

time	Day 1: 13 Dec, Friday	Day 2: 14 Dec, Saturday	Day 3: 16 Dec, Monday	Day 4: 17 Dec, Tuesday
0915 – 0955 0955 - 1035	Inaugural Morning Registration: 0830 – 0930 hrs Inaugural Function: 0930 – 1045 Tea: 1045-1110	Invited Talk 2 Invited Talk 3	Invited Talk 4 Invited Talk 5	Invited Talk 6 Invited Talk 7
1035 - 1100	Invited talk 1 : 1115-1155	Tea/Coffee Break	Tea/Coffee Break	Short presentations:1040-1120 Tea/Coffee + Poster:1120 – 1300
1100 - 1230	Short Presentations: 1200-1315	Short Presentations	Short Presentations	
1230 - 1315		Technical Sessions: Hall1: AD1 Hall2: MNFD1 Hall3: GEN3	Technical Sessions: Hall1: BL1 Hall2: COMB Hall3: EFM1	
1315 – 1415	Lunch	Lunch	Lunch	Lunch 1300-1400
1415 - 1545	Technical Sessions: Hall1: BFM1 Hall2: HMT1 Hall3: GEN1	Technical Sessions: Hall1: AD2 Hall2: MNFD2 Hall3: TMR1	Technical Sessions: Hall1: BL2 Hall2: CFD2 Hall3: EFM2	Technical Sessions: Hall1: BFM4 Hall2: EFM4 Hall3:
1545-1610	Tea/Coffee	Tea/Coffee	Tea/Coffee	1530-1600: Closing Ceremony 1600: Tea & disperse
1610 - 1740	Technical Sessions: Hall1: BFM2 Hall2: CFD1 Hall3: GEN2	Technical Sessions: Hall1: AD3 Hall2: BFM3 Hall3: TMR2	Technical Sessions: Hall1: USF1 Hall2: CFD3 Hall3: EFM3	

IT1: Yasuaki Kohama (Japan)– Efficiency Optimization of High Speed Ground Transport System

IT2: Zhou Jifi (China) - Wave loads on offshore structures

IT3: K R Sreenivasan (USA) - Results from Two Massive DNS of Turbulence

IT4: Gary Brown (USA)- Insights into turbulent shear flow, transition and relaminarization mechanics obtained from the vorticity transport and determined from DNS, LES and other calculations

IT5: Amit Agrawal (India) - Higher-order continuum transport equations (Burnett and Grad equations)

IT6: Yu Zhou (China)- Artificial Intelligence Control of Turbulence

IT7: Joseph Mathew (India)-Reliable Large Eddy Simulations

Oral Presentations

A. Aeroacoustics, Aerodynamics; Compressible flows and gas dynamics

AD1 D2, M1, H1

- 5a. Computational Study on Dynamic Stall and Flow Control in a Pitching Airfoil.
- 39. Performance analysis of a wing with and without winglets
- 194. Aerodynamic Performance of High-Altitude Variable-Pitch Propellers

AD2 D2, AN1, H1

- 131a. Numerical simulation of FSI with thin-walled structural elements
- 145. Flow separation control on a NACA-4415 airfoil at low Reynolds number
- 146. Assessment of flow field behind the mechanical vortex generators at Mach 2.0
- 152. Noise Source Characteristics of Compressible Jet from non Axisymmetric Nozzle
- 171b. A Computational Study of the Effect of g-Forces on Busemann Biplane Aerodynamics

AD3 D2, AN2, H1

- 174. Experimental investigation of Vortex Breakdown Structure over a Non-slender Flying Wing Configuration
- 46. Aerodynamics and Design of Spinning Samara Model
- 171c. UNDEREXPANDED SUPERSONIC JET IN IMPOSED OSCILLATING CONDITION
- 206. Effect of Fixed Flap on Airfoil Characteristics at Low Reynolds Number
- 251. Performance of tandem control jets in supersonic cross flows

