WEDNESDAY, MARCH 29

09:00	**CONFERENCE WELCOME - TRIBUTE TO JEAN DÉLERY** **Xavier AUBARD** - ***Director, ENSAM*** **Louis LE PORTZ** - ***President, 3AF*** | **Michel SCHELLER** - ***Honorary President, 3AF*** **Philippe REIJASSE** - ***President, Scientific Committee AERO2023***
09:40	**KEYNOTE CONFERENCE N°1** **Striving for insight: Reflections on Jean Delery and Corner effects in SBLIs** **Holger BABINSKY (*University of Cambridge*)**

INTERSESSION 10'

	SESSION 1A Air intakes Chairperson: Holger BABINSKY (*University of Cambridge*)	SESSION 1B Mesh generation & CFD Chairperson: Nicolas GÉTIN (*MBDA*)	SESSION 1C Supersonic & Hypersonic configurations Chairperson: Paola CINNELLA (*Sorbonne Université*)
10:40	Experimental Investigation of Transonic External Fan Cowl Separation **K. SABNIS** (*University of Cambridge*)	Advancing-front block structure generation for atmospheric re-entry simulations **C. ROCHE** (*CEA-CESTA*)	Design and CFD prediction of dynamic stability wind tunnel test of faceted heatshield at supersonic speed **P. INNOCENZI** (*Imperial College London*)
11:05	Influence of incident shocks on compression corner SBLIs at a range of Mach numbers **R. WILLIAMS** (*University of Cambridge*)	Automatic Mesh Refinement with NiceFlow for Vortical Flows **G. LOUPY** (*MBDA*)	Unsteady DSMC Simulation of Blunt Nose with spike at Hypersonic Rarefied Flows **N. RAVURI** (*South East Technological University - SETU Carlow)*
11:30	Experimental and Numerical Investigation of Supersonic Turbulent Boundary Layer Bleeding **J. GIEHLER** (*ONERA*)	Near-field mesh adaptation for contrail modeling of a supersonic aircraft **M. MULLER** (*ONERA*)	Assessment of Numerical Simulation Tools for Hypersonic Non-Equilibrium Flow-Fields **S. WEIDNER** (*ISL*)
11:55	Investigation and improvement of supersonic intake flow characteristics using boundary layer control techniques **F. ÇETIN** (*Istanbul Technical University*)	Aircraft fuselage effects on transonic wing pressures via Non-Linear Vortex Lattice Method **V. LIGUORI** (*ONERA*)	Hypersonic free flight capabilities of the ISL hyperballistic tunnel and ablation studies **F. DENIS** (*ISL*)

12:20	**LUNCH**

WEDNESDAY, MARCH 29

13:30	**KEYNOTE CONFERENCE N°2** **Unsteadiness of shock-wave boundary-layer interactions in transonic and supersonic flows** **Neil SANDHAM (*University of Southampton*)**

