

Conduction of Five-Days Online Faculty Development Program (FDP) titled “Emerging Trends in Sustainable Design, Intelligent Manufacturing, and Thermal Engineering Systems” organized by the Department of Mechanical Engineering in associa

From Registrar's Office <registraroffice@kluniversity.in>

Date Mon 2025-07-07 4:13 PM

To Dr. A Vani <drvani@kluniversity.in>; Dr. JKR Sastry <drsastry@kluniversity.in>; Advisor Student Affairs <habibulla@kluniversity.in>; Dr. Subrahmanyam <smkodukula@kluniversity.in>; Dr Santosh Kumar <santosh@kluniversity.in>; Dean Academics <dean.academics@kluniversity.in>; Dean P & D <deanpnd@kluniversity.in>; Dean Student Affairs <deansa@kluniversity.in>; Dean Quality <deanquality@kluniversity.in>; Dean Faculty & Staff Affairs <deanfsa@kluniversity.in>; Dean - Skill Development <deanskill@kluniversity.in>; Dean Skill Development <deansdnsp@kluniversity.in>; Dean- MHS <deanmhs@kluniversity.in>; Dean MHS & IR <kishore@kluniversity.in>; Dean Placements and Progression <deanplacement@kluniversity.in>; Dr.PV.Chalapathi <pvc@kluniversity.in>; Addl.Dean-Academics <addl.deanacademics@kluniversity.in>; Dr. B.T.P. Madhav <btpmadhav@kluniversity.in>; PRINCIPAL - COE <principal.coe@kluniversity.in>; Principal-ASC <principal.asc@kluniversity.in>

Cc PRESIDENT <president@kluniversity.in>; Raja Harin koneru <krh@kluniversity.in>; PRO-CHANCELLOR <prochancellor@kluniversity.in>; Vice Chancellor - KLU <vc@kluniversity.in>; Dr.G.P.S. Varma, Vice- Chancellor <gpsvarma@kluniversity.in>; N Venkat Ram <venkatram@kluniversity.in>; Pro VC <provc@kluniversity.in>; Pro-VC-Academics <provc-academics@kluniversity.in>; Registrar <registrar@kluniversity.in>; Dr Jagadeesh Anne <drjagadeesh@kluniversity.in>

 1 attachment (1 MB)

ME FDP brochure.docx;

Ref: KLEF/RO/ME/FDP/2025-26

Date: 07-07-2025

Orders of the Hon'ble Vice Chancellor dt.07-07-2025

CIRCULAR

Sub: Conduction of **Five-Days Online Faculty Development Program (FDP)** titled “**Emerging Trends in Sustainable Design, Intelligent Manufacturing, and Thermal Engineering Systems**” organized by the **Department of Mechanical Engineering** in association with Academic Staff College- Communication – Reg

Ref: Letter received from Dr. T. Vijaya Kumar, HoD-Mechanical Engineering

This is to inform that Department of Mechanical Engineering in association with Academic Staff College is organizing **Five-Days Online Faculty Development Program (FDP)** titled “**Emerging Trends in Sustainable Design, Intelligent Manufacturing, and Thermal Engineering Systems**” as per the details given below.

The FDP is scheduled to be held from **8th to 12th July 2025**, between **10:00 AM to 5:00 PM** through online. The link is given below.

FDP link:

<https://teams.microsoft.com/l/meetup-join/19:s7aKHITDyT34lfymJb2ddQS188166WkoY2UvLUxx3X81@thread.tacv2/1734627273488?context=%7B%22Tid%22:%22808cc83e-a546-47e7-a03f-73a1ebba24f3%22,%22Oid%22:%22b4ba03bf-7fb2-40f7-8ad6-ee9f597ed6c5%22%7D>

The objective of this Faculty Development Program is to empower faculty members with advanced knowledge and skills in the domains of engineering design, smart manufacturing, and thermal systems. The program emphasizes interdisciplinary innovation, sustainable engineering practices, and the seamless integration of emerging technologies into academic and research frameworks.

Participants will explore state-of-the-art tools such as 3D modeling, digital prototyping, and computer-integrated manufacturing, enabling them to effectively incorporate modern engineering solutions into their teaching and scholarly activities. Through expert-led sessions, the FDP aims to enrich curriculum delivery, foster innovation in sustainable design, and inspire real-world application among students.

In addition, this program serves as a collaborative platform for networking, knowledge exchange, and professional development, preparing faculty to contribute meaningfully to both academic and industry-oriented advancements.

Brochure containing more details is attached herewith.

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Encl: Brochure

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Mail & Hard copy to: Hon'ble Vice-Chancellor

Mail & Hard copy to: Pro Vice-Chancellors

Mail to: Chief Coordinating Officer-Dr.A. Jagadeesh

Mail to: Special Officer -Dr.A. Vani

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All Associate Deans / Deputy Deans / PR Head

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Mail to: Webmaster-Mr.LV

Mail to: Chief Technical Officer (CTO)-Mr.A.Satya Kalyan

Mr. Raja Sekhar, Emp. No. 2482, Jr. Network Administrator (E-mail: rajasekhar_syte@kluniversity.in)

Mail to: Professor In-charge, EduTech, Animation-Dr. M. Siva Kumar,Assoc. Professor,ECE

Mail to: GM-Purchases / Manager–Campus Ambience & Beautification-Mr.T Shakthi Swaroop

Mail to: Professor In-charge, Technical Maintenance / Liberal Arts Club-Dr.R Subhakara Raju

Mail to: HoD-ME

Mail to: All faculty

Thanks & Regards,



O/o REGISTRAR

C-006, EXTN. NO. 1200

KONERU LAKSHMAIAH EDUCATION FOUNDATION

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

❖ Approved by AICTE ❖ ISO 21001:2018 Certified

Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

Phone No. 08645 - 350200; www.klef.ac.in; www.klef.edu.in; www.kluniversity.in



DEPARTMENT OF MECHANICAL ENGINEERING

Report on the 5-Day Online Faculty Development Program (FDP)

Title: Emerging Trends in Sustainable Design, Intelligent Manufacturing, and Thermal Engineering Systems

Duration: 08-07-2025 to 12-07-2025

Organized by: Koneru Lakshmaiah Education Foundation, Department of Mechanical Engineering, Vijayawada Campus

Summary: The FDP successfully enhanced participants' knowledge in engineering design, smart manufacturing, and thermal systems. It fostered interdisciplinary collaboration, emphasized sustainability, and encouraged the integration of modern tools into academic practice.

Target Audience: Faculty from cohorts of Engineering Design, Smart Manufacturing, and Energy & CFD.

Day 1: 08-07-2025

Session 1:

- **Time:** 10 AM - 12:30 PM
- **Topic:** Capacity Building and Technology Familiarization on Additive Manufacturing
- **Resource Person:** Srimannarayana Raju P
- **Hosting Cohort:** Smart Manufacturing (E25)
- **Description:** Focused on introducing additive manufacturing, its applications, and future academic integration.



Srimannarayana Raju P
Design and Development
Engineer
Intech Additive Solutions



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Admin Off: 29-36-38, Museum Road, Governorpet, Vijayawada - 520 002. Ph: +91 - 866 - 3500122, 257715, 2576129.

Microsoft Teams meeting

42:41

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Participants

Share invite

In this meeting (15)

- Dr. K. V. Durga Rajesh
- B Kiran Kumar
- Ch. Sabitha
- Dr V L Mangesh
- Dr. G Murali
- Dr. S. S. Rao
- Dr.S.N.Padhi Organizer
- G Diwakar
- K Sai Sarath
- kanthimathi pasumarthi (Unverifie...

