IMPACT NEWS LETTER

Issue #2

Jan 2023 – June 2023

KCG Nagar, Old Mahabalipuram Road, Karapakkam,
Chennai-600 097 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

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

From the Editor's Desk

Hello Everyone,

We, the Mechanical Engineering fraternity, are pleased to present Issue 2 of our departmental newsletter IMPACT for the period January 2023 – June 2023. This edition captures the continued progress, enthusiasm, and accomplishments of our students and faculty during this vibrant phase of the academic year 2022–2023.

Over the past six months, the department has witnessed an inspiring range of academic, technical, and professional enrichment activities. Students have actively engaged in projects, internships, technical contests, paper presentations, industry-based learning, and innovation-driven initiatives. Faculty members have contributed through research publications, FDPs, expert talks, and academic mentoring, further strengthening our teaching–learning ecosystem.

This edition also highlights our department's participation in IIT-PALS activities, professional society events, workshops, industrial visits, and value-added programmes that have collectively enhanced the overall learning experience. Each contribution reflects the dedication, creativity, and teamwork that define our department's culture.

The Editorial Board extends its sincere appreciation to all contributors whose efforts have helped bring this edition of IMPACT to life. We remain grateful for your support and participation, which continually enrich the quality of this publication.

We welcome your suggestions and feedback to help us further improve and make future editions even more impactful.

With Warm regards,
Editorial Team – IMPACT

Editorial Board

About the Department

The Department of Mechanical Engineering, established in 1998, continues to uphold its reputation as a strong and dynamic programme permanently affiliated to Anna University. With a clear focus on academic excellence, research-driven learning, and holistic student development, the department consistently nurtures graduates who are technically sound, industry-ready, and socially responsible.

Mechanical Engineering remains a versatile and evolving discipline with applications across diverse sectors including automobile and aerospace engineering, manufacturing and materials technology, thermal and energy systems, automation, robotics, defence technologies, and emerging Industry 4.0 domains. Academic instruction is strengthened across the three major domains of Design, Manufacturing, and Thermal Engineering, supported by hands-on training, seminars, project-based learning, and exposure to real-world engineering challenges. Students benefit from well-equipped laboratories, industrial collaborations, and experiential learning platforms that enhance both conceptual understanding and practical competence.

During the period January 2023 – June 2023, the department actively conducted a variety of academic and professional activities including workshops, seminars, expert lectures, industrial visits and internships. The student professional bodies such as SAE, IEI Students' Chapter and various innovation forums remained vibrant, promoting technical skill development, leadership, and teamwork.

As a partner institute of IIT-PALS, the department played an active role in IIT-PALS initiatives throughout this period. Students and faculty participated in PALS Lecture series, technical talks, innovation challenges, knowledge-sharing sessions, and mentoring programmes, gaining valuable exposure to cutting-edge technologies, research insights, and expert guidance from IIT faculty and industry professionals. This collaboration continues to enrich the learning ecosystem and broaden the horizons of both students and faculty.

With a dedicated faculty team, strong industry and academic linkages, and a commitment to continuous improvement, the Department of Mechanical Engineering remains steadfast in its mission to produce competent, innovative, and globally competitive mechanical engineers.

Academic Toppers
2022-2023 (Odd Semester)

III Sem

First Place

SRI SURYA S
(8.5 GPA)

Second Place

HARRISH KISHORE V
(8.3 GPA)

V Sem

First Place

PRAKASH KOUNDINYAN G
(8.75 GPA)

Second Place

ISHAM NAZEER
(8.6 GPA)

VII Sem

First Place

HARI KISHORE N
(9.12 GPA)

Second Place

SNEHA C
(9.07 GPA)

GUEST LECTURES/SEMINARS/WORKSHOPS

Guest Lecture – Motivational Lecture on the topic "Map, Explore, Choose & Hone"

The Department of Mechanical Engineering organized a **guest lecture on "Map, Explore, Choose & Hone"** on **18th March 2023**. The session was delivered by **Mr. R. Srivatsan, Head – Supply Chain Management, Zaimus Group.**

The speaker shared valuable insights on career planning, professional growth, and the importance of identifying individual strengths to build a successful career. He emphasized the need for continuous learning, informed decision-making, and skill enhancement to meet evolving industry expectations. Drawing from his extensive industrial experience, he encouraged students to explore diverse career opportunities, make well-informed choices, and consistently hone their technical and professional competencies.

The interactive session motivated students to adopt a structured approach towards career development and lifelong learning, making it an enriching and inspiring experience.

Core Lecture – IIT-Pals – Theory to Practice (T2P) Session on "Machine Learning Inspired Sustainable Design and Accelerated Optimal Designs"

The Department of Mechanical Engineering facilitated a **Theory to Practice (T2P) Session organized by IIT-PALS** on **28th February 2023**. The session on **"Machine Learning Inspired Sustainable Design and Accelerated Optimal Designs"** was **delivered by Prof. Palaniappan Ramu, Associate Professor, Department of Engineering Design, along with the industry expert Mr. Vinay Ramanath, Principal Expert – R&D, Siemens Technology.**

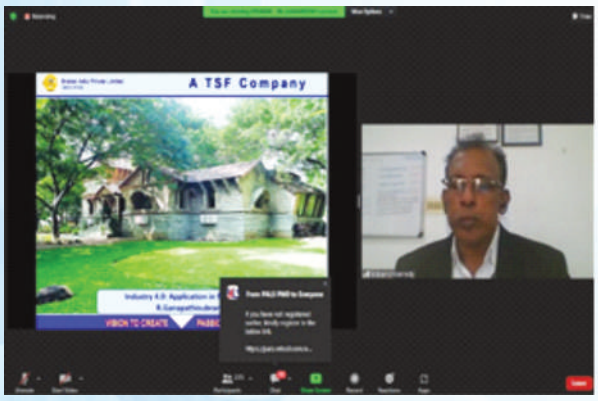
The speakers highlighted the application of machine learning techniques in sustainable product design and design optimization, demonstrating how artificial intelligence is transforming modern engineering practices. They also shared insights into industry-driven design methodologies, innovation, and the integration of advanced computational tools for developing efficient and sustainable engineering solutions.

