

MOMENTUM

DEPARTMENT OF MECHANICAL ENGINEERING

FROM HoD's DESK

VISION

To be a center of excellence in Mechanical Engineering by creating innovative and socially responsible technocrats to meet the global challenges.

MISSION

1. To provide qualitative technical knowledge in the domain of Mechanical Engineering to compete in the global scenario.
2. To nurture socially committed Mechanical Engineers through value based education.
3. To enhance the research ability of knowledge seekers for the changing needs of society.

It gives me immense pleasure to present the Department Newsletter Momentum, showcasing the significant academic, technical, research, and professional activities of the Department of Mechanical Engineering. During this period, the department organised various workshops, expert talks, webinars, project exhibitions, and technical activities covering emerging areas such as additive manufacturing, advanced materials, polymers, quality control, energy, and sustainable engineering. These initiatives provided students with opportunities to strengthen their technical knowledge, practical skills, creativity, and industry readiness.

The department has also made commendable progress in research, innovation, and intellectual property generation. Faculty members contributed research publications and book chapters in areas including hybrid composites, polymer materials, electromagnetic shielding, and sustainable engineering. A significant achievement during this period was the publication of eight patents in 2026, addressing innovative applications in electric vehicle battery thermal management, assistive exoskeletons, solar thermal energy storage, additive manufacturing, predictive maintenance, robotics, and renewable-energy-based desalination systems.

I sincerely appreciate the dedicated efforts of our faculty members, the enthusiasm of our students, and the continued support of the management and college administration in achieving these accomplishments. Faculty participation in FDPs and training programmes has further strengthened the department's academic and professional capabilities. As we move forward, we remain committed to fostering academic excellence, research, innovation, sustainability, industry collaboration, and ethical professional practice, thereby preparing our students to become competent and socially responsible engineers capable of addressing the challenges of the future.



Dr. Arun Jose.

PROGRAM EDUCATIONAL OBJECTIVES

Domain knowledge: Graduates will be able to solve the contemporary issues and challenges in mechanical engineering by applying their strong base in Mathematics, Science and Engineering.

Lifelong learning: Graduates shall have a passion to engage in lifelong learning process through self study,

continuing education and professional studies in engineering.

Creative skillset: Graduates will become an effective innovator, to address social, technical and business challenges by enhancing their technical competencies, communication skill and team spirit.

PROGRAM SPECIFIC OBJECTIVES

PSO 1: Able to identify, formulate design and analyze the contemporary challenges and engineering problems in the realm of Design, Industrial and Thermal sciences, utilizing latest technology.

PSO 2: Able to provide solutions by incorporating innovative ideas on product design and development to conquer the challenges in core mechanical sectors, business and other related fields.

DEPARTMENT ACTIVITIES

- 03 February 2026 – Workshop on Industrial Quality Assurance and Quality Control.
- 25 February 2026 – Expert Talk on Additive Manufacturing of Advanced Materials.
- 05 March 2026 – Webinar on Next Generation Functional Materials for Emerging Applications.
- 11 March 2026 – Torque – Department Fest organised by the Department of Mechanical Engineering.
- 10 April 2026 – Expert Talk on Introduction to Polymers and Conducting Polymers.

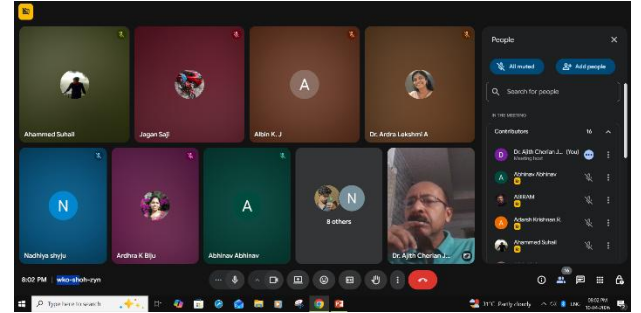
FACULTY ACHIEVEMENTS

- Mr. Rahul Krishnan – Participated in the FDP on Sustainable Materials and Manufacturing, organised by Toc H Institute of Science and Technology, Arakkunnam, 02–07 February 2026.
- Mr. Abin Roy – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Mr. Abin Paul – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Mr. Santhu Varghese Thomas – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Mr. Albin Thomas – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Dr. Arun Jose – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Dr. Rabi J – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.
- Mr. Amal R – Participated in the FDP on Material Science in the Era of AI and Recent Trends, organised by Sreepathy Institute of Management and Technology, 22–27 June 2026.