INTRODUCTION TO ADDITIVE MANUFACTURING TECHNOLOGY

Sriman_xlogic Labs (Unverified)

31°C Sunny

Search

ENG IN 10:06 08-07-2025

Microsoft Teams meeting

49:12

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Participants

Share invite

In this meeting (16)

- Dr. K. V. Durga Rajesh
- B Kiran Kumar
- Dr V L Mangesh
- Dr. G Murali
- Dr. S. S. Rao
- Dr.S.N.Padhi Organizer
- DVA RamaSastry
- G Diwakar
- Gavini Naga pavani (Unverified)
- K Sai Sarath

Powder bed fusion

Fused with agent and energy Fused with laser Fused with electron beam

MJF Multi Jet Fusion SLS Selective Laser Sintering DMLS / SLM Direct Metal Laser Sintering Selective Laser Melting EBM Electron Beam Melting

Plastic Plastic Metal Metal

LPBF Metal 3D printing at Sandvik (Source: Sandvik)

Depowdering and clearing SLS 3D printed parts can be manual at automated (Source: Sinterit)

Sriman_xlogic Labs (Unverified)

Search

ENG IN 10:13 08-07-2025



Koneru Lakshmaiah Education Foundation

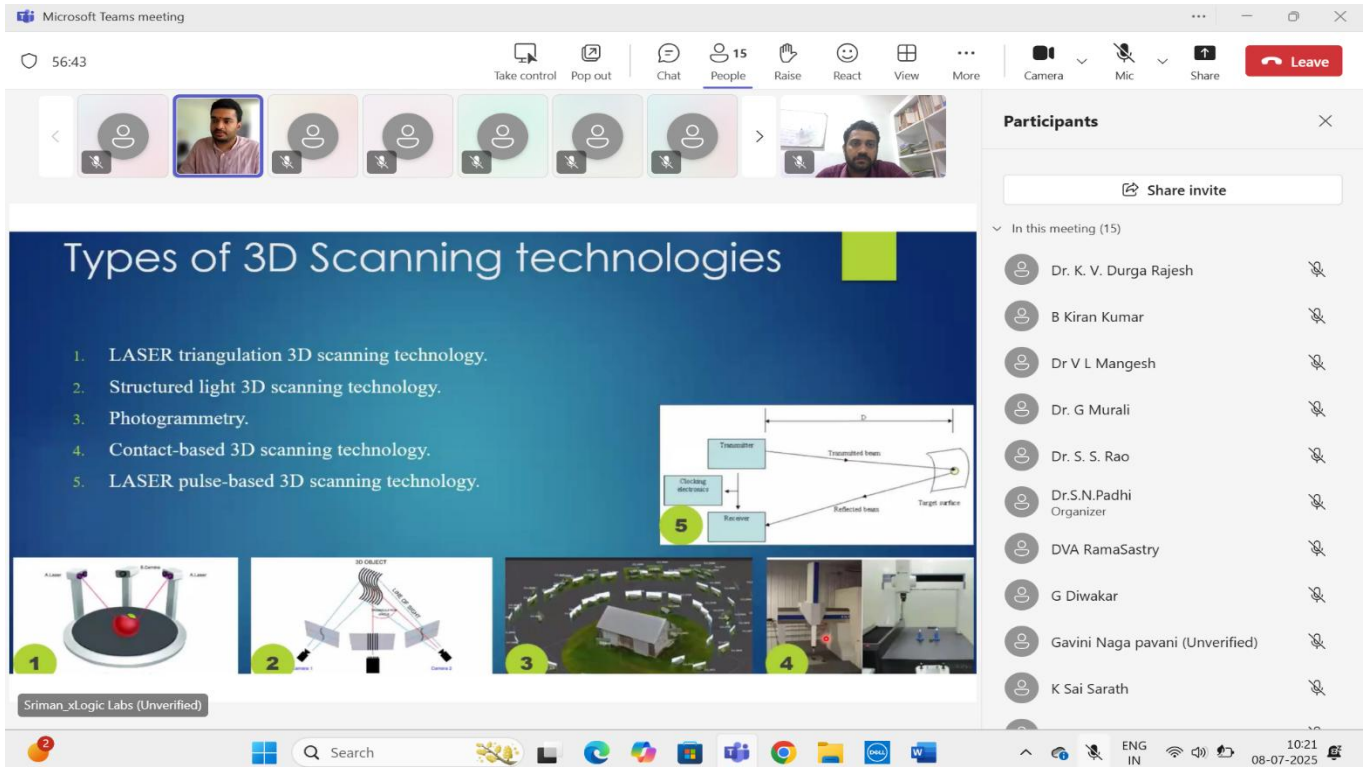
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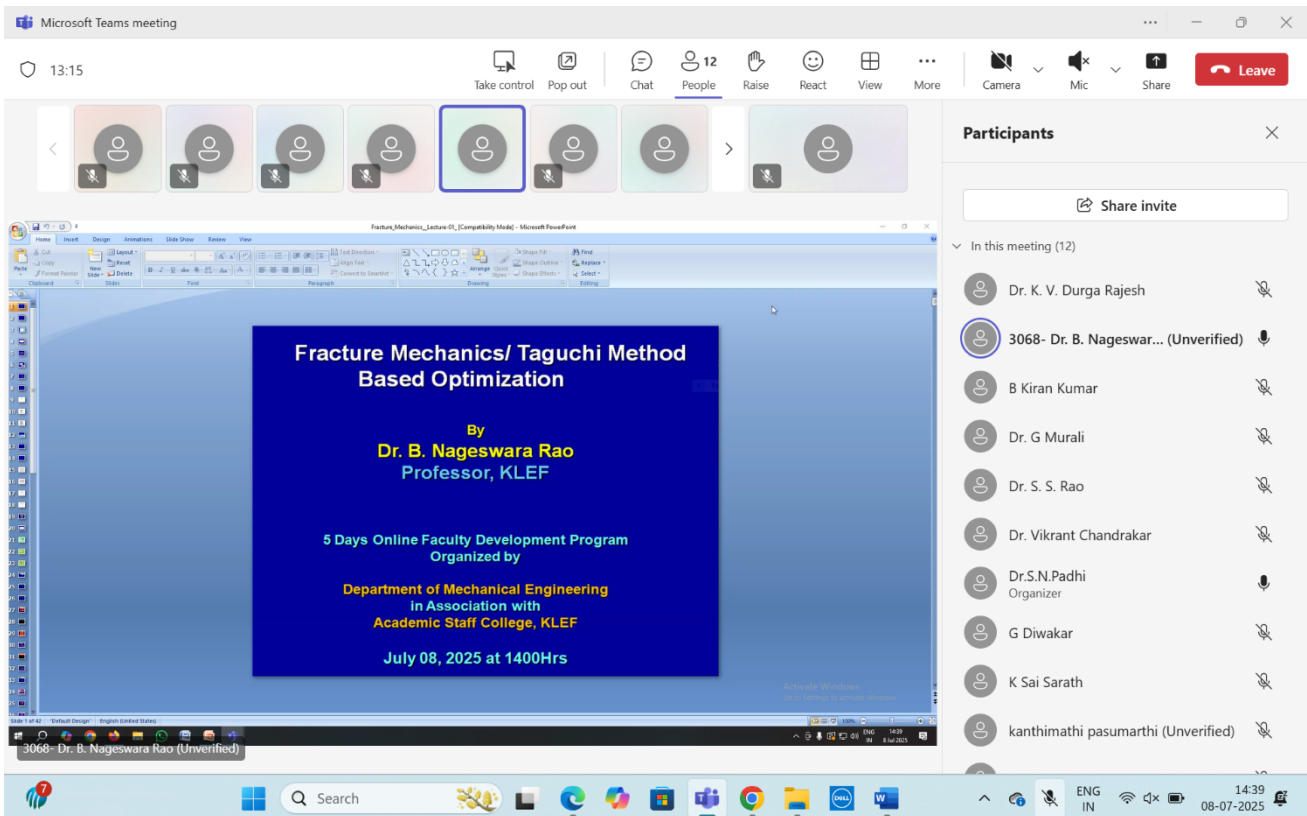


