SPEAKERS

Dr. Rafael Roberto, SENAI, Brazil
Dr. Rishi Relan, Head of Dept, Siemens Energy, India
Dr. Mukund S. Kale, Chief Learning Manager, Siemens Industry Software, India
Prof. Surjya K Pal, Dean (R&D), IIT Kharagpur
Dr. Vibhor Pandahre, IIT Bombay
Dr. Sajan Kapil, IIT Guwahati
Dr. Richa Chauhan, Application Engineer, Mathworks, Bangalore
Prof. Saurav Goel, Professor of Manufacturing, London South Bank University, UK
Mr. Anshu Bansal, Senior Staff Digital Product Manager, GE Vernova, Bangalore
Dr. Muvvala Gopinath, IIT Hyderabad
Dr. Lalit Bhola, Senior Structural Engineer, Jaguar Lendrover, Bangalore
Prof. D. K. Pratihar, IIT Kharagpur
Dr. Pradeep Kundu, IIT Indore
Dr. Amit Choudhary , IIT Roorkee
Prof. Amitava De, IIT Bombay
Dr.Benedict Alexander Rogers, Researcher, University of Bath, England
Dr. Keyhan K Babarahmati, Research Fellow, Robotics &Autonomous Systems, University of Texas at Austin
Mr. Preetam S, Technical Manager, KPMG, Bangalore
Dr. Aman Kureja, BITS Pilani, Goa
Mr. Sunil Kant Dwivedi, Scientist F, CEMILAC, DRDO

PATRON

Prof. K. Umamaheshwar Rao
Director, MNNIT Allahabad

CHAIRMAN

Prof. Rajeev Srivastava
Head, Department of Mechanical Engineering, MNNIT Allahabad

CONVENER

Prof. Samir Saraswati
Convener, AI-ML Task Force, Department of Mechanical Engineering, MNNIT Allahabad

COURSE COORDINATORS

Dr. Skylab P. Bhore, Dr. Mandeep Dhanda

ORGANIZING COMMITTEE

Dr. Pranav Thakre, Dr. Vibhuti B. Pandey, Dr. Nagarujna Kumma, Dr. Abhijeet Sadhu



5 Day Online Short-Term Course

on

AI and Digital Twin for Engineering Applications (AIDTEA-2026)

(14 - 18 December 2026)



Organized by

AI-ML Task Force
Department of Mechanical Engineering
Motilal Nehru National Institute of Technology Allahabad, Prayagraj
211004, India

ABOUT MNNIT ALLAHABAD

MNNIT Allahabad, Prayagraj is a premier Institute committed to quality and excellence in academic pursuits. It was established as one of the seventeen RECs of India in the year 1961. The Institute today offers nine B.Tech., nineteen M.Tech., MCA, MBA and M.Sc. (Mathematics and Scientific Computing) courses and also imparts Ph.D. degree. The Institute has been recognized by the Government of India as one of the centres for Quality Improvement Programme (QIP) for M.Tech. and Ph.D. degrees. The Institute has constantly been rated by various agencies amongst the top NITs and is a popular choice amongst students for academics, owing to its well qualified faculty members, superior infrastructure and teaching and research facilities.

ABOUT MECHANICAL ENGG. DEPARTMENT

The Department of Mechanical Engineering is one of the oldest, largest and the most prestigious department at MNNIT Allahabad, in terms of 43 faculty members (all PhDs) and research output. The department offers B.Tech., M.Tech. and Ph.D. programs with a wide choice of electives and research areas. The department is currently running three M.Tech programs with specialization in Design, Production and Thermal Engineering. The department of Mechanical Engineering was the first to start a Ph.D. program at MNREC as early as 1970. Till date 100+ PhDs have already been awarded and another 75+ are currently ongoing in the department.

OVERVIEW OF THE COURSE

The 5-Day Short Term Course on AI and Digital Twin for Engineering Applications introduces participants to cutting-edge technologies shaping modern industry. The program covers fundamentals of Artificial Intelligence, machine learning techniques, and their integration with digital twin frameworks. Participants will explore modeling, simulation, and real-time monitoring of engineering systems, with emphasis on predictive maintenance, optimization, and sustainable manufacturing. Hands-on sessions and case studies will demonstrate applications in robotics, mechanical systems, and smart factories. By the end, attendees will gain practical insights into leveraging AI-driven digital twins for innovation, efficiency, and advanced problem-solving in engineering domains.

OBJECTIVES

- To update the participants with the state of the art in AI and Digital Twin.
- Introduce core concepts of AL, ML, and digital twin technology for engineering systems.
- Demonstrate integration of AI with digital twin frameworks for real-time monitoring, predictive maintenance, and optimization.
- Provide hands-on exposure through case studies, simulations, and practical sessions on robotics, manufacturing, and smart systems.
- Highlight industry relevance by showcasing applications in sustainable manufacturing, automation, and advanced problem-solving.
- Equip participants with skills to design and implement AI-driven digital twin solutions for innovation and efficiency in engineering practice.

CONTENTS

- Fundamentals of AI and ML – concepts, algorithms, and engineering relevance.
- Introduction to Digital Twin Technology – modeling, simulation, and real-time system representation.
- Integration of AI with Digital Twins – predictive maintenance, optimization, and decision support.
- Applications in Engineering Systems – robotics, manufacturing, smart factories, and sustainable design.
- Hands-on Case Studies and Tools – simulation platforms, data analytics, and practical demonstrations.
- Future Trends and Research Directions – Industry 4.0, IoT, and advanced digital manufacturing.

ELIGIBILITY

The programme is open for the faculty of Engineering, Diploma, Undergraduate, Post Graduate students and Research scholars from technical institutions.

FEE

The registration fee is **Rs. 590** (including GST)

A/C : NON FORMAL CONTNUING OF EDU

Account no: **10424975574**

IFSC code: SBIN0002580



Registration Details:

Kindly register through the following link:
https://forms.gle/GpQJdC2HUQ2DMGGR6
Last date of registration is December 11, 2026.
Link for attending the course shall be sent to the registered participants, separately.

Address for Communication:

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