Program Schedule SAROD 2018

29th November 2018	Workshop on Stealth in Aerodynamic Design	Forenoon
Time	**Event**	
8:30 - 9:00	Registration	
9:00 - 9:15	Workshop Inauguration	
9:15 - 10:00	**Dr. Paul Soudais (Dassault Aviation, France)** Challenges in Propulsion Integration for Stealth Aircraft	
10:00 - 10:45	**Prof. Rho Shin Myong (Gyeongsang National University, South Korea)** IR aspect of Aircraft Propulsion System and IR-RF interplay in Design	
10:45 - 11: 15 : Tea Break		
11:15 -12:00	**Dr. Balamati Chowdary, CEM - NAL** RCS predictions of airborne platform – Trends and Perspectives	
12:00 - 12:45	**Mr. Alok Kumar Dixit (DMSRDE, DRDO)** Materials for RADAR Stealth	
12:45 - 13:00	Closing session	
13:00 - 14:30 : Lunch Break		

29th November 2018	SAROD 2018 Inaugural Function	Afternoon
Time	**Event**	
14:30 - 14:35	Introductory address by Chairman, TAAI	
14:35 -14:40	Welcome Address by Chairman SAROD	
14:40 - 14:45	Invocation & Lighting of the Lamp	
14:45 - 14:55	Presidential address by Dr. Tessy Thomas, DG (Aero), DRDO	
14:55 - 15:05	Address by Mr. R. Madhavan, CMD HAL	
15:05 - 15:35	Inaugural address by Chief Guest Dr. V. K. Saraswat, Hon'ble Member-NITI Aayog	
15:35 - 15:40	Release of Souvenir by Mr. M Z Siddique, Director, GTRE	
15:40 - 15:50	Felicitation of Distinguished Aerodynamicists by Dr. Girish S Deodhare, Director, ADA	
15:50 - 15:55	Vote of Thanks by Organizing Secretary, SAROD 2018	
15:55 - 16:55	Keynote Address by Prof. S. M. Deshpande, JNCASR	
16:55 - 17:15 : High Tea		
17:15 - 17:30	Presentation by Srivatsan L, Scientist, Metacomp Technologies Pvt Ltd	
17:30 - 17:45	Presentation by Rafiq Somani, Area Vice President - South Asia Pacific & Middle East, ANSYS	
17:45 - 18:00	Presentation by Xavier Kurian, Director - Solutions and Alliances, Dell EMC	
18:00 - 18:10	Presentation by V Venkata Raju, CMD, VEM Technologies	
18:30 - 19:30	Cultural Programme	
19:30 onwards : Gala Dinner		

30th November 2018	SAROD – Day 2		Forenoon
Time	**Event**		
8:30 - 9:00	Registration		
9:00 - 9:40	**Dr. Pascal Bariant (Dassault Aviation)** Aerodynamics Shape Design Technologies: Application to Rafale Aircraft and other Innovative Aircraft Configurations		
9:40 - 10:20	**Prof. Rho Shin Myong (Gyeongsang National University)** Aerodynamic and propulsive effects of in-flight icing on fixed-wing aircraft and rotorcraft		
Parallel Sessions			
Session 1	**MDO (Elan I Hall)** 1A	**Missile & Launch Vehicles (Arena Hall)** 1B	**Store Separation Analysis (Dome Hall)** 1C
10:20 - 10:40	Paper 1 : CP 139 Multiobjective Multidisciplinary Design Optimization of a Tension Cone Inflatable Aerodynamic Decelerator for Stage Recovery	Paper 4 : CP 091 Effect of Ignition over Pressure Measurement on Base Region of Typical Launch Vehicle	Paper 7 : CP 144 Store Separation Analysis of Cuboid Cargo from a Generic Turboprop Aircraft
10:40 - 11:00	Paper 2 : CP 178 Sensitivity of Weighing Functions in Genetic Algorithm for Efficiency and Pressure Ratio Optimization in Transonic Axial Flow Compressor	Paper 5 : CP 169 Investigation of the Effect of Booster Attachment Scheme on the Rolling Moment Characteristics of an Asymmetric Vehicle Using CFD	Paper 8 : CP 199 Analysis of Missile Plume Impact Characteristics on Engine Intake and Neighboring Stores for a Fighter Aircraft
11:00 - 11:20	Paper 3 : CP 171 Multi-Objective Optimization Approach for Low RCS Aerodynamic Design of Aerospace Structures	Paper 6 : CP 148 Aerodynamic Characteristics of Crew Escape Vehicle With Grid Fins at Subsonic to Low Supersonic Mach Numbers	Paper 9 : CP 191 Prediction of Multi–Store Separation from a Fighter Aircraft Using In-house Code - WISe
11:20 – 11:40 : Tea Break			