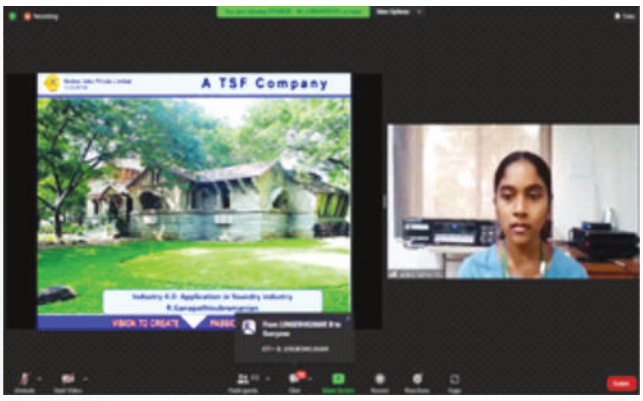
The session provided students with valuable exposure to emerging technologies, bridging the gap between academic concepts and industrial applications, and encouraging them to explore research and innovation in intelligent engineering design.

Core Lecture – PALS Technology Speaks – Industry 4.0: Applications in the Foundry Industry, Co-hosted by Department of Mechanical Engineering, KCG College of Technology

The Department of Mechanical Engineering, KCG College of Technology, co-hosted the **PALS Technology Speaks** programme organized by **IIT-PALS** on **9th March 2023** in online mode. The expert lecture on **"Industry 4.0: Applications in the Foundry Industry"** was delivered by **Mr. Ganapathi Subramanian, Senior General Manager – Manufacturing, Brakes India Private Limited, Foundry Division, Sholinghur.** The session highlighted the role of Industry 4.0 technologies in modern foundry operations, emphasizing digital manufacturing, automation, and smart production systems.

As part of the programme, the Department also coordinated student presentations on **"Different Types of Manufacturing Processes." Ms. C. Sneha (Final Year)** served as the Master of Ceremonies, while **Mr. Dhanush Nithil (Final Year), Mr. M. Santhosh (Final Year), Mr. Arun Manickavasagam (Third Year), and Mr. Sri Surya (Second Year)** delivered technical presentations. The programme provided an excellent platform for students to enhance their technical knowledge, presentation skills, and interaction with industry experts.





Seminar on "Latest Trends in Automobile Industry from Technology Perspective"

Students of the **Department of Mechanical Engineering participated in a seminar on "Latest Trends in Automobile Industry from Technology Perspective"**, organized by the Department of Automobile Engineering on **4th March, 2023** . The session was **delivered by Mr. Rubandevprasath, Senior General Manager, Brakes India Limited**, who shared valuable insights into emerging technologies, current industry practices, electric mobility, smart manufacturing, and future trends in the automobile sector. The seminar provided students with a broader understanding of technological advancements in the automotive industry and enhanced their awareness of evolving career opportunities and industry expectations.

Seminar – One-Day Seminar on "Finite Element Analysis"

The Department of Mechanical Engineering organized a **One-Day Seminar on "Finite Element Analysis (FEA)"** for third-year Mechanical Engineering students, along with students from the Departments of Aeronautical and Aerospace Engineering on **21st March, 2023**. The seminar was delivered by **Dr. Sundararajan Natarajan, Professor, Machine Design Division, IIT Madras, and Dr. M. Ramakrishnan, Professor, Department of Mechanical Engineering, Hindustan Institute of Technology and Science (HITS).**

The sessions introduced participants to the fundamentals and industrial applications of Finite Element Analysis, emphasizing computational modeling, structural analysis, and engineering design optimization. The seminar provided valuable insights into modern simulation techniques, helping students understand the role of FEA in product development, research, and advanced engineering design.

Symposium – EV Symposium 2023: "Electric Vehicles in the Age of Digitalization" – Challenges and Opportunities

The Department of Mechanical Engineering, in association with the allied departments, successfully organized **KCG Tech – EV Symposium 2023 on 6th April 2023, on the theme "Electric Vehicles in the Age of Digitalization – Challenges and Opportunities."** The symposium brought together leading experts from the electric vehicle industry, academia, and start-up ecosystem to discuss the latest advancements, emerging technologies, and future prospects of sustainable mobility.

The inaugural keynote addresses were delivered by **Mr. Pradeep Chandrasekar, Associate Director, OLA Electric, and Dr. Ranga Srinivas Gunti, General Manager – Talent Development, Tata Passenger Electric Mobility Limited (TPEML).** A panel discussion on "**Futuristic Trends in EV**" featured eminent industry experts from **Ashok Leyland, Visteon Technical Services, Agnito Insights, Skill-Lync**, and the EV sector, providing valuable insights into technological innovations, industry expectations, and career opportunities.

The symposium also showcased **Start-up Success Stories**, where founders of leading EV start-ups shared their entrepreneurial journeys, innovations, and experiences. An **EV Expo (Electro Fest)** featuring prominent electric vehicle manufacturers, technology companies, and start-ups enabled students to explore cutting-edge EV products, technologies, and solutions. The event provided an excellent platform for knowledge sharing, industry interaction, and exposure to the rapidly evolving electric mobility ecosystem.

