



IMPACT NEWS LETTER

Issue #2

Jan 2022 – June 2022

KCG Nagar, Old Mahabalipuram Road, Karapakkam,
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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

Greetings!

We are delighted to present Issue II of IMPACT, the Newsletter of the Department of Mechanical Engineering, featuring the academic, research, and co-curricular activities carried out during the period January 2022 – June 2022. This issue reflects the department's continued pursuit of academic excellence, innovation, and all-round student development.

The newsletter provides a glimpse of the diverse initiatives undertaken during the semester, highlighting students' involvement in technical projects, internships, workshops, seminars, industrial visits, certification programmes, competitions, and other experiential learning activities. It also presents the notable contributions of our faculty in the areas of teaching, research, publications, professional development, mentoring, and collaborative initiatives.

The achievements featured in this edition demonstrate the dedication, hard work, and collaborative spirit of our students, faculty, and staff in creating a dynamic academic environment that encourages innovation, lifelong learning, and professional growth. The Editorial Team sincerely acknowledges the valuable support and cooperation of everyone who contributed to bringing out this issue of IMPACT.

We thank our readers for their continued encouragement and invite your valuable feedback and suggestions, which will help us further enhance the quality and impact of future editions.

With Best regards,
Editorial Team – IMPACT

Editorial Board

Editor: Dr. M Vignesh Kumar

Co-Editors: GANESH VAIDYAA R – IV Year Mechanical Engg.
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Student Reporters: DHANUSH N – III Year Mechanical Engg.
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JAYARAMAN K – II Year Mechanical Engg.
MUKESH KANNA M – II Year Mechanical Engg.

About the Department

Founded in 1998 and permanently affiliated to Anna University, the Department of Mechanical Engineering continues to nurture excellence in engineering education through its commitment to academic quality, research, innovation, and industry collaboration. During the period January 2022 – June 2022, the department sustained its focus on delivering quality education while fostering technical competence, creativity, and professional ethics among students.

The department provides a robust academic environment that integrates fundamental engineering principles with practical applications. The curriculum is centred on the core domains of Design Engineering, Manufacturing Engineering, and Thermal Engineering, complemented by well-established laboratories, advanced computing facilities, and project-based learning practices. Students are encouraged to strengthen their technical and analytical capabilities through laboratory work, design and fabrication projects, internships, and other experiential learning opportunities.

Throughout the semester, the department actively conducted and facilitated a wide range of academic and professional development activities, including workshops, seminars, guest lectures, industrial visits, internship programmes, technical competitions, and faculty development initiatives. Student chapters such as SAE and the IEI Students' Chapter continued to play a significant role in promoting technical excellence, innovation, leadership, and collaborative learning among students.

The department also maintained its association with IIT-PALS, enabling students and faculty members to participate in expert talks, mentoring programmes, and technology-oriented learning sessions conducted by distinguished academicians and industry experts.

With a dedicated faculty team, a learner-centric academic approach, and sustained engagement with industry and professional bodies, the Department of Mechanical Engineering remains committed to producing competent, innovative, and ethically responsible engineers capable of meeting the evolving needs of the engineering profession.

Academic Toppers 2021-2022 (Odd Semester)

III Sem

First Place



ISHAM NAZEER
(9.04 GPA)

Second Place



PRAKASH KOUNDINYAN G
(8.98 GPA)

V Sem

First Place



HARI KISHORE N
(9.1 GPA)

Second Place



SNEHA C
(9.07 GPA)

VII Sem

First Place



S SRIDHARAN
(9.1 CGPA)

Second Place



VAMSI SAI KRISHNA REDDY
(8.9 CGPA)

GUEST LECTURES/SEMINARS/WORKSHOPS

Guest Lecture on the topic "CAD/CAM/CAE Tools for Mechanical Engineers"

The IEI Students' Chapter of the Department of Mechanical Engineering organized a guest lecture on "CAD/CAM/CAE Tools for Mechanical Engineers" on 16 March 2022 for 40 Third Year Mechanical Engineering students. The session was delivered by Mr. Ligen Mohan, Manager, Institute of Industrial Design, Chennai. The lecture introduced students to the fundamentals, significance, and industrial applications of CAD/CAM/CAE tools, while highlighting their vital role in modern product design and development. The programme also provided valuable insights into current trends in digital engineering, collaborative product development, and industry-oriented design practices, thereby enhancing students' readiness for emerging engineering careers.