C. Boundary layer flows

BL1 D3, M1, H1

- 49. Effect of Large Scale Flow on the Boundary Layer Velocity Field in Turbulent Convection
- 69. Introduction of multi-scaled longitudinal vortices by fractal-patterned surface roughness
- 132. SCALE-AWARE OVERLAP IN TURBULENT WALL JETS

BL2 D3, AN1, H1

- 144. A Reynolds shear stress based wake model in a flat plate boundary layer.
- 160a. Growth of disturbances in a pre-transitional boundary layer downstream of distributed surface roughness
- 192. Global stability analysis of the spatially developing boundary layer: Effect of suction and injection
- 209. Interaction of Free stream turbulence ON THE STRUCTURE OF turbulent boundary layer
- 211. Streak instabilities in natural and roughness induced bypass transition

B. Basic Fluid Mechanics

BFM1 D1, AN1, H1

- 56. Drag Crisis on a Smooth Sphere Exposed to Free Stream Turbulence
- 10. Vorticity generation due to surface tension driven spreading
- 94. On the local axisymmetry of a vortex
- 33. TURBULENCE MODIFICATION IN A PARTICLE-GAS SUSPENSION
- 175. Experimental investigation of three-dimensional modes in the wake of a rotationally oscillating cylinder

BFM2 D1, AN2, H1

- 88. Delay in the onset of convection in an aerosol laden participating medium with radiative forcing
- 92. Effect of Polymer Solutions on the Propagation and Structure of Freely Translating Vortex Rings
- 100. Construction of dominant mathematical terms describing the dynamics of hairpin vortices generated during the late-stage of boundary-layer transition
- 151. Turbulent/non-Turbulent Interface of a Transient Diabatic Plume
- 158. Wake interaction of two rotationally oscillating cylinders placed in a side-by-side configuration

BFM3 D2, AN2, H2

- 160b. Reynolds Stress Gradient and Vorticity Fluxes in Axisymmetric Turbulent Jet and Plume
- 173. Interfacial Waves in Dual Stream Granular Flows
- 169a. Excitation of Boundary Layer on the Suction Surface of C-D Compressor Blade
- 250. Linear Stability of Rotating Fluid Columns
- 253. Linear stability of pressure-driven flow of a viscoplastic fluid overlying a porous layer

BFM4 D4, M1, H1

- 214. Influence of Buoyancy on Flow Past a Circular Cylinder Near a Moving Wall
- 209b. When is the Turbulent Flow Behind an Active Grid Isotropic? Novel Tests and Tweaks to Generating Protocols
- 90. Study on washing ability of water flows
- 181. Wake Structure of an Oscillating Cylinder with an Attached Filament
- 123. Investigation of Flow Separation Lines over a Finite Wing

D. Combustion : D3, M1

Comb D3, M1, H2

- 40. Wave dynamics of oblique detonations with abrupt transition under continuous disturbance
- 164. Effect of strain rate on diffusion flame structure and relationship in scalar fields
- 155a. Effect of Reynolds number on the flow structures of a double swirler burner

Note: Before parallel sessions begin, oral presenters will give a one-minute teaser to the full audience. Each teaser will have maximum 2 slides and contains title, author(s) affiliation(s), objective(s) and the most important result from the study in one sentence.

E. Computational fluid dynamics :

CFD1 D1,AN2,H3

- 87. 3D numerical simulation of an array of subsonic counter-flow jets issuing from a wing leading edge exposed to hypersonic aerodynamic heating
- 38. Vortex formation length near the onset of vortex shedding in flow past a circular cylinder
- 57a. Film Cooling Aspects of a Dual Bell Nozzle
- 109. Computational Study on the Flow Characteristics in a Film Cooled Dual Bell Nozzle.
- 120. DNS of an oscillating shear layer between two parallel Couette flows

