

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**



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

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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 Sambhajinagar
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