	SESSION 2A Drag decomposition Chairperson: Renato TOGNACCINI (*University of Naples Federico II*)	SESSION 2B Supersonic & Hypersonic SBLI Chairperson: Marina OLAZABAL (*CEA-CESTA*)	SESSION 2C Flow control Chairperson: Guillaume LEHNASCH (*ISAE-ENSMA*)
14:15	Towards a "headache-free" flow region selection **E. SAETTA** (*University of Naples Federico II*)	Investigating Laminar Shockwave Boundary Layer Interaction Unsteadiness Using High-Order CFD **J. LEWIS** (*Imperial College London*)	Numerical Explorations of Passive Control of Transonic Flow over a Backward-Facing Step **S. SHEN** (*Northumbria University*)
14:40	A unified partial pressure field and velocity decomposition approach towardimproved energetic aerodynamic force decompositions **N. MUTANGARA** (*Cranfield University*)	Fluctuating heat flux measurements in an incident shock/boundary-layer interaction **C. CORSI & T. RÖDIGER** (*TU Berlin & Hochschule Landshut*)	A DNS study on the Mach number effect for a supersonic microramp **G. DELLA POSTA** (*Sapienza University of Rome*)
15:05	On the adaptation of the exergy definition in the field of aerodynamics **I. BERHOUNI** (*ONERA*)	Numerical study of shock-wave/turbulent boundary-layer interaction over a flexible panel **L. LAGUARDA SANCHEZ** (*TU Delft*)	Further Insight into the Transonic Performance of Airfoils Using Leading Edge Tubercles **M. FERCHICHI** (*Royal Military College of Canada*)
15:30	**COFFEE BREAK**		
16:00	Thrust/Drag Decomposition using Partial Pressure Fields **P. HART** (*Pennsylvania State University*)	Passive Control of Shock Wave/Boundary Layer Interaction Using Spanwise Heterogeneous Roughness **W. WU** (*TU Delft*)	Effects of Reaction Control with Jet on Aerodynamic Performances and Flow Field **C. C. PALACI** (*Istanbul Technical University*)
16:25	Unsteady exergy analysis of an airfoil (OAT15A) under transonic buffet condition **J. RUSCIO** (*ISAE-SUPAERO*)	Investigation of shock control bump geometry variation on oblique shock wave boundary layer interactions **J. BULUT** (*TU Delft*)	Supersonic flow jet interaction **B. COP** (*Istanbul Technical University*)
16:50	Unsteady Far-Field Drag Analyses of Transonic Buffet over the NASA Common Research Model **C. FOURNIS** (*ONERA*)	Numerical Simulation of Hypersonic free-flying ring model : the ATD3 test case **Y. HOARAU** (*Université de Strasbourg, Icube Laboratory*)	Flutter instability in supersonic flow over a flexible compression ramp **K. VENKATRAMAN** (*Indian Institute of Science*)
17:15	Aerodynamic force by Lamb vector integrals in Unsteady Compressible Flows **M. MINERVINO** (*CIRA S.C.p.A.*)	A Conservative Cut-Cell Immersed Boundary Method for Accurate Simulation of Hypersonic Flows with Gas-Surface Interactions **A. O. BAŞKAYA** (*TU Delft*)	
17:40	**END OF SESSIONS**		
18:30	**WELCOME RECEPTION**		

THURSDAY, MARCH 30

09:15	**KEYNOTE CONFERENCE N°3** **Transonic Vortex Flows on Delta Wings and Missiles** **Kai RICHTER (*DLR - Göttingen*)**

	SESSION 3A **Supersonic & Hypersonic transition (1/2)** **Chairperson: Sébastien ESQUIEU (*CEA-CESTA*)**	**SESSION 3B** **Transonic flows (1/2)** **Chairperson: Reynald BUR (*Onera*)**	**SESSION 3C** **Special session : BLI/SUBLIME project** **Chairperson: Friedrich LEOPOLD (*ISL*)**
10:00	Comparison of RANS transition model predictions on hypersonic three-dimensional forebody configurations **J. CARDESA** (*ONERA*)	Transonic pitch-up characterization of swept-wing commercial aircraft, by experimental and numerical means **T. DUCHAMP** (*Airbus Operations SAS*)	Introduction to Work-Energy Relationships of Flight in Highly Integrated Aero-propulsive Configurations **D. SANDERS** (*Cranfield University*)
10:25	Optimal location for steady wall blowing or heating actuators in a hypersonic boundary layer **A. POULAIN** (*ONERA*)	Aerodynamic Performance Study of a Canard-Wing Configuration at Transonic & Supersonic Mach using Ansys Fluent Aero **R. MALK** (*ANSYS France*)	Examining the Benefits of Boundary Layer Ingestion on Powered Bodies **N. MUTANGARA** (*Cranfield University*)
10:50	Methodology for the design of boundary-layer tripping devices for hypersonic flight **J. LEFIEUX** (*MBDA*)	Transonic shock-vortex and shock-boundary layer interactions over a delta wing **K. VENKATRAMAN** (*Indian Institute of Science*)	Exploring the Design Space of a Sustainable and Efficient Aircraft featuring Boundary Layer Ingestion **N. MOIROU** (*Cranfield University*)
11:15	**COFFEE BREAK**		
11:45	Global stability analysis of a hypersonic cone-cylinder-flare geometry **C. CAILLAUD** (*CEA-CESTA*)	The effect of the strake fineness ratio on a double delta wing at transonic flow regime **M.E. KAHRAMAN** (*Istanbul Technical University*)	Optimal Design of BLI Architectures **A. BATTISTON** (*HIT09*)
12:10	Numerical Optimization of Porous Coatings Stabilizing Capabilities on Hypersonic Boundary-Layer Transition **R. HAMMACHI** (*ONERA*)	Interaction of shock-waves with a compliant wall **C. RIVEIRO MORENO** (*ONERA*)	Experimental Aspects of the SUBLIME Project Investigating Boundary Layer Ingestion Propulsion **J. ALDERMAN** (*Aircraft Research Association Ltd*)
12:35	High-speed boundary layer transition control with non-uniform surface temperature distributions **K. OZAWA** (*Imperial College London*)	Dynamic Gust Load Alleviation Study for Transonic Cruise Condition **K. GOVINDAN** (*German Aerospace Center - DLR*)	Experimental study of free-stream noise measurement using dynamic pressure transducer in shock tunnel **S. HE** (*AVIC Aerodynamics Research Institute*)
13:00	**LUNCH**		

