ABOUT PROGRAM

Why Faculty Development Program on Industry-Centric AI in Engineering Design for New Product Development?

The program aims to equip faculty with knowledge of AI-driven design tools, generative design approaches, and data-driven product development methodologies to enhance teaching, research, and industry readiness. Key areas include AI in design optimization, generative design, digital twins, smart manufacturing, and real-world industry case studies. Participants will gain exposure to emerging technologies, practical tools, and innovative teaching strategies, enabling them to integrate AI concepts into engineering curriculum and foster future-ready engineers. To keep pace with these advancements, it is essential that faculty members—who play a crucial role in shaping the next generation of engineers—are well-versed in these innovations.

A FDP on Industry-Centric AI in Engineering Design for New Product Development provides an essential platform for educators to

- Gain in-depth knowledge of various AI integration across Product Development Lifecycle (PDLC)
- Industry-ready and innovative engineering solutions

PROGRAM OBJECTIVES

- Explore Develop a comprehensive understanding of the Engineering Design Process and Product Development Lifecycle, emphasizing industry-oriented practices.
- Enhance knowledge of design thinking, innovation, and optimization techniques for effective new product development.
- Bridge Academia and Industry: Provide exposure to real-world industrial case studies in Defence, Aerospace and Automotive sector.
- Enable understanding of modern tools and digital transformation concepts such as AI-integrated design workflows and smart manufacturing practices.
- Skill Workforce: Facilitate industry-academia interaction through expert sessions and industrial visits, bridging the gap between teaching and industrial practices.
- Future Avenues: Empower faculty to integrate industry-centric AI and design concepts into curriculum and teaching fostering industry-oriented approach for projects.

REGISTRATION PROCESS

- Participant shall register for the program as per the specified process of AICTE's Training and Learning (ATAL) Academy.
- Visit https://atalacademy.aicte.gov.in for registration
- Refer AICTE'S ATAL scheme document for assessment criteria to receive certificate and distinction

RESOURCE PERSONS

The program will be conducted by eminent resource persons from leading Engineering industries (L&T, TATA, Godrej) and renowned academia (IIT's and NIT's).

Targeted Participants

The workshop is open for faculty members, research scholars, UG/ PG students, personnel from R&D sectors/ research laboratories & Industry.

PROGRAM OUTCOMES

At the end of this faculty development program, participants will be able to:

- Apply principles of engineering design and product development lifecycle (PDLC) in an industry-oriented context.
- Integrate industry case studies into teaching and Integrate AI techniques and tools into engineering design processes for improved efficiency and innovation.
- Utilize generative design and data-driven approaches for solving complex engineering problems.
- Develop innovative, industry-ready engineering solutions.
- Enhance curriculum delivery by incorporating Industry 4.0 concepts and modern design tools.
- Strengthen collaboration with industry through exposure to industrial practices and expert interactions.

CONTACT FOR MORE INFORMATION

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All India Council for Technical Education (AICTE) Training and Learning (ATAL) Academy
Sponsored Six Days
Faculty Development Program
on
"Industry-Centric AI in Engineering Design for New Product Development"

14th – 19th December 2026

Coordinator

Dr. Megha Nagrale
Assistant Professor
Co-coordinator
Prof. Kunal Bhavsar
Assistant Professor

Organized By

Department of Mechanical Engineering
Bharatiya Vidya Bhavan's
Sardar Patel College of Engineering

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ABOUT THE INSTITUTE



Sardar Patel College of Engineering (SPCE) under the management of the Bhartaiya Vidya Bhavan, was founded by Kulapati Dr. K. M. Munshi. It was established to meet the growing demand for engineering talent.

The foundation stone of the college was laid on 17th September 1961 by Shri. Y. B. Chavan (the then Chief Minister of Maharashtra who later became the Defence Minister of India).

The college was inaugurated by the first Prime Minister of Independent India, Pandit Jawaharlal Nehru in 1962. The college is dedicated to Sardar Vallabhbhai Patel, an eminent nation builder of independent India.

SPCE has celebrated its diamond jubilee in the year 2022 by organizing AICTE, SERB and CSIR sponsored Sardar Patel International Conference on Industry 4.0 - Nascent Technologies and Sustainability for 'Make in India' Initiative 2022 (SPICON-2022).

The college is autonomous and affiliated to the University of Mumbai for the full-time degree, post graduate, and research programs. The institute has set high standards for aspiring engineering students and also meets the need of quality education in the challenging world of business.

Over the last 63 years the college has gained an excellent reputation in the field of Technical Education.

MECHANICAL ENGINEERING DEPARTMENT

Mechanical Engineering Department of Sardar Patel College of Engineering commenced in 1962. The Department offers undergraduate program (B. Tech in Mechanical Engineering) and postgraduate program M. Tech. in Machine Design and a Ph.D. program.

The B. Tech. (Mechanical Engineering) program is awarded accreditation (Tier-I) by NBA up to 2028.

The department has several sponsored projects from Department of Science and Technology (DST), Anusandhan National Research Foundation (ANRF)/ Science and Engineering Research Board (SERB) in the field of micro-machining and micro fabrication.

The department has modern infrastructure with well-equipped laboratories and computational facilities with up-to-date hardware and software resources. The well qualified and experienced faculty of the department imparts knowledge to the students in the fundamental and applied aspects of Mechanical Engineering courses by adopting conventional as well as the latest teaching and assessment tools. The department also uses DST NIDHI prayas and AICTE IDEA lab to convert ideas into prototype and further to the product development.

OBJECTIVES OF AICTE ATAL

- To set up an Academy which will plan and help in imparting quality technical education in the country
- To support technical institutions in fostering research & innovation and entrepreneurship through training
- To stress upon empowering technical teachers & technicians using Information & Communication Technology
- To utilize SWAYAM platform and other resource for the delivery of trainings
- To provide a variety of opportunities for training and exchange of experiences such as workshops, Orientations, learning communities, peer mentoring and other faculty development programs.
- To support policy makers for incorporating training as per requirements

PATRON



Dr. Sesha Iyer
Chairman, BoG, Sardar Patel College of Engineering



Dr. M. M. Murudi
Principal In-charge, Sardar Patel College of Engineering

ORGANIZING COMMITTEE

Dr. M. M. Murudi	Principal In-Charge
Dr. Ajaykumar Kambekar	Dean Academics
Dr. S. B. Rane	Head of Mechanical Engineering Department
Dr. Megha Nagrale	Course Coordinator
Prof. Kunal Bhavsar	Course Co-Coordinator
Mr. Luis Dias	Assistant for FDP

CONTENTS

- Introduction to Engineering Design Process & Product Development Lifecycle (PDLC).
- Design Thinking and Innovation in Engineering.
- Design Optimization Techniques with Industrial Case Studies.
- AI in Engineering Design, Generative Design & Future Technologies.
- Data-Driven Engineering Design Approaches.
- Industry based Case Studies.
- Research Article Discussions & Technical Analysis.
- Hands-on Training / Lab Sessions on Modern Design Tools.
- Industrial Visit to Mfg./ R&D Facility.