Annual Research Symposium 2021

Mechanical Engineering, IISc

Day 2 - 31st July (Online)

July 31st 2021 (Saturday)

09:30am-10:00am	**Keynote Lecture 3: Manjesh K Singh (IITK)** **Student coordinator 1: Vageesh Singh Baghel** **Student coordinator 2: Vivek Khatua**
10:00am-11:00am	**Session 4:** **Faculty Chair 1: Manjesh K Singh (IITK)** **Faculty Chair 2: Namrata Gundiah** **Student coordinator 1: Vageesh Singh Baghel** **Student coordinator 2: Vivek Khatua**
	4.1: Fracture mechanism and toughness of a rolled magnesium alloy under dynamic loading - Arjun Sreedhar S
	4.2: Disassembly path planning: Multi-linear and mixed-Dimensional - Chandra Sekhar Sathua
	4.3: Switching dynamics of shallow arches - Priyabrata Maharana
	4.4: A monolithic ALE-based FEM strategy for solving fluid-structure interaction problems involving compressible fluids. - Suman Dutta
11:00am-11:15am	**BREAK**

11:15am-12:30pm	**Session 5:** **Faculty Chair 1: Jaywant Arakeri** **Faculty Chair 2: Saptarshi Basu** **Student coordinator 1: Gautam Revankar A** **Student coordinator 2: Iqbal**
	5.1: Study of Human Breathing Airflows - Debendra Nath Sarkar
	5.2: Data-driven analysis of molten-salt nanofluids for specific heat enhancement using unsupervised Machine learning methodologies - Dipti Ranjan Parida
	5.3: Numerical simulations of capsules and cells in flow - Kiran Satheesh
	5.4: Study on two stage air cooled Silica gel + water adsorption cooling system -M. Reddy Madhuri
	5.5: Dynamical Characterization Of Swirl Injector Flow Field Generated Through Radial Swirler Fitted In A Conical Nozzle -Rampada Rana
12:30pm-02:00pm	**BREAK**
02:00pm-02:30pm	**Keynote Lecture 4: Harish Dixit (IITH)** **Student coordinator 1: Mahesh Kisan Sawardekar** **Student coordinator 2: Bangar Sarika Shivaji**
02:30pm-03:45pm	**Session 6:** **Faculty Chair 1: Harish Dixit (IITH)** **Faculty Chair 2: Raghuraman N. Govardhan** **Student coordinator 1: Mahesh Kisan Sawardekar** **Student coordinator 2: Bangar Sarika Shivaji**
	6.1: Direct Numerical Simulation of Thin Fluid Films - Ananthan M

	6.2: Higher Order WENO methods for simulation of compressible multiphase flows on unstructured grids - Dasika Sunder
	6.3: Dynamics of polymer droplets under contact and non-contact environments - Gannena K S Raghuram
	6.4: Numerical and Experimental Investigation of Heat Pipes and PCM-Coupled Heat Pipes - H. Venu Madhav
	6.5: Droplet interaction with turbulence in moist tube convection - Visakh M G
04:00pm-05:00pm	**Poster Session 2:** **Faculty Chair 1: M.S.Bobji** **Faculty Chair 2: Jishnu Keshavan** **Faculty Chair 3: Navaneetha Krishnan Ravichandran**
	2.1: Crosslinks and Toughness of Gelatin Hydrogels in Tissue Engineering - Anshul Shrivastava
	2.2: A topological approach for wire harness design - Arun Rehal
	2.3: Analysis of Orifice Type Aerostatic Thrust Bearing for s-CO2 Turbomachinery - Ashutosh Patel
	2.4: Effect of Acoustic excitation on buoyant droplet diffusion flame - Gautham Vadlamudi
	2.5: Development of a Cryogenic Loop Heat Pipe (CLHP) with Coherent Porous Silicon (CPS) Wick in the Flat Plate Evaporator - Govind Kumar Mishra
	2.6: Robotic Hot Blade Cutting - Jay Prajapati

	2.7: Studies on metal hydride based thermal energy storage systems - Katamala Malleswararao
	2.8: Design and optimization of legged quadruped robot - Pramod Pal
	2.9: Design of novel LPG/PNG domestic burners for high efficiency - S. Rahul Kashyap
	2.10: Analysis of Turbomachinery Losses Across Power Scales for a Super-Critical Carbon Dioxide Brayton Cycle - Lakshminarayanan Seshadri
	2.11: Profile and contact force estimation of cable-driven continuum robots in the presence of obstacles - Soumya Kanti Mahapatra
	2.12: A new mode of terrestrial locomotion - Sudhanva Bhat
	2.13: Vibration isolation in spacecraft using Stewart platform - Yogesh Pratap Singh
05:00pm	**Closing ceremony**