Workshop on 3D Printing during the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI 4.0)

The Department of Mechanical Engineering organized a **Workshop on "3D Printing" on 24th June 2023 as part of the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI 4.0).** The session was delivered by **Mr. A. Anesh Darrel, CTO – Darrel's 3D Studio and Founder & CEO – InfiCADesign,** who introduced participants to the fundamentals of 3D printing, additive manufacturing technologies, and their applications in product design and rapid prototyping. The workshop provided valuable exposure to emerging manufacturing technologies and enhanced students' understanding of Industry 4.0-driven engineering practices.

INDUSTRIAL VISIT TO ICMDM 2023 – INDUSTRY EXPOSITION

The Department of Mechanical Engineering organized an industrial visit for 40 **second- and third-year B.E. Mechanical Engineering students to the Industry Exposition of ICMDM 2023 on 24th February 2023,** hosted by the **AU-FRG Institute for CAD/CAM, Anna University, Chennai, on 24th February 2023.** The students were accompanied by **Dr. D. Easu and Dr. V. Gopal.** The exposition showcased the latest developments in **CAD/CAM, CAE, CNC machining, additive manufacturing, robotics, automation, and Industry 4.0 technologies**. Students interacted with industry experts and explored modern manufacturing practices, product development methodologies, and emerging engineering technologies, gaining valuable exposure to current industrial trends and strengthening the connection between classroom learning and real-world applications.

INDUSTRIAL VISIT TO NATIONAL INSTITUTE OF OCEAN TECHNOLOGY (NIOT)

The Department of Mechanical Engineering organized an industrial visit to the **National Institute of Ocean Technology (NIOT), Chennai, on 28th April 2023 for 51 students** of II, III, and IV Year B.E. Mechanical Engineering. The visit was coordinated by **Dr. D. Easu and Dr. V. Gopal**. Students gained firsthand exposure to advanced research in **ocean engineering, offshore structures, underwater robotics, renewable ocean energy, and desalination technologies.** They also toured NIOT's state-of-the-art laboratories and interacted with scientists, who explained the application of mechanical engineering principles in marine environments. The visit provided valuable insights into research, innovation, and career opportunities in ocean technology and engineering.

PALS INDUSTRIAL VISIT TO IOCL LPG BOTTLING PLANT, PADALAM

Sriram and **Antony Stevewake**, Final Year B.E. Mechanical Engineering students, participated in the PALS Industrial Visit organized by **IIT-PALS to the IOCL Bottling Plant, Padalam, Chengalpattu, on 24th February 2023**. The visit provided valuable exposure to the industrial operations involved in LPG bottling, including cylinder handling, filling, quality inspection, safety protocols, and plant automation. The students gained practical insights into modern industrial practices, operational safety, and process management, enhancing their understanding of large-scale manufacturing and energy sector operations.

INTERNSHIP TO INDUSTRIES

Mechanical Engineering students actively undertook internships in leading industries during the academic period, gaining valuable practical exposure and industry-oriented skills. Students were trained in reputed organizations such as **Brakes India, TVS Sundaram-Clayton, Hyundai Mobis, Lucas-TVS, Renault Nissan Technology & Business Centre, Royal Enfield, Tata Auto Components, Cochin Shipyard, SMRC Automotive Products, P.V. Gear Designers, Inspire Clean Energy, Diahon Hontechnik, Sand Bird Research & Development,** and several other industries.

The internships enabled students to gain hands-on experience in manufacturing, automotive systems, product design, quality assurance, production processes, research and development, and emerging engineering technologies. These industry engagements strengthened their technical competence, enhanced their professional skills, and provided valuable exposure to real-world engineering practices, thereby improving their career readiness and employability.

STUDENTS PARTICIPATION AND ACHIEVEMENTS

During the academic period, the students of the Department of Mechanical Engineering took part in various academic, technical, professional, and co-curricular activities, exhibiting their passion for learning beyond the classroom and their pursuit of all-round development.

Participation in Symposiums, Seminars, Workshops and Conferences

The academic year 2022–2023 (Even Semester) witnessed active participation from the students of the Department of Mechanical Engineering in various workshops, training sessions, exhibitions, certification programmes, and social initiatives, highlighting their pursuit of technical excellence and overall personality development.

- Educational Tour to Goa (11.02.2023 – 18.02.2023): Twenty-five Final Year Mechanical Engineering students participated in an educational tour to Goa, which included an industrial visit to Jayashri Polymers, Pilerne Industrial Estate. The visit provided practical exposure to polymer manufacturing processes and industrial operations, enhancing their understanding of industrial practices.

- Seminar on Vehicle Dynamics (18.02.2023): Twenty Second Year Mechanical Engineering students attended a seminar on "Vehicle Dynamics" organized by the Department of Automobile Engineering, KCG College of Technology. The session provided valuable insights into vehicle performance, handling characteristics, and dynamic behaviour.
- Workshop on Nuclear Science and Sustainability (14.03.2023): Twenty-five Second Year Mechanical Engineering students participated in a workshop on "Nuclear Science and Sustainability", organized as part of National Science Day 2023. The sessions, delivered by experts from IGCAR, highlighted the applications of nuclear technology in sustainable development and energy.
- NCC – Advanced Leadership Camp (03.01.2023 – 12.01.2023): Cadet K. Jayaraman represented the Department of Mechanical Engineering at the NCC Advanced Leadership Camp (ALC) held in Madurai. The camp focused on leadership development, discipline, teamwork, and personality enhancement.
- IIT-PALS Technology Speaks (09.03.2023): Students of the Department of Mechanical Engineering actively participated in the IIT-PALS Technology Speaks programme on "Different Types of Manufacturing Processes." C. Sneha served as the Master of Ceremonies, while Dhanush Nithil, M. Santhosh, Arun Manickavasagam, and Sri Surya delivered technical presentations, demonstrating their communication skills and technical competence.

