



IMPACT NEWS LETTER

Issue #1

July 2021 – Dec 2021

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

Greetings!

It gives us great pleasure to present Issue I of IMPACT, the Newsletter of the Department of Mechanical Engineering, covering the academic activities and accomplishments of the department for the period July 2021 – December 2021. This inaugural issue captures the enthusiasm, resilience, and collective achievements of our students and faculty during the semester.

This edition highlights the department's academic and co-curricular initiatives, reflecting our commitment to providing a vibrant learning environment. It features students' participation in classroom learning, technical projects, internships, workshops, seminars, industrial visits, certification programmes, and professional activities that have enriched their knowledge and practical skills. The newsletter also showcases the dedicated efforts of our faculty in teaching, research, publications, innovation, mentoring, and academic development.

The accomplishments presented in this issue are a testament to the sincere efforts and teamwork of our students, faculty members, and staff in fostering a culture of excellence, creativity, and continuous learning. The Editorial Team extends its heartfelt appreciation to everyone who contributed to the successful publication of this inaugural edition of IMPACT.

We look forward to the continued support of our readers and welcome your valuable feedback and suggestions to further improve the quality and reach of future editions.

With Warm regards,
Editorial Team – IMPACT

Editorial Board

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Dr. M Vignesh Kumar

Co-Editors:

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SRIDHARAN S – IV Year Mechanical Engg.

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SNEHA C – III Year Mechanical Engg.
JAYARAMAN K – II Year Mechanical Engg.
MUKESH KANNA M – II Year Mechanical Engg.

About the Department

Established in 1998 and permanently affiliated to Anna University, the Department of Mechanical Engineering has consistently pursued excellence in engineering education through quality teaching, research, innovation, and industry engagement. During the period July 2021 – December 2021, the department continued its academic activities with a strong emphasis on student-centred learning and professional development.

The department offers a comprehensive learning environment that combines sound theoretical foundations with practical engineering applications. Academic programmes are structured around the key disciplines of Design Engineering, Manufacturing Engineering, and Thermal Engineering, supported by well-equipped laboratories, modern computing facilities, and project-oriented teaching methodologies. Students are encouraged to enhance their technical knowledge through laboratory experiments, design projects, internships, and experiential learning activities that strengthen their analytical, problem-solving, and engineering skills.

Throughout the semester, the department organized a variety of academic and technical programmes, including seminars, workshops, expert lectures, industrial visits, internships, technical competitions, and faculty development initiatives. Professional student bodies such as SAE and the IEI Students' Chapter actively promoted technical learning, leadership, teamwork, and innovation through various student-centric activities.

The department also continued its collaboration with IIT-PALS, enabling students and faculty to benefit from expert lectures, mentoring sessions, and technology-focused programmes delivered by eminent academicians and industry professionals.

Supported by a committed team of faculty members, strong academic practices, and growing industry interaction, the Department of Mechanical Engineering remains dedicated to developing competent, innovative, and socially responsible engineers equipped to meet the challenges of the evolving engineering profession

Academic Toppers 2020-2021 (Even Semester)

IV Sem

First Place



HARI KISHORE N
(9.1 GPA)

Second Place



SNEHA C
(8.9 GPA)

VI Sem

First Place



S SRIDHARAN
(9.1 GPA)

Second Place



VAMSI SAI KRISHNA REDDY
(8.8 GPA)

VIII Sem

First Place



S K HARILAL
(9.2 CGPA)

Second Place



JISHNU RAJA K C
(8.9 CGPA)

GUEST LECTURES/SEMINARS/WORKSHOPS

Guest Lecture – IIT-PALS Industry Speaks – Core Lecture on "Product Reliability Engineering"

Students of the Department of Mechanical Engineering actively participated in the IIT-PALS Industry Speaks – Core Lecture on "Product Reliability Engineering", delivered by Mr. S. Krishnakumar, Distinguished Visiting Professor, AICTE-INAE and Former Senior Vice President, Lucas TVS. During the programme co-hosted by KCG College of Technology, Omar Shareef (Final Year), Alex John (Third Year), Dhanush Nithil (Third Year), and Arun Manickavasagam (Second Year) delivered presentations on "Indian Product Examples for High Reliability and Parameters of Identification." The session enhanced students' understanding of reliability engineering principles and their practical application in product design and manufacturing.

		PALS 2021 – 22	
INDUSTRY SPEAKS - CORE			
		SPEAKER Mr. S Krishnakumar, Distinguished visiting Professor, AICTE-INAE & Former Senior Vice President, Lucas TVS	
		TOPIC PRODUCT RELIABILITY ENGINEERING	
Date : 27 th AUGUST 2021 Time : 02.30 PM – 04.30 PM VIRTUAL EVENT (Contact Organizer for more details)			
PHONE +91 98416 39338 EMAIL palspgm@palspgm.com WEB SITE www.palspgm.com	With the Support from INDUSTRY PARTNERS		IIT Madras Alumni Association Office, CCW building, IIT M Campus, Chennai – 600 036

IIT-PALS Theory to Practice (T2P) Lecture on "Cancer Therapy by Inhibition of Immune Checkpoints"

Students of the Department of Mechanical Engineering participated in the PALS Theory to Practice (T2P) Lecture on "Cancer Therapy by Inhibition of Immune Checkpoints", delivered by Dr. Karunakaran, Professor Emeritus, Department of Biotechnology, Bhupat and Jyoti Mehta School of Biosciences, IIT Madras, conducted on 25th August, 2021. The session provided valuable insights into recent advances in cancer therapy and demonstrated the role of interdisciplinary research in addressing real-world healthcare challenges. The lecture broadened students' scientific perspective and encouraged them to appreciate the application of engineering and technology in biomedical research.

