

# 18<sup>th</sup> IBCAST 2021: Fluid Dynamics Activity (Technical Program) Overview

## 18th IBCAST 2021: Fluid Dynamics Activity (Technical Program)

18th IBCAST 2021: Fluid Dynamics Activity (Technical Program)											
	1000 – 1300 hrs						1300-1400	1400 – 1600 hrs			
	1000-1040	1040-1100	1100-1120		1130-1150	1150-1210		1210-1230	1230-1250	1400-1440	1440-1500
Day – 1 (12 Jan 21) Tuesday	<b>Invited Talk</b>	<b>Contributed Talks</b>				<b>Contributed Talks</b>			<b>Invited Talk</b>	<b>Contributed Talks</b>	
	Dr Imran Qureshi (University of Birmingham, Dubai) Gas Turbine Performance and AeroThermal Impact of Combustor/Turbine Interaction Flow	Paper ID: 549 Ali Ahmed: ADJOINT BASED MULTI-OBJECTIVE OPTIMIZATION OF SUBMERGED SUBSONIC INTAKE	Paper ID: 94 Maria Sadaf: Methodology for Development of Complete Engine Deck for a Low Bypass Turbofan Engine		T E A	Paper ID: 621 Farrukh Iqbal: Sloshing Analysis of Supersonic Fuel Tank of an Aircraft	Paper ID: 563 Sajida Malik: Numerical Study of Spike on Hemispherical Nose Configuration at Supersonic Speed	Paper ID: 581 Wasim Sarwar: Numerical investigation of Fluidic Active Flow control in the Transitional Regime	L U N C H	Dr MUHAMMAD.W.SHAHZAD (Sr Lecturer at Northumbria University, UK) Unlocking the desalination processes future roadmap	Paper ID: 83 Asad Raza: Applicability of 3D Printed Fighter Aircraft Model for Subsonic Wind Tunnel
Day – 2 (13 Jan 21) Wednesday	<b>Invited Talk</b>	<b>Contributed Talks</b>				<b>Contributed Talks</b>				<b>Invited Talk</b>	<b>Contributed Talks</b>
	Dr Adnan Maqsood (Assoc Prof NUST) Evaluation of Dynamic Stability Derivatives for Versatile Aerospace Problems through RANS Simulations	Paper ID: 4 Muhammad Zia Ullah: Effect of dimple shape and depth on tribological performance of textured surface		Paper ID: 293 Muhammad Omair: Effects Of Chamber Pressure Variation On Pollutant Formation In Cryogenic Combustion		Paper ID: 235 Muhammad Ibtehaj Akhtar: Design Modifications in Induced Draft Cooling Tower for Improved Efficiency	Paper ID: 388 Sohail Khan: Numerical Simulations of Condensation heat transfer of R134a refrigerant in a smooth horizontal tube		L U N C H	Dr Imran Akhtar (Asst Prof NUST) Pressure Mode Decomposition: A Tool to Gain Insight to Hydrodynamic Forces	Paper ID: 544 Haseeb Aslam: Design and CFD Analysis of Bladeless Ceiling Fan
Day – 3 (14 Jan 21) Thursday	<b>Contributed Talks</b>				<b>Contributed Talks</b>		<b>Invited Talk</b>			<b>Invited Talk</b>	
	1020 – 1040 Paper ID: 232 Ali Abbas Zaidi: Domain size effects on particle microstructures settling in non-Stokes regime		Paper ID: 527 Ahmad Saeed: POD and DMD Analysis of Particle Image Velocimetry measurements of Vortex Induced Vibrations of flow past flexible cylinder	Paper ID: 497 Hassan Farooq: Application of Data-Driven and Physics Embedded Neural Networks in Wake Dominated Flows		Paper ID: 490 Muhammad Adnan: Numerical Analysis in Enhancement of Heat Transfer Using Extended Surfaces	Dr Filippo Maggi (Associate Professor, Politecnico di Milano, Italy) Metal fuels in propulsion: state-of-art and new perspectives		1300 – 1340 Dr Hassan.A.Khawaja (Associate Professor, UiT The Arctic University of Norway): Computational Fluid Dynamics - A Stepping Stone of MULTIPHYSICS		