Guest Lecture on the topic "Jet Propulsion"

The Department of Mechanical Engineering, under the banner of the IEI Students' Chapter, organized a guest lecture on "Jet Propulsion" on 28 April 2022. The session was delivered by Dr. Babu Viswanathan, Professor, Department of Mechanical Engineering, IIT Madras, and was coordinated by Mr. M. Arul Inigo. The expert lecture provided students with valuable insights into the principles of jet propulsion, propulsion systems used in aerospace applications, and recent technological advancements in the field. The session enhanced students' understanding of propulsion engineering and inspired them to explore emerging opportunities in aerospace and allied engineering domains.



IIT PALS Industry Speaks – Core Lecture on the topic “Introduction to Stainless Steels and their Applications”

The Department of Mechanical Engineering facilitated an IIT-PALS Industry Speaks Core Lecture on "Introduction to Stainless Steels and their Applications" on 04 April 2022. The session was delivered by Mr. Rohit Kumar, Executive Director, ISSDA, and Mr. J. Ravindranath, Advisor, ISSDA. A total of 68 students (33 Third Year and 35 Final Year Mechanical Engineering students) participated in the programme. The speakers provided valuable insights into the classification, properties, manufacturing processes, and diverse industrial applications of stainless steels, highlighting their significance across sectors such as automotive, construction, energy, and process industries. The lecture enhanced students' understanding of engineering materials and their practical applications in modern manufacturing.



Guest Lecture – Session on “Power Up with LinkedIn”

The Department of Mechanical Engineering organized an interactive session on "Power Up with LinkedIn" on 23 May 2022. The session was delivered by Mr. Ramdas Kannan, Manager – APAC Growth Partnerships, LinkedIn, who highlighted the importance of building a strong professional online presence and leveraging LinkedIn for career development, networking, internships, and employment opportunities. Students gained practical insights into creating effective professional profiles, personal branding, and utilizing the platform to enhance their career prospects in the global job market.



Workshop on “3D Printing and its Applications”

The IEI Students' Chapter of the Department of Mechanical Engineering organized a Workshop on "3D Printing and its Applications" on 02 April 2022 for students of Aeronautical, Aerospace, Automobile, Civil, Food Technology, Mechanical, and Mechatronics Engineering. Twenty-eight Third Year Mechanical Engineering students actively participated in the programme. The workshop was conducted by Mr. Mathi Sharma (CTO, Vayuratha), Mr. Mohan Rishikesh (CEO, Vayuratha), and Mr. Aneesh Darrel, Final Year Mechanical Engineering student and Founder of Darrel's 3D Studio, with the support of Mr. Aasish, Assistant Professor, Department of Aeronautical Engineering. The hands-on training introduced participants to the fundamentals of additive manufacturing, 3D modelling, printing technologies, and their industrial applications, providing valuable practical

exposure to emerging manufacturing technologies.



Workshop on "Emotional Intelligence"

The Department of Mechanical Engineering, under the banner of the IEI Students' Chapter, organized an Emotional Intelligence Workshop on 19 April 2022. The session was delivered by Ms. G. Priya Dharshini, an Emotional Intelligence Coach, who shared practical strategies for developing self-awareness, emotional resilience, effective communication, and interpersonal skills essential for academic and professional success. The programme was coordinated by Dr. V. Gopal with the support of Mr. M. Arul Inigo. The workshop provided students with valuable insights into managing emotions, building positive relationships, and enhancing their overall personal and professional development.



Workshop on "Race Car Design"

The Department of Mechanical Engineering organized a "Race Car Design" Workshop for school students on 13 April 2022 as part of its outreach initiatives. The programme was actively conducted by Final Year Mechanical Engineering students, who demonstrated the fundamentals of race car design, vehicle dynamics, and engineering design principles through interactive sessions and practical demonstrations. The workshop provided school students with an engaging introduction to automotive engineering while offering the student facilitators an opportunity to showcase their technical knowledge, communication skills, and leadership abilities.



