08:30 – 09:00	REGISTRATION
09:00 – 10:00	Inaugural Programme
10:00 – 10:30	High Tea

Session 1 | 10:30 – 1:00

10:30 – 11:30	Invited special session on Indigenous CFD in weapons Integration program	10:30 -- 10.45 IP1 Dr .Anandhanarayanan, DRDL, Hyderabad 10.45 -- 11.00 IP2 Dr. D. Narayan, ADA, Bangalore 11:00 -- 11:15 IP3 Mr. C.K.Niranjanan, NAL, Bangalore 11:15 -- 11:30 Discussions	Chair

	1A Chair :	**1B** Chair
11:30 – 11:45	CP1 Fairing Separation Studies using CFD at ground test conditions, Mrinal Mahato, K.Anandhanarayanan, R. Krishnamurthy and Debasis Chakraborty Defence Research and Development Laboratory, Hyderabad, India	CP7 A Critical Comparison of RANS, LES, Hybrid LES/RANS and DNS Studies of the Flow Past a Low Pressure Turbine Blade in a Cascade, Rajesh Ranjan, S M Deshpande, Roddam Narasimha, JNCASR, Bangalore, India
11:45 – 12:00	CP2 Design of fuel tank of a generic fighter aircraft constrained by its influence on neighboring store, Chaithanya.A.V, Abiram.P.C,Shibin , Pathanjali.R.J, Muralidhar.M, Dr.Subhendu.S ADA, Bangalore, India	CP8 A DNS Study of a Transient Diabatic Plume as a Model for a Cumulus Cloud, Samrat Rao, P. Prasanth, S. M. Deshpande, Roddam Narasimha JNCASR, Hyderabad, India.
12:00 – 12:15	CP3 EFFECT OF ARRANGEMENT OF WEAPONS ON ZERO-LIFT DRAG OF AN AIRCRAFT ,Keerthi M, Sreeja S, Mrunalini B , ADA, Bangalore, India	CP9 Spectral Analysis of Higher-Order Multilevel Method, S. M. Joshi_& A. Chatterjee , Dept. of Aero., Engg., IIT Bombay, Mumbai,India.
12:15 – 12:30	CP4 CFD investigation of longitudinal characteristics of a compound delta wing fighter aircraft in Transonic regimes , Sreeja S, Keerthi M, Pratheek TG, Sabari Girish S, Mrunalini B, ADA, Bangalore, India	CP10 Method of Kinetic Streamlined-Upwinding and its Variant for Ideal Magnetohydrodynamics, Ameya D. Jagtap, Dept. of Aero., Engg., IISc, Bangalore, India
12:30 – 12:45	CP5 Ground Effects from CFD and Flight Test for a generic fighter aircraft, Shibin., Manju. A,Shardha Devi, Pathanjali.R.J, Muralidhar.M, ADA, Bangalore, India	CP11 A Novel Kinetic Solver for Continuum and Rarefied Flow, Indranil Banerjee, Kamalesh Chandra Guha, BARC, Mumbai, India.
12:45 -- 1:00	CP6 CFD studies with nose chine and fuselage strake on a generic fighter aircraft Neeraj. S, Libin. G, Kuldeep. R. J, Pathanjali.R.J, Muralidhar.M, ADA, Bangalore, India	CP12 Heterogeneously parallelized solver for DNS of compressible turbulence using GKM, Nishant Parashar, Balaji Srinivasan, and Sawan S. Sinha, Dept. of App. Mechanics, IIT-Delhi, New Delhi, India.

