



The Second Symposium on Technology for Underwater Exploration

Organized and Hosted By

Centre for Intelligent Cyber-Physical Systems &
Technology Innovation and Development Foundation
Via Online On 2nd & 3rd May, 2022

ABOUT CICPS & TIDF

Center for Intelligent Cyber Physical Systems at IIT Guwahati is established to promote activities focused on Technology Development, Human Resource Development, Technology Business Incubation, MTech Program, Ph.D. Program. In association with IIT Guwahati Technology Innovation Hub (TIH) is now converted to a section 8 company named IIT Guwahati Technology Innovation and Development Foundation (IITG-TIDF) which is set up to conduct interdisciplinary research and development in the broad area of underwater exploration. IITG TIDF (TIH) is supported by DST through the National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS). CICPS & TIDF are intended to focus on their targeted activities such as Indigenous design and development of Mechanical Structures, Prime Movers, Sensors, Controllers, Software, and Communication systems, for underwater applications, IITG TIDF, IIT Guwahati will provide a platform for bringing the experts together for the generation of the knowledge through basic and applied research which can lead to generating several entrepreneurs, start-up companies, skill developments, jobs, and research opportunities in this area.

SPEAKERS

Faculty members from various IITS, NITs and Industries will present their experiences and discuss the recent trends in the field of underwater explorations. List of Topics and speakers are given in the next page

REGISTRATION DETAILS

Registration:

Interested students, faculty members and persons from government and private organizations and Industries can participate in this two days Symposium by paying the registration fee and filling up the form for which link is given below.

Registration fees:

For Students: 1000 INR

Others: 2000 INR

Bank Details:

Account Name: IIT Guwahati Technology Innovation and Development Foundation

Account No: 39579885485

IFSC: SBIN0014262

Branch Code: 14262

Registration Link: <https://forms.gle/DvbPaVPPBrAP5hJy9>

OBJECTIVE OF SYMPOSIUM

The symposium aims to provide a national multidisciplinary platform for the presentation and discussion of academics and researchers on multifarious projects to facilitate opportunities for networking, collaboration and exchange of ideas with nationally renowned experts in the field of Underwater Technology.

ORGANIZING COMMITTEE



PATRON:

Prof T G Sitharam
Chairperson (TIDF) & Director (IITG)



CHAIR:

Prof G. Krishnamoorthy
Dean (II&SI) & Vice-Chairperson (TIDF)



COORDINATOR:

Prof S. K. Dwivedy
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CO-COORDINATOR:

Dr. Sajan Kapil
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SCHEDULE

Time Slots	Day 1 : 2/5/2022	Day 2 : 3/5/2022
9.00 - 10.00	Registration & Inauguration	Underwater Repairing & Maintenance
10.00 - 11.00	Keynote Lecture 1	Underwater Vehicles
11.00 - 12.00	Underwater Vision	Underwater Vehicles
12.00 - 13.00	Underwater Vision	Underwater Communication
14.00 - 15.00	Underwater Repairing & Maintenance	Entrepreneur & Startup Initiatives
15.30 - 16.30	Underwater Vehicles	Keynote Lecture 3
16.45 - 17.45	Keynote Lecture 2	Keynote Lecture 4 Valedictory Session