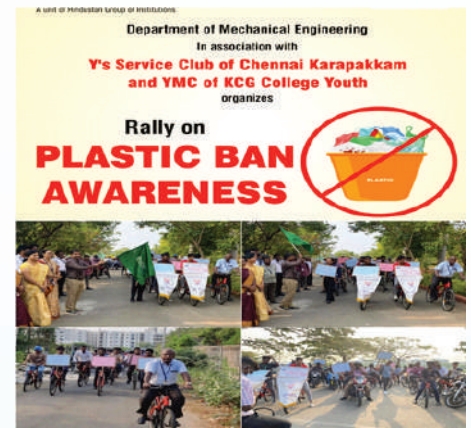
Bike Stunt Show for School Students

A thrilling Bike Stunt Show was organized on 13 April 2022 as part of the outreach programme conducted for school students. The event featured professional stunt experts from an external organization, who performed a series of exciting motorcycle stunts while emphasizing the importance of road safety, riding discipline, and the use of protective gear. The demonstration captivated the audience and served as an engaging platform to create awareness about safe riding practices, making the event both entertaining and educational.



Outreach Activity – "Plastic Ban Awareness Rally"

The Department of Mechanical Engineering organized a "Plastic Ban Awareness Rally" on 06 May 2022 in association with the Y's Service Club of Chennai Karapakkam and YMC of KCG College Youth, as part of the 100th Year Commemoration of Y's Men International. The rally aimed to create public awareness about the harmful effects of single-use plastics and to promote eco-friendly alternatives for a cleaner and more sustainable environment. Students actively participated in the awareness campaign, demonstrating their commitment to environmental conservation and social responsibility.



IIT PALS Virtual Industrial visit to SUMEDHAS

Mr. S. A. Harikrishnan, Assistant Professor, Department of Mechanical Engineering, and Anten Minuwin, Final Year Mechanical Engineering student, participated in the IIT-PALS Virtual Industrial Visit to SUMEDHAS on 18 February 2022. The programme was also attended by faculty members and students from allied departments. The virtual visit provided valuable exposure to industrial practices, advanced manufacturing technologies, and product development processes, offering participants an opportunity to understand real-world engineering applications and strengthen their industry-oriented knowledge.

Industrial visit to National Skill Training Institute

Sixty students from the III and IV Year B.E. Mechanical Engineering programme visited the National Skill Training Institute (NSTI), Guindy, on 01st April 2022, accompanied by Mr. M. Arul Inigo Raja and Mr. S. Rajesh Kannan. The visit provided students with exposure to advanced skill development facilities, competency-based training methodologies, and modern manufacturing technologies. They toured CNC machining, welding, fabrication, mechatronics, automation, and maintenance laboratories, gaining valuable insights into industry-oriented training, skill certification, and career opportunities under the Skill India initiative. The visit effectively bridged the gap between academic learning and practical industrial applications.



Industrial visit to Integral Coach Factory

A total of 62 students from the II and III Year B.E. Mechanical Engineering programme visited the Integral Coach Factory (ICF), Chennai, on 26 April 2022, accompanied by Mr. S. Jesudass Thomas and Mr. I. Manikandan. During the visit, students gained firsthand exposure to the manufacturing of railway coaches, including fabrication, welding, bogie assembly, coach integration, painting, and quality inspection processes. They also observed modern production facilities, automation practices, and stringent safety and quality standards followed in large-scale manufacturing. The visit provided valuable practical insights into railway engineering and enhanced students' understanding of industrial production and manufacturing technologies.



STUDENTS PARTICIPATION AND ACHIEVEMENTS

During the academic period from January 2022 to June 2022, 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 2021–2022 (Odd Semester) witnessed active participation from the students of the Department of Mechanical Engineering in various workshops, webinars, training sessions, exhibitions, certification programmes, and social initiatives, highlighting their pursuit of technical excellence and overall personality development.

