

ME@75 Poster Presentation Schedule (June 29th, June 30th, 2022)

Presenters are requested to put up their posters by 9 AM on June 29th and take them off by end-of-day on June 30th

Paper No.	Poster Session	Title
Robotics and Dynamics		
74	RD_1	Profile and contact force estimation of cable-driven continuum robots in the presence of obstacles with application
13	RD_2	An analytical expression for maximum total response displacement for a 1-DOF spring-mass-damper system
15	RD_3	Self-excited Vibration Analysis of a Rotor Air-ring Bearing via a Two-degrees of Freedom Approach
22	RD_4	Analytical model for novel single drive three axis MEMS gyroscope
43	RD_5	A Prescience audit of robotics and autonomous systems: A Review
53	RD_6	Comparative Performance of PZT-5H and Single crystal PMN-PT based Piezo Bimorph actuators for propulsion of insect scale Flapping wing Micro Air Vehicle
70	RD_7	Particle Damping experiments on a cantilever beam with permanent magnets under random excitation
174	RD_8	An "Elastica robot": Tip control in tendon-driven elastic arms
35	RD_9	Comparative Study of Target and Center – Oriented Spinning – Elevation Tracking Method for Heliostats
105	RD_10	Electronically Controlled Marine Cycloidal Propeller by Stepper Motor
Heat Transfer processes and applications		
23	HT_1	Computational Analysis of a Staggered and Double Cross Flow Shell and Tube Heat Exchanger
29	HT_2	NUMERICAL INVESTIGATION OF FLUID FLOW AND HEAT TRANSFER PAST RECTANGULAR CYLINDER WITH ROUNDED FILLETS
69	HT_3	Numerical Analysis of Compound Heat Transfer Enhancement Techniques in Laminar Flow Regime
80	HT_4	Flash Evaporation in a Superheated Liquid Pool
82	HT_5	Development of a Numerical Model for Predicting Dryout Heat Flux of a Thin-film Evaporation Heat Sink
86	HT_6	Radiative Cooling in the Lifted Temperature Minimum Profile
140	HT_7	STUDY OF HEAT TRANSFER ENHANCEMENT WITH THE APPLICATION OF VARIOUS NANOFLUIDS IN A DIFFERENTIALLY HEATED CAVITY
154	HT_8	MATHEMATICAL INSIGHT FOR DEHUMIDIFICATION PROCESS INSIDE A DESICCANT WHEEL
52	HT_9	Penetrative convection in the Nocturnal Atmospheric Boundary Layer and Radiation Fog
92	HT_10	Effect of Effusion Cooling on an Adiabatic Flat Plate for Gas Turbine Application
3	HT_11	Performance of a 9-turn single-plane PHP with water and 50% fill ratio
54	HT_12	Fragmentation of Molten Metal Jets in Simulated Nuclear Reactor Accidents
60	HT_13	Heat Transfer Augmentation in a Duct using Transverse Ribs and Helical Screw Tape insert.
61	HT_14	CFD Simulation on the flow of Graphene-Silver/water Nanofluid through Hexagonal Microchannel Heat Sink
171	HT_15	SCALAR AND TEMPERATURE FIELDS IN AN OFF-SOURCE HEATED JET
41	HT_16	Entropy generation for convective flows in two-dimensional enclosures
183	HT_17	Phonon transport in ultrahigh thermal conductivity materials beyond the relaxation time approximation