Paper Presentation by the Students

The Final Year Mechanical Engineering students actively showcased their research contributions by presenting technical papers at reputed National and International Conferences during the even semester of academic year 2022–2023.

- Dhanush N., S. A. Anoop, and G. Arunamoorthy (Final Year B.E. Mechanical Engineering) presented the paper "CFD Study on the Aerodynamic Effects of a Retractable Flap on a Passenger Vehicle" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, highlighting the application of Computational Fluid Dynamics in automotive aerodynamics.
- Ashwin Venugopal (Final Year B.E. Mechanical Engineering) presented the paper "Design and Analysis of Quadcopter Propeller Guard" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, showcasing innovative design solutions to improve the safety and performance of unmanned aerial vehicles.
- Sai Shruthi (Final Year B.E. Mechanical Engineering) presented the paper "Tool Vibration and Chip Formation Studies on Machining of AISI 304 Stainless Steel" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, focusing on machining performance and process optimization.
- D. Yogaraj (Final Year M.E. Manufacturing Engineering) presented the paper "Development of Superhydrophobic Composite Coating with Self-Cleaning Property, Resistance for Corrosion, Wear and Drag Reduction" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, demonstrating advancements in multifunctional surface coating technologies.

- Dhanushaa (Final Year B.E. Mechanical Engineering) presented the paper "Design and Fabrication of Dehydration Chamber Using Waste Heat Recovery (WHR)" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, highlighting an energy-efficient solution for sustainable drying applications.
- C. Sairam (Final Year B.E. Mechanical Engineering) presented the paper "Experimental Investigation on TIG Welded Copper B370 and Stainless Steel 434" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, emphasizing the study of welding characteristics of dissimilar metals.
- N. Pradesh (Final Year B.E. Mechanical Engineering) presented the paper "Study of Mechanical Properties of Al7075 Reinforced with CuO Nanoparticles" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd–24th June 2023, highlighting the enhancement of aluminium alloy properties through nanoparticle reinforcement.

Paper Publication by the Students

- S. Charukesh, K. Gowtham, E. Saikiran, and V. Kailash Niveshith (Final Year B.E. Mechanical Engineering) published the paper "Understanding the Process Parameters on Milling of Ti/B4C Metal Matrix Composite" in Materials Today: Proceedings on 28th February 2023, highlighting their research on machining optimization of advanced metal matrix composites.
- Harish R. (Final Year B.E. Mechanical Engineering) published the paper "Modeling of Fine Korai Fiber Extraction Machine to Reduce User's Fatigue" in Lecture Notes in Mechanical Engineering (Springer), pp. 559–567, published on 31st July 2023. The research focused on the design and development of an ergonomically improved fiber extraction machine to enhance user comfort and productivity.

These presentations and publications reflect the department's strong emphasis on research, innovation, and academic excellence. The active participation of students in prestigious conferences has significantly enhanced their technical knowledge, research exposure, and professional confidence.

Value Added Programme – Design Now Workshop with Fusion 360

The final session of the "Design Now Workshop", a Value Added Program on Autodesk Fusion 360 organized by ICT Academy and powered by Autodesk, was conducted on 22nd February 2023 by certified Autodesk trainers Mr. Sheriff and Ms. Kothai. The session focused on advanced product modeling, design validation, and manufacturing workflows using Fusion 360. Through hands-on exercises and expert guidance, students enhanced their proficiency in digital product design, simulation, and collaborative engineering practices. The successful completion of the workshop equipped participants with industry-relevant design skills, strengthening their readiness for academic projects, internships, and future engineering careers.

Value Added Programme – Hands-on Training on Industrial Robotics

Twenty-five Final Year Mechanical Engineering students participated in a **two-day Hands-on Training Programme on "Industrial Robotics"** conducted by the **Department of Mechatronics Engineering on 6th and 7th March 2023**. The training provided practical exposure to industrial robotic systems, robot programming, automation concepts, and robotic applications in manufacturing. Through hands-on sessions, students enhanced their understanding of industrial automation and gained valuable skills relevant to modern smart manufacturing environments.

Students Achievement – Outstanding Achievement of SAE – Inferno Racing Team at FMAE Formula Student 2023

The SAE – Inferno Racing Team of KCG College of Technology, comprising students from the Mechanical, Automobile, Aeronautical, and Electrical & Electronics Engineering departments, achieved a historic milestone by winning the Overall Championship Trophy at the FMAE Formula Student (FFS) 2023 held at Kari Motor Speedway, Coimbatore, from 1st to 6th February 2023. Competing against 22 teams from across India, the team secured All India Rank – 1 and Tamil Nadu Rank – 1, ending a six-year wait for the coveted overall championship title.

The team excelled in both static and dynamic events by securing First Place in the Sales Presentation, Cost Presentation, and Endurance & Fuel Economy events, demonstrating outstanding engineering design, innovation, cost optimization, teamwork, and vehicle performance. Adding to the achievement, Dr. M. Vignesh Kumar, Assistant Professor, Department of Mechanical Engineering and the team's faculty mentor, was honoured with the prestigious Dronacharya Award in recognition of his exemplary guidance and mentorship.

