



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

FDP Report

LBRCE Lakireddy Bali Reddy College of Engineering (LBRCE), Mylavaram
Organized

23-27
Feb 2026

Faculty Development Programme

Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems



23-27 Feb 2026

Organized by

Department of Mechanical Engineering



About the Department

The Department of Mechanical Engineering was started in the year 1998. The Department is accredited by NBA (Tier-I). It is recognized as a Research center by JNTUK Kakinada and has sponsored projects worth of Rs.1.5 crores. Faculty of the department are actively engaged in publishing papers in national and international journals and conferences.

Course Highlights

- This course is designed to provide detail overview of practice-oriented, research-driven programme focusing on the application of AI/ML and IoT in modern mechanical systems, aligned with Industry 4.0 and smart manufacturing trends.
- Integration of Artificial Intelligence, Machine Learning and IoT to design, monitor and optimize smart mechanical systems such as smart manufacturing cells, thermal systems and condition-based maintenance platforms.
- AI/ML for process optimization, quality prediction, tool wear monitoring, fault diagnosis and predictive maintenance of rotating machinery.
- IoT for smart mechanical systems: sensor selection, embedded systems, IoT architecture, communication protocols, cloud/edge computing and security aspects relevant to plant and lab environments.
- Exposure to current research problems, case studies, open datasets, and guidance for project formulation, publications and funding proposals in AI-ML-IoT for mechanical systems

Important Dates

Last date of online registration: **20th Feb 2026**
Intimation of participants: **21st Feb 2026**

Registration

Only online registration of participants to be done through a single webpage.
Registration link:

Signup and register for the programme through the given link.

No registration fee will be charged from the participants.

Target beneficiaries and benefits

- Designed for faculty, researchers and postgraduate students in Mechanical/Production/Automobile/Aero and allied disciplines interested in embedding AI-ML-IoT into teaching, labs and research.
- Participants gain career-enhancing competencies in emerging technologies, better preparedness for multidisciplinary research collaborations and improved capability to mentor students on cutting-edge projects.

FDP Timings: 10.00 AM to 12.30 PM

Mode: Online

Platform: Microsoft Teams

Registration link:

<https://tinyurl.com/AAMISMES>

WhatsApp link to join:

<https://tinyurl.com/mkec95f>

Faculty Development Programme (FDP) (Online mode)

on

“Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems”

(23rd to 27th Feb 2026)



Chairman

Dr. K. Appa Rao,
Principal, LBRCE, Mylavaram

Convener

Dr. M.B.S. Sreekara Reddy,
HoD of Mechanical Engineering, LBRCE, Mylavaram

Coordinator

Dr. V. Dhana Raju
Mr. J. Subba Reddy
Dr. A. Dhanunjay Kumar

Organized by

Department of Mechanical Engineering
(Accredited by NBA)



Lakireddy Bali Reddy College of Engineering,
(Autonomous)
Mylavaram, Krishna (Dt), Andhra Pradesh, India

About LBRCE, Mylavaram

The Lakireddy Bali Reddy College of Engineering (LBRCE), Mylavaram was established in the year 1998 by Lakireddy Bali Reddy Charitable Trust, whose architect is Er. Lakireddy Bali Reddy garu. The institute is established with the sole aim of providing high quality educational opportunities in the field of Science, Engineering, Technology and Management. It is spread over 60 acres of sprawling lush green landscape spotted with orchids and grooves. It is approved by AICTE, affiliated to JNTUK, Kakinada and attained Autonomous status in the year 2010. It is accredited with NAAC and NBA (CSE, IT, ECE, EEE & ME) under Tier-I. A separate R&D cell is established in the college to focus on continuous sponsored research. It has various sponsored research projects funded by various funding agencies. At present, 9 B.Tech programmes are offered.

