

Department of Mechanical Engineering

A.Y 2024-2025, Even Semester

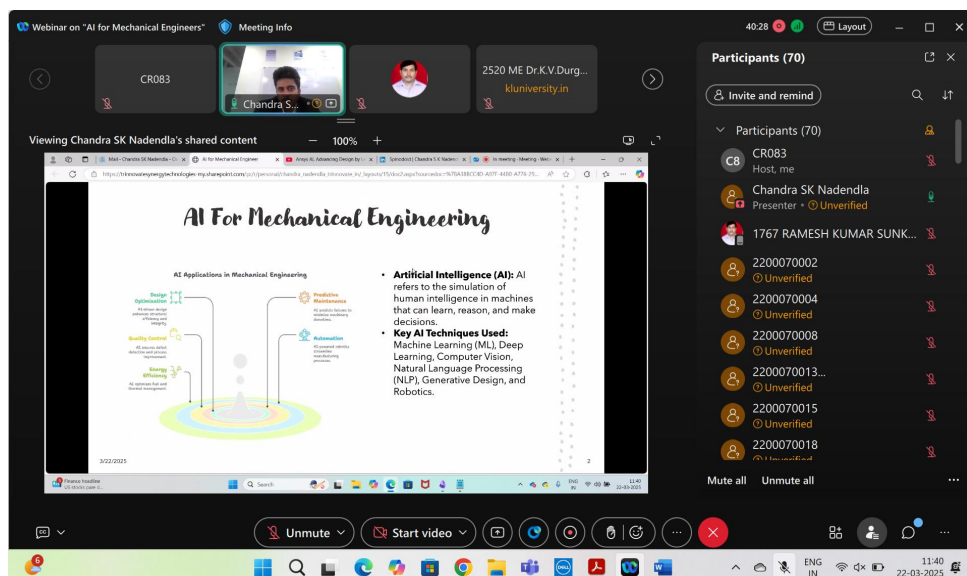
Webinar Report

In view of department activities, Department of Mechanical Engineering conducted a Webinar with **Mr. N. Chandra Sai Kamal** on **22-03-2025**. Mr. N. Chandra Sai Kamal is working as Product Manager, Trinnovate Synergy Technology Pvt. Ltd., Gujarat, India. He gave continuous lecture from 11:30 A.M to 12:30 P.M on the topic **“AI for Mechanical Engineers”**. In on-line mode, he has given presentation in Webex platform in which **102 participants (95 students and 7 faculty)** of ME department was participated in blended mode in Webex platform and in CAD Lab, M124, M128.

Webex Link:

<https://kluniversity.webex.com/kluniversity/j.php?MTID=me54f9d1a7ec1dd188fa89dd8eea9bf11>

The session aimed to explore the role of Artificial Intelligence (AI) in mechanical engineering, its applications, benefits, and future prospects. The webinar featured expert speakers from academia and industry, providing valuable insights into AI-driven innovations in mechanical engineering.





Objectives of the Webinar

- To introduce AI and its significance in mechanical engineering.
- To explore AI applications in design, manufacturing, and maintenance.
- To discuss the role of AI in predictive maintenance and optimization.
- To understand AI-driven automation in mechanical industries.

AI Innovations in Mechanical Engineering

AI Powered Smart Materials → Autonomous Manufacturing Systems

AI in Thermal Management → AI-Optimized Additive Manufacturing

AI-Driven Robotics → AI for Structural Health Monitoring

- **AI-Powered Smart Materials:** Development of adaptive and self-healing materials.
- **Autonomous Manufacturing Systems:** AI-driven factories with minimal human intervention.
- **AI in Thermal Management:** Smart cooling systems for aerospace and automotive applications.
- **AI-Optimized Additive Manufacturing:** AI enhances 3D printing for stronger, lightweight materials.
- **AI-Driven Robotics:** More precise and adaptive robotic arms for automation.
- **AI for Structural Health Monitoring:** Predicts and prevents material fatigue and structural failures.