- ◆ Sriram, Arunamoorthy, Vasanth Bala, Abhas Nanda, and V. Karthikeyan (III Year Mechanical Engineering) participated in the Seminar on "Trends in Commercial Vehicle Industry in India", organized by the Department of Electrical and Electronics Engineering on 30 April 2022. The session was delivered by Mr. V. Murugan, DGM (Retd.), Product Development Technical Centre, Ashok Leyland Ltd., Chennai, providing valuable insights into the evolving commercial vehicle sector and emerging industry trends.
- ◆ Dhanush Nithil (III Year Mechanical Engineering) participated in the "Leadership Pathways" Workshop, organized by the Office of Student Affairs through the Centre for Transformational Leadership (CTL) on 30 April 2022. The workshop, conducted by Mr. George Koshi, Director – Learning & Development, Sify Technologies Ltd., focused on leadership qualities, communication, and professional development.
- ◆ Jayaram and Prakash Koundinyan (II Year Mechanical Engineering) actively participated in 40th CADOFEST, organized at D.G. Vaishnav College from 18–20 April 2022. As NCC cadets, they took part in various competitions, including Contingent Drill and General Knowledge & General Service Knowledge (GK & GSK), demonstrating discipline, teamwork, and leadership.
- ◆ Jayaram and Prakash Koundinyan (II Year Mechanical Engineering) also attended a 10-day NCC Camp from 25 April to 4 May 2022, where they underwent leadership, discipline, and personality development training through various military-oriented and team-building activities.
- ◆ Anesh Darrel, K. Gowtham, and Anten Minuwin (IV Year Mechanical Engineering) participated in the two-day technical event "TechKnow–2022", organized by Anna University on 22–23 April 2022. The event provided exposure to emerging technologies through technical competitions, demonstrations, and interactions with students and experts from various institutions.
- ◆ Anten Minuwin R. (IV Year Mechanical Engineering) participated in an Industrial Visit to Shanti Gears, Coimbatore, organized by IIT-PALS, on 31 January 2022. The visit enabled the student to gain practical exposure to precision gear manufacturing processes, advanced production techniques, and industrial quality practices.

Value Added Programme – Design Now Workshop with Fusion 360

The Department of Mechanical Engineering, in association with ICT Academy and Autodesk, organized the third day of the three day workshop "Design Now Workshop", a Value Added Program on Autodesk Fusion 360, on 12th January 2022. The workshop was conducted by Mr. Sheriff, Certified Autodesk Trainer, and witnessed the enthusiastic participation of 102 students from the Departments of Aeronautical, Aerospace, Automobile, Mechanical, and Mechatronics Engineering.

The hands-on training introduced students to 3D parametric modeling, assembly design, simulation, generative design, and basic manufacturing workflows using Autodesk Fusion 360. Through practical sessions and industry-oriented demonstrations, participants gained valuable exposure to modern digital product design methodologies and collaborative engineering practices. The program significantly enhanced the students' design skills, technical competency, and industry readiness, equipping them with essential knowledge for academic projects and future engineering careers.



Students Achievement – Students Project Receives Funding

The Department of Mechanical Engineering is proud to announce that the student project titled "Design and Development of Multi-Purpose Smart Vending Cart Integrated with a Mobile Application", carried out by Harish R., Moneeshwar S., and Aravindhar, received financial support from the Tamil Nadu State Council for Science and Technology (TNSCST). The project was sanctioned a grant of ₹7,500 in February 2022 under the guidance of Dr. M. Vignesh Kumar. This achievement reflects the students' innovative approach towards developing smart technology solutions and highlights the department's commitment to promoting research, innovation, and project-based learning.

Students Achievement – India Design Week 2022 Finalists

Two teams from the final year of the Department of Mechanical Engineering participated in India Design Week 2022, India's largest design competition powered by Autodesk and organized by ICT Academy, hosted at Sri Sairam Engineering College on 24–25 March 2022. The team comprising R. Ganesh Vaidhyaa and Omar Shareef emerged as Finalists, securing 5th Place and winning a cash prize of ₹5,000 for their outstanding design solution. Another team comprising Mohammed Shazwan and Rythvik Kumar also showcased their design skills and received Participation Certificates.



The students' commendable performance reflects the department's emphasis on nurturing creativity, innovation, and industry-relevant design competencies.

