TECHNICAL PROGRAM

2024 HiSST Busan

The 3rd International Conference on High-Speed Vehicle Science and Technology

ORAL PRESENTATION SCHEDULE

APRIL 14 (SUN)

15:00-18:00	Registration Lobby (2F), Convention Hall, BEXCO
15:00-18:00	Welcome Drink Room 102 (1F), Conventional Hall, BEXCO

APRIL 15 (MON)

Room No.	205
08:00-08:30	Chair's Meeting Room 206 (2F)
08:30-09:00	Opening
	Welcome Address Dr. Adam SIEBENHAAR, Chairman, HiSST Technical Committee (Mach 7H Consulting, USA)
	Host Speech Prof. Jeong-Yeol CHOI, Host of 3rd HiSST Conference (Pusan National University, Korea)
	Congratulatory Remark Dr. Chang-Jeon HWANG (President of KSAS, Korea)
	Global Review — Chair: Dr. Adam SIEBENHAAR (March 7H, USA)
09:00-09:25	Korea Prof. Jeong-Yeol CHOI (Pusan National University)
09:25-09:50	Australia Prof. Vincent WHEATLEY (The University of Queensland)
09:50-10:10	Brazil Mr. Lucas GALEMBECK (IEAv - Institute for Advanced Studies)
10:10-10:30	India Prof. Mohammed Ibrahim SUGARNO (Indian Institute of Technology Kanpur)
10:30-11:00	Coffee Break Lobby (2F)
11:00-11:30	China Dr. Huan LIAN (Institute of Mechanics, Chinese Academy of Sciences)
11:30-12:00	Europe Prof. Johan STEELANT, Host of 2nd HiSST Conference (European Space Agency)
12:00-12:30	US Dr. David GLASS (NASA Langley Research Center)
12:30-13:00	US-ONR Dr. Eric MARINEAU (ONR's Lead Program Officer for Hypersonic)
13:00-14:00	Lunch The Party Restaurant (B1, Exhibition Hall)
14:00-15:00	Keynote Speech 1 — Chair: Prof. Vincent WHEATLEY (The University of Queensland, Australia) — Modern Developments in the Design of Hypersonic Inlets — *Dr. Michael SMART (Hypersonix Launch Systems, Australia)*

Room No.	205	201	202	203	204	103	104	105
Session	HSA 1	HSA 2	PSC 1	PSC 2	HSM 1	T&E 1	M&S 1	TEM 1
Chairs	Dr. Moritz ERTL (DLR, Germany); Dr. Minkwan KIM (Univ. of Southampton, UK)	Dr. Bodo REIMANN (DLR, Germany); Prof. Rho Shin MYONG (GNU, Korea)	Prof. Yunghwan BYUN (Konkuk Univ., Korea); Prof. Antonella INGENITO (Sapienza, Italy)	Dr. Tim ROOS (TNO, Netherlands); Prof. Kun WU (IMCAS, China)	Mr. Lucas GALEMBECK (IAS, Brazil); Dr. Martin SIPPEL (DLR-SART, Germany)	Prof. Hyungrok DO (SNU, Korea); Dr. Dermeval CARINHANA JR (IAS, Brazil)	Dr. Roberto GARDI (CIRA, Italy); Mr. Ron SHARABANI (IAI, Israel)	Mr. Francois FALEMPIN (MBDA, France); Prof. Hyung Ju LEE (PKNU, Korea)
15:00-15:30	**HiSST 2024 - 202** Surface Catalytic Effect on Chemical Heat Flux using Direct Simulation Monte Carlo — *Youngil KO, Eunji JUN (KAIST, Korea)*	**HiSST 2024 - 047** An Investigation of Internal Drag Correction Methodology for Wind Tunnel Test Data in a High-Speed Air-Breathing Vehicle using Numerical Analysis — *Younghwan LEE (ADD/SNU, Korea), Hyeon JIN, Min-Gyu KIM (ADD, Korea), Hyungrok DO (SNU, Korea)*	**HiSST 2024 - 025** A Numerical Study of Supersonic Intakes — *Jimmy-John HOSTE, Bruno PIAZZA, Fernando MIRO-MIRO (Destinus, Switzerland)*	**HiSST 2024 - 109** Feasibility Study of an Electric Supersonic Propeller — *Jens KUNZE, Allan PAULL (UQ, Australia)*	**HiSST 2024 - 027** Experimental Outdoor Activity on Sonic Boom Assessment