1:00 – 02:00 **LUNCH**

Session 2 | 2:00 – 3:30

	2A Chair :	2B Chair
2:00 -- 2:15	CP13 Aerobraking of reentry flight vehicle using Magnetohydrodynamics, R. Balasubramanian, K. Anandhanarayanan, R. Krishnamurthy and Debasis Chakraborty, DRDL, Hyderabad	CP19 Simulation of flow past an airship using Partially-averaged Navier Stokes, Sagar Saroha, Sawan S. Sinha and Balaji Srinivasan, Dept. of App. Mechanics, IIT-Delhi, New Delhi, India.
2:15 -- 2:30	CP14 Numerical simulation of missile jet deflector ,Soumyajit Saha, Souraseni Basu and Debasis Chakraborty, DRDL, Hyderabad	CP20 Parallel 3D UGKS for simulation of Continuum and Rarefied flows Lokesh Kumar Ragta, Balaji Srinivasan, Sawan S. Sinha Dept. of App. Mechanics, IIT-Delhi, New Delhi, India.
2:30 – 2:45	CP15 Numerical Investigation on the Effect of Jet Interaction on Aerodynamics of a Launch Vehicle, Sanjoy Kumar Saha, VSSC, Thiruvanthapuram, India	CP21 Numerical Study on Mixing Phenomena in Supersonic Flows with Slot Injection Malsur Dharavath, P. Manna and Debasis Chakraborty, DRDL, India
2:45 – 3:00	CP16 Transonic aerodynamic characteristics of a typical rocket model with bulbous payload in accelerated flow, G. Kumaravel and E. Rathakrishnan, Dept. of Aero. Engg., IIT Kanpur, India	CP22 Time Domain Flutter Analysis of the AGARD 445.6 Wing, Vasanth Dhanagopal, T. Varghese Mathew and Sharanappa V. Sajjan, CTFD, NAL, Bangalore, India
3:00 – 3:15	CP17 Magnetohydrodynamic flow control of hypersonic blunt body flowfield involving real gas effects, R. Balasubramanian, K. Anandhanarayanan, R. Krishnamurthy and Debasis Chakraborty, DRDL, Hyderabad, India	CP23 Computational Study of Flame Acceleration in Obstacle Laden Channel: Effect of Obstacle Shape and Spacing Muralitharan S and Amit Kumar, Dept. of. Aero. Engg., IIT Madras, Chennai, India
3:15 – 3:30	CP18 Intake Performance Studies for a Generic Fighter Aircraft Configuration Mohan M, Rakesh R, N Om Prakashraj, Pankaj Gandhi, Anil Nanduri, ADA, Bangalore, India	CP24 Numerical Investigation of Insect-sized Flapping Wings in Inclined stroke plane under the influence of Frontal Gust, Manabendra M. De, J S Mathur, S Vengadesan, Dept. of App. Mechanics, IITM, Chennai, CSMST NAL, Bangalore, India

3:30 – 4:00 TEA

Session 3 | 4:00 – 5:00

	3A Chair :	3B Chair:
4:00 – 4:15	CP25 Computational study of aerodynamic interference flowfield at high speeds Prabhakaran. G_, Ajinkya Maskey and Kumarz, CTFD, NAL, Bangalore,India	CP31 Triggering Vortex Shedding over a Circular Cylinder using Wall Boundary Condition Perturbation, K. Manokaran ,M. Ramakrishna , and T. Jayachandran VSSC, IITM, India
4:15 – 4:30	CP26 Application of numerical lifting line theory for swept wings with different aspect ratios Manish Kr. Singh, Partha Mondal, Sudip Das & Priyank Kumar, Department of Space Engg. and Rocketry, Birla Institute of Technology, Mesra, Ranchi, India	CP32 Experimental and Numerical investigation of Heat Transfer Characteristics of Circular Jet Impinging on a Flat Plate, BALAKRISHNAN R and K. ARUL PRAKASH, Dept. of App. Mechanics, IITM, Chennai, India
4:30 – 4:45	CP27 CFD ANALYSYS OF PRE-CLEANER WITH AXIAL CYCLONE FILTERS N Anshath Hussain, K. Arul Prakash, Dept. of. App. Mechanics, IIT Madras, Chennai, India.	CP33 Examining the Effect of Blunt Leading Edge in Alteration of Flow Separation using Non-Equilibrium Flow Solver, Siddesh Desai,Vinayak Kulkarni & Hrishikesh Gadgil, Dept. of Mech. Engg., IIT Guwahati, India.
4:45 – 5:00	CP28 Thermal Analysis Of Corrugated Afterburner Liner With Upstream Screech Hole Coolant Injection, Niranjan P Meti, Batchu Suresh, Kishore Kumar. S and U. S. Mallikarjun, SIT, Tumkur, India	CP34 Computational Analysis on the Performance of Cambered Airfoils at Transitional Low Reynolds Numbers,C. Pranesh, M. Sivapragasam, M.D. Deshpande & H. K. Narahari, M.S.Ramaiah University of Applied Sciences, Bangalore, India
5:00 -- 5:15	CP29 Design and Analysis of Exhuast Diffuser of a Gas Turbine Afterburner using CFD Vinod Kumar S Hiremath, S. Ganesan and R. Suresh, SIT, Tumkur, India	CP 35 Design and Analysis of Fuel Injection System in a Gas Turbine Afterburner using CFD, Aravind N. Badiger, Ganesan S., Yogesha K.B, JSSATE, GTRE, Bangalore
5:15 -- 5:30	CP30 Computational Analysis for Drag Reduction Using FishBAC Morphing Concept , R. Abishek, Bhavesh Gulati and Jayanta Sinha, Amity Institute of Aero. Engg., Amity University, Uttar Pradesh, India	CP 36 Adiabatic Film Cooling Analysis over Cylindrical and Laidback Fan Shaped Hole Flat Plate Models, Dhulesh Mirje, Batchu Suresh, H R Purushothama, SIT Tumkur, GTRE Bangalore, India