CFD2 D3,AN1,H2

- 127. A single-domain approach for coupled viscous and porous flows
- 137a. A Staggered Update Procedure (SUP) for Higher order Cell-centre Finite Volume Method
- 61. Wall distance computation based on higher-order variational reconstruction on unstructured grids
- 137b. Turbulent flow computations on a hybrid unstructured point distribution using meshless solver LSFD – U
- 139. Unsteady Adjoint Approach for Accurate Shape Sensitivities in Viscous Flows

CFD3 D3,AN2,H2

- 140. Exploring Physics Informed Neural Networks for Compressible Flow Prediction
- 107. Third Order WENO Schemes on Unstructured Meshes
- 197. Modelling of flow in a weir and pool fishway with orifices for optimizing the fishway design
- 212. Proper orthogonal decomposition of turbulent flow in a straight square duct
- 215. Elliptic Blending with One-Equation Model

G. Geophysical fluid mechanics, environmental and natural fluid mechanics

GEN1 D1,AN1, H3

- 17. Some properties of the Persian Gulf outflow from field observations and some laboratory simulations
- 35. Numerical Simulation of Iceberg Rupture Generated Waves
- 73. Numerical simulation of contaminant release during sediment starting in dynamic water environment
- 81. Particle motion in a density stratified fluid
- 96. Mathematical Modelling of Step Shape Bed Forms Generated by Turbidity Currents without incorporating the Wave Entrainment Impact

GEN2 D1,AN2, H3

- 117. A study of large scale eddies in the Caspian Sea using some numerical simulations
- 125. Large-Eddy Simulation of Aeolian Solid Particle Transport Near Surface
- 148. Surfaces instabilities of sand bed
- 167. Experimental investigation on energy distribution after sand particle-bed interaction
- 168. Studies of snow distribution in mountain area: a review

F. Experimental Fluid Mechanics

EFM1 D3,M1,H3

- 83. A Micro Multi-blade Vertical Axis Wind Turbine for Built-up Areas
- 86. Design and Analysis of A Vortex Induced Vibration Based Oscillating Free Stream Energy Converter
- 23. Innovative Vertical Axis Wind Turbine for power generation

EFM2 D3,AN1,H3

- 89. Motion of a solid sphere launched vertically upward in water and deformation of water surface by the sphere
- 195. Experimental determination of drag on cylindrical objects with superhydrophobic coating
- 113. Application of Adaptive Optics for flow visualization in Open-Air
- 116. Experimental Quantification of Anisotropy in Rayleigh Benard Convection
- 135. Experimental investigation on the role of the streaky-like structures in a pressure-induced separation bubble.

EFM3 D3, AN2, H3

- 136. Importance of refractive index matching of fluids for PIV and PLIF measurements in
- 141. On the Rudimentary Emulation of Covert Feathers for Small-Scaled UAV application
- 201. Velocity and pressure measurement of a hemisphere wake flow in laminar boundary layer based on tomographic PIV
- 147. Effect of forward splitter plate leading edge shape on cylinder flow
- 169c. Shear Layer Excitation near the Leading-Edge due to Uniformly Distributed Roughness Elements

FM4 D4,M1,H2

- 203. AI-MART: particle reconstruction based on deep learning techniques
- 19. Bubble Capture, Breakup and Coalescence in Vortex-Bubble Interaction
- 200. Postprocessing techniques of 4D flow MRI on velocity and wall shear stress of aorta
- 204. Experimental analyses of synthetic jet control effects of rotor

GEN3 D2,M1,H3

- 170. Wind tunnel - A Sophisticated Experimental Platform for Aeolian Research
- 207. Study on water uptake by leaves
- 138. Computational Hydraulics of an Underground Wastewater Drainage System

H. Heat and mass transfer

HMT1 D1 AN1 H2

- 72. Effect of substrate temperature on evaporation of ethanol-water sessile droplet
- 82. Thermal behavior of a completely voided coolant channel for Indian PHWR under slumped fuel pin condition: Experimental and numerical approach
- 150. Convective Heat Transfer through a Curved Duct of Large Curvature for Various Aspect Ratios
- 184. Thermal Transportation Behavior Prediction of Water Molecules by Different Rigid Water Models: A Molecular Dynamics Study
- 105. Thermal mixing of shear-thinning and Newtonian fluids in a T-channel using impinging streams