of the STRATOFLY MR3 Scale Model — *Giovanni FASULO (CIRA, Italy), Sébastien HENGY, Bastien MARTINEZ (ISL, France), Luigi FEDERICO, Luciano DE VIVO (CIRA, Italy), Marie ALBISSER, Andreas ZEINER (ISL, France)*	**HiSST 2024 - 367** Flight Qualification of the Red Kite Solid Rocket Motor — *Thomas RÖHR, Frank SCHEUERPFLUG, Josef ET TL, Dietmar KAIL, Christian MILDENBERGER, Johannes RIEHMER, Christian SCHNEPF, Rainer KIRCHHARTZ (DLR, Germany)*	**HiSST 2024 - 026** Development of a Dual-Layer Ablator for Spacecraft Heat Shield Applications — *Rajesh Kumar CHINNARAJ, Young Chan KIM, Seong Man CHOI (JBNU, Korea)*	**HiSST 2024 - 192** Performance of a Transpiration-Cooled Sharp Leading Edge for Hypersonic Flight — *Raghul RAVICHANDRAN, Luke DOHERTY, Matthew MCGILVRAY (Univ. of Oxford, UK)*
15:30-16:00	**HiSST 2024 - 051** Radiation Computations and Ionisation Effects for Hypersonic Flow in Thermo-Chemical Nonequilibrium — *Dominik JAMES, Christian MUNDT (UniBw M, Germany)*	**HiSST 2024 - 079** Vibrational Non-equilibrium Effects in Compressed and Expanding Hypersonic High Enthalpy Flow — *Jan MARTINEZ SCHRAMM, Georgii OBLAPENKO (DLR, Germany)*	**HiSST 2024 - 041** Verification of Variable Inlet Design through Wind Tunnel Test — *Young Jin KIM, Hyoung Jin LEE (Inha Univ., Korea)*	**HiSST 2024 - 131** Off-Design and Transient Simulation of an Expander-Type Air-Turbo-Rocket — *Karel VAN DEN BORRE, F. PETTINATO, Bayindir Huseyin SARACOGLU (VKI, Belgium)*	**HiSST 2024 - 191** The SCX-01 Atmospheric Re- entry Demonstrator and Thermostructural Ablative TPS Flight Experiment — *G. PINAUD, J. BERTRAND, T. Pichon, S. Pams, G. Foulon (ArianeGroup, France)*	**HiSST 2024 - 289** Free-flying Model Testing in the X2 Expansion Tube — *Christopher M. James, James J. Wallington, Thien Bui, Daisy-May Joslyn, Elsie Edwards, Raeph Mason, Jack McKay, Rose Butler, Flynn Pearman, Torri Young (UQ, Australia)*	**HiSST 2024 - 317** Exploratory Design and Evaluation of Alumina-Based Oxide/Oxide Ceramic Matrix Composite for Integrated Thermal Protection System Application — *Vinh Tung LE, Abhendra K SINGH (Baylor Univ., USA)*	**HiSST 2024 - 178** Experimental Study on Thermal Decomposition Characteristics of exo-THDCPD — *Seung Mook PARK, Hyung Ju LEE, Seung Mook PARK, Seung Hyeon LEE (PKNU, Korea)*
16:00-16:30	**HiSST 2024 - 126** Internal Flow Path Analysis of the Scramjet Hypersonic Experimental Vehicle — *Oreste RUSSO, Pietro RONCIONI, Marco MARINI, Sara DI BENEDETTO (CIRA, Italy), Giuliano RANUZZI, Simone PIZZURRO (ASI, Italy)*	**HiSST 2024 - 227** Numerical Study on Heat Fluxes in Hypersonic Flow over a 3D Sharp Cone — *Soham SINHA, MOHAMMED IBRAHIM SUGARNO (IIT Kanpur, India)*	**HiSST 2024 - 095** Preliminary Study of High-speed Variable Geometry Two-dimensional Inlet Design — *Jun LIU, Xueju QIU, Huacheng YUAN (NUAA, China)*	**HiSST 2024 - 157** Conceptual Design of Hypersonic Combined Cycle Engines — *Hideyuki TAGUCHI, Hidemi TAKAHASHI, Shunsuke IMAMURA, Sadatake TOMIOKA (JAXA, Japan)*	**HiSST 2024 - 213** The Scramjet Hypersonic Experimental Vehicle — *Sara DI