Key Topics Covered

- Introduction to AI, Machine Learning, and Deep Learning.
- AI applications in Computer-Aided Design (CAD) and simulation.
- Role of AI in predictive maintenance and fault diagnosis.
- AI-powered robotics and automation in manufacturing.
- AI-driven optimization techniques in mechanical processes.



- Future trends and career opportunities in AI for mechanical engineers.

Webinar on "AI for Mechanical Engineers"

Meeting Info

CR083

Chandra S. Nadendla

2520 ME Dr.K.V.Durg...

kluniversity.in

Participants (74)

Invite and remind

19010 Unverified

Ayush Unverified

Bharath Bharath@gmail.com

Dr. B KIRAN KUMAR Unverified

Dr. P. Samal Unverified

Druva 2200079039 kluniversity.in

KOTARI GOWRAV HRUTHIK Unverified

sadam praveen kluniversity.in

Not in the meeting (1)

2200079009 Unverified

Mute all Unmute all

AI Tools Transforming Mechanical Engineering

ANYS AI Simulation

Autodesk Fusion 360

Siemens MindSphere

IBM Watson IoT

NVIDIA Omniverse

AI-Based Computer Vision

Enhanced Mechanical Engineering Processes

3/22/2025





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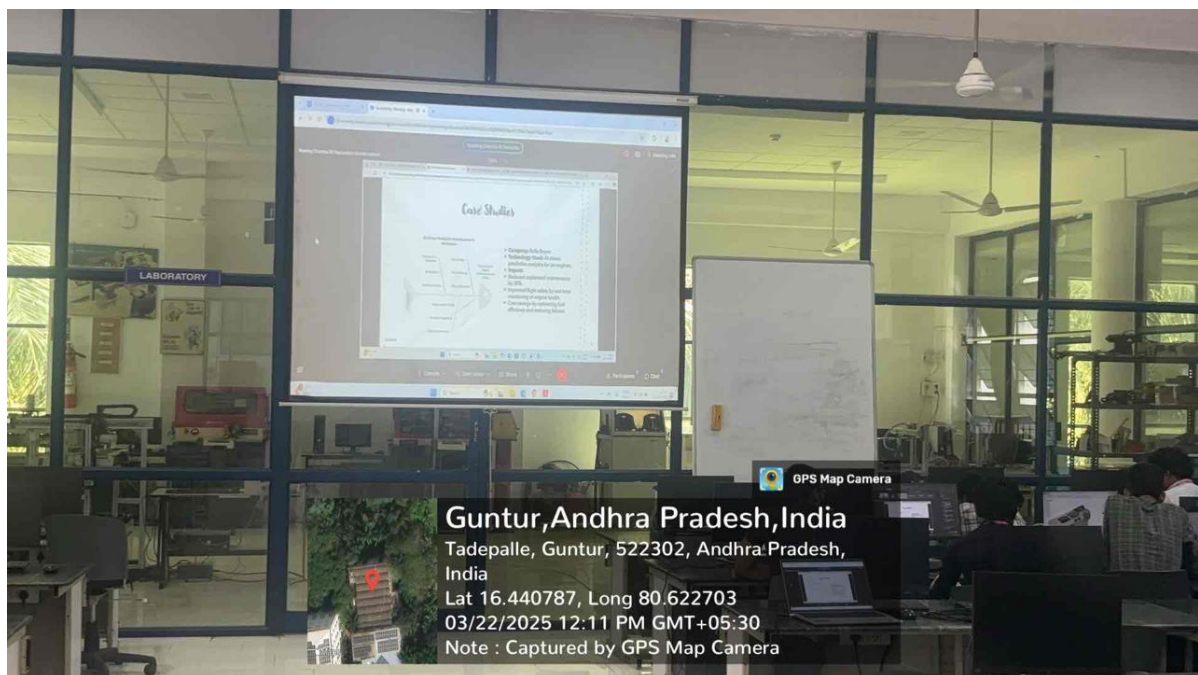
Highlights of the Session