- Aerospace Engineering
- Artificial Intelligence & Data Science
- Artificial Intelligence & Machine Learning
- Civil Engineering
- Computer Science Engineering
- Electrical & Electronics Engineering
- Electronics and Communication Engineering
- Information Technology
- Mechanical Engineering

Four M.Tech programmes and M.B.A programme is offered. The M.Tech Programs are offered in

- Computer Science and Engineering
- Thermal Power Engineering
- Power Electronics and Drives
- VLSI & Embedded systems

Objective of the Course

The Faculty Development Programme on "Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems" aims to equip mechanical engineering faculty, researchers, and postgraduate students with cutting-edge skills to harness artificial intelligence, machine learning, and Internet of Things technologies for designing, optimizing, and maintaining intelligent mechanical systems aligned with Industry 4.0/5.0 paradigms. By bridging theoretical foundations with hands-on applications in areas such as predictive maintenance, smart manufacturing, thermal/energy systems, and cyber-physical architectures, the course fosters data-driven innovation, enhances pedagogical capabilities for curriculum integration, and promotes multidisciplinary research collaborations to address real-world challenges in smart mechanical engineering. Ultimately, participants will gain the expertise to lead transformative projects, mentor students on emerging technologies, and contribute to sustainable, efficient engineering solutions through AI-ML-IoT integration.

Resource Persons

- 1) **Dr. B.V.Reddy,** Ontario University, CANADA
- 2) **Dr. J.Srinivas Rao,** NIT Jalandhar
- 3) **Dr. Ravi Kumar Kottala,** King Fahd University of Petroleum and Minerals, Saudi Arabia.
- 4) **Dr. Muthyann Goud,** Renault Nissan India.
- 5) **Dr. Thella Babu Rao,** NIT A.P.
- 6) **Dr. Akshay Pandey,** IIIT, Jabalpur
- 7) **Dr. R.V.S.S. Prasad,** Business Head, Pavani Engineers
- 8) **Dr. Jayakrishna,** King Fahd University of Petroleum and Minerals.

General Information

- An online test shall be conducted at the end of the program.
- Certificates will be issued only to those participants who attend the program with a minimum 80% of attendance.

COMMITTEE MEMBERS

Chief Patrons

Sri L. Jaya Prakash Reddy
Co-Chairman, LBRCE

Sri L.R.N.K. Prasad Reddy
Chairman, LBRCE

Patrons

Sri G. Srinivasa Reddy,
President, LBRCE

Dr. K. Appa Rao, Ph.D
Principal, LBRCE

Dr. B. Ramesh Reddy, Ph. D.
Vice-Principal, LBRCE

Convener

Dr. M.B.S. Sreekara Reddy, Ph.D
HOD- ME, LBRCE

Coordinators

Dr. V. Dhana Raju,
Mr. J. Subba Reddy,
Dr. A. Dhanunjay Kumar
Department of Mechanical Engineering, LBRCE
Mobile Number: 9848363670, 9985100936
E-mail: ghanaraju.v@lbrce.ac.in,
jonnalasu@lbrce.ac.in

Co-Coordinator

Mr. K.V. Viswanadh, Sr. Asst. Professor,
Department of Mechanical Engineering, LBRCE
Mobile Number: 7702893880
E-mail: viswanadhmailing2u@gmail.com



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L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

(FDP Schedule): A.Y.2026-27

Day-1 23-02-2026	Day-2 24-02-2026	Day-3 25-02-2026	Day-4 26-02-2026	Day-5 27-02-2026
10:00AM to 10:30 AM	2:00 PM to 3:00 PM	10:00AM to 11:15 AM	10:00AM to 11:15 PM	10:00AM to 11:30 AM
Inauguration	Session 2 Dr. Akshay Pandey Indian Institute of Information Technology, Design and Manufacturing, Jabalpur.	Session 4 Dr.B.V.Reddy Professor, Department of Mechanical Engineering, University of Ontario, Canada.	Session 6 Dr.R.V.S.S. Prasad Business Head, Pavani Engineers private limited. Hyderabad.	Session 8 Dr.T.Srinivas Professor & Head Mechanical Engineering, NIT Jalandhar.
	"Application of Principal Component Analysis for Understanding Mechanical Structure in Automobile Performance"	"Advanced and Hybrid Energy Systems: Role of Second Law of Thermodynamics."	"Advancements in HVAC & R systems and applications"	"Computational Approaches to Sustainable Energy Solutions"
	drakshay@iiitdmj.ac.in Mobile: 9074525228	Bale.Reddy@ontariotechu.ca +1 (289) 685-6904	prasadrevur@gmail.com Mobile: 99894 77948	srinivast@nitj.ac.in Mobile: 8056300923
10:30 AM to 12:30 PM	7:00 PM to 8:15PM	7: PM to 8:15 PM	11:15 AM to 12:30PM	11:30 AM to 12:30PM
Session 1	Session 3	Session 5	Session 7	Feedback & Valedictory Session
Dr. Ravi Kumar K Post Doctoral Fellow King Fahd University of Petroleum and Minerals, Saudi Arabia.	Dr.Muthya Goud, Senior Engineer, Nissan India, India.	Dr. Jayakrishna Post Doctoral Fellow King Fahd University of Petroleum and Minerals, Saudi Arabia.	Dr.Thella Babu Rao, Department of Mechanical Engineering, NIT Andhra Pradesh.	
"Battery thermal management using phase change materials and role of artificial intelligence in cooling strategies"	"Battery Thermal Management systems: Overview, Case study, ML Predictions"	"Analysis Of Thermo-Mechanical Phenomena and Heat Transfer Characterization In Continuous Casting"	"Smart Manufacturing systems"	
kottalaravikumar15@gmail.com Mobile No:+918886369167	Muthyamvempally123@gmail.com +91889715527	jaya27by4@gmail.com Mobile No:9491997264	thellababurao@nitandhra.ac.in +91 9642288866	



