Since 1983

MIT-WPU
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Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

Dr. Vishwanath Karad MIT World Peace University

5-Day Faculty Development Program (FDP)

on

AI in Chemical Engineering: Industry, Curriculum and Research Perspectives

Organized by

Department of Chemical Engineering

Duration: 5 Days | 2 Sessions per Day
Dates: 1st December 2025 to 5th December 2025,
Venue: Online Mode

Topics

- Redefining Chemical Engineering in the Age of AI
- Overview AI-Enabled Chemical Plants
- Process Optimization and Predictive Maintenance using AI
- AI in Simulation and Data modeling
- Transforming Research Workflows with AI
- AI-Driven Product, Process Design, and Formulation Development
- Teaching with AI: Tools, Strategies, and Challenges
- Reimagining Curriculum: Promoting Conceptual Inquiry with the help of AI
- From Instructor to Facilitator: Reimagining Faculty Roles
- The Future Faculty: Lifelong Learning and Collaboration

Why This FDP?

Close the Knowledge Gap:
Build foundational skills in AI/ML with chemical engineering relevance.

Modernize Teaching:
Leverage AI for simulations, personalized learning, and outcome-based assessments.

Upgrade Research:
Apply AI in modeling, process design, and sustainability-focused research.

Meet Industry Needs:
Equip students with AI skills demanded in Industry 4.0.

Revamp Curriculum:
Integrate AI modules into core chemical engineering courses.

Promote Collaboration:
Enable cross-disciplinary projects with computing, bio, and environmental domains.

About MIT-WPU

Dr. Vishwanath Karad MIT World Peace University (MIT-WPU) is a prestigious world-class university in India, boasting a remarkable 43-year legacy dedicated to fostering excellence in academics. MIT-WPU empowers students with the skills and knowledge they need to shine in this competitive world. At MIT-WPU, we offer students with unparalleled experiential learning opportunities that seamlessly integrate academic programmes with courses in Peace Studies, Yoga, and Meditation. Students here get a diverse range of sporting opportunities, immersion programmes, internships, and year- round on-campus events and cultural clubs all geared towards fostering their holistic development.

Department of Chemical Engineering

MIT-WPU's Department of Chemical Engineering under the School of Engineering and Technology, serves as a distinguished centre of academic excellence, fostering globally recognised ethical professionals through comprehensive education and experiential research. Our curriculum develops responsible Chemical Engineering and Materials Science and Engineering professionals who contribute to nation-building across traditional industries and emerging fields. Through strategic industry partnerships and interdisciplinary collaboration, we cultivate innovation-driven graduates who are equipped for diverse career tracks, ranging from petroleum refining to nanomaterials. The award winning AIChE-MITWPU Student Chapter promotes co-curricular student driven activities with global exposure.

Preamble- About the FDP

Artificial Intelligence (AI) is rapidly transforming the landscape of chemical engineering—from process optimization and research innovation to curriculum design and industry practices. As AI tools like generative models become more accessible, they are reshaping how students learn and how engineers work. This shift challenges faculty to evolve from traditional roles as content providers to facilitators of critical thinking, ethical reasoning, and interdisciplinary collaboration.

This Faculty Development Program aims to equip educators with the knowledge and skills to integrate AI into teaching, research, and industry engagement. By understanding AI's capabilities and limitations, faculty can guide students in using it responsibly while preparing them for emerging roles in a digitally driven engineering environment. Far from becoming irrelevant, faculty now have a renewed role as mentors and innovators in shaping the future of engineering education.

Our Inspiration

Prof. (Dr.) Vishwanath D. Karad
Founder & President
MITWPU

Dr. Rahul V. Karad
Executive President
MITWPU

Patrons

Prof. R.M.Chitnis
Vice Chancellor
MITWPU

Dr. Prasad D. Khandekar
Chief Academic Officer
MITWPU

Chairmen

Dr. Siddharth Chakrabarti
Dean, School of Engg.
and Tech.,MITWPU

Dr. Dinesh Bhutada
Program Director
Dept. of Chem Engg., MITWPU

Key Resource Persons

Dr. Sunil Bhagwat
Director IISER
Pune

Dr. Ravindra Gudi,
AIML Chair Professor
IIT Bombay

Dr. Sanjeev Tambe
Adjunct Professor ICT,
Mumbai
Ex-Chair CEPD, NCL, Pune

Aycan Hacioglu
Manager (Chem Engg)
MathWorks, USA

Dr. Amit Bhave
Professor
University of Cabridge,
UK

Dr. Ranjit Utikar
Professor
Curtin University,
Australia

Sujit Jagnade
Senior Project Lead
Tridiagonal.AI

Mr. Sanatkumar Ippalpalli
Process Engineering
Lummus Technology

Prof. Datta Dandge
Chief Belief Officer
MITWPU

Dr. Anand J. Kulkarni
Director, Institute of AI
MITWPU

Convenor

Dr. Anand D. Kulkarni
Program Coordinator
Dept. of Chemical Engineering

Co-Convenor

Dr. Pratiksha D. Khurpade
Academic Coordinator
Dept. of Chemical Engineering

Organizing Committee

Dr. Malhari Kulkarni

Dr. Pallavi Tatpate

Dr. Rupali Sonolikar

Dr. Anjali Meshram

Prof. Deepali Kulkarni

Prof. Niraj Topare

Dr. Kiran Shejale

Dr. Anant Srivastava

Who can attend?

Faculty, Researchers, and Educators interested in implementing AI in Engineering Education and Research especially in Chemical Engineering, Petroleum Engineering and Materials Science and Engineering.

How to apply?

Application in the prescribed format is to be filled through the google form link given below or by accessing the QR Code.

QR Code for Registration:

Registration Link:

https://forms.gle/kHPVVwMtoGcynRuy5

Registration fees:	Rs. 200
Last date of registration:	15th November 2025
Contact:	anand.kulkarni@mitwpu.edu.in, +91-9689932230
	pratiksha.khurpadekale@mitwpu.edu.in, +91-9922130145