

# MOMENTUM

*DEPARTMENT OF MECHANICAL ENGINEERING  
MANGALAM COLLEGE OF ENGINEERING, ETTUMANOOR*

JAN- JUN, 2024

## 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.

## From HOD's Desk

Dear Colleagues & Students,

It is a privilege to address you as the Head of the Department through this edition of our newsletter, documenting the milestones and academic endeavors of the period from January to June.

First and foremost, on behalf of the entire department fraternity, I extend our profound gratitude and warmest appreciation to our former Head of the Department, Dr. Pratheesh K, who recently stepped down to pursue a new academic endeavor.

Dr. Pratheesh's visionary leadership, dedication, and steadfast commitment to academic excellence laid a robust foundation for our department's growth. We wish him the very best as he embarks on this promising new chapter of his teaching and research career..

Stepping into this role, my objective is to sustain this forward momentum while fostering an environment that encourages innovative thinking, hands-on technical competence, and ethical professionalism. The past six months have been marked by notable student projects, faculty development, co-curricular initiatives, and active campus engagement. These pages reflect the diligence and creativity of our students and faculty members alike.

As we look ahead, our focus remains on strengthening industry-institute interaction, enhancing research output, and mentoring our students to excel in an evolving technological landscape. I invite our students, faculty, and alumni to continue collaborating with passion and purpose.

Sincerely,

**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

- Technical Talk on Review of Air Standard and Rankine Cycles conducted on 20 March 2024. Resource Person: Prof. Arun Kumar K, Assistant Professor, ME Department, Amrita School of Engineering.
- Technical Paper Presentation conducted on 04 April 2024.
- Workshop on Industrial Quality Assurance and Quality Control conducted on 16 April 2024. Resource Person: Armstek Engineers, Kochi.
- Awareness Program on Moral Leadership and Ethical Challenges conducted on 16 April 2024. Resource Person: Dr. Keshav Mohan, Director, Management Studies, SNIT Adoor.
- Expert Talk on CFD in the Perspective of Fluid Machinery conducted on 29 April 2024. Resource Person: Dr. Vineet V K, Assistant Professor, Department of Mechanical Engineering.
- Expert Talk on Heat Transfer Enhancement through Additive Manufacturing conducted on 03 May 2024. Resource Person: Dr. Vidya Chandran, Associate Professor & HOD, SCMS School of Engineering and Technology.
- Expert Talk on Introduction to Tribology conducted on 03 May 2024. Resource Person: Mr. Ajith Kurian Baby, Research Scholar, NIT Kozhikode.

**MANGALAM**  
COLLEGE OF ENGINEERING  
Inspire | Imbibe | Innovate

**3<sup>rd</sup> INTERNATIONAL CONFERENCE ON  
ADVANCES IN MECHANICAL ENGINEERING:  
TRANSCENDING BOUNDARIES**

24<sup>th</sup> May 2024  
25<sup>th</sup> May 2024

Organized by  
Department of Mechanical Engineering

**KEYNOTE SPEAKERS**

**CHIEF GUEST**  
Dr. Tannay Basak  
Professor  
IIT Madras  
Chennai

**Dr. Sharu B. K.**  
Assistant Professor  
Department of Mechanical Engineering  
National Institute of Technology  
Kozhikode, Kerala

**Dr. Samuel G. L.**  
Professor  
Dept. of Mechanical Engg.  
IIT Madras

**Dr. Praveen  
Bhaskaran Pillai**  
Professorial Research Fellow  
Western Michigan University  
Kalamazoo, MI

**Dr. Ashwath Pazhani**  
Lecturer  
Engineering Design &  
Materials Specialization  
Concordia University, Concordia, QC



