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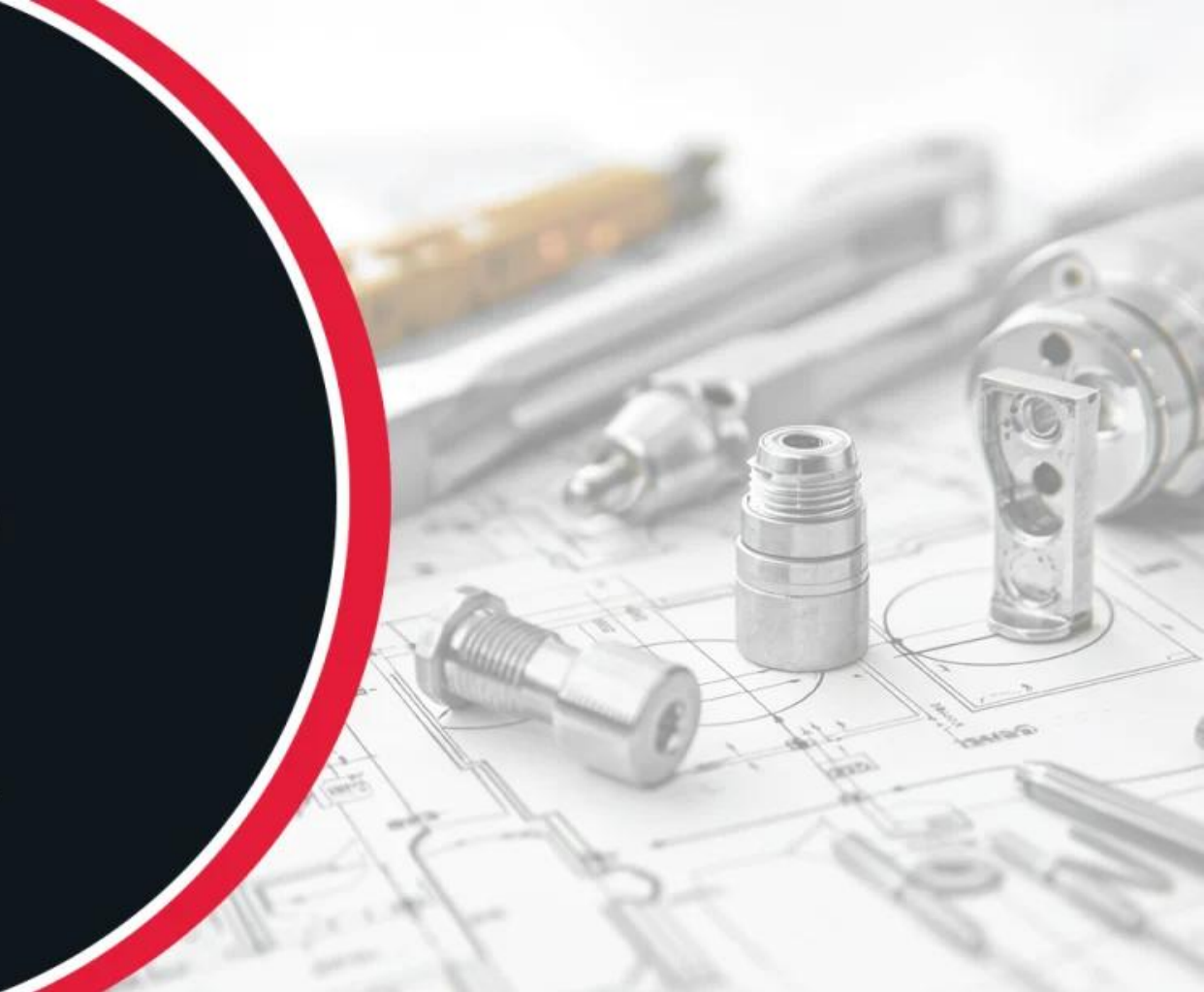
**MECHANICS, MATERIALS
AND MECHATRONICS**

ICM³ - 2026 23rd - 25th March, 2026

Theme: Mechanics, Materials and Mechatronics: Engineering the Future

Organized by

Department of Mechanical & Aerospace Engineering, ÉCSOE



Day 1 - March 23, 2026	
Session I - 9:30 AM - 12:30 PM	
Workshop I	Workshop II
Machine Learning in Mechanical Engineering - Dr.Jagan P	Robot Operating System - Dr. Deep Seth
Session II - 2:30 PM - 5:30 PM	
Inauguration ceremony (ELT7-ECSOE)	
Session III - 6:30 PM - 7:30 PM	
Cultural Event (Auditorium)	