Students Other Achievements

- ◆ R. Harish (Final Year Mechanical Engineering), N. Dhanushaa (III Year Mechanical Engineering), and S. Aravindhana (Automobile Engineering), under the guidance of Dr. M. Vignesh Kumar, secured the First Place with a cash award of ₹10,000 for their project titled "Design and Development of Smart and Multipurpose Smart Vending Cart" at the 12th International Project Competition and Exhibition – VISAI 2022, organized by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, on 24 February 2022.
- ◆ Team Evay Cart, mentored by Dr. M. Vignesh Kumar, secured the First Place in the competition organized by Pragati E-Cell, SFIT in March 2022, winning a cash prize of ₹30,000 for their innovative project.



STUDENTS PLACEMENT

The Department of Mechanical Engineering is proud to announce the outstanding placement performance of the 2022 graduating batch, with 50 students securing placements in leading multinational companies, core engineering industries, IT organizations, and manufacturing sectors. Students received offers from reputed recruiters such as Infosys, Cognizant, Wipro, HCL Technologies, Accenture, LTTTS, IQVIA, Alten India, CTS, EagleView, Minda Corporation, FastLab, Vee Technologies, NCR Corporation India, TeamLease, ABT Limited, Sertel Electronics, Diamondpick, and several other organizations.

The highest salary package offered was ₹6.0 LPA by IQVIA, while many students secured opportunities with packages ranging from ₹4.0 LPA to ₹5.0 LPA, reflecting the department's strong emphasis on technical competency, employability skills, and industry readiness. The department congratulates all the placed students and appreciates the continuous support of the Training and Placement Cell, faculty members, alumni, and industry partners in achieving this milestone.



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 2022 to June 2022, 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. D. Easu attended the Seminar on "Design Thinking – Project & Internship Opportunities for Undergraduate and Postgraduate Students", delivered by Prof. J. Ramkumar, IIT Kanpur, on 21 January 2022, gaining insights into design thinking and experiential learning opportunities.
- ◆ Mr. K. Gobivel participated in the Webinar on "How to Measure Roughness and Form Parameters in Cylinder Block", organized by Carl ZEISS, on 19 January 2022, enhancing his knowledge of precision metrology.

- ◆ Dr. M. Vignesh Kumar, Dr. M. Kannan, Dr. T. Raja, Mr. S. Jesudass Thomas, Mr. S. A. Harikrishnan, and Mr. P. Karthick attended the Inaugural Session of the e-Symposium on "Building Innovation and Entrepreneurial Ecosystems in Educational Institutions Today", organized by AICTE, on 11 January 2022.
- ◆ Dr. V. Gopal, Dr. M. Vignesh Kumar, Mr. S. Jesudass Thomas, and Mr. M. Arul Inigo Raja participated in the Keynote Session of the AICTE e-Symposium on "Building Innovation and Entrepreneurial Ecosystems in Educational Institutions Today" on 12 January 2022.
- ◆ Mr. K. Gobivel participated in the Webinar on "Altair Suites of FEA Solution", organized by SSN College of Engineering, on 28 January 2022, gaining exposure to advanced finite element analysis tools.
- ◆ Mr. K. Gobivel and Dr. M. Vignesh Kumar participated in the Inaugural Session of the AICTE-CIDC PARAKH Programme, inaugurated by Col. B. Venkat, Director, AICTE, on 05 February 2022.
- ◆ Mr. K. Gobivel attended the Webinar on "Basics of Modern Scanning Electron Microscope", organized by I-STEM, on 03 February 2022, enhancing his understanding of advanced microscopy techniques.
- ◆ Dr. M. Kannan, Dr. D. Easu, Mr. S. Jesudass Thomas, and Mr. M. Arul Inigo Raja participated in the Talk on "Union Budget 2022-23 – Hits and Misses", delivered by Mr. James Verghese and organized by the Office of Student Affairs, KCG College of Technology, on 12 February 2022.
- ◆ Dr. M. Vignesh Kumar attended the Awareness Programme on Innovation Business Plan Competition – Manthan 2022 and Entrepreneurship, organized by Ethnus in association with FKCCI, on 07 February 2022.
- ◆ Mr. K. Gobivel participated in the Indo-US SPARC Workshop on "Additive Manufacturing: Materials and Applications", organized by NITK Surathkal, on 07 February 2022, gaining insights into advanced manufacturing technologies.
- ◆ Mr. K. Gobivel attended the Workshop on "Biomaterials and its Corrosion Behaviour", organized by SSN College of Engineering, on 12 February 2022, enhancing his knowledge of biomaterials research.
- ◆ Mr. I. Manikandan participated in the Expert Talk on "Electron Microscopy", organized by I-STEM, on 10 February 2022, learning about modern characterization techniques.
- ◆ Dr. M. Vignesh Kumar attended the Talk on Smart India Hackathon (SIH) 2022, delivered by Dr. Abhay Jere, Chief Innovation Officer, MoE's Innovation Cell, on 12 February 2022.
- ◆ Dr. M. Kannan and Dr. M. Vignesh Kumar participated in the CII Electric, Connected and Autonomous Vehicle Summit, organized by Confederation of Indian Industry (CII), on 24 February 2022, exploring emerging automotive technologies.
- ◆ Mr. K. Gobivel participated in the Webinar on "Avoiding Plagiarism and Building Academic Integrity", organized by the U.S. Consulate General, Mumbai, on 18 February 2022, promoting ethical research practices.
- ◆ Mr. M. Arul Inigo Raja attended the Webinar on "Current Trends in Dissimilar Welding", organized by Saveetha School of Engineering, on 17 February 2022, gaining insights into advanced welding technologies.
- ◆ Mr. M. Arul Inigo Raja also participated in the Webinar on "Traditional Optimization Techniques", organized by Saveetha School of Engineering, on 17 February 2022, enhancing his understanding of optimization methods.