one-week online FDP on

“Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems”

from 23rd and 27th February 2026 with timings from 10 A.M to 12.30 P.M.

INAUGURAL SESSION

The **Department of Mechanical Engineering**, Lakireddy Bali Reddy College of Engineering (Autonomous), Mylavaram, successfully organized a **one-week online Faculty Development Programme (FDP)** on “**Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems**” from **23rd to 27th February 2026**, conducted daily from **10:00 A.M. to 12:30 P.M.** The **inaugural session** of the FDP was held on **23rd February 2026 (Monday)** at **10:00 A.M.** The session was graced by **Dr. Ravi Kumar K**, who attended as the **Chief Guest**. The **Guest of Honor** for the program was **Dr. K. Appa Rao**.

During his inaugural address, **Dr. Ravi Kumar K** highlighted the growing importance of integrating **Artificial Intelligence (AI), Machine Learning (ML), and the Internet of Things (IoT)** with traditional mechanical engineering systems. He emphasized that such technological integration plays a crucial role in **driving innovation, improving system efficiency, and supporting India’s economic growth**. He also discussed how smart mechanical systems powered by AI-ML-IoT technologies can transform industries through predictive maintenance, intelligent manufacturing, and smart automation.

The **Guest of Honor, Dr. K. Appa Rao**, appreciated the initiative taken by the Mechanical Engineering Department in organizing the FDP and stressed the need for faculty members to continuously update their knowledge in emerging interdisciplinary technologies. He encouraged participants to actively engage in the sessions and make effective use of the insights shared by the experts. The program was organized under the guidance of **Convener Dr. M. B. S. Sreekar Reddy** and **Coordinator Dr. V. Dhana Raju**, who played a key role in planning and conducting the FDP. The inaugural session witnessed enthusiastic participation from faculty members and researchers from various institutions. The FDP aims to provide participants with a comprehensive understanding of **recent advancements in AI-ML-IoT technologies and their applications in smart mechanical engineering systems**, thereby enhancing research and teaching capabilities in emerging technological domains. **Total number of registrations for this FDP is 407.**

Resource persons of the FDP

			
Dr. B.V. Reddy Professor, Department of Mechanical Engineering, University of Ontario, Canada.	Dr. T. Srinivas Professor & Head Mechanical Engineering, NIT Jalandhar	Dr. Ravi Kumar K Post Doctoral Fellow King Fahd University of Petroleum and Minerals, Saudi Arabia.	Dr. Muthya Goud, Senior Engineer, Nissan India, India.
			
Dr. Jayakrishna Post Doctoral Fellow King Fahd University of Petroleum and Minerals, Saudi Arabia.	Dr. R.V.S.S. Prasad Business Head, Pavani Engineers private limited. Hyderabad.	Dr. Akshay Pandey Indian Institute of Information Technology, Design and Manufacturing, Jabalpur	Dr. Thella Babu Rao, Department of Mechanical Engineering, NIT Andhra Pradesh

One Week Faculty Development Programme on
Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems
 (23rd to 27th Feb 2026)

WELCOME TO
Resource Person and Participants

DEPARTMENT OF MECHANICAL ENGINEERING
LAKIREDDY BALLIREDDY COLLEGE OF ENGINEERING
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 L.B.Reddy Nagar, Mylavaram, Andhra Pradesh 521230





Dr. Kandimalla Appa Rao

D.Satyanarayana

Dr.G Sayanna

Dr. RAMANAN P, National ...