		PALS 2021 – 22	
THEORY TO PRACTICE LECTURE			
		SPEAKER Dr. D Karunakaran, Professor Emeritus, Dept of BioTechnology, Bhupat and Jyoti Mehta School of Bioscience, IIT Madras	
		TOPIC CANCER THERAPY BY INHIBITION OF IMMUNE CHECKPOINTS	
Date : 25 th AUGUST 2021 Time : 02.30 PM – 04.30 PM VIRTUAL EVENT (Contact Organizer for more details)			
PHONE +91 98416 39338 EMAIL palspgm@palspgm.com WEB SITE www.palspgm.com	With the Support from IIT MADRAS		IIT Madras Alumni Association Office, CCW building, IIT M Campus, Chennai – 600 036

Guest Lecture on "Overview of Non-Destructive Testing Methods"

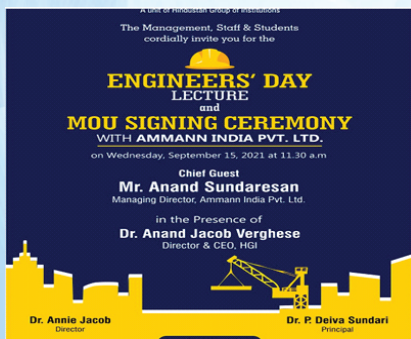
The Department of Mechanical Engineering organized a guest lecture on "Overview of Non-Destructive Testing (NDT) Methods" on 23 September 2021, delivered by Mr. Ajay Mahesh, Head – Oil & Gas Department, SMEC Automation & Inspection. The session introduced students to various NDT techniques used for inspecting materials and components without causing damage, highlighting their applications in quality assurance, safety, and maintenance across industries. The lecture enhanced students' understanding of modern inspection practices and the significance of NDT in ensuring the reliability and integrity of engineering systems.

Webinar on “Engineers – The Creative Doctors of Convenience”

Students of the Department of Mechanical Engineering participated in a webinar on “Engineers – The Creative Doctors of Convenience”, delivered by Mr. Krishnakanth Naik, Team Lead, AI Apps Division, IBM India, on 20th August, 2021. The session highlighted the evolving role of engineers in developing innovative technologies that improve everyday life and addressed emerging trends in artificial intelligence and engineering applications. The webinar inspired students to cultivate creativity, problem-solving abilities, and an innovation-driven mindset for future engineering careers.

“Engineers Day Celebrations” & MoU Signing Ceremony with Ammann India Pvt. Ltd.

The Department of Mechanical Engineering participated in the Engineers’ Day Celebration held in conjunction with the MoU Signing Ceremony between KCG College of Technology and Ammann India Pvt. Ltd., conducted in online mode on 15/09/2021. The programme was graced by Dr. Anand Jacob Verghese, CEO, HGI, Dr. Annie Jacob, Director, KCG College of Technology, and Dr. P. Deivasundari, Principal, KCG College of Technology. Mr. Anand Sundaresan, Managing Director, Ammann India Pvt. Ltd., delivered a special lecture on the significance of Engineers’ Day and the role of engineers in technological progress. Sai Shruthi and Dhanush Nithil (III Year) delivered speeches on Engineers’ Day, while Alex John (III Year) served as the Master of Ceremonies. Dr. Z. Edward Kennedy and Mr. R. Chandramohan represented the Department of Mechanical Engineering at Ammann India Pvt. Ltd., Gujarat, making the event a meaningful platform for strengthening industry–academia collaboration.

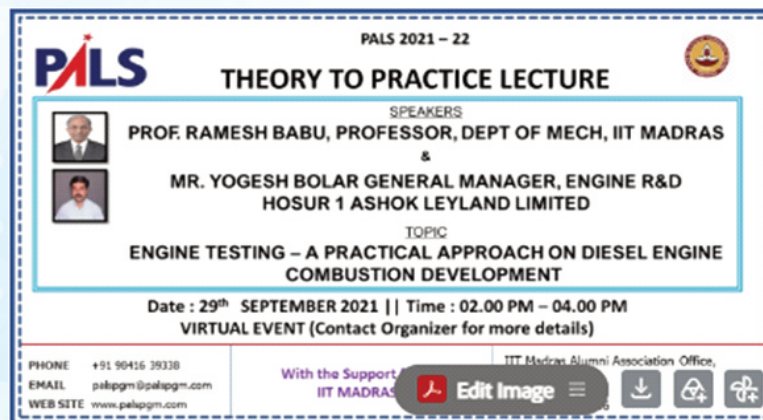


IIT-PALS Industry Speaks – Core Lecture on “Introduction to the World of Business”

Students of the Department of Mechanical Engineering attended the IIT-PALS Industry Speaks – Core Lecture on “Introduction to the World of Business” on 16th September 2021. The session was delivered by Mr. C. K. Sekar, Business Head – Exports, Tube Investments of India Ltd., who shared valuable insights into business fundamentals, global market dynamics, and the importance of managerial and entrepreneurial skills for engineers. The lecture encouraged students to broaden their understanding of the business aspects of engineering and emphasized the significance of innovation, leadership, and strategic thinking in building successful professional careers.