THURSDAY, MARCH 30

14:15	**KEYNOTE CONFERENCE N°4** **ARIANE 6 Base Flow problematics** **Jean COLLINET (*ArianeGroup*)**

	SESSION 4A **Transition (2/2) & Nozzles** **Chairperson: Philippe REIJASSE (*Onera*)**	**SESSION 4B** **Buffet prediction & Control** **Chairperson: Eric LAURENDEAU (*Polytechnique Montréal*)**	**SESSION 4C** **Transonic flows (2/2)** **Chairperson: Marianna BRAZA (*IMFT-CNRS*)**
15:00	Design of a Cone-Cylinder-Flare Configuration for Hypersonic Boundary-Layer Stability Analyses and Measurements with Attached and Separated Flows **S. ESQUIEU** (*CEA-CESTA*)	Wind tunnel experiment on a pitch and plunge free airfoil under transonic buffet **V. BRION** (*ONERA*)	Numerical Investigation of the Influence of Acceleration and Deceleration on the Aerodynamic Characteristics of an Oscillating Wing Aerofoil Operating at Transonic and Hypersonic Speeds **S. SHEN** (*Northumbria University*)
15:25	Potential benefits of radial secondary injection of helium in dual-bell nozzles **B. LEGROS** (*CNRS - University of Orléans*)	Investigation of the transonic interaction around a supercritical wing involving strong separation by means of 3D numerical simulation **A. MAROUF** (*IMFT*)	RANS Predictions of Transonic Shock-Induced Flow Separation over Sandia Axisymmetric Hump **D. SOMANI** (*Indian Institute of Science*)
15:50	Surrogate-based optimization of supersonic nozzle shape **G. LEHNASCH** (*ISAE-ENSMA*)	Non-intrusive estimation of the buffet loads on a supercritical airfoil with SCBs **A. D'AGUANNO** (*TU Delft*)	The influence of angle of attack on the nature of transonic shock buffet in a finite span wing **M. SINGH** (*Indian Institute of Science*)
16:15	**COFFEE BREAK**		
16:45	Experimental analysis of a retro-propulsion jet of a launcher's first stage at Mach 6 **S. MORILHAT** (*ONERA*)	Moving Wall Effect on Normal Shock Wave-Turbulent Boundary Layer Interaction **O. SZULC** (*Polish Academy of Sciences*)	Wind-tunnel testing of HB-2 hypersonic standard models in non-standard transonic conditions **D. DAMLJANOVIC** (*Military Technical Institute - VTI*)
17:10	Surrounding effects and hysteretical behavior of impinging jets resonances **P. BELTRA** (*ISAE-ENSMA*)	Physical analysis of the transonic interaction on an A320 morphing wing by numerical simulation at high Reynolds number **C. JIMÉNEZ NAVARRO** (*IMFT*)	Highly Efficient eN-database Method Based on Neural Network Model for 3-D Supersonic Swept Wing **S. YU** (*AVIC Aerodynamics Research Institute*)
17:35	A review of industrial numerical methods for the simulation of hypersonic flight **C. VIREY** (*ArianeGroup*)	Investigation of the aerodynamic performance increase in transonic flow over an A320 morphing wing by numerical simulation at high Reynolds number **J. ABOU KHALIL** (*IMFT*)	
18:00	**END OF SESSIONS**		
19:30	**BANQUET & AWARD CEREMONY**		