BENEDETTO, Marco MARINI, Pietro RONCIONI, Antonio VITALE, Paolo VERNILLO, G. DI LORENZO, Roberto SCIGLIANO (CIRA, Italy), Salvatore CARDONE (Tecnosistem, Italy), Marta ALBANO, Roberto BERTACIN (ASI, Italy)*	**HiSST 2024 - 365** Design and Objectives of the Air-breathing Propulsion Technology Demonstrator (APEX-TD) — *Johannes RIEHMER, Florian KLINGENBERG, Thomas RÖHR, Christian ZUBER, Christian SCHNEPF, Ali GÜLHAN (DLR, Germany)*	**HiSST 2024 - 134** Preliminary Thermal Assessment of an Air-launched Propelled Hypersonic Experimental Vehicle — *Roberto SCIGLIANO, Marco MARINI, Sara DI BENEDETTO (CIRA, Italy), Marta ALBANO, Giuliano RANUZZI (ASI, Italy)*	**HiSST 2024 - 212** Transpiration Cooled Fin Flight Experiment FinEx II on HIFLIER1 — *Giuseppe D. DI MARTINO, Jonas PEICHL (DLR, Germany), Fabian HUFGARD, Christian DÜRNHOFER, Stefan LÖHLE (HEFDiG, Germany), Johannes GÖSER (DLR, Germany)*
16:30-17:00	Coffee Break Lobby (2F)							
17:00-17:30	**HiSST 2024 - 111** Assessment of Uranus Planetary Entry Conditions in the X2 Expansion Tube for Performing Infrared Thermography — *Matthew UREN, Yu LIU, Chris JAMES, Richard MORGAN (UQ, Australia)*	**HiSST 2024 - 054** Analysis of the Cooling Performance of the Scramjet Regenerative Cooling Channel according to the Aspect Ratio using the Conjugate Heat Transfer Analysis — *Jae Seung KIM, Song Hyun SEO, Kyu Hong KIM (SNU, Korea)*	**HiSST 2024 - 242** Experimental Performance Evaluation of a Streamline Traced Inlet at Off-Design Conditions — *Andrew PILKINGTON, Luke J. DOHERTY, Chris J HAMBIDGE, Matthew MCGILVRAY (Univ. of Oxford, UK), Tristan VANYAI, Vincent WHEATLEY (UQ, Australia)*	**HiSST 2024 - 193** Properties of Direct Current Discharge in a Supersonic Flow, and Its Application for Plasma-Assisted Combustion — *Aleksandr A. FIRSOV, Anastasia S. DOBROVOLSKAYA, Dmitriy A. TARASOV, Roman S. TROSHKIN, Valentin A. BITYURIN, Aleksey N. BOCHAROV (JIHT RAS, Russian Federation)*	**HiSST 2024 - 267** Overview of the DRACO Development Status — *Jeroen VAN DEN EYNDE, Beatriz JILETE, Alex ROSENBAUM, Stijn LEMMENS (ESTEC, Netherlands)*	**HiSST 2024 - 326** The Current Status of Free-Flight Testing of a Scramjet-Integrated Hypersonic Cruising Vehicle Model in the HIEST Free-Piston Shock Tunnel — *Hideyuki TANNO, Shuto YATSUYANAGI, Kouichiro TANI, Sadatake TOMIOKA (JAXA, Japan)*	**HiSST 2024 - 229** Optimization and Characterization of CARBOTEX®-Si, a CMC for Hypersonic Applications — *Félix BAN, Tobias SCHNEIDER, François LEMPIN, Stephan SCHMIDT-WIMMER (MBDA, France)*	**HiSST 2024 - 217** Inflatable Heat Shields Solutions for Hypersonic Re-entry Applications: the European Commission EFESTO-2 Project — *Giuseppe GUIDOTTI, Federico TOSO, Alessandro PRINCI, Jaime GUTIERREZ BRICEÑO (Deimos Space S.L.U, Italy), Giuseppe GOVERNALE, Nicole VIOLA (Politecnico di Torino, Italy), Ingrid DIETLEIN, S. Callsen, K. Bergmann, Junnai ZHAI, Thomas GAWEHN (DLR, Germany), Roberto GARDI, Barbara TISEO (CIRA, Italy), Ysolde PREVEREAUD, Yann DAUVOIS, C. Julien (ONERA, France), Giovanni GAMBACCIANI, Giada DAMMACCO (PGZ, Italy), L.Garcia-Basabe (Deimos Engenharia, Portugal)*