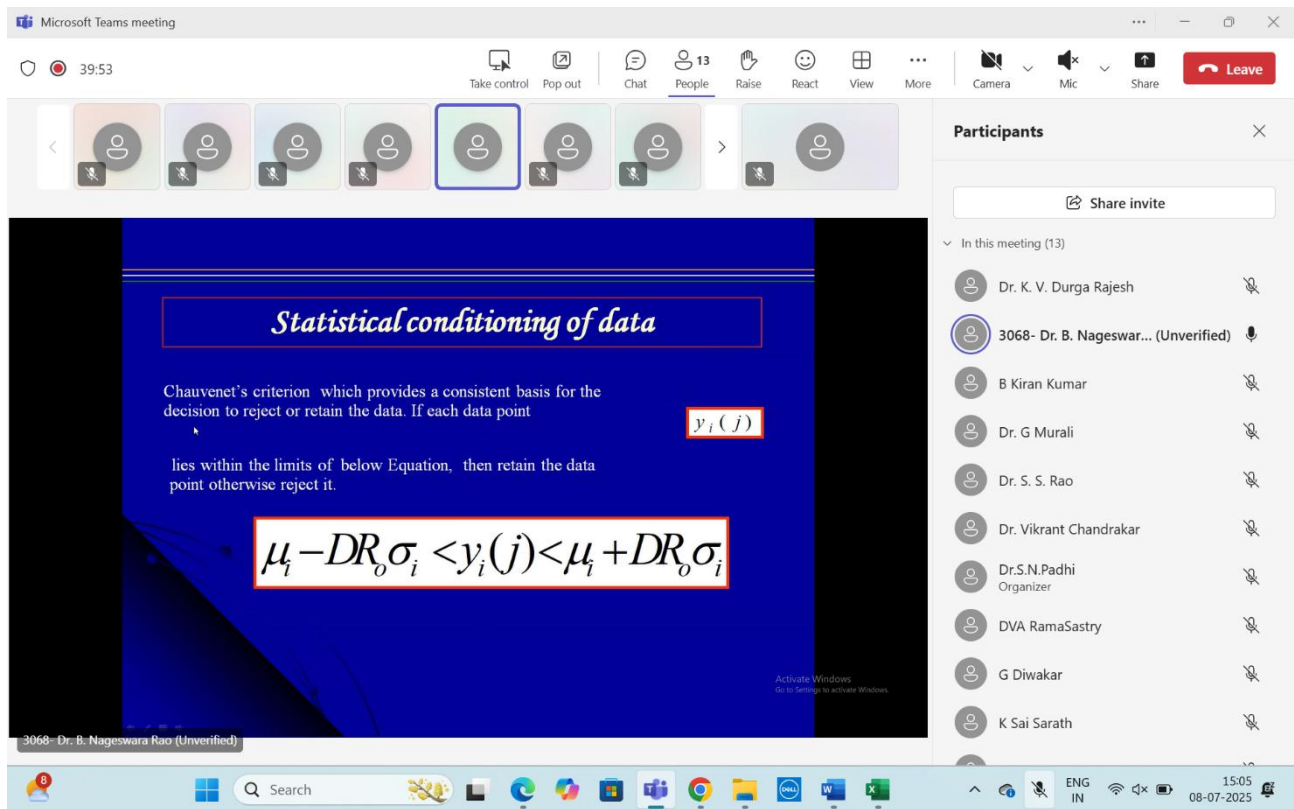
Session 2:

- **Time:** 2:30 PM - 5 PM
- **Topic:** Fracture Mechanics / Taguchi Method Based Optimization
- **Resource Person:** Dr. B. Nageswara Rao
- **Hosting Cohort:** Engineering Design (E15)
- **Description:** Covered fundamentals of fracture mechanics and optimization using Taguchi methods.



**Dr B Nageswara Rao,
Professor, KLEF**





The screenshot shows a Microsoft Teams meeting interface. The main content is a slide titled "Statistical conditioning of data". The slide text reads: "Chauvenet's criterion which provides a consistent basis for the decision to reject or retain the data. If each data point $y_i(j)$ lies within the limits of below Equation, then retain the data point otherwise reject it." Below this is the equation:
$$\mu_i - DR_o \sigma_i < y_i(j) < \mu_i + DR_o \sigma_i$$

The right-hand side of the screenshot shows a list of participants in the meeting:

- Dr. K. V. Durga Rajesh
- 3068- Dr. B. Nageswar... (Unverified)
- B Kiran Kumar
- Dr. G Murali
- Dr. S. S. Rao
- Dr. Vikrant Chandrakar
- Dr.S.N.Padhi Organizer
- DVA RamaSastry
- G Diwakar
- K Sai Sarath

Day 2: 09-07-2025

Session 3:

- **Time:** 10 AM - 12:30 PM
- **Topic:** Recent Trends in Friction Stir Welding and Processing
- **Resource Person:** Dr. L S Raju
- **Hosting Cohort:** Engineering Design (E15)
- **Description:** Explored applications and advancements in friction stir welding techniques.



**Dr L S Raju, Professor,
NITTTR, Bhopal**



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17:39

Pop out Chat People Raise React View More Camera Mic Share Leave

Participants

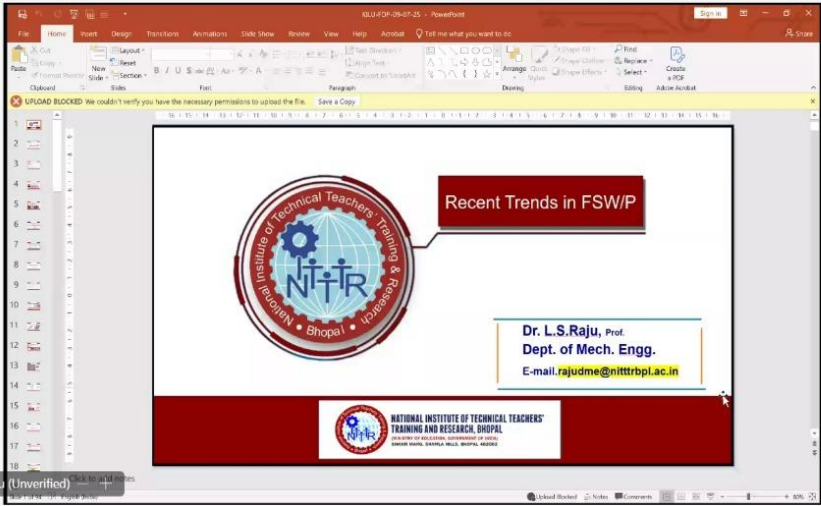
Type a name

Waiting in lobby (1)

- AK Anant Kurh... (Unverified)

In this meeting (9)

- Dr. S. S. Rao
- B Kiran Kumar
- DL Dr L.S.Raju (Unverified)
- Dr. G Murali
- DC Dr. Vikrant Chandrakar
- Dr.Sireesha K
- GD G Diwakar



Dr L.S.Raju (Unverified)