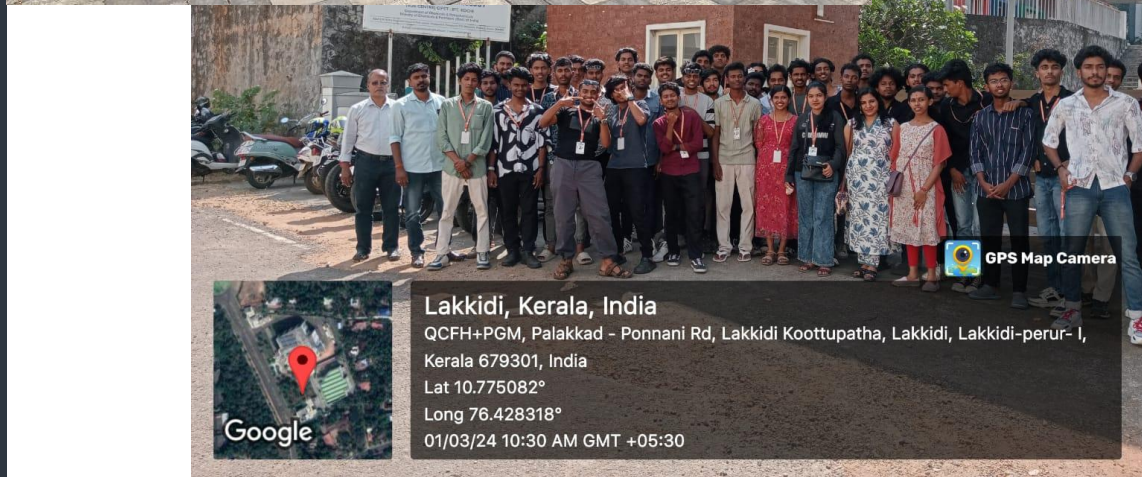
## Students' Corner

- **Devan Sarath** – participated in Project Exhibition – **22 March 2024.**
- **Emin Joseph** – participated in Project Exhibition – **22 March 2024.**
- **Preethi Satheesh** – participated in Project Exhibition – **22 March 2024.**
- **Maneesh S** – participated in Project Exhibition – **22 March 2024.**
- **Anil Joseph** – participated in Poster Presentation – **02 April 2024.**
- **Varsha Lal** – participated in Poster Presentation – **02 April 2024.**
- **Ribin Varghese** – participated in Poster Presentation – **02 April 2024.**
- **Pranav P M** – participated in Poster Presentation – **02 April 2024.**
- **Anand Prasad** – participated in Poster Presentation – **02 April 2024.**
- **Amal Dev H** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **17 January 2024.**
- **Aswin K S** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **19 January 2024.**
- **Devan Sarath** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **17 January 2024.**
- **Mahesh Narayanan** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **19 January 2024.**
- **Maneesh S** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **18 January 2024.**
- **Noyal Binoy** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **18 January 2024.**
- **Preethi Satheesh** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **23 January 2024.**
- **Rejath Rajan** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **29 January 2024.**
- **Roshan Simon** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **30 January 2024.**
- **Vishal Sasidharan** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **18 January 2024.**
- **Vishnu Haridas** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **24 January 2024.**
- **YP Meenakshy** – participated in Young Innovators Programme (YIP) by Kerala Development and Innovation Strategic Council (K-DISC) – **18 January 2024.**

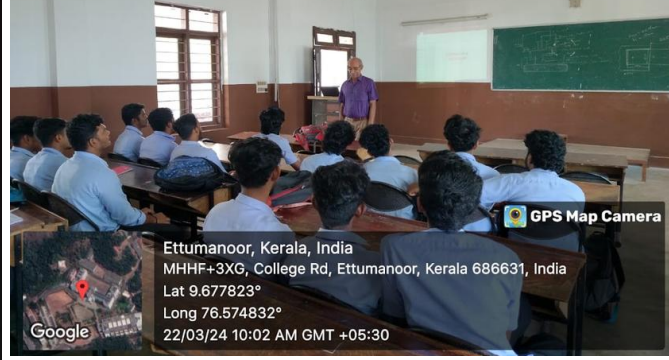
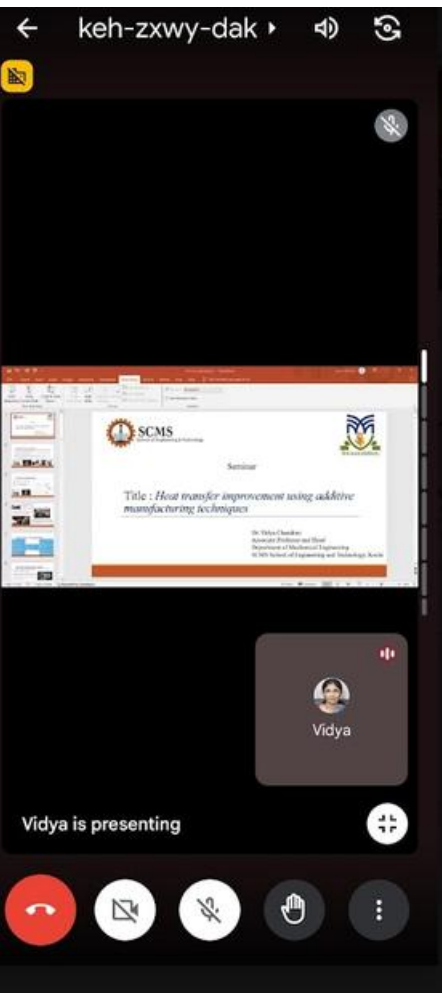
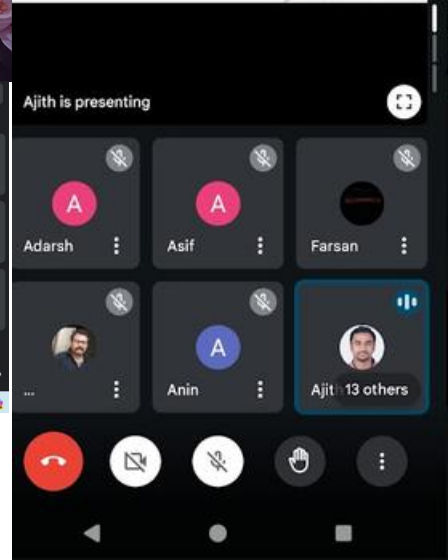
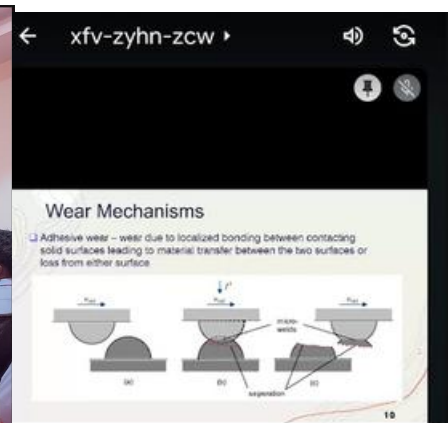
# Faculty Corner