The Department of Mechanical Engineering proudly congratulates Mr. Sairaam Kumar A., Mr. Sheshan J. V., Mr. Ebenezer Cepha B., Mr. M. Santosh, Mr. Tamil Selvan M., Mr. Jibin J., Mr. H. Kaloosh, Mr. Deepak K. V., Mr. Astro Divine S., Ms. Dhanushaa N., Mr. Shaik Taheer, Mr. Karthikeyan V., and Mr. Arun Manickavasagam S., along with their teammates from the Automobile, Aeronautical, and EEE departments, and Dr. M. Vignesh Kumar for bringing laurels to the institution. Their remarkable accomplishment reflects the team's dedication, technical excellence, innovation, and collaborative spirit, inspiring future batches to strive for similar success.

Students Achievement – Other Events

The students of the Department of Mechanical Engineering actively participated in co-curricular and sports events, bringing laurels to the institution.

- Prakash Koundinyan and K. Jayaraman (III Year Mechanical Engineering) secured Third Place in the Treasure Hunt event at CADO FIESTA 2023, organized by The Tamil Nadu Dr. Ambedkar Law University, Taramani, held from 9th to 11th March 2023, demonstrating excellent teamwork and problem-solving skills.
- Prakash Koundinyan and K. Jayaraman (III Year Mechanical Engineering) won Second Prize in the Guard of Honour Competition and First Prize in the General Knowledge and General Static Knowledge Competition at the 1st Cadobhim Fest 2023, organized by Ambedkar Arts and Science College on 18th March 2023, showcasing their leadership, discipline, and general awareness.
- Mukesh Kanna, Rohith, and Prajeeth (III Year Mechanical Engineering) secured the Runner-up Position in the Inter-Department Handball Competition held at KCG College of Technology on 21st March 2023, reflecting their sporting spirit and teamwork.
- Harish Kishore, Sagar, and Nithish Kumar (II Year Mechanical Engineering) emerged as Winners in the Inter-Department Volleyball Competition conducted at KCG College of Technology on 20th March 2023, demonstrating outstanding coordination and athletic excellence.
- Geethapriya (I Year Mechanical Engineering) won the Gold Medal at the State Level Boxing Tournament held in Thiruvallur on 30th April 2023, bringing laurels to the department through her exceptional sporting achievement.

The department congratulates all the students for their commendable achievements and for representing the institution with pride in both cultural and athletic arenas.

STUDENTS PLACEMENT

The Department of Mechanical Engineering is pleased to announce the successful placement of its students in leading multinational companies and reputed organizations across diverse sectors, including information technology, automotive, manufacturing, renewable energy, industrial automation, engineering design, and overseas industries. During the placement season, 32 students secured employment opportunities with renowned recruiters such as Avasoft, Sopra Steria, Amazon, Mahindra Rise, HCL, Vestas, Infocepts, KONE Elevator India, Inspire Clean Energy, Royal Enfield, Yuken India, Precision Equipments, and several other reputed organizations.

The students were offered positions including Software Engineer, Engineer Trainee, Graduate Engineer Trainee, Associate Engineer, Layout Engineer, ML Data Associate, Project Trainee, Supervisor, Technical Support Engineer, Mechanical Draftsman, and Junior QC Engineer. The salary packages ranged up to ₹5.00 lakh per annum, with an average annual salary of approximately ₹3.7 lakh, while a few students also secured attractive overseas placements with competitive remuneration.

The Department of Mechanical Engineering congratulates all the placed students on their remarkable achievement and extends its sincere appreciation to the faculty members, Placement and Career Development Cell, alumni, and industry partners for their continuous support in enhancing students' employability and facilitating successful career opportunities.

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

During the period from January 2023 to June 2023, the faculty members of the Department of Mechanical Engineering actively participated in various seminars, workshops, Faculty Development Programmes (FDPs), conferences, industrial visits, and orientation programmes, reflecting their commitment to continuous professional development and academic excellence.

- Dr. M. Vignesh Kumar and Mr. K. Gobivel participated in the Lab2Market Conclave organized by IIT-PALS at IIT Madras Research Park on 18th February 2023, exploring innovation, technology commercialization, and startup opportunities.
- Dr. M. Vignesh Kumar attended the AICTE–MIC webinar on “Design Effective Innovation & Start-up Policy in HEIs” on 16th February 2023, focusing on strengthening institutional innovation and entrepreneurship ecosystems.

- Dr. M. Vignesh Kumar also participated in the webinar on 'KAVACH'23, organized by MoE's Innovation Cell, AICTE, BPR&D, and I4C, on 16th February 2023, gaining insights into national cybersecurity innovation initiatives.
- Dr. M. Vignesh Kumar attended the National Innovation and Start-up Policy (NISP) Meeting organized by IIC on 27th February 2023 and also participated in the KONMA Meeting held at KCG College of Technology on 1st March 2023.
- Mr. M. Arul Inigo Raja and Mr. K. Gobivel participated in the Faculty Development Programme on "Scope for Quality Research" organized by KCG College of Technology during 24th–28th February 2023, enhancing their understanding of quality research practices and publication strategies.
- Dr. M. Vignesh Kumar, Dr. S. Jesudass Thomas, and Mr. K. Gobivel participated in the IIT-PALS "Technology Speaks" session on "Industry 4.0: Application in Foundry Industry" on 9th March 2023, delivered by Mr. Ganapathi Subramanian, Senior General Manager – Manufacturing, Brakes India Pvt. Ltd., providing valuable insights into Industry 4.0 applications in foundry operations.
- Dr. M. Vignesh Kumar and Mr. K. Gobivel participated in the PALS-InnoWAH Competition held at IIT Madras Research Park on 24th March 2023, promoting innovation, product development, and entrepreneurial thinking.
- Dr. S. Gopinath attended the Workshop on 3D Printing conducted at KCG College of Technology on 24th June 2023, enhancing his knowledge of additive manufacturing technologies and their industrial applications.