- ◆ Mr. I. Manikandan attended the Webinar on "Research Trends in Non-Destructive Testing", organized by Saveetha School of Engineering, on 15 February 2022, strengthening his expertise in material inspection techniques.
- ◆ Dr. M. Vignesh Kumar participated in the Proposal Writing Workshop, organized by IIT-RuTAG, on 02–03 March 2022, enhancing his skills in preparing competitive project proposals.
- ◆ Dr. D. Easu and Mr. S. Jesudass Thomas attended the National Science Day Programme, organized by the Department of Science and Humanities, KCG College of Technology, on 05 March 2022.
- ◆ Dr. Z. Edward Kennedy, Dr. M. Kannan, Dr. D. Easu, Mr. R. Chandramohan, Dr. T. Raja, Dr. V. Gopal, Dr. M. Vignesh Kumar, Mr. S. Jesudass Thomas, and Mr. K. Gobivel participated in the Department Advisory Board (DAB) Meeting held on 10 March 2022, with Dr. K. Srinivas Reddy (IIT Madras) and Mr. Ruban Deva Prasath (Brakes India Pvt. Ltd.) serving as distinguished external members.
- ◆ Mr. K. Gobivel attended the Technical Talk on "Potential of Magnesium-Based Alloys and Composites in the Transportation Sector: Fundamentals to Research", organized by SSN College of Engineering, on 23 April 2022.
- ◆ Mr. K. Gobivel participated in the Webinar on "Machining Difficult Aerospace Materials", organized by IMTMA, on 22 April 2022, gaining insights into machining advanced aerospace materials.
- ◆ Dr. T. Raja attended the Webinar on "Awareness on Intellectual Property Rights", delivered by Smt. K. Susi, Examiner of Patents & Designs, Indian Patent Office, Chennai, and organized by KCG College of Technology on 26 April 2022, in connection with World Intellectual Property Day.
- ◆ Mr. K. Gobivel participated in the Webinar on "Accelerating Alloy Development for Additive Manufacturing", organized by Metrix-Connect in association with ASME, on 27 April 2022, exploring recent developments in additive manufacturing materials.

Faculty Participation in Faculty Development Programme

During the period from January 2022 to June 2022, 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. I. Manikandan attended the Faculty Development Programme on "Trendy Manufacturing with Generative Design using Fusion 360", organized by ICT Academy, from 24–30 January 2022, strengthening his skills in digital product design.
- ◆ Mr. P. Karthick successfully completed the Six Sigma White Belt Course through Coursera during January 2022, enhancing his understanding of quality improvement methodologies.
- ◆ Mr. P. Karthick participated in the IIT-PALS Industrial Visit to Shanti Gears, Coimbatore, on 31 January 2022, gaining practical exposure to precision gear manufacturing.
- ◆ Dr. T. Raja attended the Five-Day Workshop on Advanced Industrial Automation Training for Engineering Education and Research, organized by IIIT Tiruchirappalli in association with Indwell Automation, Mangalore, from 31 January to 04 February 2022.
- ◆ Dr. T. Raja attended the Five-Day AICTE–NITTTR Mentor Orientation Training Programme, organized by NITTTR Kolkata, from 07–11 February 2022, focusing on innovative teaching and mentoring practices.