IIT-PALS Theory to Practice (T2P) Lecture on “Engine Testing – A Practical Approach on Diesel Engine Combustion Development”

Students of the Department of Mechanical Engineering participated in the IIT-PALS Theory to Practice (T2P) Lecture on “Engine Testing – A Practical Approach on Diesel Engine Combustion Development” on 29th September 2021. The session was jointly delivered by Prof. Ramesh Babu, Professor, Department of Mechanical Engineering, and Mr. Yogesh Bolar, General Manager, Engine R&D, Hosur-1, Ashok Leyland Limited. The lecture provided valuable insights into diesel engine combustion, engine testing methodologies, and the integration of academic concepts with industrial practices. The programme enhanced students' understanding of engine development processes and exposed them to current trends in automotive research and testing.



Panel Discussion on “World of MECHANICAL ENGINEERING and its Journey”

The Department of Mechanical Engineering organized a Panel Discussion on “World of Mechanical Engineering” on 18th September 2021, featuring eminent industry experts including Mr. Lakshmi Narayanan, General Manager, Brakes India Ltd., Chennai, Mr. K. Balasubramanian, President, SR Sheshadri Training Institute, The Sanmar Group, and Mr. Thanu Shanmugam, General Manager, Renault Nissan Automotive Pvt. Ltd. The interactive session addressed students' questions on career opportunities, emerging technologies, industry expectations, higher education, and professional skill development in the field of Mechanical Engineering. The discussion provided valuable industry perspectives, enabling students to make informed career decisions and better prepare for the evolving engineering profession.



Webinar on “Role of Startups in India EV Transition”

Students of the Department of Mechanical Engineering participated in a webinar on “Role of Startups in Indian EV Transition” on 28 December 2021, delivered by Mr. Sivam Sakthivel from Yali Mobility. The session highlighted the growing contribution of startups in accelerating India's transition towards electric mobility, covering innovations in electric vehicles, sustainable transportation solutions, and emerging entrepreneurial opportunities in the EV sector. The webinar provided students with valuable insights into the evolving electric mobility ecosystem and inspired them to explore innovation and entrepreneurship in the automotive industry.



STUDY TOUR -KCG – ATAL TUNNEL VISIT- YUVAK SCHEME- AICTE

Under the AICTE Youth Undertaking Visit for Acquiring Knowledge (YUVAK) Scheme, a team of ten students from the Department of Mechanical Engineering, accompanied by Mr. M. Arul Inigo Raja, Assistant Professor, undertook a study tour to the Atal Tunnel, Himachal Pradesh, from 1–3 November 2021. The visit provided a unique opportunity to observe one of India's most significant engineering marvels and gain firsthand exposure to modern tunnel construction and infrastructure technologies.

During the visit, students interacted with Border Roads Organisation (BRO) officials and learned about the planning, surveying, excavation techniques, structural design, ventilation systems, lighting, emergency safety features, and tunnel operation and maintenance. The programme offered valuable insights into the multidisciplinary engineering practices involved in the successful execution of large-scale infrastructure projects.

The study tour significantly enhanced students' understanding of civil and mechanical engineering applications in real-world projects, while inspiring them to appreciate the role of engineering in nation-building and technological advancement.

PALS VIRTUAL INDUSTRIAL VISIT TO SIEMENS GAMESA

Dhanush and Ashwin Venugopal, III Year B.E. Mechanical Engineering students, represented KCG College of Technology, a Partner Institute of PALS, by participating in the Virtual Industrial Visit organized by M/s Siemens Gamesa on 15 December 2021. The programme provided valuable exposure to the renewable energy sector, particularly wind energy technologies, manufacturing practices, and sustainable engineering solutions. The virtual visit enhanced the student's understanding of industrial operations and emerging career opportunities in the clean energy industry.

INTERNSHIP TO INDUSTRIES

Around 10 Final Year B.E. Mechanical Engineering students successfully completed internships in reputed industries and organizations during the period July–December 2021. The students underwent industrial training at O.M.S. Motors (P) Ltd., Industrial Spares Manufacturing and Trading Company, Pantech Prolabs India Pvt. Ltd., Mukkudal Robotics, T.V. Sundaram Iyengar & Sons Pvt. Ltd., and PI Beam Electric. These internships provided valuable hands-on exposure to manufacturing, automotive engineering, PCB design, robotics, and electric mobility, enabling students to bridge the gap between classroom learning and industrial practice while enhancing their technical competence, professional skills, and career readiness.

STUDENTS PARTICIPATION AND ACHIEVEMENTS

During the academic period from July 2021 to December 2021, 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.