Dr M B S Sreekar Reddy

+122

VISWANADH. K.V

Day-1: 24.02.2026 (Tuesday), 2:00 PM -03:00 PM (Session 1)

Topic: “Battery thermal management using phase change materials and role of artificial intelligence in cooling strategies”

Speaker: Dr. Ravi Kumar K

Post Doctoral Fellow

King Fahd University of Petroleum and Minerals, Saudi Arabia.

Characteristics	Application	Function	Benefits
AI Role	Optimizes thermal control strategies	Reduces dependence on physician sensors	NA
AI Models	Temperature prediction, fault detection	Classification tasks such as fault diagnosis	Identifying patterns in thermal system performance data
Case Studies	Prediction model reduces sensor needs	Hybrid controller improves temperature regulation	Reinforcement learning optimizes flow rates
Challenges	Lack of standard training datasets	Real time implementation and computational cost	Generalizability of models across chemistries
Future Directions	Integration of digital twins and AI	Federated learning for data privacy	Combining AI with IoT for predictive maintenance

CPS-Based Intelligent Building Automation

The diagram illustrates a multi-layered system for intelligent building automation:

- Sensing Layer:** Temperature & Humidity, CO₂ & Air Quality, Occupancy Sensors, Energy Meters.
- Computation & Control Layer:** Embedded Controllers, AI & Control Algorithms, Digital Twin.
- Cyber Layer (Cloud & Analytics):** Data Analytics, Machine Learning, Cybersecurity.
- Actuation Layer:** Smart Thermostats, Motorized Valves, Automated Lighting.
- Building Systems:** HVAC, Lighting, Energy Management, Security & Safety.

Autonomous Operation Cycle:

1. Real-Time Sensing
2. Data Processing & Analysis
3. Smart Decision Making
4. Automated Control

Day-2: 24.02.2026 (Tuesday), 2:00 PM -03:00 PM (Session 1)

Topic: “Application of Principal Component Analysis for Understanding Mechanical Structure in Automobile Performance”

Speaker: Dr. Akshay Pandey

Indian Institute of Information Technology, Design and Manufacturing, Jabalpur



Dr. Akshay Pandey

Dr. G Sayanna

TK T N V As... DM Dr. BARL...

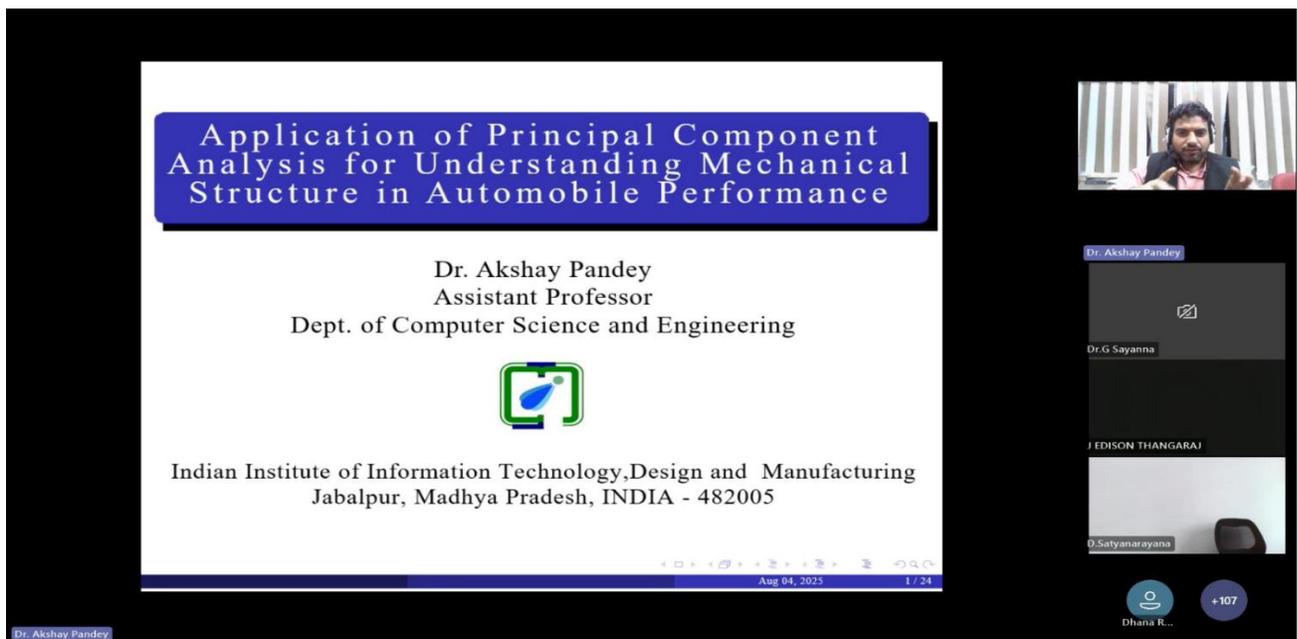
AD Aditya D... PT PUTTI VE...

