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Department Of Mechanical Engineering



CCE DIGEST

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VISION

To become a nationally recognised knowledge hub in Mechanical Engineering by moulding professionally competent and socially responsible engineers.

MISSION

To create a conducive learning platform for students to excel as professionals, through quality technical education and training.

To involve students in socially committed projects and programs to broaden their knowledge and integrity. To mould students with good leadership qualities, ethical values, and life-long learning.

HOD's DESK

Dear Students, Every academic year offers new opportunities to learn, innovate, and grow beyond the boundaries of the classroom. This edition of CCE Digest reflects the spirit of curiosity, dedication, and teamwork that defines our Department of Mechanical Engineering. It is encouraging to see our students actively engaging in technical programmes, industry interactions, project-based learning, and community outreach, all of which contribute to their overall development as future engineers.

Mechanical engineering today extends far beyond conventional design and manufacturing. Emerging technologies, digital transformation, sustainable engineering, and interdisciplinary collaboration are reshaping the profession. To succeed in this evolving landscape, students must cultivate not only strong technical knowledge but also creativity, adaptability, ethical values, and a commitment to lifelong learning.

The achievements highlighted in this newsletter are the result of the sincere efforts of our students, faculty members, alumni, industry experts, and well-wishers. I extend my heartfelt appreciation to everyone who has contributed to creating an enriching academic environment that encourages innovation, leadership, and social responsibility.

I hope this edition inspires every student to embrace challenges with confidence, pursue excellence with determination, and use engineering knowledge to create meaningful solutions that benefit society. I wish you all continued success in your academic and professional journey.

With best wishes,

Dr. Viswanath K. Kaimal

Head of the Department

Expert Talk on "Automobile Industry: Navigating Trends, Technologies and Opportunities"

The Department of Mechanical Engineering, organized an Expert Talk on "Automobile Industry: Navigating Trends, Technologies and Opportunities" on 08 October 2025 for Mechanical Engineering students. The session was delivered by Mr. Vinith Vijayan, Director – OP Mobility Exterior & Lighting Business Group, who shared valuable insights into the latest developments and future prospects of the global automotive industry.

The expert discussed emerging trends such as electric vehicles, sustainable mobility, lightweight materials, advanced manufacturing technologies, and smart vehicle systems, while highlighting the growing importance of innovation and digitalization in the automotive sector. He also emphasized the skills required for a successful engineering career, including technical expertise, problem-solving ability, adaptability, teamwork, and effective communication. The interactive session enabled students to gain practical knowledge about career opportunities, internships, higher studies, and industry expectations through engaging discussions and real-world examples.

The programme successfully strengthened industry-academia interaction by exposing students to current automotive technologies and professional practices. It inspired participants to continuously enhance their technical competencies and prepare for emerging opportunities in the rapidly evolving mobility sector.



Cloth Donation Drive

Demonstrating its commitment to social responsibility and community service, the Department of Mechanical Engineering, through its student social initiative CARE ME, organized a Cloth Donation Drive on 09 October 2025. The programme encouraged students, faculty members, and staff to donate new and gently used clothing for distribution to underprivileged individuals and families. The initiative was coordinated by Mr. Balakrishnan C. R. and Mr. Rojin Mathews, Assistant Professors, Department of Mechanical Engineering.

The drive received an enthusiastic response from the college community, with student volunteers actively coordinating the collection, sorting, and packaging of the donated clothes. The initiative successfully promoted compassion, teamwork, and environmental sustainability through the responsible reuse of clothing, while providing meaningful support to the beneficiary community and reinforcing the department's commitment to social outreach and humanitarian service.



MECHXPO – Manufacturing Process Expo 2025

Promoting innovation and experiential learning, the Department of Mechanical Engineering organized MECHXPO – Manufacturing Process Expo 2025 on 09 October 2025 at Christ Hall for S1 and S3 Mechanical Engineering students. The exhibition was inaugurated by Mr. Rakesh Kundathil, Co-Founder and Director, Integrity Research Lab, Kochi, who interacted with the participants and shared valuable insights into manufacturing technologies, innovation, and product development.

The expo showcased a variety of student-developed projects based on manufacturing processes such as casting, welding, atomization, forming, machining, and modern manufacturing techniques. S3 Mechanical Engineering students demonstrated their models and explained the engineering principles and industrial applications to the visitors. The event provided an excellent platform for knowledge sharing, practical learning, and technical interaction, while enhancing students' creativity, presentation skills, and understanding of manufacturing processes. It also inspired participants to pursue innovative engineering projects and develop industry-oriented technical competencies.



CARE ME Ice Cream Stall

On 10 October 2025, the Department of Mechanical Engineering, through its student social initiative CARE ME, organized an Ice Cream Stall at the College Sports Ground as part of the Sports Day celebrations. The initiative was conducted for students, faculty members, staff, parents, alumni, and visitors, under the guidance of Mr. Balakrishnan C. R. and Mr. Rojin Mathews, Asst. Professors, Dept. of ME.