- ◆ Mr. K. Gobivel and Dr. M. Vignesh Kumar successfully participated in the AICTE-CIDC PARAKH Programme, conducted from 07–12 February 2022, aimed at strengthening quality assurance in technical education.
- ◆ Mr. S. A. Harikrishnan participated in the Virtual Industrial Visit to SUMEDHAS, Bengaluru, organized by IIT-PALS, on 18 February 2022, gaining exposure to industrial manufacturing practices.
- ◆ Dr. D. Easu, Dr. T. Raja, and Mr. K. Gobivel attended the AICTE-Sponsored Two-Week Faculty Development Programme on "Trends and Challenges in Electric Vehicle Ecosystem", organized by the Department of Electrical and Electronics Engineering, KCG College of Technology, from 14–28 February 2022.
- ◆ Mr. M. Arul Inigo Raja and Mr. S. Rajesh Kannan participated in the Five-Day Virtual FDP on "Advances in Materials Sciences", organized by Sree Vidyanikethan Engineering College, Tirupati, from 01–05 March 2022.
- ◆ Mr. M. Arul Inigo Raja also attended the Five-Day Virtual FDP on "Recent Advances and Applications in Mechanical Engineering", organized by SRM TRP Engineering College, Tiruchirappalli, from 02–06 March 2022.
- ◆ Mr. M. Arul Inigo Raja participated in the AICTE-Sponsored Six-Day Short-Term Course on "Prognostics and Health Management of Engineering Systems", organized by IIT Madras, from 07–12 March 2022.
- ◆ Mr. K. Gobivel attended the Six-Day FDP on "Design, Optimization and Manufacture of Materials", organized by SSN College of Engineering, from 07–12 March 2022, enhancing his knowledge of advanced materials engineering.

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.

RESEARCH PUBLICATIONS & FUNDING

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 publications in reputed international journals. Their research addressed contemporary topics such as biodiesel and alternative fuels, thermodynamic analysis of engines, sustainable energy, advanced machining, and manufacturing processes, demonstrating the department's commitment to high-quality research and technological advancement.

- ◆ Dr. M. Kannan published the paper "Optimized Production of Biodiesel using Internet of Things Sensed Temperature with Hybrid Particle Swarm Optimization" in the Journal of Chemistry (January 2022).
- ◆ Dr. M. Kannan published "Thermodynamic Study of the Modified Diesel Engine with Combined Influence of LHR and LTC, Fuelled Diesel Blend of Biodiesel" in the Defence Science Journal (February 2022).

- ◆ Dr. Z. Edward Kennedy and Dr. M. Kannan jointly published "B20 Biodiesel Blend Performance, Combustion and Emission Characteristics on Low Heat Rejection Engine" in the International Journal of Mechanical Engineering (February 2022).
- ◆ Mr. K. Gobivel published "Influence of Cutting Parameters on End Milling of Magnesium Alloy AZ31B" in Materials Today: Proceedings (April 2022).
- ◆ Mr. K. Gobivel also published "Investigation on the Effect of TiN and Al₂O₃ Coated Tools in the Machining of Ti-6Al-4V Alloy" in Materials Today: Proceedings (April 2022).
- ◆ Mr. K. Gobivel further published "Cutting Forces and Tool Wear Studies on Machining of Hastelloy X" in Materials Today: Proceedings (April 2022).
- ◆ Mr. K. Gobivel published "Machinability Studies on the Turning of Magnesium Metal Matrix Composites" in Archives of Metallurgy and Materials (May 2022), highlighting advancements in machining lightweight engineering materials.
- ◆ Dr. M. Kannan published "Thermodynamic Investigation of a Modified Compression Ignition Engine Fueled by Diesel-Biodiesel-Ethanol Blends" in the Defence Science Journal (May 2022), contributing to research on sustainable and energy-efficient engine technologies.