Inauguration Ceremony (Venue: ELT7)		
Welcome Address & Introduction	Dr. Gouripriya S. Prof. Debasis Chakraborty	2:30 - 2:45 PM
VC's address	Prof. Yajulu Medury	2:45 - 2:55 PM
Deepvandan & Invocation	Dignitaries Sreeparna Chowdhury	2:55 - 3:00 PM
Address by Chief Guest	Prof. B. Srinivasa Murty, Director, IITH	3:00 - 3:20 PM
Address by Guest of Honor	Dr.SVS Narayana Murty, CMD, Midhani Ltd.	3:20 - 3:40 PM
Keynote Talk (in-person)	Prof. H S Mukunda	3:40 - 4:30 PM
Keynote talk (online)	Prof. J W Hutchinson	4:30 - 5:20 PM
Felicitation of Dignitaries	Prof. Yajulu Medury	5:20 - 5:30 PM
Vote of Thanks	Dr. Sebastian Uppapalli	5:30 - 5:40 PM

Day 2 - March 24, 2026**Track I: Mechanics & Dynamics (IT1 - Wing III, Ground Floor, CR1)****Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Amit Agrawal**

Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk	Introduction to Equations beyond the Navier-Stokes: OBurnett and O13 Equations	Prof. Amit Agrawal, IITB
10:05 - 10:25 AM	Contributed Talk	CFD-Based Design and Optimization of Water-Cooled Battery Thermal Management System for Electric Vehicle Applications (Paper ID 15)	Ch.Himagireesh
10:25 - 10:45 AM	Contributed Talk	Design and Dynamics of Brake Systems: A Sensitivity Analysis Approach (Paper ID 54)	Sai Kumar Muktha

Tea Break 10:45 - 11:15 AM

11:15 - 11:35 AM	Contributed Talk	Finite Element analysis of lumbar spine (L3-L5) Loading under Pothole induced vibration in Powered Two wheelers (Paper ID 73)	Khyati Verma
11:35 AM - 11:55 AM	Contributed Talk	Thermal–Mass Trade-Off Analysis of Cu–Al Bimetallic Fins in PCM-Based Battery Thermal Management (Paper ID 80)	Srihari Vikram T (Online)
11:55 AM - 12:30 PM	Invited Talk	Plants underneath Small-Scale Flow Engineering	Prof. Pranab kumar Mondal, IIT Guwahati

Lunch Break 12:30 - 2:30 PM**Session II - 2:30 PM - 5:30 PM - Session Chair - Prof. Ajay Harish**

2:30 - 3:05 PM	Invited Talk	Virtual Populations for Re-assessing Abdominal Aortic Aneurysm Risk Beyond Maximum Diameter	Prof. Ajay Harish, The University of Manchester
3:05 - 3:40 PM	Invited Talk	The Mechanics of Cerebrovascular Disorders: CFD aided decision support tools for the Clinician	Dr. Prasad Patnaik B S V, IITM

Tea Break 3:40 - 4:10 PM

4:10 - 4:45 PM	Invited Talk		Dr. Suhanya Duraiswamy, IITH
4:45 - 5:05 PM	Contributed Talk	Mechanical Characterization of Porcine Descending Thoracic Aorta under Combined Compression and Large-Amplitude Oscillatory Shear (Paper ID 58)	Luc Nguyen (Online)
5:05 - 5:25 PM	Contributed Talk	Nondestructive Structural Integrity Assessment of Hydrogen Energy Components (Paper ID 83)	Shirsendu Sikdar (Online)

Day 3 - March 25, 2026

Track I: Mechanics & Dynamics (IT1 - Wing III, Ground Floor, CR1)

Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Venkateshm B

Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk		Dr. Venkateshm B, IITH
10:05 - 10:25 AM	Contributed Talk	NUMERICAL & EXPERIMENTAL INVESTIGATION OF BOLTED JOINTS CONSIDERING THE EFFECT OF VIBRATION (Paper ID 84)	SENDHIL S
10:25 - 10:45 AM	Contributed Talk	Vibration based structural health monitoring on 3d printed UAV wing (Paper ID 48)	Dayamani SG
Tea Break 10:45 - 11:20 AM			
11:20 - 11:40 AM	Contributed Talk	Computational Fluid Dynamics Investigation of Flow around an Acrylic Underwater Enclosure (Paper ID 16)	Rutu Shirke
11:40- 12:00 PM	Technical Talk		Dr. Manish Agrawal Dr. Sebastian Uppapalli
12:00 - 12:35 PM	Technical Talk		Dr. Ranjith Kunnath
12:35 - 01:10 PM	Invited Talk	Metainterfaces with specified friction laws : new designs from numerical optimization	Prof. Julien Scheibert, Ecole Centrale de Lyons (Online)