## Day – 1: 12<sup>th</sup> January Tuesday

SESSION – I		
10:00 – 10:40 Invited Talk	Gas Turbine Performance and AeroThermal Impact of Combustor/ Turbine Interaction Flow	Dr Imran Qureshi (University of Birmingham, Dubai)
10:40 – 11:00	ADJOINT BASED MULTI-OBJECTIVE OPTIMIZATION OF SUBMERGED SUBSONIC INTAKE	Ali Ahmed
11:00 – 11:20	Methodology for Development of Complete Engine Deck for a Low Bypass Turbofan Engine	Maria Sadaf
11:30 – 11:50	TEA	
SESSION – II		
11:50 – 12:10	Sloshing Analysis of Supersonic Fuel Tank of an Aircraft	Farrukh Iqbal
12:10 – 12:30	Numerical Study of Spike on Hemispherical Nose Configuration at Supersonic Speed	Sajida Malik
12:30 – 12:50	Numerical investigation of Fluidic Active Flow control in the Transitional Regime	Wasim Sarwar
13:00 – 14:00	LUNCH	
SESSION – III		
14:00 – 14:40	Unlocking the desalination processes future roadmap	Dr MUHAMMAD.W.SHAHZAD (Sr Lecturer at Northumbria University, UK)
14:40 – 15:00	Applicability of 3D Printed Fighter Aircraft Model for Subsonic Wind Tunnel	Asad Raza
15:00 – 15:20	Effect of particle inertia on average drag force of settling particles	Ali Abbas Zaidi

## Day – 2: 13<sup>th</sup> January Wednesday

SESSION – I		
10:00 – 10:40 Invited Talk	Evaluation of Dynamic Stability Derivatives for Versatile Aerospace Problems through RANS Simulations	Dr Adnan Maqsood (Assoc Prof NUST)
10:40 – 11:00	Effect of dimple shape and depth on tribological performance of textured surface	Muhammad Zia Ullah Khan
11:30 – 11:50	TEA	
SESSION – II		
11:50 – 12:10	Effects Of Chamber Pressure Variation On Pollutant Formation In Cryogenic Combustion	Muhammad Omair
12:10 – 12:30	Design Modifications in Induced Draft Cooling Tower for Improved Efficiency	Muhammad Ibtehaj Akhtar
12:30 – 12:50	Numerical Simulations of Condensation heat transfer of R134a refrigerant in a smooth horizontal tube.	Sohail Khan
13:00 – 14:00	LUNCH	
SESSION – III		
14:00 – 14:40	Pressure Mode Decomposition: A Tool to Gain Insight to Hydrodynamic Forces	Dr Imran Akhtar (Asst Prof NUST)
14:40 – 15:00	Design and CFD Analysis of Bladeless Ceiling Fan	Haseeb Aslam
15:00 – 15:20	Forecasting of Wind Resources Using the Weather Research and Forecasting Software	Raja Muhammad Asim Feroz

## Day – 3: 14<sup>th</sup> January Thursday

SESSION – I		
10:20 – 10:40	Domain size effects on particle microstructures settling in non-Stokes regime	Ali Abbas Zaidi
10:40 – 11:00	POD and DMD Analysis of Particle Image Velocimetry measurements of Vortex Induced Vibrations of flow past flexible cylinder	Ahmad Saeed
11:00 – 11:20	Application of Data-Driven and Physics Embedded Neural Networks in Wake Dominated Flows	Hassan Farooq Ahmed
11:30 – 11:50	TEA	
SESSION – II		
11:50 – 12:10	Numerical Analysis in Enhancement of Heat Transfer Using Extended Surfaces	Muhammad Adnan
12:10 – 12:50	Metal fuels in propulsion: state-of-art and new perspectives	Dr Fillipo Maggi (Associate Professor, Politecnico di Milano, Italy)
13:00 – 13:40	Computational Fluid Dynamics - A Stepping Stone of MULTIPHYSICS	Dr Hassan.A.Khawaja (Associate Professor, UiT The Arctic University of Norway):