LIST OF TOPICS AND SPEAKERS

- Underwater Repairing and Maintenance of Metallic & Non-metallic Structures, by Prof. Sajan Kapil, IIT Guwahati.
- Novel, cost-effective and integrated robot-laser-based drilling technologies for underwater material processing, by Prof. S.N. Joshi, IIT Guwahati.
- Underwater compressed air storage system, by Prof. N. Sahoo, IIT Guwahati.
- Marine grade AA5052 aluminium alloy joints through FSW, by Prof. Basil Kuriachen, NIT Calicut
- Vibration Analysis of Underwater Pipe Line, By Prof. R. K. Behera, NIT Rourkela, ME
- Short duration underwater measurement diagnostics of through shockwave impingement, by Prof. V. Kulkarni, IIT Guwahati.
- Underwater technologies for defense applications, by Prof. B. S. Reddy, IIT Guwahati.
- Ergonomic Evaluation of the Human-Robot Control Interface, by Prof. Sougata Karmakar, IIT Guwahati.
- Underwater Vehicle for monitoring of underwater ecosystem, by Prof. S. K. Dwivedy, IIT Guwahati.
- Flexible multi-link spatial manipulator for underwater exploration, by Prof. Barun Pratiher, IIT Jodhpur.
- Computational intelligence based navigational strategies for an underwater robotic vehicle, by Prof. P.K. Mohanty, NIT Arunachal Pradesh.
- Design and Development of In-pipe robot, by Prof. P. M. Pathak, IIT Roorkee.
- Intelligent Integrated Water Born Robot for Surveillance, Monitoring and Cleaning, by Prof. D. R. K. Parhi, NIT Rourkela.
- Smart Monitoring System for Aquaculture Farming & Wetland monitoring, by Prof. S. Dutta, IIT Guwahati.
- Underwater Vehicle for water quality monitoring, by Prof. B K Roy, NIT Silchar.
- Unmanned Exploration of the underwater ecological systems both in fresh and seawater, by Dr Sambhunath Nandy, CMERI Durgapur.
- Low-Cost Underwater Vehicle (Mini Submarine) for Tourism Purpose & Sustainable Tourism, by Prof. P. S. Robi, IIT Guwahati.
- Intelligent Underwater Robot for Target Detection, by Prof. S. K. Pradhan, Odisha Univ. of Technology and Research, Bhubaneswar.
- Underwater computer vision, by Prof. Arijit Sur, IIT Guwahati.
- Shape memory alloy actuated soft jellyfish robot, by Prof. I.A. Palani IIT Indore.

- Design of a portable remote-operated underwater video surveillance vehicle with a robotic arm, by Prof. Chaitali Koley NIT Mizoram
- Investigation of Interaction Model of Cyber-Physical System(s) for Underwater Applications, by Prof. A. Srivastava, IIT Guwahati.
- Smart underwater Monitoring System, by Prof. Sahadev Roy NIT Arunachal Pradesh
- AI-powered Autonomous Underwater Vehicle (AUV) and IoT Enabled Underwater Acoustic Sensor Networks, by Prof. P. R. Sahu IIT Bhubaneswar.
- Cooperative motion control algorithm for the autonomous underwater vehicle under communication constrain, by Prof. Bikramaditya Das VSSUT ODISSA.
- 3D printed coral reef & Sustainable technologies for underwater tourism, by Prof. B. Panda, IIT Guwahati.
- Dolphin monitoring in River Brahmaputra, by Prof. Sonali Chouhan, IIT Guwahati.
- Exploration of the aquatic ecosystem of the river Brahmaputra, by Prof. U.S. Dixit, IIT Guwahati.
- Life-supporting, monitoring, safety, assisting and communicating devices for divers during underwater exploration, by Prof. S. Kanagaraj, IIT Guwahati.
- Digital holographic microscopic imaging system for detection and recognition of underwater microorganisms and particles, by Prof. Rishikesh Kulkarni & Prof. P. Guha, IIT Guwahati.

INVITED LECTURE

- Mr. Nitin Lakhar, Oil India Limited
- Mr. Manas Bhuyan, AvGarde Systems Pvt. Ltd.
- Mr. Jayatu K. Bhuyan, BIOZATRA.
- Mr. Arun Borgohain Yantrabot Tech. Pvt. Ltd

KEYNOTE SPEAKERS

- Prof. N.R. Mandal, Former Head Dept. of Ocean Engg & Naval Architecture, IIT Kharagpur
- Dr. N.V. Vinithkumar, National Institute of Ocean Technology.
- Mr Sanjay Banerjee, Director SCS Solutions, New Delhi.
- Mr. Sanjay Chatterjee, Chairman, Eastern Regional Council, NASSCOM

CONTACT

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