Faculty Participation in "Train the Trainer" (TTT) by Royal Enfield at the HITS Training Centre

Dr. D. Easu successfully completed the **"Train the Trainer (TTT)" Programme** conducted at the **Royal Enfield Training Centre, Hindustan Institute of Technology and Science (HITS) from 13th to 15th March 2023**. The programme provided comprehensive training on modern automotive technologies, industry practices, and effective technical training methodologies, enabling the faculty member to strengthen industry-oriented teaching and enhance student learning through practical insights.

Overall, the faculty's active involvement in academic, research, industry-oriented, and social initiatives during this period has significantly strengthened their subject expertise, research capabilities, and industry interaction, thereby enhancing the quality of teaching and learning within the department.

Faculty Participation in Faculty Development Programme

During the period from January 2023 to June 2023, the faculty members of the Department of Mechanical Engineering actively participated in various Faculty Development Programmes (FDPs), Professional Development Programmes (PDPs), and technical workshops to enhance their academic and research competencies.

- Mr. K. Gobivel participated in the Five-Day Faculty Development Programme on “Smart & Advanced Manufacturing Design and Simulation” organized by TANSAM, TIDCO, Tharamani, from 13th to 17th February 2023, enhancing his knowledge of advanced manufacturing and simulation technologies.
- Dr. S. Gopinath successfully completed the Eight-Week Faculty Development Programme on “Robotics” offered through NPTEL-SWAYAM, IIT Kharagpur, strengthening his expertise in robotic systems and automation.
- Dr. S. Gopinath attended the Five-Day FDP/PDP on “Trends in Clean and Green Energy Technology” organized by NITTTR, Chennai, from 2nd to 6th January 2023, gaining insights into sustainable energy technologies.
- Dr. S. Gopinath participated in the Five-Day FDP/PDP on “Computer Integrated Manufacturing” conducted by NITTTR, Chennai, from 9th to 13th January 2023, enhancing his knowledge of integrated manufacturing systems.
- Dr. S. Gopinath successfully completed the Eight-Week Faculty Development Programme on “Wheeled Mobile Robots” offered through NPTEL-SWAYAM, IIT Madras, acquiring advanced knowledge in mobile robotics and autonomous systems.
- Dr. S. Gopinath attended the Five-Day Naan Mudhalvan Faculty Development Programme on “Product Design and Manufacturing – 3D Surface Modelling”, organized by Dassault Systèmes and TANCAM, from 13th to 17th February 2023, strengthening his skills in digital product design.
- Mr. K. Gobivel participated in the Five-Day Faculty Development Programme on “Scope for Quality Research” conducted by KCG College of Technology from 24th to 28th February 2023, enhancing his research methodology and scholarly writing skills.
- Dr. D. Easu and Mr. K. Gobivel attended the Five-Day Naan Mudhalvan Faculty Development Programme on “Smart & Advanced Manufacturing Design and Simulation” organized by TANSAM, TIDEL Park, from 13th to 17th February 2023, gaining practical exposure to advanced manufacturing technologies and simulation tools.
- Mr. I. Manikandan successfully completed the Five-Day Naan Mudhalvan Faculty Development Programme on “Smart Advanced Manufacturing Process Simulation” conducted at Velammal Engineering College from 13th to 17th February 2023, enhancing his expertise in manufacturing process simulation.
- Dr. M. Vignesh Kumar participated in the Five-Day Naan Mudhalvan Faculty Development Programme on “Data Analytics” conducted in online mode from 13th to 17th February 2023, gaining exposure to modern data analytics techniques and their engineering applications.
- Mr. I. Manikandan attended the One-Day Faculty Development Programme on “Teaching Learning Process”, organized by IIT Madras and hosted at KCG College of Technology, on 28th April 2023, enriching his pedagogical skills and outcome-based teaching practices.

These FDPs enabled the faculty to upgrade their technical knowledge, pedagogical skills, and research capabilities, thereby enhancing the quality of teaching, research, and industry-oriented learning within the department.

Faculty Contributions as Resource Person

Mr. S. Jesudass Thomas, Associate Professor and Head of the Department of Mechanical Engineering, served as a Resource Person at the Department Advisory Committee Meeting organized by the Department of Mechanical Engineering, Jaya Sakthi Engineering College, on 27th June 2023. During the meeting, he shared valuable insights on academic planning, curriculum enhancement, industry–institute collaboration, and quality improvement initiatives, contributing meaningfully to the discussions.

The Department of Mechanical Engineering congratulates Mr. S. Jesudass Thomas on this professional recognition, which reflects his academic expertise and commitment to advancing engineering education.

RESEARCH PUBLICATIONS & FUNDING

Paper Presentations by Faculty in Conferences

During the period from January 2023 to June 2023, the faculty members of the Department of Mechanical Engineering actively contributed to research and scholarly dissemination by presenting technical papers at National and International Conferences.

