



Workshop on

“Integrating AI with Mechanical Engineering”
(Hybrid Mode)



21st April – 25th April 2025

Conference Room, Research Building

Indian Institute of Technology Guwahati

Organized by

Indian Institute of Technology Guwahati

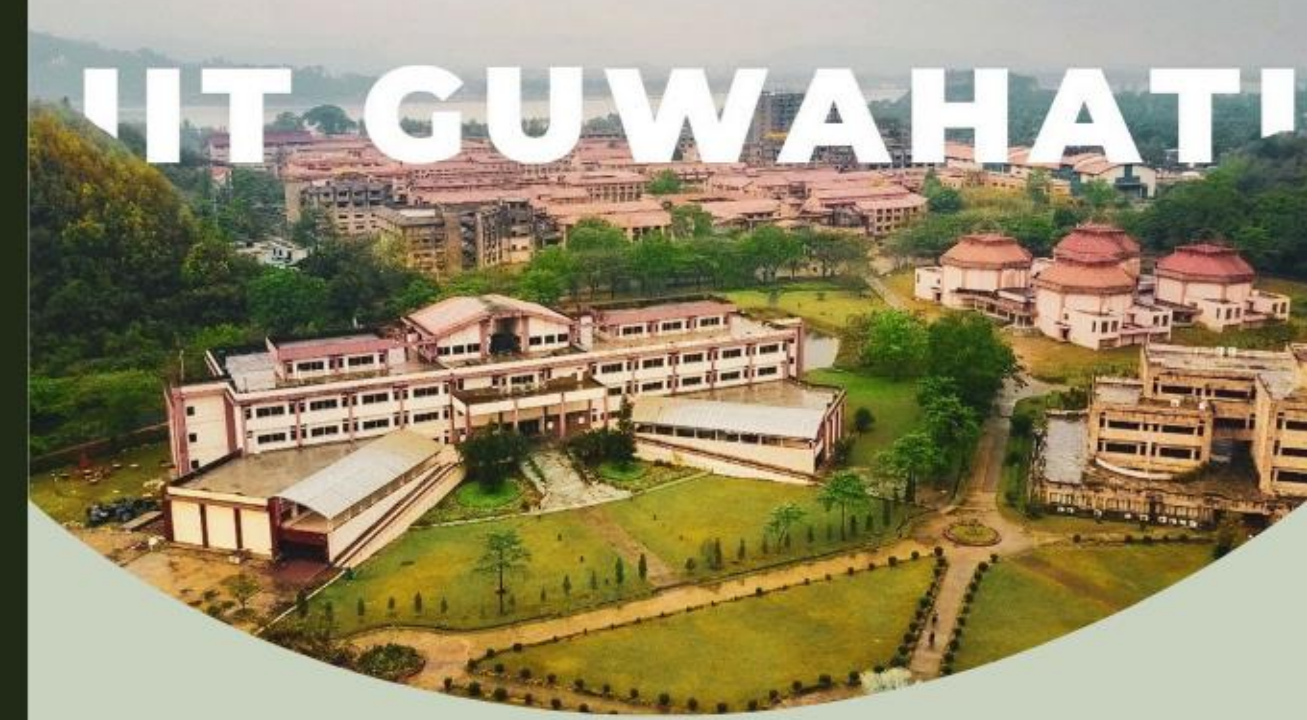
Technology Innovation & Development Foundation

Website

<https://iitg.ac.in/tihue/>

Contents

- * **Introduction to AI in Mechanical Engineering** – Role of artificial intelligence in revolutionizing mechanical systems, automation, and predictive modeling.
- * **AI-driven Smart Manufacturing** – AI implementation in process optimization, fault detection, and production planning.
- * **Intelligent Design & Simulation** – AI-based modeling, generative design, and advanced simulation techniques for mechanical components.
- * **AI in Robotics & Automation** – Enhancing robotic motion planning, machine vision, and autonomous control through AI integration.
- * **Digital Twin & AI-driven Optimization** – Creating virtual replicas of mechanical systems for performance improvement and real-time decision-making.
- * **Predictive Maintenance & Condition Monitoring** – AI-powered analytics for real-time monitoring, failure prediction, and proactive maintenance strategies.
- * Siemens software demonstration on AI in Mechanical Engineering
- * Altair software demonstration on Digital Manufacturing
- * Dassault software demonstration on AI in Robotics and Automation