17:30-18:00	**HiSST 2024 - 125** Heat Flux Augmentation Caused by Surface Imperfections in Turbulent Boundary Layers — *William IVISON, Chris J HAMBIDGE, Matthew MCGILVRAY (Univ. of Oxford, UK), Alan FLINTON, Jim MERRIFIELD (FGE Ltd, UK), Johan STEELANT (ESA-ESTEC, Netherlands)*	**HiSST 2024 - 053** Fluid-thermal-structural coupled study on rudder leading edge with porous opposing jet in hypersonic flows — *Shaliang LI, Bing LIU, Shibin LI, Wei HUANG, Lin WANG (NUDT, China)*	**HiSST 2024 - 328** Numerical Study of Turbulent Combustion in High Mach Number Scramjet Engine with Thermodynamic Non-equilibrium Effect — *Hai FENG, Tai JIN (ZJU, China), Kun WU (IMCAS, China)*		**HiSST 2024 - 273** Preliminary Conceptual Design of the Reusable Unmanned Space Vehicles using Multidisciplinary Optimization — *Dabeen JEONG, Shinkyu JEONG (KHU, Korea), Jongho JUNG (SNU, Korea)*	**HiSST 2024 - 354** Active and Passive Vibration Control Technology for Trisonic Wind Tunnel Models — *Huanhuan YAN, Wenbin NI, Junfei WU, Xiaojun PAN, Jian ZHOU, Wanfang YAN, Sen LIU, Tiejin WANG, Jiang ZHANG (CAAA, China)*	**HiSST 2024 - 215** Deformation Measurement of Stainless Steel in High-temperature Environments using DIC for Thermal Protection System — *Nam Seo GOO, Xiongjie CHE (Konkuk Univ., Korea)*	
18:45-20:00	Welcome Party Nurimaru APEC House							

APRIL 16 (TUE)

Room No.	205	201	202	203	204	103	104	105
08:00-08:30	Chair's Meeting Room 206 (2F)							
08:30-09:30	Keynote Speech 2 — Chair: Dr. David GLASS (NASA Langley Research Center, USA) — Arc-jet Overview, Modeling, and Uncertainty for Hypersonic Material Environmental Test and Evaluation — *Dr. Andrew J. BRUNE (NASA Langley Research Center, USA)*							
Session	HSA 3	HAS 4	PSC 3	PSC 4	HSM 2	T&E 2	M&S 2	HFH 1
Chairs	Prof. Eunji JUN (KAIST, Korea); Prof. Alexandre MARTIN (Univ. of Kentucky, USA)	Prof. Rho Shin MYONG (GNU, Korea); Prof. Christian MUNDT (UniBw M, Germany)	Dr. Inyoung YANG (KARI, Korea); Dr. Jun LIU (NUAA, China)	Prof. Bok Jik LEE (SNU, Korea); Prof. Antonella INGENITO (Sapienza, Italy)	Dr. Michael SMART (Hypersonix Launch Systems Ltd, Australia); Dipl. Dr. ing. Marius FRANZE (DLR, Germany)	Dr. Jan MARTINEZ SCHRAMM (DLR, Germany); Dr. Ajmal MOHAMED (ONERA, France)	Prof. Ikhyun KIM (Keimyung Univ., Korea); Dr. Jonathan RAYNAUD (MBDA, France)	Prof. Ming DONG (IMCAS, China); Prof. Caihong Su (Tianjin University, China)
09:30-10:00	**HiSST 2024 - 137** HIFiRE-5 Testing in the Oxford High Density Tunnel — *Samuel BROADHURST, Luke DOHERTY, Matthew MCGILVRAY, William IVISON, Chris HAMBIDGE (Univ. of Oxford, UK)*	**HiSST 2024 - 188** A Study on the Aerodynamics and Aerothermodynamics of a Supersonic Reefed Parachute — *Weijie XU, Yi LI (NWPU, China)*	**HiSST 2024 - 315** Design and Starting Study of the Adjustable Inward Turning Inlet at Ma1.5~7 — *Fuzhou LIU, Huacheng YUAN, Keyu ZHOU, Zhenggui ZHOU (NUAA, China)*	**HiSST 2024 - 076** Knowledge Discovery on Cavity-Based Scramjet Combustor Design via Stochastic-Surrogate-Assisted Multi-Objective Optimization — *Chihiro FUJIO (Kyushu Univ., Japan), Sasi Kiran PALATEERDHAM, Lakshmi Narayana Phaneendra PERI (Sapienza, Italy), Hideaki OGAWA (Kyushu Univ., Japan), Antonella INGENITO (Sapienza, Italy)*	**HiSST 2024 - 220** Experimental Aeroshape Characterization of an Inflatable Heat Shield Re-entry Vehicle in the EFESTO-2 Project — *Junnai ZHAI, Thomas GAWEHN, Ali GÜLHAN (DLR, Germany), Ysolde PREVEREAUD, Yann DAUVOIS (ONERA, France), Giuseppe GUIDOTTI (Deimos Space S.L.U., Spain), Giuseppe GOVERNALE (Politecnico di Torino, Italy)*	**HiSST 2024 - 277** Temperature Sensitive Paint Techniques for Ultra High Speed Acquisition their Development towards the Determination of Flight Temperatures — *Jan MARTINEZ SCHRAMM, Divek SURUJHLAL, Leni SCHMIDT (DLR, Germany)*	**HiSST 2024 - 340** Design and Post-Test Analysis of PWT Testing on CMC and UHTCMC Materials — *Giuseppe Maria INFANTE, Leonardo Luca MELLONE, Daniele GUIDA, Carlo PURPURA, Mario DE STEFANO FUMO (CIRA, Italy), Alessandro AIROLDI, Antonio Mattia CAPORALE, Marco RIVA (Politecnico di Milano, Italy)*	**HiSST 2024 - 275** SWBLI Effects of Impinging Shock on a Flat Plate in High Mach Number Flows — *Aishwarya PS, Mohammed Ibrahim SUGARNO (IIT Kanpur, India)*
10:00-10:30	**HiSST 2024 - 179** Investigation on the Linear Stationary Crossflow Stability Characteristics of Hypersonic Boundary Layer with Expansion Corner — *Peisen LU, Youcheng XI, Song FU (Tsinghua Univ., China)*	**HiSST 2024 - 240** Numerical Investigation of Magnetic Heat Flux and Electron Manipulation System for Hypersonic Vehicles — *Thomas J. GREENSLADE, Arunkumar CHINNAPPAN, Minkwan KIM (UoS, UK)*	**HiSST 2024 - 034** Design of a Truncated Ideal Nozzle for a Re-usable First Stage Launcher — *Sebastian KARL, Tamas BYKERK, Mariasole LAURETI (DLR, Germany)*	**HiSST 2024 - 081** Numerical Study of Vitiation Air Effects on the Hydrogen-fueled Direct-Connect Scramjet Combustor — *Seung-Min JEONG, Jae-Eun KIM, Mun-Soo KIM, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 071** Progress Pre-definition of the SpaceLiner 8 Advanced Hypersonic Transport — *Martin SIPPEL, Jascha WILKEN, Leonid BUSSLER, Steffen CALLSEN, Tommaso MAURIELLO (DLR-SART, Germany)*	**HiSST 2024 - 123** Initial Investigation of a Combustion-Driven Shock Tunnel Operating as a Shock Tube — *Marco A. S. MINUCCI, Israel S. RÊGO, Marcos M. BORGES, Giannino P. CAMILLO, Lucas A. G. RIBEIRO, Rafael O. SANTOS, Thiago L. ASSUNÇÃO, Ivo P. M. ALVES, Thiago V. C. MARCOS, Bruno R. NASCIMENTO, Pedro S. MATOS, Lucas GALEMBECK, Dermeval CARINHANA JR (IAS, Brazil)*	**HiSST 2024 - 039** Temperature Effect on Erosion by Atomic Oxygen in LEO Environment Using Reax-FF Molecular dynamics — *Jiwon JUNG, Jongkyung AN, Seunghwan KWON, Gun Jin YUN (SNU, Korea)*	**HiSST 2024 - 280** Some Recent Developments in Hypersonic Flow Stability Analyses — *Liang WANG, Song FU (Tsinghua Univ., China)*
