

ICONS 2025: IIT Bombay Workshop on Defence

as part of National Science Day 2025

B. Nag Auditorium, VMCC [28th February – 1st March, 2025]

Day 1: 28th February 2025

9:30 AM - 9:40 AM	Inauguration
9:45 AM - 10:00 AM	Welcome Address Speaker: Prof. Sachin Patwardhan, Dean R&D, IITB
10:00 AM - 10:35 AM	Inaugural Address Speaker: General Manoj C. Pande, PVSM, AVSM, VSM (Retd.), Former Chief of the Army Staff, Indian Army
Session 1: Keynote Address	
10:40 AM - 11:10 AM	Keynote 1: Military Readiness for Next Gen Operations Speaker: Air Vice Marshal Dhananjay V. Khot, AVSM, VM (Retd.), DG, Defence Space Agency, Indian Air Force
<i>Tea Break (11:10 AM - 11:30 AM)</i>	
11:30 AM - 12:00 PM	Keynote 2: Aligning Innovation with Defence Strategies Speaker: Mr. Neelesh Tungar, CEO, Kalyani Strategic Systems Ltd.
12:00 PM - 12:25 PM	Keynote 3: Innovation and Translational Research Ecosystem at IIT Bombay Speaker: Prof. Milind Atrey, Deputy Director (Academics, Research & Translation), IITB
<i>Lunch Break & Prototype Display (12:30 PM - 2:00 PM)</i>	
Session 2: High-Performance Materials for Defence Applications	
2:00 PM - 2:30 PM	Thematic Address: High Energy Density Materials in Defence Applications Speaker: Dr. Manjit Singh, Director (R&D), Economic Explosives Ltd. (Solar Group of Industries)
2:30 PM - 2:55 PM	Talk 1: Use of ML to Formulate Novel Propellant Oxidizers Speaker: Prof. Neeraj Kumbhakarna, Mechanical Engg., IITB
<i>Tea Break (2:55 PM - 3:25 PM)</i>	
3:30 PM - 4:00 PM	Talk 2: High-Performance Ceramics for Strategic Applications Speaker: Mr. Niraj Bhukhanwala, Managing Director, Bhukhanwala Industries
4:00 PM - 4:25 PM	Talk 3: Novel Energetic Propellants for Defence Applications Speaker: Prof. Nagendra Kumar, Aerospace Engg., IITB
4:25 PM - 4:50 PM	Talk 4: Indigenous Smoke-Free Heat-Generation Materials Speaker: Prof. C. Subramaniam, Chemistry, IITB
<i>High Tea & Prototype Display (4:50 PM – 6.00 PM)</i>	

Day 2: 1st March 2025

9:30 AM - 9:40 AM	Address by Director Speaker: Prof. Shireesh Kedare, Director, IITB
9:40 AM - 10:15 AM	Address by Guest of Honour Speaker: Air Chief Marshal Vivek R. Chaudhari, PVSM, AVSM, VM, ADC (Retd.), Former Chief of the Air Staff, Indian Air Force
Theme: Digital Technology for Military Operations	
10:20 AM -10:55 AM	Thematic address: Present & Future Trends in Digital Tech for Military Ops Speaker: Rear Admiral Ankur Sharma, NM, Admiral Superintendent (ASD), Naval Dockyard, Indian Navy
<i>Tea Break (10:55 AM - 11:15 AM)</i>	
Session 1: Intelligence	
11:15 AM -11:45 AM	Talk 1: Geo-Spatial Tech for Military Operations Speaker: Dr. Pinaki Roy Chowdhury, Scientist 'G', Defence Geoinformatics Research Establishment (DGRE)
11:45 AM -12:10 PM	Talk 2: Integrated Image Analysis for Target Identification Speaker: Prof. D. Ramakrishnan, Earth Sciences, IITB
12:10 PM - 12:40 PM	Talk 3: Evolution of Conflict: From Kinetic to Cognitive Battlespaces Speaker: Mr. Balaji Venkateshwar, Cyber Vidyapeeth Foundation
12:45 PM - 1:10 PM	Talk 4: AI/ML for Intelligence Using Drone Images Speaker: Prof. Ganesh Ramakrishnan, Computer Science & Engg., IITB
<i>Lunch Break & Prototype Display (1:10 PM - 2:30 PM)</i>	
Session 2: Digital Twins	
2:35 PM - 2:45 PM	Introduction to Educational Outreach Program Speaker: Mr. Sushmit Bagchi, Program Manager - Educational Outreach, IITB
2:45 PM - 3:15 PM	Talk 5: Developing an AI-Enhanced Maintenance Ecosystem in Aviation Speaker: Air Marshal Ajay Kumar Arora, AVSM, VSM, Air Officer-In-Charge Maintenance, Indian Air Force (Retd.)
3:15 PM - 3:40 PM	Talk 6: IoT & Digital Twin-Based Smart Assets Speaker: Capt. Dr. M.S.N. Murthy, INS Shivaji, Indian Navy
3:40 PM - 4:10 PM	Talk 7: Digital Twins & Cybersecurity Speaker: Prof. Manjesh Hanawal, Industrial Engg. & Operations Research, IITB
<i>High Tea & Prototype Display (4.10 PM – 5.30 PM)</i>	