The stall offered a variety of ice cream products, with the primary objective of raising funds for CARE ME's charitable and social welfare activities while promoting entrepreneurship, teamwork, and social responsibility among students. Student volunteers managed the entire operation, including planning, procurement, sales, inventory management, customer service, and financial accounting, gaining valuable hands-on experience in event management and business operations.

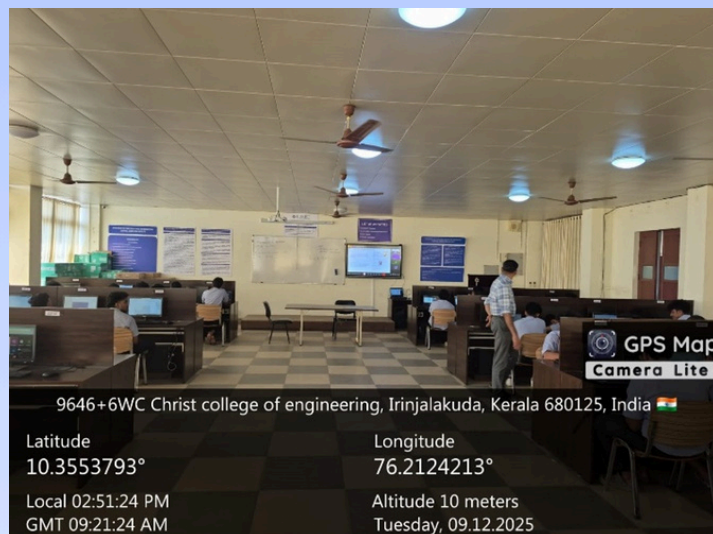
The initiative received an enthusiastic response from the college community and generated substantial support for the department's social outreach activities. The programme successfully combined entrepreneurial learning with community service, reinforcing the values of leadership, collaboration, and social commitment among the students.

ASME Workshop on Automated Machine Learning (AutoML)

Continuing its efforts to expose students to emerging technologies, the Department of Mechanical Engineering, in association with the ASME CCE Student Section, organized an online workshop on Automated Machine Learning (AutoML) on 09 December 2025 for S1 Mechanical Engineering students. The session was conducted by Mr. Arunjith Chowdhary, Technical Expert, EBTS Solutions Pvt. Ltd., who introduced participants to the fundamentals of Artificial Intelligence (AI), Machine Learning (ML), and Automated Machine Learning (AutoML).

The workshop featured interactive demonstrations on AutoML platforms, covering data preparation, model training, evaluation, and deployment with minimal programming effort. The resource person also highlighted real-world applications of AI in manufacturing, predictive maintenance, quality control, industrial automation, and Industry 4.0, while emphasizing the growing importance of data-driven decision-making in modern engineering. Through practical examples and an engaging interactive session, students gained valuable insights into the role of AI-powered technologies across engineering disciplines.

The programme significantly enhanced participants' awareness of emerging digital technologies and their industrial applications, while motivating them to explore higher studies, research, certifications, and career opportunities in Artificial Intelligence, Machine Learning, Data Science, and Smart Manufacturing. The workshop successfully reinforced the department's commitment to preparing students for the rapidly evolving landscape of digital engineering.



Cake and Cheer – Christmas Fundraising Initiative

Bringing together the spirit of Christmas and social responsibility, CARE ME, the students' social initiative of the Department of Mechanical Engineering, organized "Cake and Cheer", a Christmas fundraising programme on 18 December 2025 for students, faculty members, staff, and visitors. The initiative was coordinated under the guidance of Mr. Balakrishnan C. R. and Mr. Rojin Mathews, Asst. Professors, Dept. of Mechanical Engineering. Adopting a unique online pre-order system, the programme enabled participants to place cake orders in advance, ensuring efficient planning and smooth distribution during the Christmas celebrations. Student volunteers actively managed publicity, order processing, logistics, customer communication, and financial coordination, while the enthusiastic participation from the college community contributed to the programme's success.

The initiative not only created a festive atmosphere on campus but also provided students with valuable exposure to event management, entrepreneurship, logistics planning, customer service, and teamwork. The funds generated through the programme will be utilized for the charitable and social welfare activities undertaken by CARE ME, reinforcing the department's commitment to community service and the holistic development of its students.

3D Modelling and Part Assembly Using Siemens NX

Strengthening students' practical skills in modern product design and additive manufacturing, the Department of Mechanical Engineering, in association with CIPET IPT, Kochi, organized a hands-on training programme on 3D Modelling and Part Assembly Using Siemens NX on 15 December 2025 at the CAD Lab, St. Chavara Block. The programme was conducted for S6 Mechanical Engineering students, with Mr. Mohammed Shameem K., Faculty, CIPET IPT, Kochi, serving as the resource person. The programme was coordinated by Dr. Alish James, Associate Professor, Dept. of Mechanical Engineering.