FRIDAY, MARCH 31

09:15	**KEYNOTE CONFERENCE N°5** **Numerical simulation of high-enthalpy hypersonic flows** **Giuseppe PASCAZIO (*Politecnico di Bari)***

	SESSION 5A **Turbulence & Chemistry** **Chairperson: Jean COLLINET** **(*ArianeGroup*)**	**SESSION 5B** **Propulsion configurations** **Chairperson: Emilie JÉRÔME** **(*DGA-Essais propulseurs*)**	**SESSION 5C** **NLF & Preliminary design** **Chairperson: Viviana LAGO** **(*CNRS Orléans*)**
10:00	A priori tests of turbulence models for compressible flows **A. CANNICI** (*Arts et Métiers - DynFluid Laboratory*)	Aerodynamic performance analysis of an isolated UHBR engine using a far-field exergy balance method **I. PETROPOULOS** (*ONERA*)	Belly-fairing design space exploration for a forward swept natural laminar Flow aircraft **J. RUBERTE BAILO** (*German Aerospace Center - DLR*)
10:25	About the influences of compressibility, heat transfer and pressure gradients in compressible turbulent boundary layers **C. WENZEL & T. GIBIS** (*University of Stuttgart*)	Robust and efficient CFD simulations of the ARL-SL19 supersonic cascade through adaptive mesh refinement **H. DORNIER** (*ONERA*)	High-Speed Wind-Tunnel Testing of a Slotted, Natural-Laminar-Flow Airfoil for Ultra-Efficient Commercial Transport Aircraft **J. G. CODER** (*Pennsylvania State University*)
10:50	Shock-wave/boundary layer interaction at high enthalpies **L. SCIACOVELLI** (*Arts et Métiers - DynFluid Laboratory*)	The effect of tip clearance on the performance of KJ-66 RC microjet engine compressor at transonic regime **A. CAN** (*Istanbul Technical University*)	Design of civil supersonic transport aircraft: use of an automation chain to reduce environmental impacts **C. LÉRON** (*ONERA*)
11:15	**COFFEE BREAK**		
11:45	Compressible turbulent boundary layers with the combined influence of pressure gradients and heat transfer **T. GIBIS** (University of Stuttgart)	Towards Understanding and Resolving Natural Shock Oscillation in a Transonic Fan **P. NEL** (*Rolls-Royce Deutschland Ltd. & Co.KG*)	Aerodynamics of a CRM Joined-Wing Configuration at Transonic Speeds **P. HANMAN** (*University of the West of England*)
12:10	Aerothermodynamic Simulators for Rocket Design using Neural Fields **H. SÁEZ DE OCÁRIZ BORDE** (*University of Oxford*)	Prediction and characterization of transonic buffet in an axial-flow fan **J. R. MAJHI** (*Indian Institute of Science*)	
12:35		Numerical Study of Oblique Detonation Wave Control with Fuel Blends **R. KORE** (*South East Technological University - SETU Carlow*)	
13:00	**LUNCH**		
14:00	**TECHNICAL VISIT**		
16:00	**END OF AERO2023 CONFERENCE**		