Dhana R... VISWAN...

SS SANJAY... SB SD RUKS...

DR Dr. Rajes... DH Dr. T Hari...

DB Dr. Raine... +43



Application of Principal Component Analysis for Understanding Mechanical Structure in Automobile Performance

Dr. Akshay Pandey
Assistant Professor
Dept. of Computer Science and Engineering



Indian Institute of Information Technology, Design and Manufacturing
Jabalpur, Madhya Pradesh, INDIA - 482005

Aug 04, 2025 1 / 24

Dr. Akshay Pandey

Dr. G Sayanna

J EDISON THANGARAJ

D Satyanarayana

Dhana R... +107

Day-2: 24.02.2026 (Tuesday), 7:00 PM to 8:00 PM (Session 2)

Topic: “Battery Thermal Management systems: Overview, Case study, ML Predictions”

Speaker: Dr.Muthya Goud,
Senior Engineer, Nissan India, India.

teams.microsoft.com/v2/

Stay in the know. Turn on desktop notifications. Turn on

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Take control Chat People 128 Raise React View Controls Apps More Camera Mic Share Leave

HEAT GENERATION FROM THE BATTERIES

According to the existing literature, the heat generation (Q_{total}) in a battery cell has two primary sources, given by

$$Q_{total} = Q_{ir} + Q_{rev}$$

Irreversible heat is generated by the Joule's heating based on the total internal resistance (R_i) and is given by

$$Q_{ir} = I^2 R_i$$

Reversible reaction heat is due to electrochemical reactions inside the battery, given by

$$Q_{rev} = -I \left[T \frac{dE}{dT} \right]$$

From Hybrid pulse power characterization (HPPC) test,
Total internal resistance R_i (Ω):

$$R_i = (-112 \times SOC^2 - 0.203 \times SOC^2 \times T + 0.000737 \times SOC \times T^2 + 0.00000753 \times T^3 + 301 \times SOC^2 - 0.144 \times SOC \times T - 0.0061 \times T^2 - 188 \times SOC + 1.28 \times T + 23.6) \times 10^{-3} \quad [6]$$

where T (K) is the ambient temperature and SOC is state of charge

Entropic Coefficient ($\frac{dE}{dT}$):
Using nonlinear polynomial fitting method, the function of dE/dT (V/K) is obtained,

$$\frac{dE}{dT} = (-0.342 + 0.979 \times SOC - 1.49 \times SOC^2 + 0.741 \times SOC^3) \times 10^{-3}$$

Source: [6] Effects of the different air cooling strategies on cooling performance of a lithium-ion battery module with battery, (https://doi.org/10.1016/j.applthermaleng.2018.08.064)

Fig: Internal resistance vs SOC at different temperatures

Fig: Joule Heat Generation vs SOC at different C rates

Participants

Type a name

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Presenters (5)

- VISWANADH. K.V Organizer
- AMMISSETTI DHANUNJAY KUMAR On hold
- DR Dhana Raju
- DG Dr. Muthya Goud
- LAKSHMI PRASAD. K

Attendees (123)

- AB Abhishek Barua
- AS Abhishek Sharma

no turn on desktop notifications

06:17:42

Take control Chat People 154 Raise React View Controls Apps More Camera Mic Share Leave

HOW TO SELECT A SUITABLE BATTERY CHEMISTRY

Specific Energy Density (Wh/kg)

Lithium Ion Volume (LHV) (Wh/L)