GALLERY



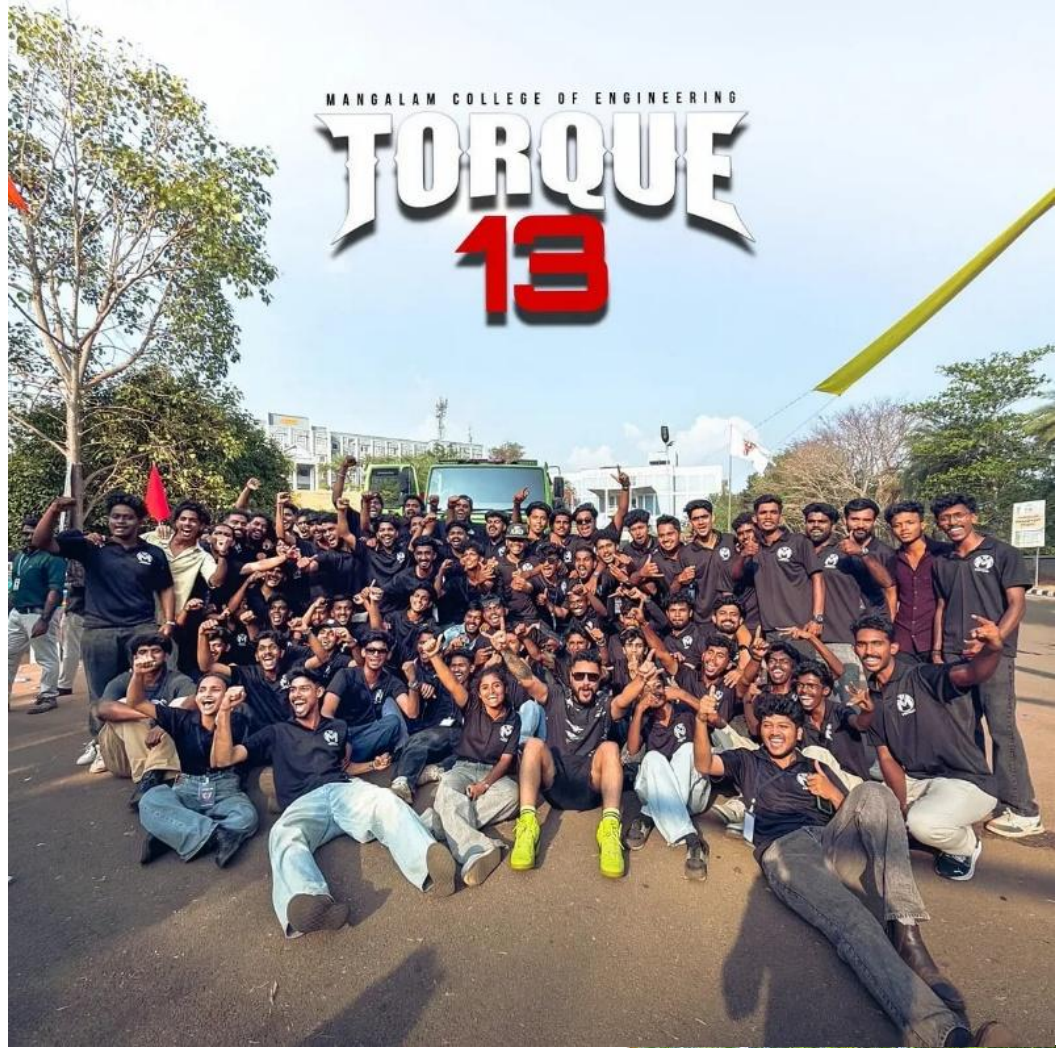
Workshop on Industrial Quality Assurance and Quality Control.



Expert Talk on Introduction to Polymers and Conducting Polymers.