Microsoft Teams meeting

26:31

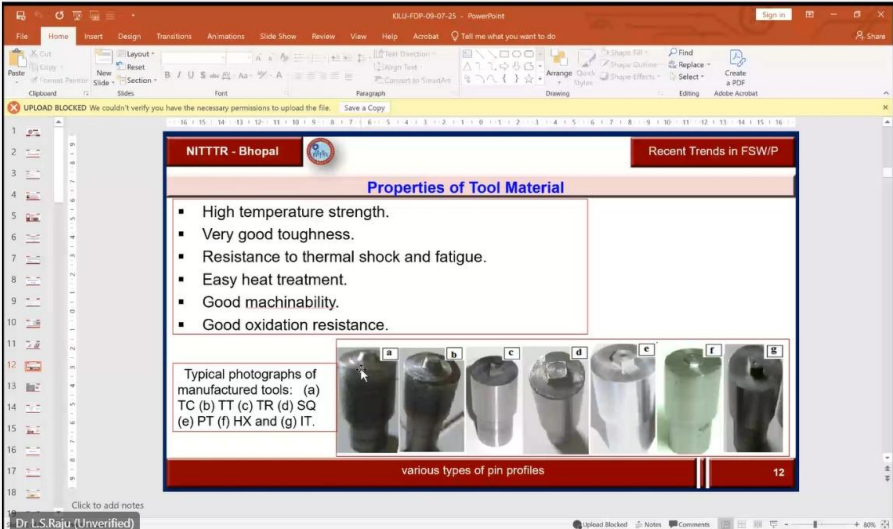
Pop out Chat People Raise React View More Camera Mic Share Leave

Participants

Share invite

In this meeting (15)

- Dr. K. V. Durga Rajesh
- Anant Kurhade (Unverified)
- ARJUN (Unverified)
- B Kiran Kumar
- Dr L.S.Raju (Unverified)
- Dr. G Murali
- Dr. S. S. Rao
- Dr. Vikrant Chandrakar
- Dr.Sireesha K
- G Diwakar



NITTR - Bhopal

Recent Trends in FS/W/P

Properties of Tool Material

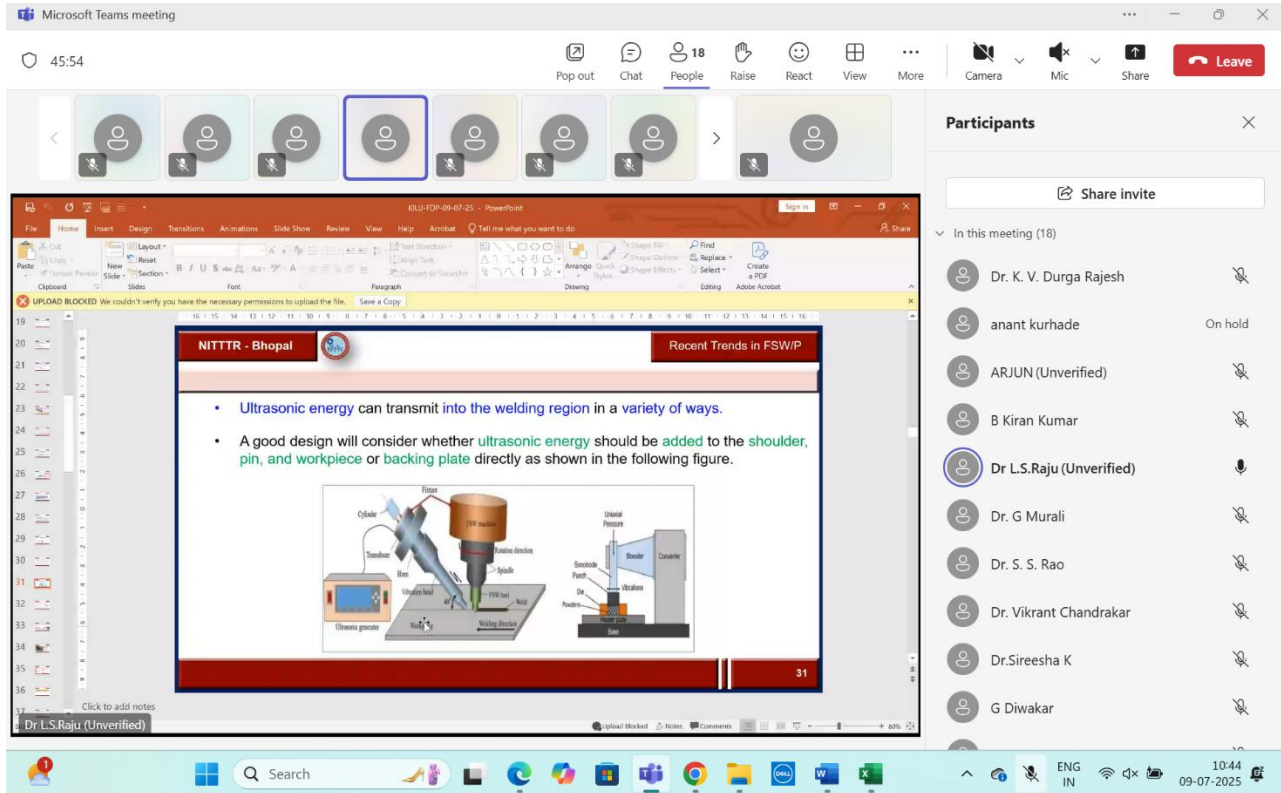
- High temperature strength.
- Very good toughness.
- Resistance to thermal shock and fatigue.
- Easy heat treatment.
- Good machinability.
- Good oxidation resistance.

Typical photographs of manufactured tools: (a) TC (b) TT (c) TR (d) SQ (e) PT (f) HX and (g) IT.

various types of pin profiles

Dr L.S.Raju (Unverified)

10:24 09-07-2025



The screenshot shows a Microsoft Teams meeting interface. At the top, it says "Microsoft Teams meeting" with a timer at 45:54. Below the timer are icons for Pop out, Chat, People (18), Raise, React, View, More, Camera, Mic, Share, and a red "Leave" button. A row of participant avatars is visible, with one highlighted in a blue box. On the right, a "Participants" panel shows a list of 18 participants, including Dr. K. V. Durga Rajesh, anant kurhade, ARJUN (Unverified), B Kiran Kumar, Dr L.S.Raju (Unverified), Dr. G Murali, Dr. S. S. Rao, Dr. Vikrant Chandrakar, Dr.Sireesha K, and G Diwakar. The main content is a PowerPoint slide titled "Recent Trends in FSW/P" from NITTR - Bhopal. The slide contains two bullet points: "Ultrasonic energy can transmit into the welding region in a variety of ways." and "A good design will consider whether ultrasonic energy should be added to the shoulder, pin, and workpiece or backing plate directly as shown in the following figure." Below the text is a diagram of an ultrasonic welding setup, showing a transducer, vibrator, horn, and workpiece, along with a schematic of the welding process.

Session 4:

- **Time:** 2:30 PM - 5 PM
- **Topic:** Advanced Smart Manufacturing Practices
- **Resource Person:** Dr. V Mangesh
- **Hosting Cohort:** Smart Manufacturing (E25)
- **Description:** Addressed innovative manufacturing technologies and process improvements.