- Mr. Premjith S – participated in Underwater Robotics: Research Opportunities and Challenges – KMEA College of Engineering & AICTE ATAL – 15–20 January 2024.
- Mr. Johan George Cherian – participated in Underwater Robotics: Research Opportunities and Challenges – 15–20 January 2024.
- Mr. Tony Mathew – participated in Underwater Robotics: Research Opportunities and Challenges – 15–20 January 2024.
- Dr. Rabi J – participated in Underwater Robotics: Research Opportunities and Challenges – 15–20 January 2024.
- Dr. Bibin K S – participated in Underwater Robotics: Research Opportunities and Challenges – 15–20 January 2024.
- Mr. Amal R – participated in Developments in Renewable Energy Systems and Technologies – Musaliar College of Engineering & Technology in association with ISTE Kerala Section – 08–12 January 2024.
- Mr. Rahul Krishnan – participated in Global Conversations in Mechanical Engineering: Bridging Innovation and Sustainability – Madanapalle Institute of Technology & Science – 19–23 February 2024.
- Mr. Amal R – participated in Global Conversations in Mechanical Engineering: Bridging Innovation and Sustainability – 19–23 February 2024.
- Santhu Varghese Thomas – participated in AI and ML Empowerment – Shaping the Future of Mechanical Engineering – SCMS School of Engineering & Technology – January 2024.
- Dr. Rabi J – published Development of Fuzzy Logic Controller in Automatic Vehicle Navigation using IoT – Journal of Electrical Systems, 2024.
- Bibin, Kattupurathu Scharia, Sarath Raj, Janardanan Sarasamma Jayakumar and Krishnan Kutty Elsy Bai Reby Roy – published OpenFOAM Modelling of Single-Phase and Two-Phase Heat Transfer in Square Ducts Partially Filled with Porous Medium – Experimental and Computational Multiphase Flow, 2024.
- Navish Kumar – published Factors Influencing the Design of Parabolic Trough Collector – International Journal of Energy and Thermal Applications, 2024.
- Dr. Pratheesh K – published Liquid Metallurgy Synthesis of Gr or MoS<sub>2</sub>-Reinforced Aluminum Composites: A Short – Technical Gazette, 2024.
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# GALLERY



# GALLERY



# Publications

- Dr. Manuel George – published research paper Buckling, bending and dynamic analyses of laminated three-phase polymer/graphene/carbon fiber composite rectangular plates – Structures, 2023.
- Dr. Manuel George – published research paper Enhancement of vibrational characteristics of rotating CFRP composite tapered plates reinforced by graphene nanoparticles – Polymer Composites, 2023.
- Dr. Manuel George – published research paper Characterization of material, mechanical, static bending and vibration properties of glass fiber composite panels reinforced with graphene nanofillers – Journal of Manufacturing Processes, 2023.
- Dr. K. Pratheesh – published research paper Investigation and Optimization of Tribo-Mechanical Behavior of Squeeze Casted Al-Si Piston Alloy-Based Metal Matrix Composite Using Response Surface Methodology and Neural Network – Surface Review and Letters, 2023.
- Dr. Manuel George – published research paper Design of Flexible Mobile Platforms for Industrial Elevation Tasks – 2023.

## NPTEL Courses

- Dr. Manikandan H, Professor – completed NPTEL course on Industrial Safety Engineering – 12 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Sustainable Energy Technology – 12 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Product Design and Development – 4 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Blockchain and its Applications – 12 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Carbon Materials and Manufacturing – 12 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Fundamentals of Automotive Systems – 12 weeks.
- Dr. Manikandan H, Professor – completed NPTEL course on Operations Management – 12 weeks.

## TWO WHEELER PUNCTURE ASSISTING TROLLEY



Mangalam College of Engineering final year Mechanical Engineering students Amaldev H, Gopikrishnan G, Gowrisankar A and T Muhammad Tanzeer with two wheeler puncture assisting trolley guided by Assistant Professor Santhu Varghese Thomas.



KTU CERD FUNDING: Rs 27390

## Editorial

Dr. Pratheesh K  
Mr. Rajeeve K Mohan  
Mr. Santhu Varghese  
Devan Sarath  
(Student Editor)  
Preethi Satheesh  
(Assistant Editor)  
Anandu V Pradeep  
Amal Shaji

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