manufacturing research.
- ◆ Dr. S. Gopinath published an Indian patent titled “Lower Base Exoskeleton for Paralysed Patients” on 27 October 2023, reflecting impactful research in assistive and rehabilitation technologies.
- ◆ Dr. S. Gopinath also received an Indian patent grant for “Laser Marking Machine for Mechanical Model” on 25 December 2023, demonstrating applied innovation in mechanical engineering education and manufacturing processes.

These patents underline the department’s strong research culture, innovation capability, and commitment to translating ideas into practical and socially relevant technologies.

## Faculty Funded Projects – Sanctioned Grants

Dr. M. Arulprakasajothi, Professor, Department of Mechanical Engineering, is the recipient of a SERB–TARE funded research project (2021–2024) titled “Fabrication of Graphene Coated Copper Heat Sink for Electric Vehicle Battery Thermal Management”, with a total sanctioned budget of ₹18.48 lakhs. The project is being carried out in collaboration with Dr. Viswanath Balakrishnan, IIT Mandi, focusing on advanced thermal management solutions for electric vehicle batteries. During the academic year 2023–2024, Dr. Arulprakasajothi successfully completed the second year of the project and received a research grant of ₹2.75 lakhs. This achievement reflects his sustained commitment to high-impact research in sustainable energy technologies, and the department congratulates him for securing and effectively executing this prestigious research funding.

## Faculty Development Programme Conducted

The Department of Mechanical Engineering, in association with the Department of Civil Engineering, organized a three-day Faculty Development Programme (FDP) titled “Fusion 360 – Unlock Your Design Potential” from 8th to 10th November 2023 in online mode. The programme aimed to enhance faculty competency in 3D modeling, design optimization, simulation, and generative design using Autodesk Fusion 360, aligning academic practices with industry requirements. Expert sessions by BIMLABS Global resource persons covered fundamental and advanced modeling, rendering, load and stress analysis, real-time applications, and generative design through hands-on demonstrations. The FDP effectively strengthened participants’ digital design skills and promoted the adoption of modern design tools in teaching and research.

## MOU'S SIGNED BY THE DEPARTMENT

The Department signed a Memorandum of Understanding (MoU) with C R P (India) Private Ltd., Chennai on 15 November 2023 to strengthen industry–institute collaboration. The MoU was signed in the presence of Mr. Enid Verghese, Deputy Director, and formally exchanged between Dr. Annie Jacob, Director, and Mr. Kumar Chandrashekar, Managing Director, CRP India Pvt. Ltd. This partnership aims to promote collaborative activities such as internships, industry exposure, training, and applied research, benefiting both students and faculty.