- ◆ P. Robbie Daniel (Final Year) participated in the International Webinar on "Trends in STEMEM 2.0" organized by Annai College of Arts and Science from 14–18 July 2021, gaining exposure to emerging developments in science, technology, engineering, mathematics, entrepreneurship, and management.
- ◆ K. P. Vijai Sri Arun (Final Year) attended the Webinar on "Entrepreneurship and Innovation", organized by Sri Sairam Engineering College in association with the American Society of Civil Engineers (Indian Chapter) on 11 August 2021, enhancing entrepreneurial awareness.
- ◆ S. Sridharan (Final Year) successfully completed a six-week online training programme on Arduino conducted by INTERSHALA Trainings, strengthening his knowledge of embedded systems and electronics.
- ◆ P. Robbie Daniel (Final Year) participated in the "Easiest Internships Ever" career guidance programme organized by INTERSHALA on 9 August 2021, gaining insights into internship opportunities and career planning.
- ◆ S. Sridharan (Final Year) attended the IIT–IRIS Webinar on "Advanced Manufacturing" on 24 August 2021, learning about modern manufacturing technologies and industrial practices.
- ◆ S. Sridharan (Final Year) also participated in the IIT–IRIS Webinar on "Medical Technology" on 25 August 2021, exploring advancements in biomedical engineering applications.
- ◆ Team "TechnoBlitz", represented by R. Harish (Final Year), participated in the NEXGEN 3D Hackathon under the Biomedical (Product Development) category during September 2021, showcasing innovative design ideas.

- ◆ S. Sridharan and M. Thiruvadi Nainar (Final Year) attended the IIT–IRIS Webinar on the Centre for Chiral Technology (CCT) delivered by Prof. G. Sekar, IIT Madras, on 10 September 2021, gaining exposure to advanced chemical technologies.
- ◆ S. Sridharan and M. Thiruvadi Nainar (Final Year) also participated in the IIT–IRIS Webinar on "Self-Assembled Molecular Architectures with Isolated Nano-space" by Prof. Dilip Kumar Chand, IIT Madras, on 10 September 2021, broadening their interdisciplinary knowledge.
- ◆ R. Nithish Kannan, Prakash, and Y. Sabarinathan, mentored by Mr. K. Gobivel, participated in the Open Innovation Challenge and Start-up Pitching Event organized by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology during October 2021, presenting their project titled "AI Powered Green House".
- ◆ P. Nitheesh (Final Year) and Team PALF participated in the Smart e-Hackathon on Sustainable Rural Development (SH-SRD 2021) conducted by SRM-IITM during October 2021, presenting an innovative solution under the Waste Management theme.
- ◆ Moneeshvar (Final Year) and Team Evay Cart participated in Start-up Mania 6.0, organized by the Confederation of Indian Industry (CII) and Kongu Engineering College, during October 2021, showcasing their entrepreneurial project.
- ◆ II Year Mechanical Engineering students attended an Awareness Session on "Substance Abuse" delivered by Ms. D. Revathy, Student Counsellor, KCG College of Technology, on 29 October 2021, promoting awareness on health and well-being.
- ◆ II Year Mechanical Engineering students participated in a Seminar on "Industrial Automation", presented by Dr. A. R. Aravind, Assistant General Manager, Ashok Leyland Ltd., and organized by the Department of Automobile Engineering, KCG College of Technology, on 30 October 2021, gaining insights into automation technologies.
- ◆ J. V. Sheshan, Sairaam Kumar, Ebenezer Cephas (III Year Mechanical Engineering) and other SAE student members participated in a series of technical webinars organized under SAE AUTONOM India 2021 (North Section) from 8th to 27th November 2021, enriching their knowledge of automotive technologies.
- ◆ Three student teams from the department presented their research work at the Second International Conference on Future Technologies (ICOFT 2021) in Manufacturing, Automation, Design and Energy (MADE), organized by NIT Puducherry, on 16–17 December 2021.
- ◆ Team Evay Cart participated in the prestigious IET Smart City Challenge during December 2021, demonstrating innovative engineering solutions for smart city applications.
- ◆ All Mechanical Engineering students attended an Awareness and Quiz Session on GATE and Government Job Opportunities, conducted by UnAcademy on 14 December 2021, helping them prepare for higher education and competitive examinations.
- ◆ Team Evay Cart also participated in the Project-Based Learning Competition organized by the Indo Universal Collaboration for Engineering Education (IUCEE) on 27 December 2021, showcasing their innovation and project development skills.
- ◆ Students participated in the Topper's Talk Webinar – "Preserve and Protect: The Mission of an IFS Officer" delivered by Mr. M. Raja, IFS, organized by KCG College of Technology on 14 August 2021, gaining insights into civil services and environmental conservation.
- ◆ Four final-year Mechanical Engineering students actively represented the department in the NCC Parade held as part of the 75th Independence Day Celebrations on 15 August 2021.