**Dr V Mangesh, Professor,
KLEF**



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Microsoft Teams meeting

04:48:20


Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Participants

Share invite

- anant kurhade On hold
- B Kiran Kumar
- Dr. G Murali On hold
- Dr. S. S. Rao
- Dr. Vikrant Chandrakar
- Dr.S.N.Padhi** Organizer
- DVA RamaSastry
- kanthimathi pasumarthi (Unverified)
- M. RAMAGOPALA CHA... (Unverified)
- T. VIJAYA KUMAR-HODME
- V L Mangesh (Unverified)

PowerPoint: **Alternate Fuels for Diesel Engines**



V L Mangesh (Unverified)

14:46 09-07-2025

Microsoft Teams meeting

04:51:24

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

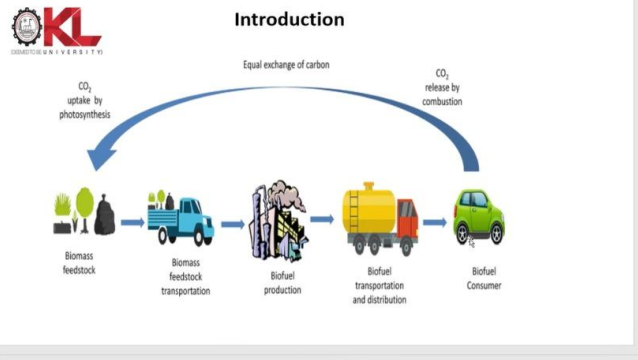
Participants

Share invite

In this meeting (12)

- Dr. K. V. Durga Rajesh
- anant kurhade On hold
- B Kiran Kumar
- Dr. G Murali
- Dr. S. S. Rao
- Dr. Vikrant Chandrakar
- Dr.S.N.Padhi** Organizer
- DVA RamaSastry
- kanthimathi pasumarthi (Unverified)
- M. RAMAGOPALA CHAR... (Unverified)

PowerPoint: **Introduction**

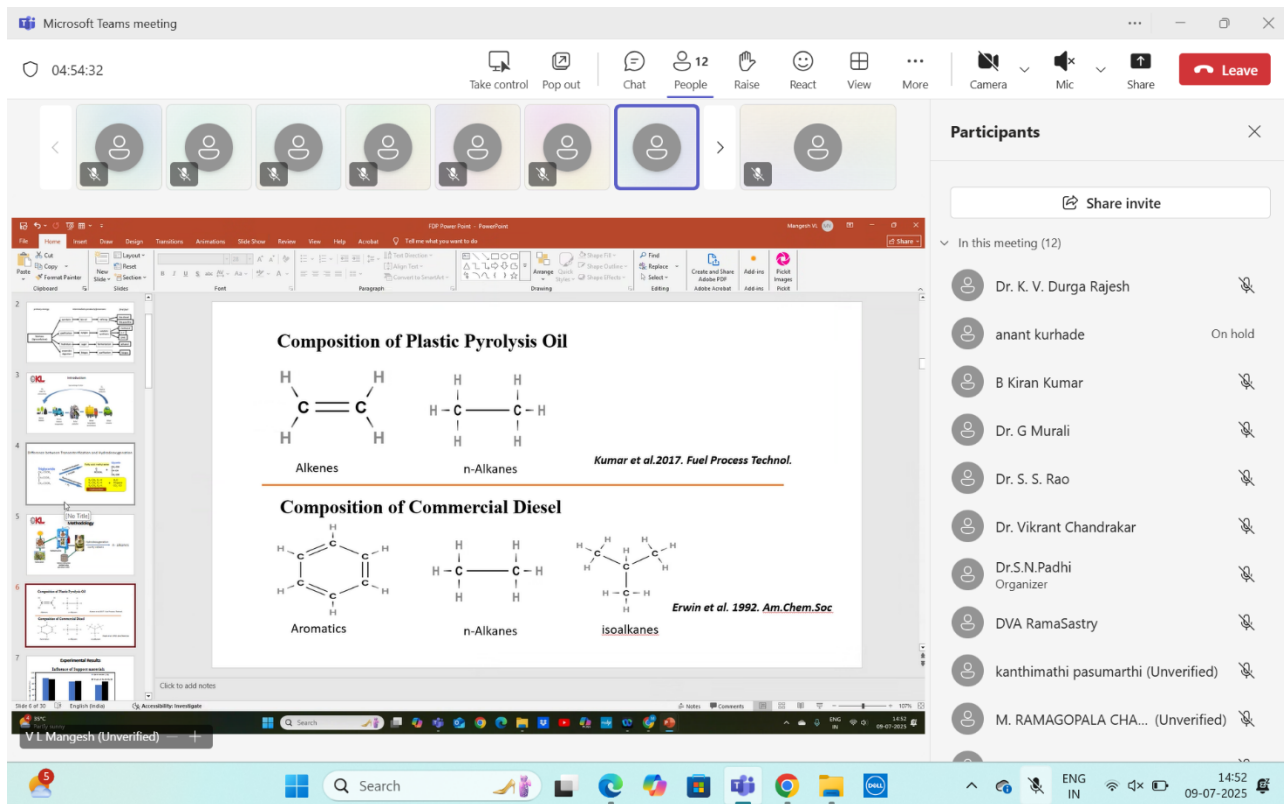


V L Mangesh (Unverified)

14:49 09-07-2025



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The screenshot shows a Microsoft Teams meeting interface. The main content is a PowerPoint slide titled "Composition of Plastic Pyrolysis Oil" and "Composition of Commercial Diesel". The slide displays chemical structures for Alkenes, n-Alkanes, Aromatics, and isoalkanes. Citations include "Kumar et al. 2017. Fuel Process Technol." and "Erwin et al. 1992. Am.Chem.Soc". The meeting controls at the top show 12 participants, and the right sidebar lists the names of the attendees.

Day 3: 10-07-2025

Session 5:

- **Time:** 10 AM - 12:30 PM
- **Topic:** Smart Manufacturing Scenarios in Industry 4.0
- **Resource Person:** Dr. SS Rao
- **Hosting Cohort:** Smart Manufacturing (E25)
- **Description:** Emphasized digital transformation, IoT applications, and smart factories.



**Dr SS Rao, Professor,
KLEF**



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01:49:41

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Smart-Manufacturing-Scen... Saved to this PC

File Home Insert Draw Design Transitions Animations Slide Show Record Review View Help EdrawMax Acrobat Record Present in Teams Share

Smart Manufacturing Scenarios in Industry 4.0

The Fourth Industrial Revolution
Digital transformation reshaping manufacturing globally

DEPARTMENT OF MECHANICAL ENGINEERING
IN ASSOCIATION WITH
ACADEMIC STAFF COLLEGE

Emerging Trends in Sustainable Design, Intelligent Manufacturing, and Thermal Engineering Systems
(08-12 July 2025)

Prof. S S Rao
K L University

Slide 1 of 16 English (India) Accessibility: Good to go

Dr. S. S. Rao (Unverified)

11:55 10-07-2025

01:53:04

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Executive Summary

The Challenge <ul style="list-style-type: none">Traditional manufacturing faces efficiency limitsGrowing demand for customization and flexibilityNeed for sustainable, data-driven operations	The Solution <ul style="list-style-type: none">Industry 4.0 technologies enable smart manufacturingReal-time connectivity and intelligent automationData-driven decision making and predictive capabilities
--	--

Expected Outcomes

- Increased operational efficiency and reduced downtime
- Enhanced product quality and customization
- Competitive advantage through digital transformation

Dr. S. S. Rao (Unverified)

11:59 10-07-2025



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 Phone No. 08645 - 350200; www.klef.ac.in; www.klef.edu.in; www.kluniversity.in
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Microsoft Teams meeting | 01:53:29

Take control | Pop out | Chat | People (7) | Raise | React | View | More | Camera | Mic | Share | Leave


The Fourth Industrial Revolution

Industry 4.0 represents a fundamental shift in manufacturing, moving beyond traditional automation to create **intelligent, interconnected production systems**. This transformation integrates cyber-physical systems, IoT, AI, and robotics to enable real-time data sharing between machines, systems, and people.