Lunch Break 12:30 - 2:30 PM

Session II - 2:30 PM - 5:30 PM

Closing ceremony - (Vote of Thanks, Awards, Closing Speech by Co-Convener)

Day 2 - March 24, 2026

Track II: Materials & Manufacturing (IT1 - Wing III, Ground Floor, CR2)			
Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Eswara Prasad Korimilli			
Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk		Prof. Roderic Lakes, University of Wisconsin-Madison (Online)
10:05 - 10:25 AM	Contributed Talk	Effect of Geometry on Mechanical Efficiency of Additively Manufactured Cores for Sandwich Panel (Paper ID 63)	Vishwanath Managuli
10:25 - 10:45 AM	Contributed Talk	Strain Controlled Fatigue Life Prediction and Validation of Al 6082-T6 (Paper ID 67)	Shrihari Upadhyaya
Tea Break 10:45 - 11:15 AM			
11:15 - 11:50 AM	Invited Talk	Surface Finish Or Dust Emissions in Composites Machining-A Challenge	Prof. Ramulu Mamidala, University of Washington (Online)
11:35 - 11:55 AM	Contributed Talk	Hard and wear-resistant coatings on Ti-based materials produced by weld deposition (Paper ID 24)	Yahea Hussien
11:55 AM - 12:30 PM	Invited Talk	Mechanical behavior of Additively Manufactured Ti-6Al-4V and 316L stainless steels over eight decades strain rates	Prof. Eswara Prasad Korimilli, IIT Indore
Lunch Break 12:30 - 2:30 PM			
Session II - 2:30 PM - 5:30 PM - Session Chair - Dr. Sanjay R. Dhage			
2:30 - 3:05 PM	Invited Talk	Thin-Film Solar Cells: From Materials Innovation to Device Realization	Dr. Sanjay R. Dhage, International advanced Research Center for Power Metallurgy and New Materials (ARCI)
3:05 - 3:25 PM	Contributed Talk	Microstructural Evolution and Mechanical Anisotropy of AA6061 Fabricated by Additive Friction Stir Deposition (Paper ID 76)	Harshith Karanam
3:25 - 3:45	Contributed Talk	Design and Simulation of an Optimized Biaxial Cruciform Specimen (Paper ID 50)	Abdul Mateen Mohammed
Tea Break 3:45 - 4:15 PM			
4:15 - 4:35 PM	Contributed Talk	MECHANICAL CHARACTERISATION OF 3D PRINTED MWCNT-REINFORCED POLYCARBONATE USING FDM FOR AEROSPACE APPLICATION (Paper ID 6)	Keerthana Rajashekar
4:35 - 4:55 PM	Contributed Talk	Influence on Protective Surface Coating on Heat Transfer with Aluminium Enclosures (Paper ID 31)	Veereshkumar A
4:55 - 5:15 PM	Contributed Talk	Life Cycle Assessment and Cost Analysis of Additive Manufacturing Repair Strategies for Sustainable Turbocharger Impeller Restoration (Paper ID 44)	Nilesh Patil (online)
5:15 - 5:35 PM	Technical Talk		Dr. Harsha Kalathur

Day 3 - March 25, 2026**Track II: Materials & Manufacturing (IT1 - Wing III, Ground Floor, CR2)****Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Venkata Reddy**

Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk	Surface Finish Or Dust Emissions in Composites Machining-A Challenge	Prof. Ramulu Mamidala, University of Washington (Online)
10:05 - 10:40 AM	Invited Talk	Environmental Sustainability in Aviation	Dr. Radha S. Kulakarni
Tea Break 10:45 - 11:20 AM			
11:20 - 11:55 AM	Invited Talk	Flexible and Hybrid Manufacturing Processes for Rapid Response and Resource Efficiency	Prof. N. Venkata Reddy, IITH
11:55 - 12:15 PM	Contributed Talk	Hydrophilic Nanofiber Barrier Coatings for Aluminum: Waterborne Crosslinking, Microstructure–Property Links, and EIS-Based Protection (Paper ID 42)	Mahesh Chaudhari
12:15 PM - 12:35 PM	Contributed Talk	Compressive behaviour of 3D printed gyroid structure (Paper ID 47)	KUSHAL C
Lunch Break 12:30 - 2:30 PM			
Session II - 2:30 PM - 5:30 PM			
2:30 - 2:50 PM	Technical Talk		Dr. Palash
2:50 - 3:10 PM	Contributed Talk	Getting the best out of a 3D woven fabric composite (Paper ID 52)	VIKAS VERMA
3:10 - 3:30 PM	Contributed Talk	Development of Tool wear predictive model using machine vision techniques (Paper ID 66)	Swathi K A
3:30 - 3:50 PM	Contributed Talk	Defect-Sparse 2D Carbon in Epoxy Powder Coatings: Pore Control and EIS Durability (Paper ID 38)	Mahesh Chaudhari
3:50 - 4:10 PM	Contributed Talk	Solid-State Additive Manufacturing of AA6061 via Friction Stir Deposition: An Experimental Study (Paper ID 85)	U Ashok Kumar