07:00 – 9:00 **CONFERENCE DINNER**

Session 4 | 09:00 – 10:30

09:00 – 09:30	IP4	Title : Accurate and robust adjoint approach for aerodynamic optimisation of unsteady turbulent flows, Dr Anil Nemili, Dept. of Mathematics, BITS Pilani, Hyderabad, India	Chair:

	4A Chair	**4B** Chair :
09:30 – 09:45	CP37 Optimization using Meshless Methods with Automatic Point Generation, Konark Arora, Amity Institute of Aerospace Engg. (AIAE), AMITY University, Noida, India	CP41 Computation of flow over Delta Wing with fuselage using SU2 Karthik V., K. Madhu Babu, Manish K. Singh, CTFD, NAL, Bangalore, India.
09:45 – 10:00	CP38 Optimization of Trapped Vortex Cavity for Airfoil Separation Control, Raman Chawla, Manoj T Nair, Department of Aerospace Engineering, Indian Institute of Space Science and Technology, Thiruvananthapuram, India	CP42 Validation of 3D Unstructured Grid Based Euler Solver Developed Using Common Framework For RAE Wing-Body Configuration, Vajjala Keshava Suman, Shikhar A. Jaiswal, Jyothi Kumar Puttam and V. Karthik
10:00 – 10:15	CP39 Parametric optimization for aerodynamic design of a high subsonic / transonic wing ,Kandasamy S, Jayaprakash K, Debkumar Ghosh, J Umakant, DRDL, Hyderabad, India	CP43 Fluid Dynamic Interaction of Tip Leakage and Secondary Flow in a Low Aspect Ratio Transonic Axial Compressor Stage, Ayesha Khan, S. Subbaramu and Q.H. Nagpurwala, M.S. Ramaiah University of Applied Sciences, Bengaluru,, India
10:15 – 10:30	CP40 Aerodynamic shape optimization of a low speed aerofoil through novel parameterization techniques, Perachiselvi, Pankaj Gandhi, N Om Prakash Raj, ADA, India	CP44 A Sharp-Interface Immersed Boundary Method for High-Speed Compressible flows , Shuvayan Brahmachary, Ganesh Natarajan, Vinayak Kulkarni, Niranjan Sahoo, IIT Guwahati, India