- Mr. K. Gobivel presented the paper "Effects of Process Parameters on Drilling of Magnesium-Reinforced with B4C Composite" at the International Conference on Processing and Performance of Materials (ICPPM 2023) held at SSN College of Engineering on 2nd & 3rd March 2023, highlighting research on machining optimization of metal matrix composites.
- Mr. K. Gobivel also presented the paper "Investigation on End-Milling Parameters of Mg/B4C Metal Matrix Composite" at ICPPM 2023, showcasing his research on enhancing machining performance of advanced composite materials.
- Dr. V. Gopal presented the paper "Design and Development of Circular Flexure Hinges using Microgripper for Compliant Mechanism" at the National Conference on Robotics, Automation, Manufacturing and Power Systems organized by Rajalakshmi Engineering College, Chennai, on 12th April 2023, demonstrating innovative work in compliant mechanism design.
- Dr. V. Gopal also presented the paper "Design and Development of 3D Printed Microgripper based on Compliant Mechanism" at the same conference, highlighting advancements in additive manufacturing and precision engineering.
- Mr. S. Jesudass Thomas presented the paper "CFD Study on the Aerodynamic Effects of a Retractable Flap on a Passenger Vehicle" at the 2nd International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI–2023) held on 23rd & 24th June 2023, emphasizing computational analysis for improved vehicle aerodynamics.
- Mr. S. Jesudass Thomas also presented the paper "Design and Analysis of Quadcopter Propeller Guard" at ICIATI–2023, focusing on innovative design solutions for unmanned aerial vehicles.
- Mr. K. Gobivel presented the paper "Tool Vibration and Chip Formation Studies on Machining of AISI 304 Stainless Steel" at ICIATI–2023, contributing research on machining performance and process optimization.
- Dr. Z. Edward Kennedy presented the paper "Development of Superhydrophobic Composite Coating with Self-Cleaning Property, Resistance for Corrosion, Wear and Drag Reduction" at ICIATI–2023, highlighting advancements in functional surface engineering.

- Mr. S. Jesudass Thomas presented the paper "Design and Fabrication of Dehydration Chamber Using WHR" at ICIATI–2023, showcasing innovative approaches for energy-efficient thermal systems.
- Mr. I. Manikandan presented the paper "Experimental Investigation on TIG Welded Copper B370 and Stainless Steel 434" at ICIATI–2023, focusing on welding characteristics of dissimilar metals.
- Dr. Z. Edward Kennedy presented the paper "Study of Mechanical Properties of Al7075 Reinforced with CuO Nanoparticles" at ICIATI–2023, demonstrating research on high-performance metal matrix composites.
- Dr. Z. Edward Kennedy also presented the paper "Better Quality Management by DBF System in Aluminium Alloy Castings" at ICIATI–2023, highlighting quality improvement techniques in foundry and casting processes.

The active participation of faculty members in reputed conferences reflects the department's strong research orientation and commitment to academic excellence. Their contributions have significantly enhanced the institution's research visibility and strengthened industry–academia engagement.

Research Publications by Faculty in Reputed Journals

The faculty members of the Department of Mechanical Engineering continued to strengthen the department's research profile through quality publications in reputed international journals and conference proceedings. During the academic period, six research papers were published in internationally recognized publications, including Scopus-indexed journals and conference proceedings, covering diverse areas such as advanced manufacturing, metal matrix composites, machining, thermal engineering, vibration control, and product design.

- Mr. K. Gobivel published the paper "Understanding the Process Parameters on Milling of Ti/B4C Metal Matrix Composite" in Materials Today: Proceedings (International) on 28th February 2023.
- Mr. K. Gobivel also published the paper "Experimental and Numerical Investigations in the Turning of 42CrMo Alloy Steel" in Materials Today: Proceedings (International) in April 2023.
- Dr. S. Gopinath published the Scopus-indexed paper "Physical and Mechanical Characterization of Al7075/Si_3N_4 Metal Matrix Composite Prepared by Stir Casting Technique" in Materials Today: Proceedings (Volume 80, Part 1, April 2023).
- Dr. S. Gopinath also published the Scopus-indexed paper "Effect of Operating Condition on Permanent Magnet Heating System" in Lecture Notes in Mechanical Engineering (2023).
- Dr. D. Easu published the paper "Study on the Influence of Synthesized Nano Ferrite Powder and Micron Ferrite Powder on Damping of a Single Degree of Freedom System" in Mechanika (Vol. 29, No. 4), an Annexure-I international journal.
- Dr. M. Vignesh Kumar published the Scopus-indexed paper "Modeling of Fine Korai Fiber Extraction Machine to Reduce User's Fatigue" in Lecture Notes in Mechanical Engineering (Springer) (Pages 559–567, July 2023).

The Department of Mechanical Engineering congratulates the faculty members on their commendable research contributions. These publications reflect the department's continued commitment to high-quality research, innovation, and knowledge dissemination, further strengthening its academic and research excellence.

Patent Publications – Faculty Achievement

The Department of Mechanical Engineering continues to promote a strong culture of innovation and intellectual property development. During the academic period, seven patent applications involving faculty members, students, and collaborative researchers progressed through publication and examination stages, reflecting the department's emphasis on research, product development, and technology-driven innovation.