Closing ceremony - (Vote of Thanks, Awards, Closing Speech by Co-Convener)

Day 2 - March 24, 2026**Track IV: Energy & Propulsion (IT1 - Wing III, Ground Floor, CR3)****Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Joseph Mathew**

Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk	LES Study for Turbine Blades	Prof. Joseph Mathew, IISc
10:05 - 10:25 AM	Contributed Talk	Fluid-Structure Interactions studies of a Blended Wing Body aircraft using Free and Open-Source Software based Hybrid-Fidelity Framework (Paper ID 12)	MANABENDRA DE
10:25 - 10:45 AM	Contributed Talk	Experimental Evaluation of Throttling Characteristics in a Radial Injector Pump-Fed Rocket Engine (Paper ID 70)	Jatin Jangra

Tea Break 10:45 - 11:15 AM

11:15 - 11:50 AM	Invited Talk	A review of some achievements and open problems for the simulation of non-ideal compressible flows	Prof. Christophe Corre, Ecole Centrale de Lyon
11:35 - 11:55 AM	Contributed Talk	Unit Commitment with Respect to Both Cost and Emission Based on a Day Load Demand in an Integrated Solar and Wind Power System (Paper ID 55)	DIBYA SAHU
11:55 AM - 12:30 PM	Invited Talk		Hare Krishna Yadav, IIT Indore

Lunch Break 12:30 - 2:30 PM**Session II - 2:30 PM - 5:30 PM - Session Chair - Prof. Mahesh Panchagnula**

2:30 - 3:05 PM	Invited Talk		Prof. Mahesh Panchagnula
3:05 - 3:40 PM	Invited Talk	Advancing the future of more efficient flight	Dr. Sundar Krishnaswami, GE Aviation

Tea Break 3:40 - 4:10 PM

4:10 - 4:30 PM	Technical Talk		Dr. Ravi
4:30 - 4:50 PM	Contributed Talk	The Vortex Finder Reverse Flow Paradox: Resolving the CFD Flow-Field Inconsistency in Cyclone Separators (Paper ID 14)	Aragaw Alamnia
4:50 - 5:10 PM	Contributed Talk	Gust-Load-Induced Instability in Heavy-Payload Logistics Multicopter at 400ft Altitude: Crash Risk Assessment Using Wind-Gradient Modeling (Paper ID 18)	Arunachalam Karunaivel

Day 3 - March 25, 2026

Track IV: Energy & Propulsion (IT1 - Wing III, Ground Floor, CR3)

Session I - 9:30 AM - 12:30 PM - Session Chair - Prof. Debasis Chakraborty

Time Slot	Session Type	Title	Presenting Author
9:30 - 9:50 AM	Contributed Talk	Parametric CFD Analysis of Bleed Slot Configurations for Shock Wave Boundary Layer Interaction Control in a Supersonic Intake (Paper ID 20)	Ayan Ali Zaidi
9:50 - 10:10 AM	Contributed Talk	Comparative Analysis of Pulse Detonation Engine with Purging (Paper ID 22)	Subhabrato Pal
10:10 - 10:30 AM	Contributed Talk	Thermal Performance Analysis and Machine Learning–Based Prediction of a Solar Parabolic Trough Collector Using Dissimilar Reflectors (Paper ID 53)	SENDHIL S

Tea Break 10:45 - 11:20 AM

11:20 - 11:40 AM	Contributed Talk	Structural Analysis and Optimization of a Lead-Screw-Actuated Span-Morphing Wing with Lattice Core Support (Paper ID 56)	Rukmini Kulkarni
11:40 AM - 12:00 PM	Contributed Talk	Performance Evaluation and Optimization of Latent Heat Thermal Energy Storage Systems Using Hybrid CFD and AI Approach (Paper ID 93)	Asif Mohammad
12:00 - 12:20 PM	Technical Talk		Dr. Manjul/Dr. Prahallada

Lunch Break 12:30 - 2:30 PM

Session II - 2:30 PM - 5:30 PM

Closing ceremony - (Vote of Thanks, Awards, Closing Speech by Co-Convener)

