

## THEME OF THE FDP

There has been tremendous developments taking place in different areas of engineering and technology in the recent years to confront the rising challenges of the industries and improving the quality of human life and the environment in which we live. Fluid and thermal science in lab on a chip are one of the prominent areas which contribute significantly in this direction and therefore needs special attention to foster further research and boost application to derive potential benefits it offers. Some of the exciting and growing areas of this domain are new computational techniques in solving transportation of heat, momentum and species in flow through engineering systems, understanding of flow through micro and nano-channels, enhancing heat transfer in nano and micro scales, development of more efficient and eco-friendly fuels and related systems, exploring new energy sources, analyzing complex movement of biological fluids in biological systems etc. It is therefore immensely beneficial for the faculties and practicing engineers to hold an elaborate discussion on various emerging areas of fluid and thermal science to explore their potential application and promote research. The proposed one week long FDP will provide an excellent platform to the participants, where experts will share their thoughts, research outcomes, applications and challenges so that participants can enhance the knowledge base, taste the flavors of the new areas, and find opportunities for research work.

## MAJOR COURSE CONTENTS

1. Lab-On-A-Chip Technology
2. Advances in Manufacturing Engineering
3. Advances in Fluid Engineering
4. Advances in Thermal Engineering
5. 3D Printing
6. Micro-Nano Robotics
7. Advanced Materials
8. Lab-On-A-Chip for mankind
9. Low cost Diagnostic devices
10. Medical diagnostics (for example point of care and molecular)

## The Institute

Haldia Institute of Technology (HIT), a premier institute, in the state of West Bengal, India was established in the year 1996. HIT is the oldest of the institutes of ICARE, Haldia. HIT has become an autonomous institute in the year of 2019 and is affiliated to MAKAUT. The institute is approved by AICTE and is accredited by NAAC (A graded). The Institute is located in the city of Haldia, one of the prominent hubs for engineering industries in Eastern India. It boasts of a beautiful campus spread across 50 acres having administrative and academic blocks, and residential facilities of students and employees.

Since inception, HIT Haldia remained dedicated to carve out highly trained professional manpower in various disciplines of engineering, technology and management from young inquisitive minds. The institute also focussed to contribute in research and development and be in the centre stage of technological entrepreneurship.

## Content of FDP

1. Micro scale fluid transport
2. Phase change heat transfer
3. Thermal system design
4. Adsorption and its application in Thermal Systems
5. Electrohydrodynamic phenomena
6. Transport through porous media
7. Biofuel
8. CFD
9. Active fluids

## Targeted participants

Faculty members of the AICTE approved institutions, research scholars, PG Scholars and participants from Industry.

## One week Faculty Development Program on “Application developments in the Lab on a Chip technology for Fluid and Thermal Sciences”

From 15/01/2024 to 20/01/2024



Host: Haldia Institute of Technology  
Department of Mechanical Engineering  
Haldia, Purba Medinipur  
West Bengal, India Pin: 721657

## The Department

The department of Mechanical Engineering has started its journey in the year 2000. The department has been accredited by NBA. Presently the department conducts undergraduate and post-graduate courses in Mechanical Engineering. The department aims to create a vibrant atmosphere for fostering pedagogy and research as well as professional growth of all of its stakeholders.

## Important Dates

FDP Date: 15th -20th January 2024 (Offline)

## Registration details

Registration details for students, academicians and industry persons can be found in the following link:

How to Register

Interested participants may apply through online registration link:

<https://atalacademy.aicte-india.org/signup> on or before 20 December, 2023.

No registration fee will be charged from the participants.

Participant's registration will be confirmed on first come first serve basis.

Certificate will be disbursed based on the norms of AICTE Training and Learning (ATAL) Academy

## Requirements to get E-Certificate

Smart phone with good internet facility  
Minimum 80% attendance is required for the whole course  
Minimum 60% marks should be obtained in the Final test to be conducted online at the end of FDP

## Committee members

### Advisory Committee

Dr. Lakshman Chandra Seth, D.Litt, Chairman, ICARE  
Sri Sayantan Seth, Vice-Chairman, ICARE  
Sri Asish Lahiri, Secretary, ICARE  
Sri Sudiptan Seth, Member BOG, ICARE  
Prof. (Dr.) Subrata Mondal, Principal, HIT Haldia  
Dr. Anjan Mishra, Registrar, HIT Haldia  
Mr. Amal Dutta, OSD, ICARE  
Prof. (Dr.) Tarun Kanti Jana, Dean, School of Engg, Convenor, IQAC, HIT Haldia  
Dr. Debasish Das, Manager Administration, HIT Haldia



## Organizing Committee

Prof. (Dr.) Bikash Bepari

Prof. Balam Dey

Dr. Debashis Das Adhikari

Dr. Nilabha Shankar Mitra

Dr. Supriyo Roy

Dr. Sreerup Banerjee

Dr. Ashok Kumar Bera

Dr. Abhijit Saha

Mr. Pritam Pain

Dr. Premangshu Mukhopadhyay

Dr. Bipradas Bairagi

Mr. Nirmalya Bayal

Mr. Sourav Sarkar

Mr. Manas Kumar Bhukta

Mr. Sourav Pattanayak

Mr. Souvik Gantait

Dr. Sandip Mondal

Mr. Shantanu Maity

## Coordinator

Prof. (Dr.) Goutam Kumar Bose, HOD, ME

## Co-Coordinator

Dr. Abhishek Samanta,  
Associate Professor, ME

## Contact details

Dr. Abhishek Samanta  
Associate Professor  
Department of Mechanical Engineering  
Contact number: +91 9734422649  
Email: samanta.abhishek@yahoo.co.in