J. Two-phase, Multi-phase and reacting flows

TMR1 D2, AN1

- 6. Magnetic field induced evaporation dynamics of colloidal complex fluids
- 24. COMPARISON OF FLOW FEATURES INSIDE A PLAIN ORIFICE INJECTOR FOR DIFFERENT LENGTH TO DIAMETER RATIOS
- 50. A study on DNS-TEMOM method in Nanoparticle-laden two-phase flows
- 77. Application of Lagrange-Tracking Method in Viscous Flow of Grouting
- 99. Stochastic modeling of particle dispersion in wall bounded turbulent flows

TMR2 D2, AN2

- 101. A Comparative Study of Different Cavitation and Turbulent Models with Some Different Body Shapes of Moving Object in Cavitating Flow
- 165. Research of PTV Technology in Gas-solid Two-phase Flow: Taking Volcanic Eruptions as an Example
- 166. Effect of Boussinesq-Basset history force on the dynamics of inertial particles
- 169b. Interaction of Downwash Vortex with Mist Film Cooling Jet in Crossflow

I. Micro and Nano fluid dynamics

MNFD1 D2, M1, H2

- 5b. Computational Studies of Aerosolized Drug Deposition in Human Respiratory Tract.
- 27. Flows of a Free Jet with $Re \leq 100$
- 49c. Recirculation Zones and Its Implications in a Taylor Bubble Flow in a Square Mini/Microchannel at Low Capillary Number

MNFD2 D2, AN1, H2

- 208. Airflow and Particle Transport to the Terminal Bronchioles during Heliox Breathing
- 57b. Coupled Fluid-Structure Study of Inspiratory Flow Through Human Airways with Double Bifurcation
- 97a. A Computational analysis of fluid mixing characteristics inside a microchannel by pulsating streams
- 171a. Flow characteristics during the passing process of circulating tumor cells through a microfluidic channel
- 178. Numerical Investigation of Pulsating Flow Characteristics of Fluid in a Rough Circular Microchannel

K. Unsteady flows

USF1 D3, AN2, H1

- 41. Reynolds Number Dependence of Vortex in the Circular Disk Wake
- 53. Pulsatile jet ejected from soft matter nozzle
- 65c. Numerical study on pulsatile flow of non-Newtonian fluid through arterial stenosis
- 80. Computational fluid dynamics investigation of uvulopalatopharyngoplasty

Poster Presentations

- 47. Study of Burning Characteristics on Elevated Methanol Pool Fires in a Compartment
- 51. Navier-Stokes simulation of shock tube generated blast wave interaction with a rectangular object at higher shock Mach number
- 54. DNS of Rib-roughened turbulent channel flows: influence of Reynolds number
- 55. ACCURATE LONG-WAVE ANALYSIS OF A FALLING FILM DOWN A SLIPPERY PLANE
- 64. Flow separation control in a channel
- 102. Experimental study on dynamics of rising bubble: shape, path and velocity
- 106. Numerical Parametric Study of a Clustered Linear Plug Nozzle
- 122. DNS of turbulent plane-Couette flow with a roughened wall
- 131b. Computational study of flow-induced vibration of a circular cylinder with flexible splitter plate
- 137c. Residual based adaptive time stepping
- 142. Simulation of bacterial flagellar propulsion under pressure driven flow in a channel using immersed boundary method
- 177. Avalanches on Rotating Gravitating Ellipses
- 185. Effect of curvature in the developing boundary layer on the axisymmetric model under high free stream turbulence
- 199. Numerical simulation of low Reynolds number gusty-flow past two circular cylinders in side by side arrangement
- 208. Flow Past A Heterogeneous Array of Cylinders

Note: Before the poster session begins, authors will make a one-minute teaser presentation to the full audience similar to that done by Oral Presenters