Day 2 - March 24, 2026**Track III: Mechatronics and Automation (IT1 - Wing III, Ground Floor, CR4)****Session I - 9:30 AM - 12:30 PM - Session Chair - Dr. Vineet Vashista**

Time Slot	Session Type	Title	Presenting Author
9:30 - 10:05 AM	Invited Talk	Exoskeletal Technology for Human Performance Restoration and Augmentation	Dr. Vineet Vashista, IITGN
10:05 - 10:25 AM	Contributed Talk	Genetic Algorithm Based Optimization of Cable Attachment Geometry for Tensionable Workspace in a Planar Cable-Driven Manipulator (Paper ID 88)	Dr. Nakka Surya Satya Sanjeevi
10:25 - 10:45 AM	Contributed Talk	Experimental Design and Performance Analysis of a Self-Balancing Robot Using PID Control (Paper ID 43)	Bhargav Pathri

Tea Break 10:45 - 11:20 AM

11:20 - 11:40 AM	Contributed Talk	Multi-Material Topology Optimization and PID-Controlled Grasping of Compliant Fingers for Parallel Robotic Grippers (Paper ID 69)	Gidugu Lakshmi Srinivas
11:40 AM - 12:00 PM	Contributed Talk	Design and Development of a Smart Quadruped Spider Robot Using ESP32 with Obstacle Avoidance, Vision-Based Face Detection and MQTT Control (Paper ID 37)	DESIKA SAI PRANEETH VADLA
12:00 - 12:30 PM	Invited Talk	Bio-inspiration designs for robotic hands	Dr. Damien CHABLAT, Ecole Centrale de Nantes

Lunch Break 12:30 - 2:30 PM**Session II - 2:30 PM - 5:30 PM - Session Chair - Dr. P. M. Pathak**

2:30 - 3:00 PM	Invited Talk	Design and Development of an Active Pipeline Inspection Robot	Prof. P. M. Pathak, IIT Roorkee
3:00 - 3:20 PM	Contributed Talk	HEXA COPTER WEIGHT LIFTING DRONE (Paper ID 51)	Neha Shivva
3:20 - 3:40 PM	Contributed Talk	Smart sanitization robot (Paper ID 75)	Sama trisha

Tea Break 3:40 - 4:10 PM

4:10 - 4:30 PM	Contributed Talk	Design and Analysis of Propellers for Surveillance Drones (Paper ID 21)	Shubham Belgali
4:30 - 4:50 PM	Contributed Talk	Ground-Based Stereo-Vision Characterization Using an Instrumented RC Car and Its Transferability to UAV Obstacle Avoidance (Paper ID 23)	Keerthana Radhakrishnan
4:50 - 5:10 PM	Contributed Talk	Advanced Control Strategy for Soft Robotic Manipulators Using Data-Driven Dynamics and Predictive Optimization (Paper ID 33)	Shubham Rahangdale
5:10 - 5:30 PM	Technical Talk		Dr. Janardhan

Day 3 - March 25, 2026

Track III: Mechatronics and Automation (IT1 - Wing III, Ground Floor, CR4)

Session I - 9:30 AM - 12:30 PM - Session Chair - Dr. Deep Seth

Time Slot	Session Type	Title	Presenting Author
9:30 - 9:50 AM	Contributed Talk	Stability Analysis of Non-Convex Model Predictive Control (Paper ID 35)	Shubham Rahangdale
10:05 - 10:25 AM	Contributed Talk	Robustness Analysis of Monocular Visual SLAM in Low-Texture Industrial Environments: A Synthetic Degradation Study (Paper ID 57)	Devarakonda Shiva Sai
10:25 - 10:45 AM	Contributed Talk	MEDICAL IMAGE FUSION FOR ENHANCED DIAGNOSIS WITH RECOMMENDED MEDICATION (Paper ID 79)	Jagruthi Theegala
Tea Break 10:45 - 11:20 AM			
11:20 - 11:40 AM	Contributed Talk	SMART VOTING BY VERIFICATION SYSTEM USING FACE RECOGNITION (Paper ID 77)	Hemavallika Thota
11:40 AM - 12:00 PM	Contributed Talk	HAND SIGN DETECTION (ASL) USING AI AND IMAGE PROCESSING (Paper ID 78)	RAPELLY MAHITHA
12:00 - 12:30 PM	Technical Talk		Dr. Deep
Lunch Break 12:30 - 2:30 PM			
Session II - 2:30 PM - 5:30 PM			
Closing ceremony - (Vote of Thanks, Awards, Closing Speech by Co-Convener)			