30th November 2018	SAROD – Day 2		Forenoon
Time	**Event**		
Parallel Sessions			
Session 2	**Intake Aerodynamics (Elan I Hall)** 2A	**Aerodynamics of Aerospace Vehicles (Arena Hall)**	**Turbo-Machinery (Dome Hall)** 2C
11:40 - 12:00	**Paper 10: CP 185** **CFD Simulation of an Accelerated Flight of a Scram Jet intake Geometry**	**Paper 14: CP 007** **Parametric Study of Turbulent Flow past a Compression-Decompression Ramp**	**Paper 18: CP 129** **Supersonic Flow Behaviour in Cartridge Starter**
12:00 - 12:20	**Paper 11: CP 047** **Normal Shock Dynamics In Internal Supersonic Flows**	**Paper 15: CP 061** **Control of Shock - Boundary Layer Interaction Due To A Compression Ramp Using Ramped Vane Type Micro Vortex Generators**	**Paper 19: CP 140** **High-Speed Shadowgraph Visualisation Studies of the Effectiveness of Ventilating A V-Gutter Flame Holder To Mitigate Screech Combustion Instability In An Aero-Gas Turbine Afterburner**
12:20 - 12:40	**Paper 12: CP 197** **Diverterless Supersonic Intake for a generic Stealth Fighter Aircraft**	**Paper 16: CP 025** **Towards Design of Intra-Continental Light Business Jet**	**Paper 20: CP 172** **Numerical Analysis of a 70 kN Thrust Aero Engine Test Cell**
12:40 - 13:00	**Paper 13: CP 037** **Theoretical Design and Performance Evaluation of a Two Ramp and a Three Ramp Rectangular Mixed Compression Intake in the Mach Range of 2-4**	**Paper 17: CP 095** **Non-Adiabatic Wall Effects on Transonic Shock/Boundary Layer Interaction**	**Paper 21: CP 018** **Numerical Study of Effect of Adjacent Blades Oscillation in a Compressor Cascade**
13:00 – 14:00 : Lunch			

30th November 2018	SAROD – Day 2		Afternoon
Time	**Event**		
14:00 -14:40	**Prof Krishnendu Sinha (IIT Bombay)** **Simulation and Modeling of High-Speed Turbulent Flows in Realistic Configurations**		
Parallel Sessions			
Session 3	**Hypersonic Flows (Elan I Hall)** 3A	**CFD (Arena Hall)** 3B	**Wind Tunnel Experiments (Dome Hall)** 3C
14:40 - 15:00	**Paper 22: CP 155** **Numerical Study of Fuel on the Performance of an Air Breathing Engine at Hypersonic Flight**	**Paper 26: CP 166** **Transition prediction for flow over a MAV wing using the Correlation Based Model**	**Paper 30: CP 164** **Effect of Surface Roughness on Aerodynamic Coefficient of a Blunt Body at Low Subsonic Speed from Wind Tunnel Experiments**
15:00 - 15:20	**Paper 23: CP 156** **Effect of Angle of Attack on Incremental Aerodynamic Coefficients due to Lateral Jet in Hypersonic Flow**	**Paper 27: CP 183** **High lift JAXA Standard Model (JSM) flow prediction using CFD solver HiFUN**	**Paper 31: CP 075** **Observation of Low-Frequency Shock Oscillation Over A forward-Facing Step**
15:20 - 15:40	**Paper 24: CP 079** **RANS Computations of Hypersonic Interference Heating on Flat Surface With Protuberances**	**Paper 28: CP 098** **Thermal Performance Prediction of a Novel Surface Roughness Element**	**Paper 32: CP 046** **Surface Pressure Characteristics of Circular Cylinder With Stippling-An Experimental Study**
15:40 - 16:00	**Paper 25: CP 022** **Effect of Axial Location on the Performance of A Control Jet In A Supersonic Cross Flow**	**Paper 29: CP 012** **Validation of Numerical Analysis Results for Pusher Configured Turboprop Engine Air Intake**	**Paper 33: CP 059** **Effect of Helicopter Rotor Downwash on RLV for Runway Landing Experiment**
16:00 - 16:20 : Tea Break			

