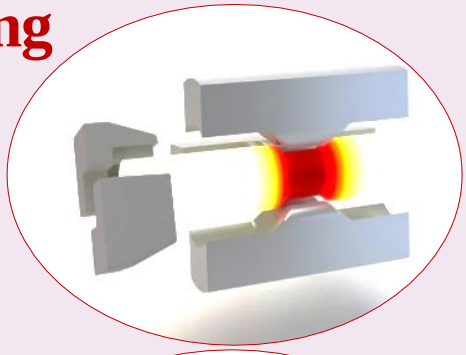
PRECISION ENGINEERING HUB | IIT | INDIAN INSTITUTE OF TECHNOLOGY BANARAS HINDU UNIVERSITY

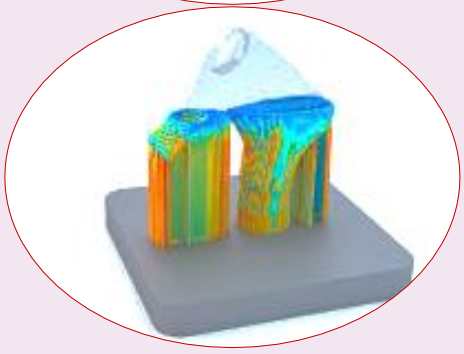
HEXAGON

Hands-On Training Workshop on

Modelling and Simulation in Manufacturing & Reverse Engineering

May 23-25, 2025





Jointly Organized by

Precision Engineering Hub, IIT (BHU) Varanasi

Manufacturing Intelligence division, Hexagon

HEXAGON

Organizing Committee

Patron

Prof. Amit Patra, Director, IIT (BHU), Varanasi

Coordinators

Prof. Santosh Kumar, Dr. G. M. Karthik,

Dr. Pawan Sharma, Dr. S. K. Mandal

About IIT BHU

The institute completed its 100 years in 2019, and we wish to take forward the legacy with rejuvenated vigor and sheer dedication with a commitment to nation building. The Indian Institute of Technology (Banaras Hindu University) Varanasi owes its existence to Bharat Ratna Mahamana Pandit Madan Mohan Malviya, the founder of the first residential University of modern India, Banaras Hindu University (BHU), who could foresee the vital role of technical education in strengthening independent India. Engineering education in BHU started in 1919 with the establishment of Banaras Engineering College (BENCO). The next stage of development saw the establishment of College of Technology (TECHNO) and College of Mining & Metallurgy (MINMET). In 1968, the erstwhile engineering colleges of BHU, namely BENCO, MINMET, and TECHNO, were merged to form the Institute of Technology (IT-BHU). IT-BHU had been admitting students through the JEE conducted by the IITs since 1972. The erstwhile IT-BHU was ranked consistently amongst the top engineering institutions of the country. IT-BHU became IIT (BHU) Varanasi on June 29, 2012, by an Act of Parliament. Following its conversion to IIT, the Institute has quickly established procedures and practices as per the standards of IITs.

About Precision Engineering Hub (PEH)

The PEH facility at IIT (BHU) is a 24x7 central facility supported by Defence Industrial Corridor (DIC), Design Innovation Centre (DIC) and Technology Innovation Hub (TIH). It is an initiative at IIT (BHU), established with a goal to provide support to students, faculties, and industries in the development of new products or improvement of existing product. The PEH facility is planned to provide a systematic digital integration of design, simulation, and manufacturing. The digital environment of the facility is structured into four spaces namely the Makers space, Designer space, Tool room space, and Product Design and Development space. The PEH houses state-of-the-art CAD and CAM tools with the latest capabilities in shape acquisition, modelling, and Additive manufacturing facilities. Through its unique digital environment, the facility aims to provide professional training to industries and MSME employees. It also provides infrastructural support for sponsored research and industrial consultancy. The facility is chargeable to have a helping hand in radically expanding the domain of geometric shapes that can be realized for any product.

Syllabus of the Workshop

- **Simufact Welding**
  - ✓ Introduction to simufact welding
  - ✓ Understanding welding simulation concepts
  - ✓ Setting up a welding simulation in simufact welding
  - ✓ Running the simulation
  - ✓ Post-processing the results
  - ✓ Practical session with a real-world welding case study
- **Simufact Additive**
  - ✓ Introduction to simufact additive
  - ✓ Setting up an additive manufacturing (AM) simulation
  - ✓ Running simulations in simufact additive
  - ✓ Post-processing and optimization
  - ✓ Practical session with a real-world AM case study
- **Simufact Forming**
  - ✓ Introduction to simufact forming
  - ✓ Setting up an forming simulation
  - ✓ Running simulations in simufact forming
  - ✓ Post-processing and optimization
  - ✓ Practical session with a real-world forming process case study
- **3D scanning and reverse engineering**
  - ✓ Role of 3D scanning in digitizing physical parts
  - ✓ Integrating scan data with Simufact for simulation validation
  - ✓ 3D scan a physical object using portable scanners
  - ✓ Case study: Reverse engineering a legacy component for AM/forming.
  - ✓ Import CAD into Simufact software for simulation setup

Registration Fees

- UG Students : Rs.700
- PG/IDD Students : Rs.1500
- Research Scholars : Rs.1500
- Academician : Rs.3000
- Industry Persons : Rs.4500
- MSME/Startup : Free

Payment Details

Account Holder's Name	: **IIT (BHU)-Main Account** (Institute Development Fund)
Bank Name	: State Bank of India
Account type	: Current
Account Number	: **32778803937**
IFSC Code	: **SBIN0011445**
Address	: IT-BHU Branch
MICR Code	: 221002036

Scan to register

Registration Details: (Max 100 seats)

Link for registration: https://forms.gle/og96WqnccSemRYUd9

Registration Deadline **:** May 10, 2025

Note:
1. No food (Only Tea and Snacks will be served).
2. No Accommodation.

Contact Details

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