- Mr. S. Jesudass Thomas, along with Tadisetti Charan Dixit Rao, published the patent application titled "Aerodynamic Rocket Decelerator Using Autorotation", which was published on 24th February 2023.
- Dr. V. Gopal, along with Mr. Anandh C. Mathen Joseph, Mr. Jayaram P., and Mr. Dhanasayan D., published the patent application titled "Off Delay Fan", which was published on 24th February 2023.
- Mr. Dhanush published the patent application titled "Bloom Mechanism", which was published on 27th January 2023.
- Dr. Z. Edward Kennedy, Dr. V. Andal, Mr. Sandeep George R., and Mr. Venkatesan M., Mr. Vijay R., published the patent application titled "Method for Producing Hybrid Composite Using Natural Fibres", which was published on 14th July 2023.
- Dr. Z. Edward Kennedy, in collaboration with Dr. Sridhara (Hindustan Institute of Technology and Science) and Dr. V. Andal, published the patent application titled "Powered Fruit Harvesting Device", which was published on 14th July 2023.
- Dr. D. Easu, along with Dr. G. Mohamed Zakriya, Dr. V. Bhanu Rekha, and Ms. K. Gowri, advanced the patent "Fabrication of Portable Sewing Thread Making Machine from Cutting Waste of Garment Industry – A Sustainable Approach", with the First Examination Report (FER) reply filed on 30th January 2023.
- Dr. D. Easu, together with A. Kamalkhan and S. Devanand, progressed the patent "Compactable Couch", with the FER reply filed on 12th July 2023.

The Department of Mechanical Engineering congratulates all the inventors for their noteworthy contributions towards innovation and intellectual property creation. These achievements reflect the department's sustained commitment to research excellence, technology development, and translating innovative ideas into practical solutions for societal and industrial applications.

Book Chapter Publications – Faculty Achievement

The Department of Mechanical Engineering takes pride in the scholarly contribution of its faculty members through publications in internationally reputed books. During the academic period, Dr. S. Gopinath authored a book chapter titled "Effect of Operating Condition on Permanent Magnet Heating System", published in Lecture Notes in Mechanical Engineering (pp. 25–34, 2023) by Springer. The publication presents valuable research findings in the field of thermal engineering and advanced heating systems, contributing to the dissemination of knowledge in emerging areas of mechanical engineering.

The Department of Mechanical Engineering congratulates Dr. S. Gopinath on this notable academic achievement. This publication reflects the department's continued commitment to quality research, scholarly excellence, and the advancement of engineering knowledge through internationally recognized publications.

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 2022–2023, 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 Funded Projects – Applied for Grants

The Department of Mechanical Engineering continues to encourage faculty members to undertake research addressing contemporary societal and environmental challenges. During the academic period, Dr. S. Gopinath submitted two major research proposals to prestigious funding agencies, reflecting the department's commitment to sustainable technologies and innovative research.

- Dr. S. Gopinath, as Principal Investigator, submitted the research proposal titled "Plastic Wastes to Fuel – A Novel Approach to Diesel Generators and Transport Vehicle Fuels" to the Chief Minister's Research Grant (CMRG 2023–24) scheme in March 2023. The proposal, with a sanctioned budget request of ₹26.85 lakhs for a three-year duration, is currently under evaluation.
- Dr. S. Gopinath, as Principal Investigator, also submitted the research proposal "A Fuel from Mismanaged Plastic Wastes – Clean India Mission" to the Scientific and Useful Profound Research Advancement (SUPRA) funding scheme in April 2023. The project seeks funding of ₹29.31 lakhs for a three-year period and is presently under evaluation.

The Department of Mechanical Engineering appreciates Dr. S. Gopinath for his proactive efforts in securing competitive research funding. The department extends its best wishes for the successful approval of these proposals and looks forward to their contribution towards sustainable energy solutions, environmental conservation, and impactful research outcomes.

Faculty Achievement – Awards and Recognitions

The Department of Mechanical Engineering takes pride in the outstanding academic and professional accomplishments of its faculty members. During the academic period, the faculty received notable recognition for their contributions to research, student mentoring, and innovation.

- Mr. G. Loganathan, an external Ph.D. scholar supervised by Dr. M. Kannan, successfully completed his Ph.D. Public Viva-Voce Examination on 6th January 2023 at the Mechanical Engineering Research Centre. His doctoral research, titled "Optimized Production of Biodiesel using IoT Sensed Temperature," reflects significant contributions in the field of sustainable energy and smart technologies.
- Dr. M. Vignesh Kumar was honoured with the prestigious "Dronacharya Award" under the Special Award category for his exemplary mentorship of the Inferno Racing Team, which secured the Overall Championship at the FMAE Formula Student Event 2023 held at Kari Motor Speedway, Coimbatore, from 1st to 6th February 2023.

- Dr. M. Vignesh Kumar, as mentor o+f Team KryoTech, guided the team to First Place in the PALS-InnoWAH Competition held on 24th March 2023. Under his mentorship, the team also secured First Place in the IET Grand Challenge – Pentathon Makeathon, organized by the Institution of Engineering and Technology (IET), and received a cash prize of ₹30,000.

The Department of Mechanical Engineering congratulates Dr. M. Kannan, Dr. M. Vignesh Kumar, and Mr. G. Loganathan on these remarkable achievements. Their accomplishments exemplify the department's commitment to academic excellence, impactful research, innovation, and dedicated student mentorship, bringing pride and recognition to the institution.

MOUS SIGNED

KCG College of Technology signed a Memorandum of Understanding (MoU) with Neel Metal Products Ltd. (JBM Group) on 20 April 2023 to strengthen industry–academia collaboration.

The partnership aims to provide students with enhanced opportunities for internships, industrial training, expert lectures, collaborative projects, and industry-oriented skill development. The MoU is expected to bridge the gap between academic learning and industrial practice while promoting research, innovation, and improved career prospects for students of the Department of Mechanical Engineering.

The Department appreciates this collaborative initiative and looks forward to leveraging the partnership to enrich students' learning experiences and strengthen industry engagement.


KCG
COLLEGE OF TECHNOLOGY
A unit of Hindustan Group of Institutions
JBM
KCG
KCG College of Technology has signed a MoU with
Neel Metal Products Ltd., (JBM Group)
on 20th April 2023
www.kcgcollege.ac.in