



IIT GUWAHATI TECHNOLOGY INNOVATION AND DEVELOPMENT FOUNDATION

WORKSHOP ON UNDERWATER WELDING

October 10 - 14, 2022



OBJECTIVES

- To acquaint the participants with the concept of welding technology, various welding processes, numerical/analytical modelling of welding processes and their specific applications.
- To make the participants aware of different career opportunities in industries and academia.
- To create a common interface for interaction of academia and industry thereby promoting industry-academia collaboration for accomplishing a common goal.

EXPERT SPEAKERS

Prof. Sunil Pandey, PhD, former Prof. IIT Delhi,
Distinguished Professor of Mechanical Engineering
Department of Mechanical-Mechatronics
LNM Institute of Information Technology (LNMIIT).
Jaipur-302031, Rajasthan, India
and

Professors of IIT Guwahati
(P. Biswas, S. Bag and U.S. Dixit)

FEE DETAILS

For Students:

Rs.1000/- + 18% GST (Total Rs. 1180/-)

For Faculty Members and others:

Rs. 2000/- + 18% GST (Total Rs. 2360/-)

The Fee includes food charges.

Accommodation will be provided as per the availability on first-cum-first-basis.

BANK DETAILS

Bank: **State Bank of India**

Beneficiary: **IIT Guwahati Technology Innovation and Development Foundation**

Account Number: **39579885485**

IFSC Code: **SBIN0014262**

EXPECTED OUTCOMES

- This event will help the participants in refreshing skills that will help in professional development.
- The event will help the participants in career opportunities and research activities.
- Faculty members willing to set up a welding based laboratory in their academic institutions will get idea about different welding machines and their associated costs. Setting up a standard laboratory will help in the better learning of the students.
- The budding entrepreneurs will be motivated to explore business opportunities.

COORDINATOR

Prof. Uday S. Dixit

Department of Mechanical Engineering,
IIT Guwahati - 781039, Assam, India

Email : uday@iitg.ac.in

REGISTRATION

Follow the following steps:

1. Pay the registration fee by online transfer.
2. Do online registration:

<https://forms.gle/PdK3QgLUYE8aSQa7>

For any assistance please contact:

faladrumsharma80@gmail.com

IMPORTANT DATES

Last date of registration: September 25, 2022.

EVENT VENUE

Conference hall, near auditorium, IIT Guwahati,
Assam - 781039.

WEBSITE

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

<https://www.iitg.ac.in/cicps/>

SCHEDULE OF WORKSHOP

Day	9-10.25	10.30-11.55	12.00-13.25	13:30-14.30	14:30-17:30
1 Mon	Thermo-mechanical analysis of fusion welding by commercially available Finite Element Package ANSYS by Prof. Pankaj Biswas	Introduction to arc welding, Historical developments, Characteristics of welding arc and Concepts & general requirements for sound welds by Prof. Sunil Pandey		LUNCH	Lab Session: Open air welding vs Underwater welding, Effect of welding current on bead geometry and shape relationships, underwater arc cutting and effect of arc current.
2 Tue	Welding fluxes and consumable characteristics, Manufacturing of covered electrodes, Maintenance of covered welding electrodes by Prof. Sunil Pandey		An overview of underwater welding: Materials, processing and challenges by Prof. Swarup Bag		
3 Wed	Simulation of underwater welding by Prof. U.S. Dixit	Prelude to underwater welding, Consumables for underwater welding, Classification of underwater welding techniques, Arc welding processes for underwater welding by Prof. Sunil Pandey			
4 Thu	Modelling and simulation of friction stir welding: A potential joining technique for underwater welding by Prof. Swarup Bag	Challenges in underwater welding and overall discussion by Prof. Sunil Pandey			
5 Fri	Principle and safety of underwater welding process by Prof Pankaj Biswas	Weld defects, Causes & Cures by Prof. Sunil Pandey			