- ◆ To strengthen placement readiness, 26 Mechanical Engineering students attended a Mock Interview Programme organized by the KCG College Alumni on 21–22 August 2021, where they received valuable feedback on interview techniques and communication skills.
- ◆ Students further enhanced their technical competence by participating in expert webinars on Advanced Manufacturing (24 August 2021) and Medical Technology (25 August 2021) conducted under the IIT–IRIS Webinar Series.
- ◆ Final-year students R. Harish and Mohamed Shazwan successfully served as Event Coordinators for the Virtual Symposium "Vihaan–2021", organized on 28–29 August 2021, demonstrating excellent leadership and organizational skills.
- ◆ Students actively attended technical webinars on "Trends in Data Science and Urbanmapper" (1 September 2021), "Revolution of AI & ML in Core Engineering" (11 September 2021), and "Alternative Energy Sources for Automobiles" (25 September 2021), broadening their understanding of emerging technologies.
- ◆ Mechanical Engineering students also participated in another inspiring Topper's Talk Series featuring Mr. Rajnish Patidar, IFS, Third Secretary, Embassy of India, Moscow, on 12 September 2021.
- ◆ Demonstrating their commitment towards environmental responsibility, final-year students participated in the Coastal Cleanup Drive organized by the Engineers Without Borders (EWB) – KCG Student Chapter on 16 September 2021.
- ◆ Students enthusiastically showcased their creativity and extracurricular talents by participating in inter-departmental events including Dumb Charades, Mr. and Miss KCG, and "Art out of Waste" conducted during Zeppelin–2021 on 30 September 2021.
- ◆ Mechanical Engineering students continued their service to the institution by supporting the Graduation Day Programme as NCC Cadets on 13 October 2021, ensuring the smooth conduct of the event.
- ◆ Additionally, Siddharth Krishna, a third-year Mechanical Engineering student, participated in the prestigious IIT–PALS Industry-to-Institute (i2i) Meet, interacting with experts from leading industries such as Ashok Leyland, IBM, and Texas Instruments India, thereby gaining valuable exposure to industrial practices and career opportunities.

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 odd semester of academic year 2021–2022.

Three teams of Final Year B.E. Mechanical Engineering students participated in the Second International Conference on Future Technologies (ICOFT 2021) in Manufacturing, Automation, Design and Energy (MADE), organized by NIT Tiruchirappalli, on 16–17 December 2021. The conference provided an excellent platform for students to present their research work, interact with academicians and researchers, and gain exposure to recent advancements in manufacturing, automation, design, and energy technologies. Their participation reflected the department's continued emphasis on research, innovation, and scholarly engagement.

Paper Publication by the Students

The Department of Mechanical Engineering congratulates the following students for publishing their research papers in reputed international journals, showcasing their research aptitude and contribution to the field of advanced materials and manufacturing.

- ◆ Andhra Rajasekar, Arvind Menon S., Dinesh Kumar, and Jeyakumar published a research paper titled "Tribological and Mechanical Behaviour of Hybrid Al 6061 Metal Matrix Composites" in the International Journal of Vehicle Structures & Systems, Vol. 13, Issue 3, pp. 346–350, August 2021.
- ◆ R. Prabhakaran, D. Praveen Kumar, and D. Sathish published a research paper titled "Mechanical and Tribological Characteristics of AL7075/MWCNT, B₄C & MoS₂ Hybrid Metal Matrix Composites" in Materials Today: Proceedings, Volume 50, Part 5, pp. 911–916, July 2021.

The Department appreciates the students for their research contributions and encourages them to continue pursuing innovative research that addresses current industrial and societal challenges.

Value Added Programme – Design Now Workshop with Fusion 360

The Department of Mechanical Engineering, in association with ICT Academy and Autodesk, organized the first and second day of the three day workshop "Design Now Workshop", a Value Added Program on Autodesk Fusion 360, on 30 October 2021 and 11 December 2021. 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 – Activities through CII

Moneeshvar, a final-year Mechanical Engineering student, along with his Team Evay Cart, participated and secured Second Runner-up Position with Cash Award of Rs.10,000/- in the Project Competition conducted as part of Start-up Mania 6.0, organized jointly by the Confederation of Indian Industry (CII) and Kongu Engineering College in October 2021. The competition provided an excellent platform for students to showcase their innovative startup ideas, interact with industry experts, and gain valuable exposure to entrepreneurship and product commercialization. Their participation reflects the department's commitment to fostering innovation, creativity, and an entrepreneurial mindset among students.

Students Other Achievements in Project Competitions

The students of the Department of Mechanical Engineering achieved remarkable success in several national-level project competitions, demonstrating their innovation, technical excellence, and entrepreneurial spirit.

- ◆ P. Nitheesh (Final Year) and Team PALF secured the First Runner-up (Rank II) position in the Smart e-Hackathon on Sustainable Rural Development (SH-SRD 2021), organized by SRM Institute of Science and Technology under the theme "Waste Management", winning a cash award of ₹10,000 in October 2021.
- ◆ R. Nithish Kannan, Prakash, and Y. Sabarinathan, mentored by Mr. K. Gobivel, received the Encouragement Prize along with a cash award of ₹4,000 for their project "AI Powered Green House" under Team Agro Intel in the Open Innovation Challenge and Start-up Pitching Event, organized by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology in October 2021.
- ◆ Team Evay Cart won the Second Place in the prestigious IET Smart City Challenge, organized by the Institution of Engineering and Technology (IET), receiving a cash prize of ₹15,000 in December 2021.
- ◆ Team Evay Cart was also recognized with an "A Grade" in the Project Based Learning Competition organized by the Indo Universal Collaboration for Engineering Education (IUCEE) on 27 December 2021, highlighting the team's excellence in project-based learning and innovation.
- ◆ Team PALFEM secured the Second Place in Innovate 2021, an online innovation competition, and was awarded a cash prize of ₹21,000 for their outstanding project presentation.
- ◆ Team TechnoBlitz, represented by R. Harish (Final Year Mechanical Engineering), won a cash prize of ₹2,000 in the Bio-Medical (Product Development) category at the NEXGEN 3D Hackathon held in September 2021, recognizing the team's innovative approach to product design and development.