10:30 – 11:00 TEA

Vendor - Session 5 | 11:00 – 11:30

Presentations by Vendors

12:00 – 1:00 LUNCH

Session 6 | 1:00 – 2:15

	6A Chair:	6B Chair:
1:00 -- 1:15	CP45 Numerical Analysis of Self Activating Flap for Separation Control on Airfoils, V. Harsha Vardhan Reddy, Manoj T. Nair, Department of Aerospace Engineering, Indian Institute of Space Science and Technology, Trivandrum, India.	CP50 Large Eddy Simulation of Lab-Scale Trapped Vortex Combustor , Bappaditya Roy, Robert Bosch Engineering and Business Solutions, 1B, North Wing, Ecospace, Bangalore, India
1:15 -- 1:30	CP46 Open loop control of cavity flows using reduced order Models, Kaushik Kumar Nagarajan, Sintu Singha, CTFD NAL, Bangalore, India	CP51 Simulation of High Enthalpy Flows without Riemann Problem Solvers, G Vijay Saida Babu, Jagadeeshwar Goshika, Hrishikesh Gadgil, Kowsik Bodi, Dept. of Aero. Engg., IIT Bombay, Mumbai, India.
1:30 – 1:45	CP47 Aft-body optimization of a Generic Fighter Aircraft for Supersonic Drag reduction, Pratheek T G, Ramkumar B, N Om Prakash Raj,Sreeja S Kumar, Mrunalini B, Keerthi M, ADA, Bangalore, India.	CP52 Mixed Convection Heat Transfer in Electrically Conductive Fluids, Pavan Kumar.P Vipin.G.Bokade, U.V.Bhandarkar, Kowsik Bodi, IIT Bombay, Dept of Mech. Engg. & Dept. of Aero. Engg., Mumbai, India.
1:45 – 2:00	CP48 Development of a General Purpose CFD Code: 'Unified CFD Solver' for Aerospace Applications, Aaditya N. Chaphalkar, Harichand M.V., Pankaj Priyadarshi, V. Ashok, Aerodynamic Design and Data Synthesis Division, Vikram Sarabhai Space Centre, Thiruvanthapuram, India	CP53 Parameteric study of the Performance of two-dimensional Scramjet Intake, V. Jagadish Babu, Pratikkumar Raje, Rachit Singh, Subhajit Roy, Krishnendu Sinha Dept. of Aero. Engg., IIT Bombay, Mumbai, India.
2:00 – 2:15	CP49 Aerodynamic interference effect on a winged body due to supersonic lateral jet in hypersonic flow, G Vidya and KManokaran, VSSC, Thiruvananthapuram, India	CP54 Exhaust Jet Analysis during Booster Tail-off at Various Operating Temperatures, Afroz Javed and Debasis Chakraborty, DRDL, Hyderabad, India.

2:15 – 2:30 TEA

Session 7 | 2:30 – 4:30

	7A Chair:	**7B** Chair:
2:30 -- 2:45	CP 55 A two-dimensional hybrid transform for analysis of scale interactions in the atmosphere T. N. Venkatesh, Asha V. and Arshad Shameem C., CTFD, NAL, Bangalore, India	CP 60 Performance Characteristics of the Supersonic Nozzle of a 10 N class Pulsed Microthruster employed for Satellite Orbital Corrections, K Vijaya Sankaran , GUS Athith , Shambhoo , M Janaki Rami Reddy, H.S. Raghukumar, C. Rajashekar, Propulsion Division, NAL, Bangalore, India
2:45 -- 3:00	CP 56 Simulations of ow past multiple high-rise buildings using OpenFOAM, K Veena, V Asha, C Arshad Shameem, T N Venkatesh, CTFD, NAL, Bangalore, India	CP 61 Role Of Stator Orientation In Single Stage Axial Flow Compressor, Albin Baby, S Satish Kumar, Propulsion Division, NAL, Bangalore, India
3:15 -- 3:30	CP 57 An improved clear-air turbulence index using a non-local approach, Arshad Shameem C., J. Saravanakumar and T. N. Venkatesh, CTFD, NAL, Bangalore, India	CP 62 Numerical Simulation Of The Liquid Flow In A Pulsed Fuel Injection System For Triggering Combustion, Instabilities In A Developmental Aero-Gas Turbine Afterburner, S. Chenthil Kumar, G. Sriram, Shambhoo, H.S. Raghukumar, M. Janaki Rami Reddy, C. Rajashekar,K Ashirvadam, And J J Isaac, Propulsion Division, NAL, Bangalore, India
3:30 -- 3:45	CP 58 Implementation of Asynchronous Scheme on Parallel Frameworks using MPI, Kumar Saurabh, Dept. of Mathematics, IITM, Chennai, India	CP 63 Numerical and experimental studies of launch vehicle local aerodynamics with boundary layer trip., Juluri S, S Vinay Kumar, S Epuri, and Patil M M,, VSSC, Tiruvanthapuram, India
3:45 -- 4:00	CP 59 Numerical Analysis of Pulse Detonation Engine with Shchelkin Spiral Geometry for its Effects of Pre- Detonation Chamber Properties with Varying Mass Flow Rates Using Hydrogen/Air Mixture, C T Dheeraj Kumar Singh, Gurunadh Velidi, Karthik Sundarraj , Prakash S Kulkarni, Aerospace Department, UPES, Dehradun., CFD, ARK Infosolutions, Bangalore., CML Lab, IISC, Bangalore, India.	CP64 Numerical study on porous medium for cooling, Mahesh Kumar N, P S Kulkarni, Dept. of Aero. Engg., IISc, Bangalore, India.
	Chair :	

4:00 – 4:30 **VALIDICTORY LECTURE** : An overview on the use of CFD as a tool for fighter aircraft design programmes, Dr. A.K.Ghosh, ADA, Bangalore, India.

4:30 – 4:45 **CLOSING SESSION**