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Paper No.	Poster Session	Title
High Speed and Turbulent Flows		
180	HSTF_1	Separation control for supersonic shock wave boundary layer interaction by computationally cooling the leading edge of the wall in a Forward-facing step
119	HSTF_3	DESIGN OF A PLANAR SUPERSONIC WIND TUNNEL NOZZLE
125	HSTF_4	Vortex-bubble interaction: An idealization of multiphase turbulence
138	HSTF_5	Curvature effects in shock wave boundary layer interactions
104	HSTF_6	Computational study of droplet growth in moist turbulent tube convection
7	HSTF_7	Some results from turbulent enstrophy transport in a plume: a DNS study
115	HSTF_8	Numerical Study of Re-laminarizing Boundary Layers
173	HSTF_9	Boundary Layer Transition Caused by Distributed Roughness of Limited Streamwise Extent
Fluid Flow phenomena		
162	FF_1	Does the near-wall region of wall jets behave like a boundary layer ? Implications for monsoon low-level jet
28	FF_2	Lattice Boltzmann Simulation of flow within Staggered Lid Driven Cavities of Varying Geometry
6	FF_3	Effect of interfacial kinetics on the settling of a drop in a viscous medium
73	FF_4	Thin Fluid Film Flow on A Sphere
45	FF_5	To Study the Performance of Vortex Tube for Different Inert Gases using CFD Tool
98	FF_6	Experimental investigation on radial wall jet
90	FF_7	Evaluation of conjugate effect in hourglass (converging-diverging) microchannel
124	FF_8	Applicability of the simplified Reynolds stress equations to rotating rib-roughened channel flows
129	FF_9	Attributes of the Laminar Separation Bubble Formed Over a Bi-scaled Rough Surface
133	FF_10	Characterization of waves on a liquid sheet formed via non-Newtonian impinging jets
153	FF_11	Study of axisymmetric starting jets with passive flexibility at the exit
Multi Physics and interdisciplinary engineering		
83	MP_1	Synthesis, Characterization, and Photoluminescence study of Vanadium Pentoxide (V2O5) material for optoelectronic applications.
11	MP_2	Thermocapillary effects on viscoelastic droplet suspended in another viscoelastic pressure driven axisymmetric flow
37	MP_4	Conformational temporal changes in transmembrane protein using molecular dynamics
88	MP_5	Risk Assessment of COVID Infection by Respiratory Droplets Inside an Elevator
160	MP_6	The Geometry of Leidenfrost droplets on microtextured surfaces
164	MP_7	Effect of Dissolved and Suspended Solids on the Rupture of an Evaporating Liquid Bridge
165	MP_8	Adsorption and Removal of Carbon Dioxide from Air using Metal Organic Framework (MOFs): A Computational study
130	MP_9	Biomechanics of red blood cells in health and disease
158	MP_10	Mechanics of Cell Adhesion on Substrate with Pillar-ridge Pattern
91	MP_11	Effect of surface inclination on the location of Circular Hydraulic Jump.
72	MP_12	Hygrothermal aging effects of composite solid propellant
182	MP_13	Steady-state and Transient Phonon Transport Studied using a Monte Carlo Solution of Frequency-Dependent Boltzmann Equation