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 July 2021 to December 2021, 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 participated in the Webinar on "National Innovation and Start-up Policy (NISP): Guiding Framework for Higher Education Institutions (HEIs)", organized by Institution's Innovation Council (IIC–MHRD) on 01 July 2021, gaining insights into fostering innovation and entrepreneurship in higher education.
- ◆ Mr. S. Rajesh Kannan attended the International Workshop on "Emerging Trends in Mechanical, Aerospace, and Robotics Engineering (ETMARE-2021)", organized by VIT University, Bhopal, from 07–09 July 2021, enhancing his knowledge of recent technological advancements in engineering.
- ◆ Dr. M. Vignesh Kumar also participated in the Three-Day Webinar on Institution's Innovation Council, organized by IIC–MHRD, from 05–07 July 2021, focusing on innovation ecosystems and institutional best practices.
- ◆ Mr. K. Gobivel attended the Webinar on "Conquering the Intricacies of Citations & References", organized by Research Marketing APAC, Wiley, on 24 August 2021, strengthening his academic writing and referencing skills.
- ◆ Mr. K. Gobivel participated in the Webinar on "Mastering the Craft of Academic Writing: A Systematic Approach", conducted by Research Marketing APAC, Wiley, on 31 August 2021, which emphasized effective scholarly writing techniques.
- ◆ Dr. D. Easu attended the Webinar on "Revolution of AI & ML in Core Engineering", organized by KCG College of Technology, on 12 September 2021, gaining exposure to emerging applications of Artificial Intelligence and Machine Learning in engineering.
- ◆ Mr. K. Gobivel participated in the Webinar on "Winning the Game of Publishing Research Papers and Extending the Impact of Your Publications", organized by Research Marketing APAC, Wiley, on 07 September 2021, focusing on research publication strategies.
- ◆ Mr. K. Gobivel attended the Webinar on "Attracting Grants and Funds for Research", conducted by Research Marketing APAC, Wiley, on 14 September 2021, which highlighted funding opportunities and proposal development.
- ◆ Dr. M. Kannan and Mr. S. Rajesh Kannan participated in the Webinar on "Alternative Energy Sources for Automobiles", organized by the Department of Automobile Engineering, KCG College of Technology, on 25 September 2021, exploring sustainable automotive technologies.
- ◆ Mr. K. Gobivel attended the Webinar on "The Publishing Process: The Complete Journey of an Article", organized by Research Marketing APAC, Wiley, on 21 September 2021, gaining insights into scholarly publishing procedures.
- ◆ Mr. K. Gobivel also participated in the Webinar on "Materials and Manufacturing", organized by the Institution of Engineers (India), Meerut Local Centre, on 26 September 2021, broadening his knowledge of advancements in manufacturing technologies.
- ◆ Dr. T. Raja attended the One-Day Online Workshop on "PLC – An Essential Automation", organized by ROBORAM Education, Coimbatore, on 31 October 2021, enhancing his understanding of industrial automation and programmable logic controllers.

- ◆ Dr. D. Easu and Dr. M. Kannan participated in the GATE Preparation and Practice Software Demonstration Programme, organized by Soft Tech International, Pune, on 19 November 2021, exploring digital learning tools for competitive examination preparation.
- ◆ Mr. K. Gobivel attended the Web Seminar on "Revolutionise Your SEM Capabilities with Live Chemical Imaging", organized by Wiley Analytical Science, on 25 November 2021, gaining knowledge of advanced characterization techniques.
- ◆ Mr. K. Gobivel participated in the National Workshop on "Advanced Materials and Processing (WAMP 2021)", organized by SSN College of Engineering, on 30 November 2021, enriching his expertise in advanced materials and manufacturing processes.
- ◆ Dr. M. Vignesh Kumar attended the AICTE Awards Awareness Webinar, organized by AICTE, on 07 December 2021, which provided information on institutional and faculty excellence awards and best practices.

Faculty Participation in Faculty Development Programme

During the period from July 2021 to December 2021, 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.

