

6 Days Faculty Development Programme

on

# NEXT GENERATION ENGINEERING PRACTICES: MATERIALS, DESIGN AND MANUFACTURING

Date: 22-27 December, 2025

(Online Mode)

Under

**AICTE Training and  
Learning (ATAL) Academy**



Sponsored By

**AICTE, New Delhi**

Organized by

**Department of  
Mechanical Engineering**



'येथे बहुतांचे हित'



**Marathwada Mitra Mandal's  
COLLEGE OF ENGINEERING**

Karvenagar, Pune - 411052

**An Autonomous Institute affiliated to SPPU**

Accredited with 'A++' Grade by NAAC | Accredited by NBA

Recipient of 'Best College Award' by SPPU

Recognized under section 2(f) and 12B of UGC Act 1956

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## CONVENER

**Dr. V. R. Deulgaonkar**

Professor and Head, Mechanical Engineering Department

## COORDINATOR

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## CO-COORDINATOR

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## ADVISORY COMMITTEE

**Dr. V. R. Deulgaonkar**, HOD Mechanical

**Dr. M. A. Deshpande**, HOD Electrical

**Dr. A. S. Bhatlawande**, HOD E&TC

**Dr. K. S. Thakre**, HOD Computer

**Dr. S. A. Ubale**, HOD IT

**Dr. M. R. Dhage**, HOD AI&DS

**Dr. A. S. Sawaikar**, HOD Engineering Science & Humanities

## ABOUT MARATHWADA MITRA MANDAL

The trust "Marathwada Mitra Mandal's, Pune" was established in 1967 by Hon. Late Shri. Shankarraoji Chavan, Former Home Minister, Govt. of India as the "Founder President". The trust had started its activity with the objective of providing hostel or similar accommodation in Pune to the students. This trust is established through the inspiration of socially and educationally charged personalities, with motto "Welfare of Masses". Mass education, co education and dedication towards overall development of the region are watchwords of the trust. At its various educational campuses, the trust has created excellent facilities of education catering to Architecture, Interior Design, Management, Law, Commerce, Pharmacy, Engineering, etc, which provide excellent education to about 15,000+ students.

## ABOUT MMCOE

MMCOE has been recognized as the BEST COLLEGE by SPPU. MMCOE is one feather in the cap of Marathwada Mitra Mandal Pune, from the academic year 2006-2007. It offers six engineering programs (Computer, Electrical, E&TC, Information Technology, Mechanical and AI&DS), six PG Programs as well as PhD Research Center in Computer Engineering. It houses 3000+ students and 230 staff members. Along with the focus on core academics, college also takes care of overall personality development of the students. The college has an active robotics cell, NCC, Training and Placement cell, Entrepreneurship development cell, Foundation for MAKE IT HAPPEN Center for Invention Innovation Incubation (FMCIII) etc. The students are motivated to actively participate in co-curricular and extracurricular activities.

They have brought many laurels to the Institute in the events such as Smart India Hackathon, BAJA, SUPRA, Efficycle, Gokart, ROBOCON etc.

## ABOUT DEPARTMENT

Department of Mechanical Engineering of MMCOE is started in 2006 and accredited by NBA, the Department of Mechanical Engineering at MMCOE is among the best in Pune. With highly qualified faculty, including many PhDs, the department offers 120 UG seats, 6 PG seats, and 30 for working professionals. We follow Outcome-Based Education and focus on industry-relevant skills through unique skill development programs, internships, and projects. Students gain expertise in problem-solving, design, modern tools, communication, teamwork, and ethics. Active student chapters like SAEINDIA (BAJA, Supra, Efficycle), ISHRAE, ASHRAE, IE(I), ISTE enrich experiential learning and holistic development, preparing graduates for Industry 4.0 and beyond.

## About ATAL

All India Council for Technical Education (AICTE) established AICTE Training and Learning (ATAL) Academy with the vision to empower faculty to achieve goals of Higher Education such as access, equity and quality. ATAL academy supports technical institutions in fostering research, innovation and entrepreneurship through trainings, workshops, orientations and faculty development programmes in various thrust areas of modern technology.

## About FDP

This FDP aims to provide participants with a comprehensive understanding of innovations in design, advanced materials, and modern manufacturing techniques. It will highlight the role of high-performance materials, additive manufacturing, sustainable design strategies, and digital technologies such as AI and ML in shaping engineering practices. By fostering knowledge exchange and practical insights, the FDP seeks to empower educators and researchers to prepare students for the challenges of Industry 4.0 and beyond.