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Paper No.	Poster Session	Title
Design and Optimization		
116	DO_1	Design and analysis of mouldboard plough for soil inversion using discrete element method (DEM) simulations
8	DO_2	Redesign of a spark gap switch assembly towards reduction of volume, weight and ease of assembly
32	DO_3	Topology Optimization of Human Hip Bone with Heterogeneous Lattice Structure
148	DO_4	NUMERICAL AND EXPERIMENTAL TOPOLOGY OPTIMIZATION OF CRANEHOOK
75	DO_5	ENGINE EXHAUST STUB SIZING FOR TURBOPROP POWERED AIRCRAFT
67	DO_6	Development of cost-effective parabolic trough collector using finite element analysis and structural optimization.
79	DO_7	Design optimization of conical draft tube using different geometrical configurations and CFD analysis for Hydro Power Plant
146	DO_8	Damage estimation for composites by reconstituting random load history using rainflow counting technique
Numerical Methods		
101	NM_1	Development of VOF Based two Phase Flow Numerical Model to Study Droplet Dynamics
102	NM_2	Revisiting an Old Formulation for Multivariate Resultants
103	NM_3	Polygonal Finite Element (PFEM) based analysis of thermal conductivity of a polycrystalline sample
106	NM_4	An adaptive sharp interface Immersed boundary technique for coupled fluid-rigid body dynamics
110	NM_5	High order WENO methods for simulation of compressible multiphase flows
167	NM_6	Interface curvature estimation from volume fractions in multi-phase problems
56	NM_7	Optimization techniques for acoustic material selection in rooms
10	NM_8	Consistent description of phase-change processes in substances with density contrast: A finite volume based approach
Structural Analysis		
152	SA_1	Quasi-static study of adhesive contact between an elastic sphere and rigid half-space using FEM
26	SA_2	Shock Analysis Of A Coulomb Damped System Under The Half-Sine Pulse Excitation
66	SA_3	Natural frequencies of water-loaded panels
178	SA_4	Modal Analysis of Plate to Analyze the Effect of Mass Stiffeners Using Chladni Plate Approach
118	SA_5	Design and performance of a projectile impact framework for evaluating advanced structural materials
57	SA_6	Ballistic Impact Study on Natural Rubber and Jute/Epoxy Rubber Sandwiches
39	SA_7	Micromechanical modelling of the influence of stress triaxiality on the failure of High Entropy Alloys (HEAs)
147	SA_8	Numerical Study on Effect of Impactor Geometry on Residual Tensile Properties of Impact Damaged Composite Laminates
2	SA_9	Advancements in intelligent corrosion removal maintenance techniques towards failure prevention and enhanced life of steel structures
77	SA_10	Synergetic effect of atomic interactions and unit cell shrinkage on the H release from Mg-Ni-rGO nanocomposite
96	SA_11	Design methodologies for cold-formed steel built-up I-section stud panels with sheathing under compression
150	SA_13	Investigations of microstructural and microhardness developments in sintered Iron-coal fly ash composites

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Paper No.	Poster Session	Title
Manufacturing Processes		
151	MP_1	Study of Interfacial Waviness Formation and Jetting Phenomenon during Magnetic Pulse Welding using Smoothed Particle Hydrodynamics (SPH)
55	MP_2	Investigation of Mechanical Behavior of Additive Manufactured Polylactic Acid (PLA) Material
144	MP_3	Sand casting of surface alloyed butterfly valve with improved hardness and corrosion resistance by incorporating metal powders in-mold coatings
68	MP_4	Coupled Phenomena Model for Resistance Spot Welding of AISI 1008 Steel Sheets
93	MP_5	Numerical Study on Material Flow, Stresses and Strain Rates in Friction Stir Welding of Aluminium-alloy (AA2219) Plates
163	MP_6	Electrochemical Impedance Spectroscopy of aluminium for the growth of nano porous alumina
85	MP_7	EFFECT OF LASER SURFACE MODIFICATION ON TEXTURE, ROUGHNESS, WETTABILITY AND SURFACE ENERGY OF HASTELLOY C22, C276 & X
149	MP_8	EXTRACTION SYNTHESIS AND VARIOUS APPLICATIONS OF NANOCELLULOSE:A Review
Energy		
156	EN_1	Small scale multistage desalination system based on interfacial evaporation and latent heat recovery
159	EN_2	Design of thermochemical energy storage system using scaling principles
48	EN_3	Prospects of thermochemical energy storage system for heating applications in cold climates
168	EN_4	Influence of Geometric Parameters on the Performance of a 100 kW Inward Flow Radial Supercritical CO2 Turbine
51	EN_5	Enhancement in Performance Parameters and Reduction in Exhaust Emissions of a Compression Ignition Engine using Stable Nanofuel Suspension
169	EN_6	Two Stage Radial Compressor Design Considerations for a Kilowatt Scale Supercritical Carbon Dioxide Power Block
46	EN_7	Design and development of flexible elastomer for energy storage
109	EN_8	Comparative studies on nano-enhanced PCM (Ne-PCM) for solar energy storage application.
27	EN_9	Thermosyphon Integrated Interfacial Vapor Generation System for Desalination Application
76	EN_10	Optimum Weight Fraction of Multiple Catalysts for Enhanced Hydrogen Uptake in Magnesium
177	EN_11	Capillary-fed thin-film evaporative microthruster for nano/microsatellites.