- ◆ Dr. M. Kannan participated in a Five-Day Faculty Development Programme on "Central Air Conditioning of a House using Revit Software", organized by the ICT Academy, from 28 June to 02 July 2021. The programme enhanced his knowledge of building services design and Revit-based HVAC system modelling.
- ◆ Mr. K. Gobivel attended the ATAL Academy Five-Day FDP on "3D Printing and Design", organized by Dr. Mahalingam College of Engineering and Technology (MCET), Coimbatore, from 06–10 July 2021. The programme focused on additive manufacturing technologies, product design, and rapid prototyping.
- ◆ Dr. V. Gopal participated in the Seven-Day Virtual Faculty Development Programme on "Manufacturing Processes", organized by Sri Sairam Engineering College, from 12–19 August 2021, gaining insights into modern manufacturing techniques and industrial practices.
- ◆ Mr. K. Gobivel also attended the Five-Day ATAL Online FDP on "Novel Materials", organized by SRM Institute of Science and Technology, Delhi–NCR Campus, from 23–27 August 2021, strengthening his understanding of advanced engineering materials and their applications.
- ◆ Mr. I. Manikandan participated in the Five-Day ATAL Online FDP on "New Product Development using Advanced Layered Manufacturing, 3D Printing and Design", organized by CIPET, Chennai, from 23–27 August 2021. The programme provided hands-on knowledge of product development using additive manufacturing technologies.
- ◆ Dr. M. Kannan attended the Five-Day Faculty Development Programme on "Advancement in Futuristic Energy Devices", organized by the Government College of Technology (GCT), Coimbatore, from 20–24 September 2021, gaining exposure to emerging energy technologies and sustainable engineering solutions.
- ◆ Dr. T. Raja and Mr. K. Gobivel participated in the Five-Day Online FDP on "Applications of Artificial Intelligence and Machine Learning in Mechanical Engineering", organized by SRM Institute of Science and Technology, from 04–08 October 2021. The programme focused on integrating AI and Machine Learning techniques into mechanical engineering applications.

- ◆ Dr. T. Raja successfully completed the 12-week NPTEL Online Certification Course on "Automation in Manufacturing", offered by IIT Guwahati, and secured an Elite-Silver certification. The programme strengthened his expertise in manufacturing automation, smart production systems, and industrial automation technologies.

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

The faculty members of the Department of Mechanical Engineering actively contributed to the academic community by serving as chief guests, guest lecturers, and expert speakers at various institutions. Their participation reflects the department's commitment to knowledge sharing, academic collaboration, and professional excellence.

- ◆ Dr. M. Kannan was invited as the Chief Guest for the Symposium conducted at Thiruvalluvar College of Engineering and Technology on 20 October 2021. He addressed the gathering and motivated students to pursue innovation, technical excellence, and continuous learning.
- ◆ Mr. S. Jesudass Thomas delivered a Guest Lecture on "Strength of Materials" for III Semester Diploma in Mechanical Engineering students at HIET Polytechnic College on 2nd and 3rd December 2021. The sessions provided students with a clear understanding of fundamental concepts and their practical applications in engineering.
- ◆ Dr. Z. Edward Kennedy served as an Expert Speaker during the One-Week Online Faculty Development Programme on "Fabrication, Characterization and Strengthening of Composites", organized by the Academy of Maritime Education and Training (AMET) on 15 December 2021. His expert talk offered valuable insights into recent developments in composite materials and their engineering applications.

The department proudly appreciates the valuable contributions of its faculty members in serving as resource persons at various academic forums. Their expertise and active engagement in knowledge dissemination continue to enhance the department's academic reputation while strengthening collaborations with educational institutions and the engineering community.

RESEARCH PUBLICATIONS & FUNDING

Paper Presentations by Faculty in Conferences

The faculty members of the Department of Mechanical Engineering actively disseminated their research findings by presenting technical papers at prestigious international conferences during the semester. Their contributions highlighted ongoing research in advanced materials, machining, manufacturing processes, and tribology, reflecting the department's commitment to innovation and scholarly excellence.

- ◆ Dr. T. Raja presented the research paper titled "Mechanical and Tribological Characteristics of Al7075/MWCNT, B4C & MoS₂ Hybrid Metal Matrix Composites" at the 2nd International Conference on Functional Materials, Manufacturing and Performances (ICFMMP-2021), organized by Lovely Professional University, Punjab, on 17 September 2021.

- ◆ Mr. K. Gobivel presented the paper "Influence of Cutting Parameters on End Milling of Magnesium Alloy AZ31B" at the 2nd International Conference on Engineering Materials, Metallurgy and Manufacturing (ICEMMM 2021), organized by SSN College of Engineering, Chennai, on 16–17 December 2021.
- ◆ Mr. K. Gobivel also presented the research work titled "Investigation on the Effect of TiN and Al₂O₃ Coated Tools in the Machining of Ti-6Al-4V Alloy" at ICEMMM 2021, showcasing advancements in machining of aerospace-grade materials.
- ◆ Mr. K. Gobivel further presented the paper "Cutting Forces and Tool Wear Studies on Machining of Hastelloy X" at ICEMMM 2021, highlighting research on machining performance of high-temperature superalloys.

The Department congratulates Dr. T. Raja and Mr. K. Gobivel for their commendable research contributions and active participation in international conferences. Their scholarly achievements strengthen the department's research profile and demonstrate its commitment to advancing knowledge in the field of Mechanical Engineering.

Research Publications by Faculty in Reputed Journals

The faculty members of the Department of Mechanical Engineering continued to make significant contributions to research by publishing their scholarly work in reputed international journals during the semester. Their publications covered diverse areas including advanced materials, metal matrix composites, friction stir processing and welding, tribology, coatings, and alternative fuels, reflecting the department's strong research culture and commitment to technological innovation.

