



## Workshop on

“Integration of Cyber-Physical Systems for Industry 4.0” (Hybrid Mode)



30<sup>th</sup> March – 3<sup>rd</sup> April 2024

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 Cyber-Physical Systems & next-generation sensors, augmented reality and virtual reality, artificial intelligence, machine learning
- \* Smart manufacturing process: Introduction, process flow and application of 3D printing
- \* Smart structures: Applications of smart materials and modelling & control
- \* Cyber Physical Systems: Design, manufacturing, automation, construction industry
- \* Introduction to smart AUVs for underwater exploration
- \* Industry 4.0: Basic knowledge, drivers and enablers of industry 4.0
- \* Industrial expert session on cyber physical systems integration
- \* Industrial expert session on energy efficient computing
- \* Siemens software demonstration on digital manufacturing and IOT
- \* EDS technologies demonstration on CAD / CAM / CAE / PLM and visual simulation software



## Objective

A 5-day hybrid-mode workshop on the integration of cyber-physical systems for Industry 4.0 through academic and industrial experts is introduced. The burgeoning demand for Industry 4.0 technologies and their application across diverse engineering domains has precipitated the inception of this inclusive workshop. This comprehensive event is designed to impart extensive knowledge in the domain of cyber-physical systems, covering essential topics such as:

- \* Introduction to Industry 4.0.
- \* Fundamental on integration of AI/ML/IOT on industry.
- \* Modelling, simulation and integration of cyber-physical systems
- \* Application of cyber-physical systems including underwater applications

## 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 & industry professionals working in the domain of 3D Printing, Design, IOT, Smart Structures, Robotics, AI, ML.

## How to apply?

### Fees:

₹1000: Student / Researchers / Faculty Member / Others

₹1500: Industry Professional

### For NEFT:

A/C Name: IIT Guwahati, TIDF

Account No.: 8652101030401

IFSC Code: CNRB0008652



Registration link: [Click Here](#)

**Note:** Participants have to submit UTR No. as the proof of payment while registering to the workshop.

## Experts

### Academic experts

- \* **Prof. Amaresh Chakraborty;** IISC Bangaluru, India
- \* **Prof. Puneet Tandon;** PDPM IIITDM Jabalpur, India
- \* **Prof. Akhil Garg;** Huazhong University of Science and Technology, China
- \* **Prof. Santosha K. Dwivedy;** IIT Guwahati, India
- \* **Prof. Sajan Kapil;** IIT Guwahati, India
- \* **Dr. N. V. Vinithkumar;** NIOT, India

### Industry experts

- \* **Mr Chandrakant D Patel;** Senior Fellow and Chief Engineer; Hewlett Packard Labs, USA
- \* **Mr. Prabhanshu Pandey;** Business Head; Melectric GmBh; India
- \* **Mr. Naval Jain;** Managing Director; Starbru Techsystems Pvt Ltd, India
- \* **Mr. Arabinda Ghosh;** Business Development manager; EDS Technologies Pvt Ltd, India
- \* **Mr. Shyama Krishnan;** Technical Head; Siemens, India

## Outcomes

The workshop on Cyber-Physical Systems for Industry 4.0 is organized with the aim of bringing 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 cyber-physical systems. This workshop provides participants with the opportunity to delve into industry-relevant topics, including the integration of cyber-physical systems for smart manufacturing, AI/ML techniques, and data-driven modeling, allowing them to explore various aspects and projects independently.

## Workshop organizers

### Patron

Prof. Rajeev Ahuja (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. Karisma Mohapatra  
Dr. Ankur Gupta