Objective

A 5-day hybrid-mode workshop on **Integrating AI with Mechanical Engineering** through academic and industrial experts is introduced. The growing role of artificial intelligence in mechanical systems and its application across various engineering domains has led to the inception of this inclusive workshop. This comprehensive event is designed to impart extensive knowledge in AI-driven mechanical engineering, covering essential topics such as:

- Introduction to AI in Mechanical Engineering
- Fundamentals of AI/ML integration in mechanical systems
- AI-driven design, simulation, and optimization techniques
- Applications of AI in predictive maintenance and smart manufacturing
- Industrial case studies and hands-on software demonstrations

Contact details

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About IIT Guwahati

Indian Institute of Technology Guwahati, the sixth member of the IIT fraternity, was established in 1994. The academic programme of IIT Guwahati commenced in 1995. At present the Institute has eleven departments and five inter-disciplinary academic centres covering all the major engineering, science and humanities disciplines, offering BTech, BDes, MA, MDes, MTech, MSc and PhD programmes.

About IITG -TIDF

IITG-TIDF is the nodal center driving activities in Cyber-Physical Systems and Technologies for underwater exploration. Collaborating with 24 other TIHs, it leverages leading-edge knowledge and facilities, fostering nationwide research, innovation, and technology development. With 41 faculty members and international partnerships, including New York University and Taiwan Ocean Research Institute, TIH, IITG-TIDF is a hub of industry professionals and experts. Currently, the team comprises 60 members, seamlessly blending technical expertise and management skills for impactful outcomes.

Who can apply?

Students, researchers, faculty members, and industry professionals in Mechanical Engineering, AI, Machine Learning, Automation, Robotics, Smart Manufacturing, and Industrial Applications of AI.

How to apply?

Fees:

₹ 2000: Student / Research Scholars

₹ 3000: Faculty Member / Other

₹ 5000: Industry Professional

For NEFT:

A/C Name: IIT Guwahati, TIDF

Account No.: 8652101030401

IFSC Code: CNRB0008652



Registration link: [Click Here](#) / Scan QR

Limited 40 Seats (First Come, First Serve)

Note: The registration fee includes: Access to all sessions, Hands-on training sessions, Required systems and lab access, Workshop kit, Lunch and refreshments. (Accommodation will be on a paid basis)

Ensure your spot by registering early!!!!

Experts

Academic experts

* Esteemed academic experts from renowned institutions

Industry experts

* Mr. Shyam Krishnan, Technical Head, CoreEL-Siemens, India

* Mr. Atanu, Regional Manager, Altair DesignTech

* Mr. Rittesh Behl, Senior Marketing Manager, Dassault Systemes, India

* Mr. Javed Saikia; Co-founder, Resolin Technologies, India



Outcomes

The workshop on Integrating AI with Mechanical Engineering is organized to bring together researchers, developers, industries, and users to foster discussions, share knowledge, and facilitate collaboration on the latest advancements and commercial tools in the field of AI-driven mechanical systems. This workshop allows participants to delve into industry-relevant topics, including the application of AI and ML in mechanical design, automation, predictive maintenance, digital twin technology, and data-driven optimization, allowing them to explore various aspects and projects independently.

Workshop organizers

Patron

Prof. Devendra Jalihal (Director, IIT Guwahati)

Chair Person

Prof. Santosha K. Dwivedy
(Project Director, IITG-TIDF)

Co-Chair Person

Mr. N N Dutta (CEO IITG-TIDF)

Coordinators

Prof. Biranchi Panda

Dr. Ankur Gupta

