

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

DAY 1: 2nd May, 2022

TIME SLOTS	TOPICS		SPEAKER
9.00 - 10.00	REGISTRATION & INAUGURATION		
10.00 – 10.45	Keynote Lecture 1	Entrepreneurship Challenges	Mr. Sanjay Chatterjee, Chairman, Eastern Regional Council, NASSCOM
10.45 - 11.45	10.45 – 11.00	Underwater computer vision.	Prof. Arijit Sur, IIT Guwahati.
	11.00 – 11.15	Underwater technologies for defense applications	Prof. B. S. Reddy, IIT Guwahati.
	11.15 – 11.30	Design and Analysis of RF Section for Ka-band Vacuum Electronics Devices.	Prof. Chaitali Koley, NIT Mizoram
	11.30 – 11.45	Investigation of Interaction Model of Cyber-Physical System(s) for Underwater Applications.	Prof. A. Srivastava, IIT Guwahati.
11.45 – 13.00	11.45 – 12.00	Smart underwater Monitoring System.	Prof. Sahadev Roy, NIT Arunachal Pradesh
	12.00 – 12.15	AI-powered Autonomous Underwater Vehicle (AUV) and IoT Enabled Underwater Acoustic Sensor Networks.	Prof. P. R. Sahu, IIT Bhubaneswar.
	12.15 – 12.30	Cooperative motion control algorithm for the autonomous underwater vehicle under communication constrain.	Prof. Bikramaditya Das, Vssut Odissa.
	12.30 – 12.45	Underwater Repairing and Maintenance of Metallic & Non-metallic Structures.	Prof. Sajan Kapil, IIT Guwahati.
	12.45 – 13.00	Novel, cost-effective and integrated robot-laser-based drilling technologies for underwater material processing.	Prof. S.N. Joshi, IIT Guwahati.
13.00 – 14.00	LUNCH BREAK		
14.00 – 14.30	14.00 – 14.15	Underwater compressed air storage system	Prof. N. Sahoo, IIT Guwahati.
	14.15 – 14.30	Exploration of the aquatic ecosystem of the river Brahmaputra.	Prof. U.S. Dixit, IIT Guwahati.
14.30 – 15.30	14.30 – 14.42	Automated hydroponic System – A case study	Mr. Ajeet Rai/Anurag Tiwari
	14.42 – 14.54	Towards the Development of Underwater 3D Printed Concrete Habitats	Mr. Dodda Srinivas
PHD Students of CICPS	14.54 – 15.06	Investigation of Interaction Model of Cyber-Physical System(s) for Underwater Applications: A Systematic Review	Mr. Praveen Chauhan
	15.06 – 15.18	Underwater Interaction Model	Mr. Mouly Bhowmick
	15.18 – 15.30	Underwater Dolphin Monitoring	Mr. Suraj Kumar
15.30 – 16.30	15.30 – 15.45	Digital holographic microscopic imaging system for detection and recognition of underwater microorganisms and particles.	Prof. Rishikesh Kulkarni & Prof. P. Guha, IIT Guwahati.
	15.45 – 16.00	Ergonomic Evaluation of the Human-Robot Control Interface	Prof. Sougata Karmakar, IIT Guwahati.
	16.00 – 16.15	Underwater Vehicle for monitoring of underwater ecosystem	Prof. S. K. Dwivedy, IIT Guwahati.
	16.15 – 16.30	Flexible multi-link spatial manipulator for underwater exploration	Prof. Barun Pratiher, IIT Jodhpur
16.30 - 17.45	16.30 – 16.45	Marine-grade AA5052 aluminium alloy joints through FSW.	Prof. Basil Kuriachen, NIT Calicut.
	16.45 – 17.00	Vibration Analysis of Underwater Pipe Line.	Prof. R. K. Behera, NIT Rourkela, ME.
	17.00 – 17.15	Short duration underwater measurement diagnostics of through shockwave impingement.	Prof. V. Kulkarni, IIT Guwahati.
	17.15 – 17.30	Computational intelligence based navigational strategies for an underwater robotic vehicle	Prof. P.K. Mohanty, NIT Arunachal Pradesh.
	17.30 – 17.45	Life-supporting, monitoring, safety, assisting and communicating devices for divers during underwater exploration.	by Prof. S. Kanagaraj, IIT Guwahati.
END OF DAY ONE			