Higher Voltage

Lighter Weight

Li-Ion

Ni-MH

Ni-Cd

Lead-Acid

LFP LITHIUM IRON PHOSPHATE

NMC LITHIUM NICKEL MANGANESE COBALT OXIDE

NCA LITHIUM NICKEL COBALT OXIDE

LTO LITHIUM TITANIUM OXIDE

LMO LITHIUM MANGANESE OXIDE

LCO LITHIUM COBALT OXIDE

Performance

Life

Cost

Energy

Power

Safety

Day-3: 25.02.2026 (Wednesday), 7:00 PM to 8:00 PM (Session 1)

Topic: “Advanced and Hybrid Energy Systems: Role of Second Law of Thermodynamics”

Speaker: Dr.B.V.Reddy

Professor, Department of Mechanical Engineering, University of Ontario, Canada

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All tools Edit Convert E-Sign Find text or tools Share

Advanced and Hybrid Energy Systems: Role of Second Law of Thermodynamics

Bale V. Reddy¹
Professor
Department of Mechanical and Manufacturing Engineering
Faculty of Engineering and applied Science
Ontario Tech University (UOIT)
Oshawa, ON, Canada

Email: Bale.Reddy@ontariotechu.ca, bv_reddy@hotmail.com

1

Bale V. Reddy

11:38 PM 2/24/2026



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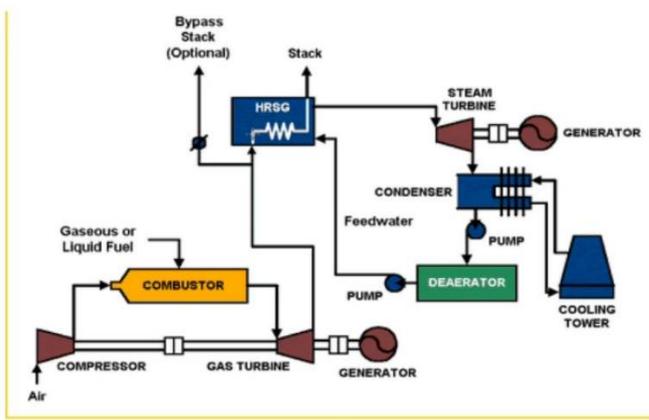


Figure 2: Combined Cycle Power Generation System

Bale V. Reddy

11:45 PM 2/24/2026



Day-3: 25.02.2026 (Wednesday), 7:00 PM to 8:00 PM (Session 2)

Topic: “Analysis of Thermo-Mechanical Phenomena and Heat Transfer Characterization In Continuous Casting”

Speaker: Dr. Jayakrishna

Post Doctoral Fellow

King Fahd University of Petroleum and Minerals, Saudi Arabia.

The screenshot shows a Zoom meeting interface. The main window displays a presentation slide with the following text:

Introduction to Fluid Flow, Heat Transfer and Mechanical Interactions in Continuous Casting Process

Dr. Jayakrishna Pedduri
Post Doctoral Fellow
Interdisciplinary Research Center for Hydrogen Technologies and Carbon Management
King Fahd University of Petroleum and Minerals
Dhahran, Saudi Arabia

Navigation controls at the bottom of the slide show "Slide 1 of 26".

On the right side of the Zoom window, there is a list of participants with their profile pictures and names: dbjani, VISWAN..., mallesw..., Eedupug..., Dr.G.Say..., Jayakrish..., Dr. P.Rav..., Dr. Rajee..., Dhana R..., Mr. ABIL..., ravi vara..., Kanchan..., SANTHO..., SANTHO..., Dr. Mano..., Sura Sap..., DS, +39, and Dr.ENNA...

The screenshot shows a presentation slide titled "Conventional Continuous Casting Process". On the left, there is a 3D diagram of the casting process with labels: Ladle, Tundish, Liquid metal, Mold, Withdrawal rollers, Bending rollers, and Straightening rollers. On the right, there is a flowchart with the following components and descriptions:

- Tundish**
 - Steel reservoir
 - Reactor vessel
 - Melt will be free of inclusion
- Mould**
 - Primary cooling**: Water flows through cooling channels at the back side
 - Tapered**: Solidified strand always in contact with the mold hot face
 - Covers with mould powder or oil**: Prevents heat loss from the melt and acts as lubricant
 - Oscillates**: To reduce friction between the mold and metal
- Secondary cooling zone**
 - Rollers and spray cooling
 - Bending and Straightening of the strand
 - Complete solidification of strand

At the bottom of the slide, it says "Slide 6 of 26".