The Department of Mechanical Engineering congratulates the faculty members for their noteworthy research publications in reputed international journals. These achievements reflect the department's strong emphasis on research excellence, innovation, and sustainable engineering solutions, while enhancing its academic reputation at both the national and international levels.

Book Chapter Publications – Faculty Achievement

Dr. M. Kannan published a book chapter titled "Performance, Combustion, and Emission Characteristics of Diesel Engine Using Low-Temperature Combustion" in the book *Advances in Mechanical and Materials Technology* (pp. 1287–1300) in January 2022. The chapter presents significant research findings on improving diesel engine performance and reducing emissions through low-temperature combustion techniques, contributing to the development of cleaner and more efficient engine technologies.

The Department of Mechanical Engineering congratulates Dr. M. Kannan on this notable academic achievement. His contribution to an internationally published book reflects the department's commitment to quality research, knowledge dissemination, and advancements in sustainable mechanical engineering technologies.

Faculty Funded Projects – Sanctioned Grants

The Department of Mechanical Engineering is pleased to highlight that Dr. M. Vignesh Kumar successfully secured a consultancy project titled "Smart Metering Plug" with a project value of ₹50,000. The project commenced in April 2022 and focused on the development of an intelligent metering solution for efficient monitoring and management of electrical energy consumption, demonstrating the practical application of engineering expertise to industry needs.

The Department congratulates Dr. M. Vignesh Kumar on securing this consultancy project. Such initiatives strengthen industry-institute collaboration, promote innovation, and reflect the department's commitment to translating research and technical expertise into real-world engineering solutions.

Faculty Achievement – Awards and Recognitions

Mr. A. R. Maheshkumar, Research Scholar (Reg. No. 1512299182), successfully completed his Ph.D. under the guidance of Dr. M. Kannan, Professor, Department of Mechanical Engineering, at the KCG Research Centre. The Ph.D. viva-voce examination was successfully held on 21 January 2022. This achievement reflects the department's strong research culture and the dedicated guidance provided by its faculty. The Department congratulates Dr. M. Kannan and Dr. A. R. Maheshkumar on this significant academic accomplishment and wishes them continued success in their future research endeavors.

Memorandum of Understanding with Minda Corporation Limited

The Department of Mechanical Engineering, KCG College of Technology, signed a Memorandum of Understanding (MoU) with Minda Corporation Limited on 24 February 2022 to strengthen academic-industry collaboration and create enhanced learning opportunities for students. The MoU was signed in the presence of Dr. P. Deivasundari, Principal, KCG College of Technology, Mr. R. Chandramohan, General Manager – IP & CA, and Mr. S. Jesudass Thomas, Head of the Department of Mechanical Engineering.

This partnership aims to promote industry-oriented training, internships, skill development programmes, expert lectures, industrial visits, collaborative projects, and placement opportunities. The collaboration is expected to bridge the gap between academia and industry by equipping students with practical knowledge, technical competencies, and exposure to current industrial practices, thereby enhancing their employability and professional development.

The Department of Mechanical Engineering, KCG College of Technology, signed a Memorandum of Understanding (MoU) with PALFTech (Pineapple Leaf based Sustainable Products), a start-up incubated at KCG Technology Business Incubator (KCG TBI) and founded by Mr. Nitheesh Perumal, a distinguished alumnus of the department. The MoU signing ceremony was held on 10th January 2022, in the presence of Dr. P. Deivasundari, Principal, KCG College of Technology, and Dr. M. Vignesh Kumar, Assistant Professor, Department of Mechanical Engineering and Head – Professional Development Centre (PDC).



The collaboration aims to strengthen academia–industry interaction by promoting innovation, entrepreneurship, internships, industry projects, technical training, and skill development initiatives. The partnership is expected to provide students with valuable exposure to emerging technologies and start-up culture while fostering innovation and enhancing their career readiness.

The Department takes pride in collaborating with its alumni entrepreneurs and appreciates Mr. Nitheesh Perumal for partnering with his alma mater. This MoU reflects the department's commitment to nurturing lasting alumni relationships and creating meaningful opportunities for students through industry and start-up collaborations.