DAY 2: 3rd May, 2022

TIME SLOTS		TOPICS	SPEAKER
9.00 - 9.45	Keynote Lecture 2	Coral Reefs: Status, Research, Monitoring and Conservation.	Dr. N. V. Vinithkumar, National Institute of Ocean Technology,
9.45 – 10.45	9.45 – 10.00	Design and Development of In-pipe robot.	Prof. P. M. Pathak, IIT Roorkee.
	10.00 – 10.15	Intelligent Integrated Water Born Robot for Surveillance, Monitoring and Cleaning.	Prof. D. R. K. Parhi, NIT Rourkela.
	10.15 – 10.30	Smart Monitoring System for Aquaculture Farming & Wetland monitoring.	Prof. S. Dutta, IIT Guwahati.
	10.30 – 10.45	Computational intelligence based navigational strategies for an underwater robotic vehicle.	Prof. P.K. Mohanty, NIT Arunachal Pradesh.
10.45 – 11.45	10.45 – 11.00	Underwater Vehicle for water quality monitoring.	Prof. B K Roy, NIT Silchar.
	11.00 – 11.15	Unmanned Exploration of the underwater ecological systems both in fresh and seawater.	Dr Sambhunath Nandy, CMERI Durgapur.
	11.15 – 11.30	Low-Cost Underwater Vehicle (Mini Submarine) for Tourism Purpose & Sustainable Tourism.	Prof. P. S. Robi, IIT Guwahati.
	11.30 – 11.45	Intelligent Underwater Robot for Target Detection.	Prof. S. K. Pradhan, Odisha Univ. of Technology and Research, Bhubaneswar
11.45 – 12.15	11.45 – 12.00	3D printed coral reef & Sustainable technologies for underwater tourism.	Prof. B. Panda, IIT Guwahati.
	12.00 – 12.15	Dolphin monitoring in River Brahmaputra.	Prof. Sonali Chouhan, IIT Guwahati.
12.15 – 13.00 Entrepreneur & Startup Initiatives	12.30-12.45	Energy harvesting from rivers and canals through vortex induced vibrations	Mr. Y. Omkar Venkata
	12.45 – 13.00	Solar Powered Catamaran for Leisure Tourism	Mr Sharat Kumar
13.00 – 14.00	LUNCH BREAK		
14.00 - 15.00 Entrepreneur & Startup Initiatives	14.00 – 14.15	Underwater Exploration in Oil India Limited	Mr. Nitin Lakhar, Oil India Limited
	14.15 – 14.30	Underwater Communication Systems	Mr. Manas Bhuyan, AvGarde Systems Pvt. Ltd.
	14.30 – 14.45	Underwater Monitoring Systems for Aquaculture	Mr. Jayatu K. Bhuyan, BIOZATRA.
	14.45 – 15.00	Development of Underwater Actuators	Mr. Arun Borgohain Yantrabot Tech. Pvt. Ltd
15.00-15.45	Keynote Lecture 3	Building a Successful Startup	Mr. Sanjoy Banerjee, Director SCS Solutions, New Delhi.
15.45 – 17.00 PHD Students of CICPS	15.45-16.00	Underwater Communication	Mr. Deep Arya
	16.00 – 16.12	Design and Development Of Biomechanical Data-Driven Preventive And Therapeutic Insoles Along With An Underwater Exercise Program For Neuropathic Plantar Ulcers	Lipika Boruah
	16.12 – 16.24	Underwater Communication	Mr. Shrihari A
	16.24 – 16.36	Exploration of the aquatic ecosystem of the river Brahmaputra	Mr. Bhanu Prakash Bonthala
	16.36 – 16.48	Development of Underwater Robotic Manipulator	Mr. Sahil Narwal
	16.48 – 17.00	Design and Development of an autonomous rescues system for underwater divers	Mr. Subhojit Jash
17.00 - 17.45	Keynote Lecture 4	Challenges and Opportunities in Underwater Technologies	Prof. N.R. Mandal, Former Head Dept. of Ocean Engg & Naval Architecture, IIT Kharagpur
17.45– 18.00	VALEDICTORY SESSION		
END OF DAY TWO			

INAUGURATION SESSION

9.30 AM -9.35 AM	SARASWATI VANDANA
9.35 AM – 9.40 AM	Welcome Address by Coordinator Prof. S. K. Dwivedy
9.40 AM -9. 50 AM	Welcome Address by Director IITG and Chairman IITG TIDF Prof. T. G. Sitharam
9.50 AM -9.55 AM	Welcome Address by Vice Chairman IITG TIDF: Prof. G. Krishnamoorthy
9.55 AM- 10:00 AM	Vote of Thanks by Coordinator Prof. Sajan Kapil

Following are the online teams meeting links for day-1 and day-2 of the symposium.

Link for Day - 1: (02nd May 2022)

https://teams.microsoft.com/l/meetup-join/19%3ameeting_OTc2NGYxNzMtOTM1MC00NGYwLThkYtNzJiYjg3ZDFiODBh%40thread.v2/0?context=%7b%22Tid%22%3a%22850aa78d-94e1-4bc6-9cf3-8c11b530701c%22%2c%22Oid%22%3a%223f438cac-6a56-4ef5-a27d-d33368c50d1a%22%7d

Link for Day - 2: (03rd May 2022)

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmM2NmY0NmMtNDY3MC00YWlyLWE0MDgtOTQ5MzdmMTk3OGQ2%40thread.v2/0?context=%7b%22Tid%22%3a%22850aa78d-94e1-4bc6-9cf3-8c11b530701c%22%2c%22Oid%22%3a%223f438cac-6a56-4ef5-a27d-d33368c50d1a%22%7d