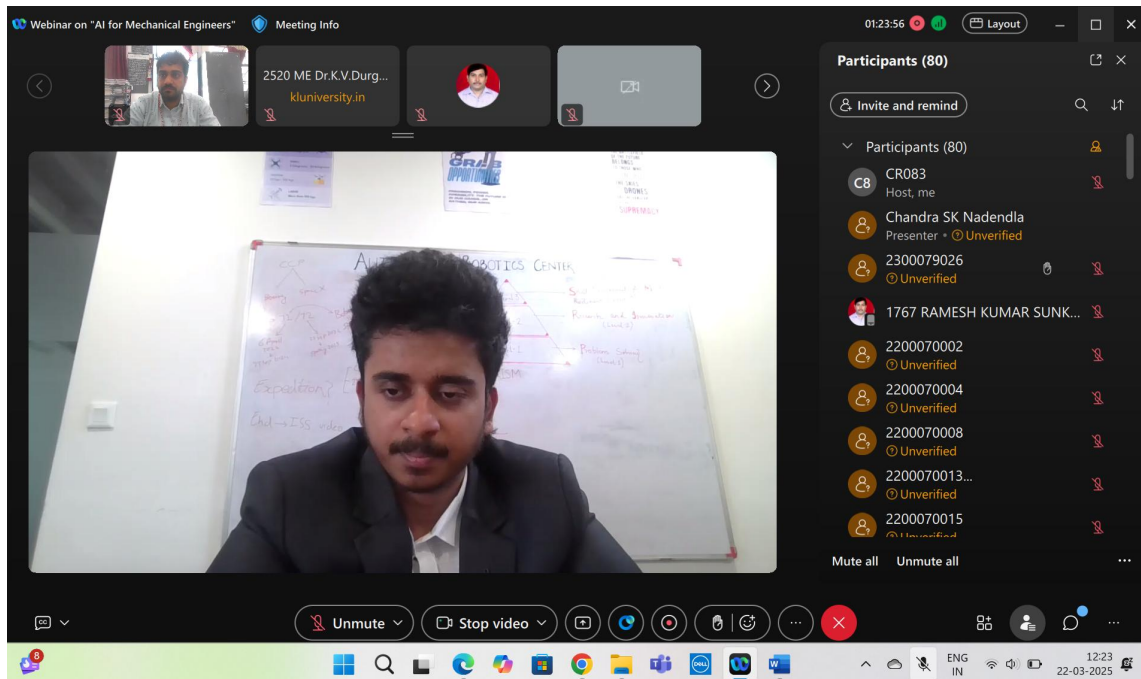
- Case Studies: Real-world applications of AI in mechanical industries were shared.

The screenshot shows a Zoom webinar interface. The main window displays a presentation titled "Case Studies" with the subtitle "AI-Driven Predictive Maintenance in Aerospace". The presentation content includes a diagram showing the flow from "Maintenance Reduction" and "AT Analytics" to "Predictive Models", which then leads to "Engine Health Checks", "Real-time Monitoring", and "Safety Improvement". The diagram also highlights "Cost Savings" and "Fuel Efficiency". To the right of the diagram, the following text is visible:

- **Company:** Rolls-Royce
- **Technology Used:** AI-driven predictive analytics for jet engines.
- **Impact:**
 - Reduced unplanned maintenance by 30%.
 - Improved flight safety by real-time monitoring of engine health.
 - Cost savings by optimizing fuel efficiency and reducing failures

The Zoom interface also shows a list of participants on the right, including CR083 (Host), Chandra SK Nadendla (Presenter), and several other participants with IDs like 2300079026, 1767 RAMESH KUMAR SUNK..., and 2200070002. The bottom of the screen shows the Windows taskbar with various application icons.





The webinar successfully provided a comprehensive understanding of AI's impact on mechanical engineering. The participants gained valuable insights into AI-driven innovations, enhancing their knowledge of the evolving technological landscape. The session concluded with an emphasis on continuous learning and upskilling in AI to stay relevant in the industry.

Few students asked questions and interacted with speaker and then Dr. K. V. Durga Rajesh sir delivered Vote of Thanks to speaker.

Prepared by

Approved by