Connected Systems
Integration of cyber-physical systems with IoT sensors creating intelligent networks

Adaptive Production
Flexible factories that can quickly adapt to changing demands and conditions

Real-time Data
Continuous data sharing between machines, systems, and people for immediate insights




Dr. S. S. Rao (Unverified)

Windows taskbar: 11:59 10-07-2025

Microsoft Teams meeting | 02:02:03

Take control | Pop out | Chat | People (11) | Raise | React | View | More | Camera | Mic | Share | Leave



Scenario 2: Smart Factory Automation

Robotics & AGVs for Autonomous Operations

Automated Material Handling

- AGVs transport materials autonomously between stations
- Intelligent routing optimizes delivery times
- Integration with ERP systems for real-time inventory

40%
Production speed increase
Automated systems enable faster throughput

Precision Manufacturing

- Robotic arms perform welding, assembly with high precision
- Vision systems ensure quality control
- Collaborative robots work safely alongside humans

60%
Quality improvement
Robotic precision reduces defects

25%
Safety enhancement
Reduced workplace accidents

Example: Great Wall Motor's smart factory in Thailand uses intelligent robots and AGVs to achieve 24

Dr. S. S. Rao (Unverified)

Windows taskbar: 12:08 10-07-2025

Session 6:

- **Time:** 2:30 PM - 5 PM
- **Topic:** Embedding Sustainability in Mechanical Engineering Courses
- **Resource Person:** Dr. D.V.A. RamaSastry
- **Hosting Cohort:** Engineering Design (E15)
- **Description:** Discussed sustainability integration into mechanical engineering education.



**Dr. D.V.A. RamaSastry,
Associate Professor, KLEF**

The screenshot shows a Zoom meeting interface. At the top, there is a toolbar with icons for Take control, Pop out, Chat, People, Raise, React, View, More, Camera, Mic, Share, and Leave. Below the toolbar is a row of participant thumbnails with initials: CR, GD, DR, KS, CK, and a larger thumbnail of the speaker. The main content area displays a presentation slide with the following text:

A talk on
Embedding Sustainability in Core Mechanical Engineering Courses
 Dr. DVA Ramasastry
 5 day Faculty Development Program

At the bottom of the slide is the KLEF logo and the text 'KL | ME'. To the right of the slide is a 'Participants' list with a search bar and a list of names with status indicators (muted, video off):

- Dr. S. S. Rao
- ch Venkata Krish... (Unverified)
- ch venkata krish... (Unverified)
- Dr. K. V. Durga R... (Unverified)
- Dr.S.N.Padhi Organizer
- DVA RamaSastry
- G Diwakar
- K Sai Sarath
- Priyaranjan Samal



Koneru Lakshmaiah Education Foundation

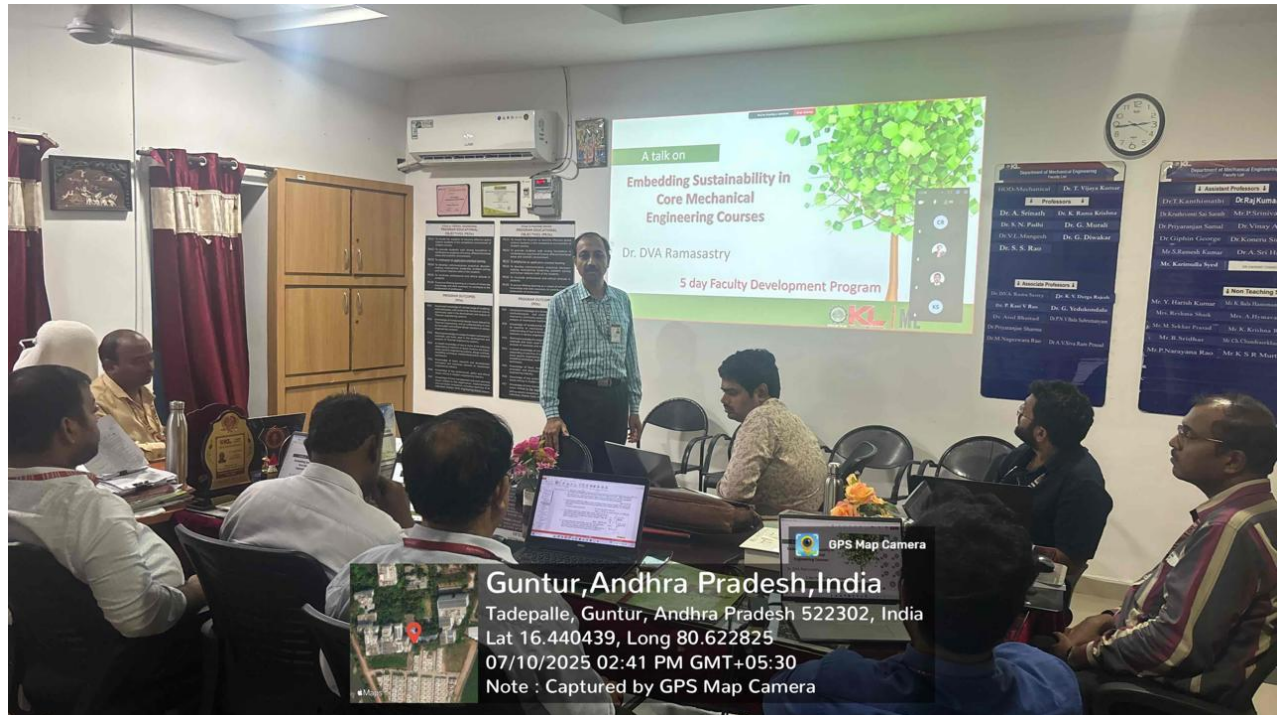
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Guntur, Andhra Pradesh, India
Tadepalle, Guntur, Andhra Pradesh 522302, India
Lat 16.440439, Long 80.622825
07/10/2025 02:41 PM GMT+05:30
Note : Captured by GPS Map Camera

Microsoft Teams meeting

26:32

Take control Pop out Chat People 10 Raise React View More Camera Mic Share Leave

Importance of Sustainable Development Goals (SDGs)

Adopted by the United Nations in 2015

Universal call to action to protect the planet by 2030

By aligning curriculum and projects with these goals, engineering students can contribute to sustainable solutions from local to global scales.

Blueprint to achieve a better and more sustainable future

There are 17 SDGs

Integrated goals that recognize that action in one area will affect outcomes in others

Addresses global challenges

DVA RamaSastry (Unverified)

ENG IN 14:55 10-07-2025



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Day 4: 11-07-2025

Session 7:

- **Time:** 10 AM - 12:30 PM
- **Topic:** Integrating Simulation & Computational Tools in ME Curriculum
- **Resource Person:** Dr. S N Padhi
- **Hosting Cohort:** Engineering Design (E15)
- **Description:** Introduced simulation tools like ANSYS and MATLAB for academic use.



**Dr. S N Padhi, Professor,
KLEF**

Microsoft Teams meeting

22:53

Take control Pop out Chat People Raise React View More Camera Mic Share Leave

Integrating Simulation and Computational Tools in Mechanical Engineering Education

'Empowering the next generation of mechanical engineers with cutting-edge computational skills.'