## Objectives of FDP

- ◆ To enhance knowledge in advanced materials and manufacturing
- ◆ To encourage innovative design approaches
- ◆ To integrate AI, ML, and Industry 4.0 technologies
- ◆ To promote sustainable and smart engineering practices
- ◆ To strengthen research and innovation capacity
- ◆ To bridge academia–industry collaboration

## Outcomes of FDP

### Participants will be able to:

- ◆ Demonstrate advanced knowledge of modern materials and manufacturing techniques
- ◆ Apply innovative design methodologies in teaching and research
- ◆ Utilize AI, ML, and Industry 4.0 tools for engineering problem-solving
- ◆ Implement sustainable and smart engineering practices
- ◆ Enhance research quality, leading to improved publications and funding opportunities
- ◆ Foster stronger collaboration and networking between academia and industry

## Steps to Register

1. Sign up as a participant and fill in your details through ATAL Portal.
2. Link of ATAL Portal:  
<https://atalacademy.aicte.gov.in/participant/workshop>
3. Select FDP Types: ATAL Online → December → Thrust Area-Engineering and Management → Select Mode-Online.
4. Search Application No: 1748419218
5. Select the Institute: Marathwada Mitra Mandal's College of Engineering, Karvenagar, Pune
6. Register for the 6 days online FDP titled:
7. "Next Generation Engineering Practices: Materials, Design and Manufacturing"
8. Application No: 1748419218.
9. Click on the '+' to join
10. Upload the NOC as per format given in ATAL website and Apply

## Eligibility for attending FDP

- ◆ Faculty members of AICTE approved institutions, Research scholars, PG Scholars and Industry Personnel

### Registration Fee: NIL

### Requirement to Get Certificate:

- ◆ A test shall be conducted (online) by coordinator at the end of the program
- ◆ The certificates shall be issued to those participants who are registered on ATAL portal (<https://atalacademy.aicte-india.org/signup>) and attend the program with minimum 80% attendance and score minimum 70% marks in the test
- ◆ Feedback must be shared by participants through portal available on their login

## Resource Persons of ATAL FDP



**Name:** Dr. Shailesh I Kundalwal  
**Designation:** Professor, Mechanical Engineering Department, IIT Indore  
**Experience:** 15 Years  
**Topic:** Molecular modeling of multifunctional properties of nanostructures and their composites



**Name:** Dr. Rahul Jain  
**Designation:** Associate Professor, Mechanical Engineering Department, IIT Bhilai  
**Experience:** 10 Years  
**Topic:** Additive manufacturing for the manufacturing of next-generation materials



**Name:** Dr. Muvvala Gopinath  
**Designation:** Assistant Professor, Department of Mechanical & Aerospace Engineering, IIT Hyderabad  
**Experience:** 13 Years  
**Topic:** Role of laser material interaction in Laser Directed Energy Deposition



**Name:** Dr. Pawan Sharma  
**Designation:** Assistant Professor, Mechanical Engineering Department, IIT BHU, Varanasi  
**Experience:** 11 Years  
**Topic:** Powder-based Additive Manufacturing Technologies



**Name:** Dr. Manoj Joshi  
**Designation:** Research Establishment Officer, Department of Materials Science and Engineering, IIT Kanpur  
**Experience:** 11 Years  
**Topic:** Advances in Surface Treatments and Smart Coatings: Integrated Solutions for Tribology, Corrosion, and Hydrogen Susceptibility



**Name:** Dr. Aaksh Shrivastav  
**Designation:** UE Systems  
**Experience:** 11 Years  
**Topic:** PdM solutions for enhanced asset reliability with overview of industrial IoT and AI/ML applications



**Name:** Dr. Milind Ambardekar  
**Designation:** Consultant, Optimum Vibrations and Noise, Pune  
**Experience:** 35 Years  
**Topic:** Overview of Automotive NVH (Noise, Vibrations, Harshness) in context of Competitive markets



**Name:** Mr. Krishnat Patil  
**Designation:** Whole Design Engine System Developers, Rolls-Royce Singapore  
**Experience:** 14 Years  
**Topic:** Aerospace Engine and its Maintenance



**Name:** Dr. Ganesh Soni  
**Designation:** Technical Project Manager, Hexagon India, Pune  
**Experience:** 13 Years  
**Topic:** A specific approach to teaching using AI tools for mechanical engineering involving materials, manufacturing, and Design



**Name:** Mr. Rohit Kulkarni  
**Designation:** Engineering Manager, GE Aerospace, Munich, Germany  
**Experience:** 17 Years  
**Topic:** New trends in Aircraft Engine Design



**Name:** Dr. Vishal Mahale  
**Designation:** Senior Manager, R&D, Hindustan Composites Limited, Chatrapati Sambhajnagar  
**Experience:** 13 Years  
**Topic:** Advanced Brake Friction Materials: Design Principles and Manufacturing Insights



**Name:** Mr. Ajeet Jha  
**Designation:** Engineering Manager - Transmission, Eaton Technology, Pune  
**Experience:** 11 Years  
**Topic:** Drivetrain Design for Commercial Vehicle



**Name:** Dr. Avishkar Bhoskar  
**Designation:** Application Scientist, Asian Lab Grown Diamond, Surat  
**Experience:** 11 Years  
**Topic:** Role of MPCVD Technology in Next-Generation Manufacturing and Semiconductor Applications