The training introduced participants to the fundamentals of 3D CAD modelling, parametric design, part modelling, assembly creation, and motion simulation using Siemens NX. Students also gained practical exposure to 3D printing workflows, including STL generation, slicing techniques, FDM printer operation, material selection, and design-for-manufacturability (DFM) principles. Through interactive demonstrations, hands-on exercises, and real-world case studies, participants developed a comprehensive understanding of the complete product development cycle—from concept and digital modelling to prototype fabrication.

The programme significantly enhanced students' proficiency in industry-standard CAD and additive manufacturing technologies while improving their confidence in product design and rapid prototyping. The training also strengthened industry-academia collaboration, creating opportunities for future internships, collaborative research, and potential institutional partnerships with CIPET IPT, Kochi, thereby reinforcing the department's commitment to industry-oriented technical education.



Care and Share – Grocery Donation Drive

Demonstrating the spirit of compassion and community service, CARE ME, the students' social initiative of the Department of Mechanical Engineering, organized "Care and Share", a Grocery Donation Drive on 06 March 2026 for students, faculty members, staff, and beneficiary families. The initiative was conducted under the guidance of Mr. Balakrishnan C. R. and Mr. Rojin Mathews, Asst. Professors, Dept. of Mechanical Engineering. Members of the college community generously contributed essential grocery items, including rice, pulses, cooking oil, sugar, spices, packaged food, and other daily necessities. Student volunteers efficiently managed the awareness campaign, collection, sorting, documentation, packaging, and preparation of grocery kits for distribution to deserving families.

The programme received an overwhelming response from the college community and successfully promoted the values of empathy, generosity, and social responsibility among students. Besides providing meaningful assistance to underprivileged families, the initiative offered participants valuable experience in event coordination, volunteer management, teamwork, and community engagement, reflecting the department's continued commitment to social outreach and holistic student development.



Project Expo – Kinematic Simulation of Mechanical Components

Exploring the practical applications of mechanical design and simulation, the Department of Mechanical Engineering organized a Project Expo on 21 October 2025, where S5 Mechanical Engineering students showcased innovative engineering projects. One of the featured exhibits, "Kinematic Simulation of Mechanical Components," demonstrated the analysis and simulation of the motion of mechanisms such as four-bar linkages, slider-crank mechanisms, cam and follower systems, gear trains, and connecting rod assemblies using industry-standard CAD and simulation software. The project emphasized virtual motion analysis to evaluate displacement, velocity, acceleration, and component interactions before physical fabrication.

Through the use of software including SolidWorks Motion Analysis, CATIA, AutoCAD, Autodesk Inventor, and MATLAB, students successfully illustrated the importance of simulation in optimizing mechanism design, detecting interferences, and improving system performance. The project enhanced participants' understanding of kinematic principles and provided valuable hands-on experience in modern engineering design tools, reinforcing the significance of virtual prototyping in automobile engineering, robotics, manufacturing, and product development.



Academia–Industry Confluence Session on Pipe Coating & Testing in MEP Systems

Providing students with valuable exposure to industrial practices, the Department of Mechanical Engineering organized an Academia–Industry Confluence Session on "Pipe Coating & Testing in MEP Systems" for S6 Mechanical Engineering students. The session was led by Mr. Akshay P., Corrosion Engineer, ARAMCO–TÜV Rheinland, who shared his expertise in corrosion engineering, pipeline integrity, and quality assurance practices. The programme focused on pipe coating technologies, corrosion prevention methods, testing procedures, and quality control measures adopted in Mechanical, Electrical, and Plumbing (MEP) projects, supported by real-world industrial case studies and an interactive discussion.

The session enhanced students' understanding of protective coating systems, hydrostatic and pressure testing, inspection techniques, and international industry standards used in the construction, infrastructure, and oil & gas sectors. It also created awareness about career opportunities in MEP engineering, corrosion engineering, quality assurance, and industrial inspection, reinforcing the department's commitment to bridging the gap between academic learning and industry requirements.



MECHXPO 2.0 – Mechanics of Machinery Project Expo

Fostering innovation through experiential learning, the Department of Mechanical Engineering organized MECHXPO 2.0 – Mechanics of Machinery (MOM) Project Expo on 11 March 2026 for Mechanical Engineering students, faculty members, and visitors. The expo was coordinated by Mr. Balakrishnan C. R., Asst. Professor, Dept. of Mechanical Engineering, with Aswathy Anilkumar (S4 ME) and John Joseph (S4 ME) serving as student coordinators. S4 Mechanical Engineering students presented a wide range of working and non-working models based on mechanisms, gear trains, cam and follower systems, slider-crank mechanisms, motion transmission, automation concepts, and machine design applications, demonstrating the practical implementation of concepts learned in Mechanics of Machinery.

The exhibition provided an interactive platform where students explained the design, working principles, and industrial applications of their projects to faculty members and visitors. Technical discussions and feedback sessions enhanced participants' understanding of mechanical systems while strengthening their problem-solving, teamwork, presentation, and communication skills. The expo successfully bridged the gap between theoretical knowledge and practical engineering applications, encouraging innovation and preparing students for future industrial and research opportunities.



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