S.N.Padhi
Professor
Dept. of Mechanical Engineering

1

Dr.S.N.Padhi

AK GD CK A On hold On hold

DVA RamaSastry

Type here to search

10:13 11-07-2025



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Microsoft Teams meeting | 23:39

Take control | Pop out | People (11) | Raise | React | View | More | Camera | Mic | Share | Leave

Participants

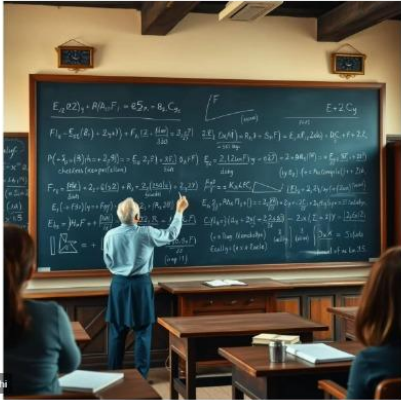
Share invite

In this meeting (11)


- Unknown User (Unverified) Meeting guest
- V V KRISHNA MOHAN (Guest) Meeting guest
- Arjun (Guest) Meeting guest On hold
- B Kiran Kumar
- ch venkata krishnarao (Guest) Meeting guest
- Dr. G Murali On hold
- Dr.S.N.Padhi Organizer
- Dr.Sireesha K
- DVA RamaSastry
- G Diwakar
- Sukhadip Chougule (Guest) Meeting guest

Traditional vs. Modern Curriculum

From Chalkboards



To Digital Twins



Dr.S.N.Padhi | 3

Search | ENG IN | 10:15 | 11-07-2025

Microsoft Teams meeting | 40:35

Take control | Pop out | People (14) | Raise | React | View | More | Camera | Mic | Share | Leave

Participants

Share invite

In this meeting (14)


- Unknown User (Unverified) Meeting guest
- V V KRISHNA MOHAN (Guest) Meeting guest
- Arjun (Guest) Meeting guest On hold
- B Kiran Kumar
- ch Venkata krishna Rao (Guest) Meeting guest
- Dr. G Murali On hold
- Dr.S.N.Padhi Organizer
- Dr.Sireesha K
- DVA RamaSastry
- G Diwakar
- K Sai Sarath
- sirisha (Guest) Meeting guest

Specialized Domains: Automotive & Energy Systems



Automobile Engineering

Design, development, and testing of vehicle systems, including powertrains, chassis, and safety features.



Electric Vehicle Technology

Focus on battery systems, electric motors, power electronics, and charging infrastructure for sustainable transport.



Renewable Energy Systems

Harnessing solar, wind, hydro, and geothermal geothermal energy for sustainable power generation and energy efficiency.

Dr.S.N.Padhi | 16

Search | ENG IN | 10:32 | 11-07-2025



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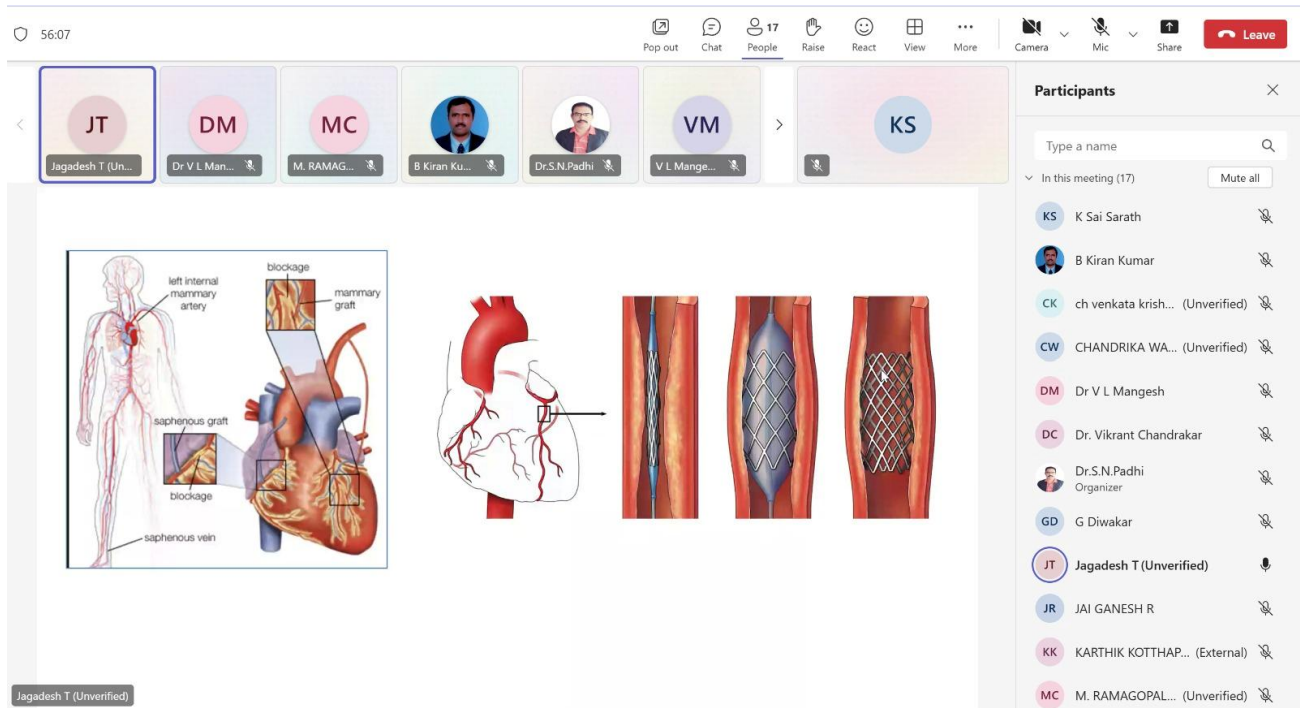
Session 8:

- **Time:** 2:30 PM - 5 PM
- **Topic:** Laser Micromachining for Aerospace Applications
- **Resource Person:** Dr. T. Jagadesh
- **Hosting Cohort:** Energy & CFD (E14)
- **Description:** Focused on laser-based micromachining and its aerospace applications.



Dr. T. Jagadesh, Assistant Professor-Grade I, NITT

The screenshot shows a Zoom meeting interface. At the top, there is a notification: "You're in a call on another device. Want to join on this one?". Below this, there are icons for "Pop out", "Chat", "People", "Raise", "React", "View", "More", "Camera", "Mic", "Share", and "Leave". The "People" icon shows 17 participants. Below the icons, there is a row of participant thumbnails with initials: JT (Jagadesh T), DM (Dr V L Man...), MC (M. RAMAG...), B Kiran Ku..., Dr.S.N.Padhi, V L Mange..., and KS. To the right of the thumbnails is a "Participants" list with a search bar and a "Mute all" button. The list includes: KS K Sai Sarath, B Kiran Kumar, CK ch venkata krish... (Unverified), CW CHANDRIKA WA... (Unverified), DM Dr V L Mangesh, DC Dr. Vikrant Chandrakar, Dr.S.N.Padhi Organizer, GD G Diwakar, JT Jagadesh T (Unverified), JR JAI GANESH R, KK KARTHIK KOTTHAP... (External), and MC M. RAMAGOPAL... (Unverified). The main content area shows two diagrams. The left diagram is titled "Fused deposition modeling" and shows a cross-section of the process with labels: "Liquifier (moves in X and Y direction)", "Extrusion nozzles", "Part", "Supports", "Foundation sheet", "Build platform (moves up and down in Z direction)", "Support material spool", and "Model material spool". The right diagram is titled "Selective Laser Sintering" and shows a cross-section of the process with labels: "CO₂ Laser", "X-Y Scanning Mirrors", "Laser Beam", "IR heater", "Counter-Rotating Powder Leveling Roller", "Powder Bed", "Feed Cartridges", and "Build Platform". At the bottom left of the screenshot, there is a small text box that says "Jagadesh T (Unverified)".



The screenshot shows a Zoom meeting in progress. The top toolbar includes icons for Pop out, Chat, People (17), Raise, React, View, More, Camera, Mic, Share, and a red Leave button. The meeting title is 56:07. The participant list on the right includes: KS (K Sai Sarath), B Kiran Kumar, ch venkata krish... (Unverified), CW (CHANDRIKA WA... (Unverified)), DM (Dr V L Mangesh), DC (Dr. Vikrant Chandrakar), Dr.S.N.Padhi (Organizer), GD (G Diwakar), JT (Jagadesh T (Unverified)), JR (JAI GANESH R), KK (KARTHIK KOTTHAP... (External)), and MC (M. RAMAGOPAL... (Unverified)).