On the right side of the Zoom window, there is a list of participants with their profile pictures and names: Bala Kat..., RAVI BA..., VISWAN..., Jayakrish..., Dr. P.Rav..., Sandeep..., Dhana R..., Dr. Rajee..., SM, AR, A.Parim..., KS, DS, Dr.G.Say..., LAKSHM..., Rakesh V..., SANTHO..., KONDAP..., ARUN.A.K, and +49.

Topic: “Advancements in HVAC & R systems and applications”

Speaker: Dr.R.V.S.S. Prasad

Business Head,

Pavani Engineers private limited. Hyderabad.

OPERATIONALIZING BMS: FUNCTIONS & VALUE

INPUTS - The Functions

- Real-time Monitoring (Temp, RH, Pressure)
- Alarm Management
- Energy Analytics
- Scheduling
- Fault Detection

OUTPUTS - The Value

15-25% ENERGY SAVINGS

- Reduced Downtime
- Predictive Maintenance

Dr. RVSS Prasad

THE INSTITUTIONAL MANDATE: SUMMARY OF OBLIGATIONS

CURRICULUM	INFRASTRUCTURE	VISION
		
Build the Hybrid Engineer: Merge Mechanical, Controls, and Data Science	Activate the Living Lab: Transform campus plants into IoT-enabled classrooms.	Future Horizons: Lead research in Hydrogen, Autonomy, and Grid Integration

NotebookLM

Prasad RVSS

RV Rakesh V... SM sachinku...
D Dr.K.V.S... SP SAKTHIV...
VISWAN... PK Pavani K...
Dhana R... DR DESU D...
RK RAVI BA... +110

Topic: “Smart Manufacturing systems”

Speaker: Dr.Thella Babu Rao,
Department of Mechanical Engineering,
NIT Andhra Pradesh.

Evolution of Manufacturing (Industry 1.0 → 4.0)

Industrial Era	Key Feature	Example
Industry 1.0	Mechanization	Steam-powered looms
Industry 2.0	Mass production	Assembly lines
Industry 3.0	Automation	CNC, PLC
Industry 4.0	Smart & connected	AI-driven factories

INDUSTRY 1.0 (1784) INDUSTRY 2.0 (1870) INDUSTRY 3.0 (1969) INDUSTRY 4.0 (TODAY)

Prasad RVSS

Dr. Thella Babu Rao

SM
sachiniku...

DH
Dr. Syed ...

SP
SAKTHIV...

DD
DR. RUP...

PK
Pavani K...

Dhana R...

DK
DURGAP...

PK
pendyala...

+125

Internet of Things (IoT) in Manufacturing

IoT enables machines, sensors, and systems to:

- Communicate with each other
- Share data continuously

Common industrial sensors:

- Temperature (tool/workpiece)
- Vibration (bearings, motors)
- Acoustic emission (cracks, defects)
- Cameras (surface inspection)

IoT Data Flow: **Sensor** → **Controller** → **Network** → **Cloud** → **Dashboard**

Prasad RVSS

Dr. Thella Babu Rao

SM
sachiniku...

DH
Dr. Syed ...

SP
SAKTHIV...

KS
KANNA...

PK
Pavani K...

Dhana R...

DK
DURGAP...

PK
pendyala...

+120

Day-5: 27.02.2026 (Friday), 10:30 AM to 12:30 PM (Session 1)

Topic: “Computational Approaches to Sustainable Energy Solutions”

Speaker: Dr.T.Srinivas

Professor & Head Mechanical Engineering, NIT Jalandhar.

Software Solutions

Computational Approaches to Sustainable Energy Systems



Dr. Tangellapalli Srinivas
Professor, Department of Mechanical Engineering
Dr. B.R. Ambedkar National Institute of Technology Jalandhar, Punjab, India – 144008

Zoom meeting controls: Prof. T. Srinivas, Dr. G. Sayanna, DD, +53.

Idea to Product Design and Development

This is to certify that DR TANGELLAPALLI SRINIVAS is an inventor in respect of the following patent granted in accordance with provisions of the Patent Act, 1970.