30th November 2018	SAROD – Day 2		Afternoon
Time	**Event**		
16:20 - 16:30	Sponsor Presentations		
16:30 – 17:05	Poster Presentations		
Parallel Sessions			
Session 4	**Intake Aerodynamics (Elan I Hall)** 4A	**CAA (Arena Hall)** 4B	**Micro Air Vehicles (Dome Hall)** 4C
17:10 - 17:30	Paper 34: CP 184 Air Intake studies to improve aerodynamic drag and supersonic buzz characteristics on a high mid wing fighter aircraft configuration	Paper 38: CP 030 Analysis of Perfectly and Under-expanded Jets with Momentum Potential Theory	Paper 42: CP 050 3D Computational Studies of Flapping Wing In Frontal Gusty Shear Flow
17:30 - 17:50	Paper 35: CP 121 Effect of Vortex Generator on Flow In A Serpentine Air Intake Duct	Paper 39: CP 076 Study of Streak Breakdown Processes In Bypass Transition Using Proper-Orthogonal-Decomposition Analysis	Paper 39: CP 087 Experimental Investigation of Reynolds Number Effects on High-Lift Two-Element Airfoil for Male UAV
17:50 - 18:10	Paper 36: CP 154 Design and Development of Miniature Mass Flow Control Unit for Air-Intake Characterization	Paper 40: CP 003 Mach Number Effect on Aeroacoustic Characteristics of Compressible Jet Due To Chevron	Paper 9: CP 038 Experimental Study and Analysis of Propeller Power Effects of A High Aspect Ratio UAV
18:10 - 18:30	Paper 37: CP 163 Effect of engine nacelle shape on Aerodynamic characteristics & Installation thrust loss of Male UAV configuration	Paper 41: CP 096 Aeroacoustic Levels Over A Generic Launch Vehicle Through Mach Sweep Wind Tunnel Tests	Paper 45: CP 036 Numerical Investigation on the Effect of Propeller Slipstream on the Performance of Wing at Low Reynolds Numbers
18:10 - 19:30 : Women in Technology Forum			
19:30 onwards : Dinner			

1st December 2018	SAROD – Day 3		Forenoon
Time	**Event**		
9:00 - 9:40	**Dr. Sanjiva K Lele (Stanford University)** **Wall Pressure Fluctuations in High-Speed Boundary Layers**		
Parallel Sessions			
Session *5*	**Performance & Stability (Elan I Hall)** 5A	**MDO (Arena Hall)** 5B	**Missiles & Launch Vehicles (Dome Hall)**
9:40 - 10:00	**Paper 046: CP 180** **Directional stability characteristics of a delta wing and canard-delta wing configuration**	**Paper 50: CP 088** **Multi-Disciplinary Design Optimization of a Solar-Powered Tri-lobed Stratospheric Airship Configuration**	**Paper 54: CP 147** **Dynamics of Separation of Crew Module From Crew Escape System for A Abort Test Mission From Launch Pad**
10:00 - 10:20	**Paper 47: CP 190** **Prediction of Longitudinal Dynamic Derivatives for TransCruiser Aircraft from Unsteady RANS Computations**	**Paper 51: CP 101** **An Adjoint Approach for Accurate Shape Sensitivities in 3D Compressible Flows**	**Paper 55: CP 103** **Stage separation studies using CFD**
10:20 - 10:40	**Paper 48: CP 195** **Identification of Trimmed Lift and Drag Coefficients from Flight for a Jet-Powered Delta-Wing Fighter Aircraft**	**Paper 52: CP 084** **Multi-Fidelity Aerodynamic Optimization of An Airfoil At A Transitional Low Reynolds Number**	**Paper 56: CP 138** **Influence of Cone Bluntness on Control Surface Effectiveness of Manoeuvring Re-Entry Vehicle**
10:40 - 11:00	**Paper 49: CP 200** **Control of Tailless Aircraft**	**Paper 53: CP 085** **Aerodynamic Optimization of Transonic Wing for light Jet Aircraft**	**Paper 57: CP 039** **Sensitivity of Altitude Variation on Aerodynamics of a Typical Launch Vehicle during Hot Separation**
11:00 - 11:20 : Tea Break			