- ◆ Dr. M. Vignesh Kumar published the paper titled "Microstructural Evolution of a Cast ZK60 Mg Alloy/SiCp Surface Composites Induced by Friction Stir Process" in Physics of Metals and Metallography (June 2021).
- ◆ Mr. S. Rajesh Kannan published "Optimisation and Mechanical Characterisation of AA5083 and AA7075 Dissimilar Aluminium Alloy Joints Produced by Friction Stir Welding" in the International Journal of Vehicle Structures & Systems (July 2021).
- ◆ Dr. V. Gopal published "Mechanical Behaviour of Al7075 Hybrid Composites Developed through Squeeze Casting" in the International Journal of Vehicle Structures & Systems (July 2021).
- ◆ Dr. T. Raja published "Tribological and Mechanical Behavior of Hybrid Al6061 Metal Matrix Composites" in the International Journal of Vehicle Structures & Systems (August 2021).
- ◆ Dr. Z. Edward Kennedy and Mr. M. Arul Inigo Raja jointly published "Influence of Stacking Sequence and Hybridization on the Mechanical and Tribological Properties of Glass and Jute Fiber Composites" in Materials Today: Proceedings (July 2021).
- ◆ Dr. T. Raja also published "Mechanical and Tribological Characteristics of Al7075/MWCNT, B4C & MoS₂ Hybrid Metal Matrix Composites" in Materials Today: Proceedings (July 2021).
- ◆ Dr. Z. Edward Kennedy published "Tribological Behavior of Metallo-Ceramic Composites for High Friction and High Temperature Applications" in Materials Today: Proceedings (July 2021).
- ◆ Dr. Z. Edward Kennedy and Mr. M. Arul Inigo Raja further published "Erosion Behavior of Tungsten Carbide-Cobalt and Alumina Coatings on Stainless Steel 316" in Materials Today: Proceedings (November 2021).

- ◆ Dr. Z. Edward Kennedy and Mr. M. Arul Inigo Raja also published "Evaluation of Mechanical Properties of Al-B₄C and Al-SiC Metal Matrix Composites – A Comparison" in Materials Today: Proceedings (August 2021).
- ◆ Dr. M. Kannan published the research paper "Investigation on Diesel Engine Fuelled by Mahua Biodiesel" in the Information Technology in Industry journal (Vol. 13, Issue 3, July 2021), highlighting research on sustainable alternative fuels.

The Department of Mechanical Engineering congratulates all the faculty members for their valuable research contributions published in reputed international journals. These publications demonstrate the department's dedication to quality research, innovation, and academic excellence, while enhancing its research visibility at the global level.

Faculty Funded Projects – Sanctioned Grants

The Department of Mechanical Engineering is pleased to announce that Dr. M. Vignesh Kumar received a funded research project from IIT RuTAG (Rural Technology Action Group) for the development of a "Korai Fibre Extracting Machine." The project, sanctioned with a funding amount of ₹3.15 lakhs, commenced in September 2021 with a duration of one year. The research aims to develop an efficient fibre extraction machine to improve the productivity and livelihood of rural artisans engaged in korai mat production through appropriate technology.

The Department congratulates Dr. M. Vignesh Kumar on securing this prestigious research grant from IIT RuTAG. This achievement reflects the department's commitment to developing innovative, socially relevant technologies and promoting research that addresses real-world challenges through sustainable engineering solutions.

AICTE YUVAK Educational Visit to ATAL Tunnel

Under the AICTE Youth Undertaking Visit for Atal Tunnel (YUVAK) Scheme, the Department of Mechanical Engineering participated in an educational visit to the ATAL Tunnel, Himachal Pradesh, from 1–3 November 2021. The programme was supported by an AICTE grant of ₹2,00,000, enabling 10 students (9 from Mechanical Engineering and 1 from Civil Engineering) from the III and IV Year to visit one of India's landmark engineering infrastructure projects. The students gained valuable exposure to advanced tunnelling technology, project planning, construction methodologies, and modern engineering practices through this unique experiential learning opportunity.

The department places on record its sincere appreciation to Mr. M. Arul Inigo Raja, Assistant Professor, Department of Mechanical Engineering, for his dedicated efforts in coordinating the programme and accompanying the students throughout the visit. His meticulous planning, guidance, and commitment ensured the successful execution of the AICTE-sponsored educational tour, making it a highly enriching and memorable learning experience for the participating students.



Faculty Achievement – Awards and Recognition

Dr. V. Gopal was honoured with the "COVID Warrior Award" by the CEO and Director of KCG College of Technology on 17 July 2021 in recognition of his dedicated service and valuable contribution during the COVID-19 pandemic. The award acknowledges his commitment, resilience, and selfless efforts during a challenging period.

The Department of Mechanical Engineering proudly congratulates Dr. V. Gopal on being honoured with the COVID Warrior Award in recognition of his dedicated service and commendable contribution during the COVID-19 pandemic. This prestigious recognition reflects his commitment to societal welfare and exemplifies the values of service, dedication, and professional excellence upheld by the department.