Patent No. 275121
Date of Patent: 23/09/2015
Date of Filing: 11/02/2015
Title of Invention: SINGLE AXIS SEMI AUTOMATIC TRACKING MECHANISM FOR SOLAR CONCENTRATING COLLECTOR



Experimental setup of tracking mechanism

It is hereby certified that a patent has been granted to the patentee for an invention entitled **SINGLE AXIS SEMI AUTOMATIC TRACKING MECHANISM FOR SOLAR CONCENTRATING COLLECTOR** as disclosed in the above mentioned application for the term of 20 years from the 21st day of September 2015 in accordance with the provisions of the Patent Act, 1970.

Dr. Tangellapalli Srinivas, NIT Jalandhar

Zoom meeting controls: Prof. T. Srinivas, Dr. G. Sayanna, 00:55:09.

Idea to Product Design and Development

This is to certify that DR TANGELLAPALLI SRINIVAS is an inventor in respect of the following patent granted in accordance with provisions of the Patent Act, 1970.

Patent No. 275121
Date of Patent: 23/09/2015
Date of Filing: 11/02/2015
Title of Invention: SINGLE AXIS SEMI AUTOMATIC TRACKING MECHANISM FOR SOLAR CONCENTRATING COLLECTOR



Experimental setup of tracking mechanism

It is hereby certified that a patent has been granted to the patentee for an invention entitled **SINGLE AXIS SEMI AUTOMATIC TRACKING MECHANISM FOR SOLAR CONCENTRATING COLLECTOR** as disclosed in the above mentioned application for the term of 20 years from the 21st day of September 2015 in accordance with the provisions of the Patent Act, 1970.

Dr. Tangellapalli Srinivas, NIT Jalandhar

Zoom meeting controls: Prof. T. Srinivas, Dr. G. Sayanna, 00:55:09.

VALIDICTORY

The Department of Mechanical Engineering, Lakireddy Bali Reddy College of Engineering (Autonomous), Mylavaram, successfully organized a One Week Online Faculty Development Program (FDP) on “Advancements in AI-ML-IoT Integration for Smart Mechanical Engineering Systems” from 23rd to 27th February 2026, conducted daily from 10:00 A.M. to 12:30 P.M.

The Valedictory Session of the FDP was held on 27th February 2026 (Friday) at 12:10 P.M. The program was graced by Dr. T. Srinivas as the Chief Guest, and Dr. K. Appa Rao attended the session as the Guest of Honor. Their presence added great value to the closing ceremony and inspired the participants.

The session commenced with a brief introduction to the objectives and achievements of the FDP. Dr. V. Dhana Raju, the Coordinator of the FDP, presented the overall report of the program, highlighting the successful conduct of technical sessions, expert lectures, and the active participation of faculty members from various institutions. The report emphasized how the FDP helped participants gain insights into the latest developments in Artificial Intelligence, Machine Learning, and Internet of Things applications in Mechanical Engineering systems. Following this, Dr. M. B. S. Sreekara Reddy, Head of the Department, presented the summary and objectives-met report. He elaborated on how the FDP achieved its intended goals by enhancing faculty knowledge in emerging interdisciplinary technologies and by promoting research and innovation in smart mechanical systems. He also appreciated the resource persons for delivering insightful sessions and the participants for their enthusiastic involvement throughout the program.

The Chief Guest, Dr. T. Srinivas, addressed the gathering and appreciated the department for organizing a timely and relevant FDP focusing on the integration of AI, ML, and IoT in engineering applications. He emphasized the importance of adopting advanced digital technologies in mechanical engineering education and encouraged faculty members to integrate these technologies into teaching, research, and industry collaborations.

The Guest of Honor, Dr. K. Appa Rao, also congratulated the department for the successful organization of the FDP and highlighted the growing importance of interdisciplinary knowledge for modern engineering professionals. He motivated the participants to continuously upgrade their skills and engage in innovative research activities.

The program concluded with a Vote of Thanks delivered by Mr. K. V. Swarnath, Coordinator, who expressed his sincere gratitude to the Chief Guest, Guest of Honor, resource persons, participants, college management, organizing committee members, and technical staff for their valuable support in making the FDP a grand success. The Valedictory Session marked a fitting conclusion to the FDP, leaving participants enriched with knowledge and motivated to apply the learned concepts in their academic and research activities.