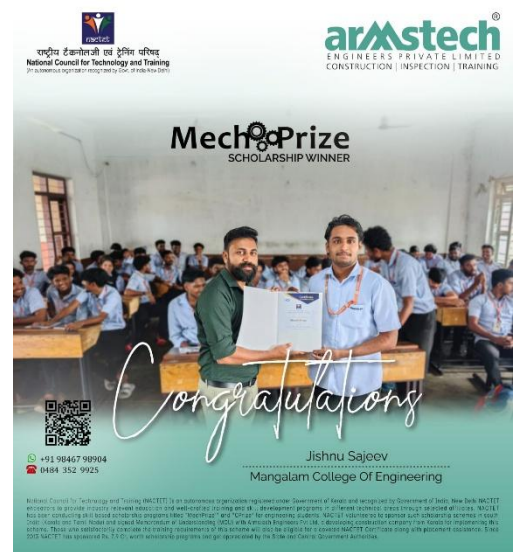
GALLERY



GALLERY



GALLERY



DESIGN ANALYSIS AND FABRICATION OF A PETROLPOWEREDED GO-KART

Chacko Peter, D Yedhuraj, Renil V Roy, Sreekanth A S (2022-26)



RESEARCH AND ACADEMIC ACHIEVEMENTS

- Dr. Abin Roy – Published two book chapters in 2026 on *Thermofluid Aspects of Renewable Energy Systems* and *Environmental Impact Assessment and Sustainability Analysis of Thermofluid Systems*, published by Elsevier.
- Dr. Manuel George – Published research works in 2026 on electromagnetic shielding nanocomposites and carbonaceous filler/fibre hybridisation in polymer composites.
- Navish Kumar, Dr. Manuel George, Mr. Abin Paul, Mr. Amal R and Mr. Rahul Krishnan – Research publication on reinforced coir, sugarcane and glass-fibre hybrid composites in *EPJ Web of Conferences*, 2026.
- Mr. Abin Paul, Mr. Santhu Varghese Thomas, Dr. Arun Jose, Dr. Rabi J and Dr. Manuel George – Research publication on PLA–ABS composites for structural applications in *EPJ Web of Conferences*, 2026.
- Navish Kumar, Abin Roy, Rahul Krishnan, Amal Shaji and other contributors – Patent on Advanced Thermal Management System for Electric Vehicle Battery Packs, 2026.
- Dr. Rabi J, Santhu Varghese Thomas, Premith S, Albin Thomas and Abin Roy – Patent on Smart Assistive Exoskeleton System, 2026.
- Dr. Rabi J, Rahul Krishnan and Premith S – Patent on High-Performance Solar Thermal Energy Storage System, 2026.
- Dr. Manuel George and Rajeeve K Mohan – Patent on Additive Manufacturing Process for Functionally Graded Materials, 2026.
- Dr. Arun Jose, Amal Shaji and Johan George Cherian – Patent on Intelligent Predictive Maintenance System for Rotating Machinery, 2026.
- Amal R, Harikrishnan A R, Muhammad Nihal P A and Albin Thomas – Patent on Autonomous Robotic Inspection System, 2026.
- Dr. Arun Jose, Mr. Rajeeve K Mohan, Mr. Harikrishnan A R and Mr. Muhammad Nihal P A – Patent on Multi-Terrain Autonomous Robotic Mobility Platform, 2026.
- Dr. Manuel George, Mr. Navish Kumar, Amal Shaji, Amal R and Mr. Abin Paul – Patent on Hybrid Renewable Energy-Based Desalination System, 2026.

STUDENT ACHIEVEMENTS

- Renault Nissan – TVS Training & Services: 29 students successfully participated in industrial training, gaining practical exposure to automotive manufacturing, engineering processes, and industry practices.
- Brakes India: 6 students underwent industrial training, gaining hands-on exposure to automotive component manufacturing and industrial operations.
- Tenneco Clean Air India Pvt. Ltd.: 25 students participated in industrial training, obtaining practical exposure to automotive emission-control technologies, manufacturing processes, and industrial practices.



Editorial

Dr. Arun Jose

Mr. Rajeeve K Mohan

Mr. Santhu Varghese

Annapoorna B (Student Editor)

Jishnu M (Assistant Editor)

Glodin Tony

Dius Binol

Akshara Shaji