The presentation slide displays anatomical diagrams of the heart and coronary arteries. Labels include: left internal mammary artery, blockage, mammary graft, saphenous graft, blockage, and saphenous vein. The diagrams illustrate the process of CABG, showing a blockage in the coronary artery and the placement of a graft (either mammary or saphenous vein) to bypass the blockage.

Day 5: 12-07-2025

Session 9:

- **Time:** 10 AM - 12:30 PM
- **Topic:** Additive Manufacturing – Applications in Space
- **Resource Person:** Sri Singari Reddaiah
- **Hosting Cohort:** Engineering Design (E15)
- **Description:** Detailed ISRO’s implementation of additive manufacturing technologies.



**Sri S Reddaiah Scientist G
 and Deputy Project
 Director, SHAR- ISRO**



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Microsoft Teams meeting

07:58

Pop out People Raise React View More Camera Mic Share Leave

UU Dr.S.N.Padhi

DVA RamaSastry

Reddeiah S, AP...

DM On hold Dr. G Murali

DC Dr. Vikrant ...

DR Dr. K. V. Du...

AK

ADDITIVE MANUFACTURING

Emerging Technologies and Disruptive Potential
Innovative additive manufacturing technologies are reshaping traditional production methods, unlocking new design possibilities and material capabilities.

Shift Towards Digital Manufacturing
The transition to digital manufacturing processes is enabling unprecedented customization, reduced lead times, and enhanced production flexibility.

Implications for Supply Chain and Logistics
Additive manufacturing is poised to revolutionize supply chain dynamics, offering capabilities in production, phasing and materials, turning, and reduced inventory requirements.

The Evolving Landscape of Additive Manufacturing

Exploring the Transformative Potential and Future Possibilities

Reddeiah S, APD, SDSC SHAR (Guest)

Participants

Share invite

In this meeting (15)

- AK Ashwini Kumar (Guest) Meeting guest
- BK B Kiran Kumar
- DM Dr. G Murali On hold
- DR Dr. K. V. Durga Rajesh (Guest) Meeting guest
- DC Dr. Vikrant Chandrakar
- D Dr.S.N.Padhi Organiser
- DR DVA RamaSastry
- GD G Diwakar
- JR JAI GANESH R
- KS K Sai Sarath
- PS Priyaranjan Samal
- RK Radha Krishna (Guest) Meeting guest

10:20 12-07-2025

Microsoft Teams meeting

08:32

Pop out People Raise React View More Camera Mic Share Leave

UU Dr.S.N.Padhi

DVA RamaSastry

Reddeiah S, AP...

DM On hold Dr. G Murali

DC Dr. Vikrant ...

DR Dr. K. V. Du...

AK

ADDITIVE MANUFACTURING

Reddeiah S, APD, SDSC SHAR (Guest)

Participants

Share invite

In this meeting (15)

- DR Dr. K. V. Durga Rajesh (Guest) Meeting guest
- DC Dr. Vikrant Chandrakar
- D Dr.S.N.Padhi Organiser
- DR DVA RamaSastry
- GD G Diwakar
- JR JAI GANESH R
- KS K Sai Sarath
- PS Priyaranjan Samal
- RK Radha Krishna (Guest) Meeting guest
- AS Reddeiah S, APD, SDSC SHAR (Guest) Meeting guest
- TK T. KANTHIMATHI
- TK T. VIJAYA KUMAR-HODME

10:21 12-07-2025



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Microsoft Teams meeting

01:31

3D Printing Vs Conventional Machining

A

Material → Subtractive Manufacturing → 3D object + Waste

B

Material → Additive Manufacturing → 3D object + Waste

Reddehah S, APD, SDSC SHAR (Guest)

10:35
12-07-2025

Microsoft Teams meeting

48:10

The Genius 3D Printers That Make SpaceX Rockets

Reddehah S, APD, SDSC SHAR (Guest)

11:21
12-07-2025

Session 10:

- **Time:** 2:30 PM - 5 PM
- **Topic:** Energy Systems and CFD Applications
- **Resource Person:** Dr. G Murali
- **Hosting Cohort:** Energy & CFD (E14)
- **Description:** Explained energy system modeling and CFD simulations in mechanical systems.



**Dr G Murali, Professor,
KLEF**

The screenshot shows a Microsoft Teams meeting interface. At the top, the title bar reads "Microsoft Teams meeting" with a time of 04:09:32. The meeting controls include "Pop out", "Chat", "People" (18), "Raise", "React", "View", "More", "Camera", "Mic", "Share", and a red "Leave" button. Below the controls is a gallery view of participants, with Dr. G. Murali's video feed highlighted. On the right, the "Participants" pane lists 18 attendees, including Dr. K. V. Durga Rajesh (Unverified), B Kiran Kumar, Dr. G Murali (On hold), Dr. G. Yedukondalu (Unverified), Dr. Vikrant Chandrakar, Dr. G. Murali (Unverified), Dr. S. N. Padhi (Organizer), Dr. Sireesha K, DVA RamaSastry, and JAI GANESH R. The main content area displays a PowerPoint slide titled "Green Hydrogen: Innovations in Sustainable Production Techniques for Zero-Carbon Future & BTMS". The slide features a portrait of Dr. G. Murali and identifies him as a Professor in the Department of Mechanical Engineering at K L Deemed to be University. The Windows taskbar at the bottom shows the system tray with the date 12-07-2025 and time 14:19.



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Microsoft Teams meeting

04:19:04

Pop out Chat People 18 Raise React View More Camera Mic Share Leave

Participants

Share invite

In this meeting (18)

- Dr. K. V. Durga Rajesh (Unverified)
- B Kiran Kumar
- Dr. G Murali On hold
- Dr. G.Yedukondalu (Unverified)
- Dr. Vikrant Chandrakar
- Dr.G.Murali (Unverified)
- Dr.S.N.Padhi Organizer
- Dr.Sireesha K
- DVA RamaSastry
- JAI GANESH R

5

Pathways to Zero Carbon

- ▶ Renewable Energy (solar, wind, hydro)
- ▶ Energy Efficiency (building insulation, smart grids)
- ▶ Electrification (transportation, industry)
- ▶ Carbon Capture, Utilization and Storage (CCUS)
- ▶ Sustainable Land Use (forestry, agriculture)
- ▶ Climate-Resilient Infrastructure

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Dr.G.Murali (Unverified)

Search

ENG IN 14:29 12-07-2025

Microsoft Teams meeting

04:33:04

Pop out Chat People 16 Raise React View More Camera Mic Share Leave

Participants

Share invite

In this meeting (16)

- Dr. K. V. Durga Rajesh (Unverified)
- B Kiran Kumar
- Dr. G Murali On hold
- Dr. G.Yedukondalu (Unverified)
- Dr. Vikrant Chandrakar
- Dr.G.Murali (Unverified)
- Dr.S.N.Padhi Organizer
- DVA RamaSastry
- JAI GANESH R
- M. RAMAGOPALA CHA... (Unverified)

14

Additional resources and information on zero-carbon technologies and strategies

- ▶ Country-Specific Zero-Carbon Plans
 1. European Union's Green Deal
 2. United States' Climate Action Plan
 3. China's National Climate Change Plan
 4. India's National Action Plan on Climate Change
 5. Japan's Long-Term Strategy under the Paris Agreement

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Dr.G.Murali (Unverified)

Search

ENG IN 14:43 12-07-2025