1st December 2018	SAROD – Day 3		Afternoon
Time	**Event**		
11:20 - 13:00	Student Posters		
13:00 - 14:00 : Lunch			
14:00 – 14:40	**Dr. Victor Mileshin (CIAM, Russia):** Development of high-loaded high pressure compressor with the first two wide-chord stages of "blisk" type		
Parallel Sessions			
Session 6	Turbo Machinery (Elan I Hall) 6A	FSI (Arena Hall) 6B	Missiles & Launch Vehicles (Dome Hall)
14:40 - 15:00	Paper 58 : CP 202 Computational Multidisciplinary Research of Aviation Cryogenic Fuel System	Paper 70: CP 017 Aero-elastic Analysis of High Aspect Ratio UAV Wing - Based on Two-Way Fluid Structure Interaction	Paper 66 : CP 034 Effect of Chord Variation on Subsonic Aerodynamics of Grid Fins
15:00 – 15:20	Paper 59 : CP 165 Geometric and Operational Uncertainty Quantification of a Compressor Rotor Blade	Paper 71: CP 089 Static Aeroelasticity Analysis of Spinning Rocket for Divergence Speed	Paper : CP 192 Shock Wave oscillations over the conical heat shield region of a typical launch vehicle at Mach 0.95
15:20 – 15:40	Paper 60 : CP 162 The Effect of Variable Inlet Guide Vanes on the Performance of Military Engine Fan	Paper 72: CP 174 Effect of Blade Operating Shape on Aeroelastic Instability of Transonic Axial Flow Compressor	Paper 68 : CP 157 Prediction of IOP Phenomena Observed In-Flight Using a Cartesian Grid Solver
15:40 – 16:00	Paper 61 : CP 019 Effect of Incoming wakes on Losses of a Low Pressure Turbine of a Gas Turbine Engine	Paper 73: CP 028 Dust Reverse Flow Studies on a Typical Multi-Engine Lunar Lander Configuration	Paper 69 : CP 142 Passive Reduction of Aerodynamic Rolling Moment for a Launch Vehicle

1st December 2018	SAROD – Day 3		Afternoon
Time	**Event**		
16:00 – 16:20 : Tea Break			
Parallel Sessions			
Session 7	**Wind Tunnel Analysis (Elan I Hall)** 7A	**Airships & Parachute (Arena Hall)** 7B	**Aerodynamics of Aerospace Vehicles (Dome Hall)** 7C
16:20 – 17:00	**Paper 62 : CP 068** Investigation of Wind Tunnel Blockage Effect on Liftoff Aerodynamics of a Launch Vehicle through Open-source CFD Solver SU2	**Paper 74: CP 123** In-House Design, Realization and Flight Trial of 45 Cum Airship	**Paper 78: CP 161** Development of An Engineering Method to Estimate the Effect of Ground Proximity on Aerodynamic Coefficients of a Low Aspect Ratio Wing-Body Configuration & Comparison with CFD Results
17:00 – 17:20	**Paper 63 : CP 023** Experimental Investigation of Cavity Flows with Stepped Impinging Wall at Mach 2.0	**Paper 75: CP 128** Development of Software for Design & Analysis of Ram-Air Parachute	**Paper 79: CP 188** Influence of Air-to-Air Refuelling Probe on the Air Data Sensors of a Fighter Aircraft
17:20 – 17:40	**Paper 64 : CP 014** Leading Edge Mounted Tabs to Control the Subsonic Flow Over a Weapon Bay Like Cavity	**Paper 76: CP 065** Wind Tunnel Instrumentation System Developed at NWTF for Optimized Aerodynamic Study on Aerostat and Airship Models	**Paper 80: CP 177** Analysis of Propeller by Panel Method for Transport Aircraft
17:40 – 18:00	**Paper 65 : CP 029** Helicopter Lateral Shake and Pilot Work Load Mitigation by Passive Flow Control Devices	**Paper 77: CP 130** Performance of Sounding Rockets from Flight Data	**Paper 81: CP 048** Hinge Moment Characterization of all Movable Control Surface
18:00 – 18:40 : Concluding Session			