10:30-11:00	**HiSST 2024 - 197** Frequency Modulation Analysis in Innovate Supersonic Cavity Flow — *Ting Tsung CHANG, Konstantinos KONTIS (Univ. of Glasgow, UK)*	**HiSST 2024 - 129** Experimental Visualization of Hypersonic Boundary Layer Transition — *Duk-Min KIM, Hyoung Jin LEE (Inha Univ., Korea)*	**HiSST 2024 - 110** High Fidelity Simulation of Liquid Jet Breakup in Supersonic Crossflow — *DongGyu YUN, Hong-Gye SUNG (KAU, Korea)*	**HiSST 2024 - 130** Thermally Choked Nozzle 1D Model for Low-Mach Dual Mode Scramjet Performance Assessment — *Jean-Etienne DURAND, Frédéric OLIVON (ONERA, France)*	**HiSST 2024 - 219** Numerical Aeroshape Characterization of an Inflatable Heat Shield Re-entry Vehicle in the EFESTO-2 Project — *Ysolde PREVEREAUD, Yann DAUVOIS (ONERA, France), Junnai ZHAI, Thomas GAWEHN (DLR, Germany), Giuseppe GUIDOTTI (Deimos Space S.L.U, Spain), Giuseppe GOVERNALE (Politecnico di Torino, Italy)*	**HiSST 2024 - 195** Tailored Operating Conditions in the T6 Reflected Shock Tunnel — *Joshua ASHBY, Matthew MCGILVRAY (Univ. of Oxford, UK)*	**HiSST 2024 - 319** Acoustic Shock Wave-induced Phase Transition of Indium Selenide from Orthorhombic to Rhombohedral Crystal System — *S. A Martin BRITTO DHAS, S. OVIYA, F. Irine Maria BINCY (AKRC, India), Ikhyun KIM (Keimyung Univ., Korea)*	**HiSST 2024 - 175** Heat Flux Increment Induced by the Coupled Shear and Compression Effects in Laminar Hypersonic Flows — *Huijun GAO, Zhi hui WANG (UCAS, China)*
11:00-11:30	Coffee Break Lobby (2F)							
11:30-12:00	**HiSST 2024 - 249** Aerodynamics of the Reusable Launch Vehicle Supersonic Retropropulsion System — *Jesslyn Wei Yan ONG, Yujoo KANG, Jaemyung AHN, Sang LEE (KAIST, Korea)*	**HiSST 2024 - 127** Aerodynamic and Propulsive Assessment of an Experimental Hypersonic Scramjet System — *Pietro RONCIONI, Oreste RUSSO, Francesco CASCONE, Marco MARINI, Sara DI BENEDETTO (CIRA, Italy), Marta ALBANO, Roberto BERTACIN (ASI, Italy)*	**HiSST 2024 - 333** IDDES Modeling of a Dual-Mode Scramjet by Dynamic Zone Flamelet Model with Sensitivity Analysis of Zoning Parameter — *Zheng ZHANG, Wei YAO (IMCAS, China)*	**HiSST 2024 - 368** The Red Kite Sounding Rocket Motor Qualification Milestones and Application Spectrum — *F. SCHEUERPFLUG, T. RÖHR, T. HUBER, M. REINOLD, D. HARGARTEN, L. KOBOW, R. KIRCHHARTZ (DLR, Germany), M. KUHN, A. WEIGAND, M. BERNDI, J. WERNETH (Bayern-Chemie GmbH, Germany)*	**HiSST 2024 - 353** Establishment of System Engineering Procedure for Two-Stage Sounding Rocket — *Si-Yoon KANG, Min-Seon JO, Joungsu OH, Inhoi KOO, Keon-Hyeong LEE, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 384** Development of an Approach that Delivers a High-Tempo of High Speed Flight Trials at Affordable Costs — *Allan PAULL, Jens KUNZE, Sampada SHELAR, Nathan PAULL, Tom WATTS (UQ, Australia)*	**HiSST 2024 - 342** Development of a Numerical Tool for Step & Gap Prediction on Space Rider Windward — *Leonardo Luca MELLONE, Giuseppe Maria INFANTE, Mario De Stefano FUMO, Giuseppe Carmine RUFOLO (CIRA, Italy)*	**HiSST 2024 - 204** Interaction of Mainstream Injection with Boundary Layer Combustion for Hydrogen Fuel — *Jacob SANDRAL, Tristan VANYAI, Anand VEERARAGAVAN, Vincent WHEATLEY (UQ, Australia)*
12:00-12:30	**HiSST 2024 - 226** Design of Pulsed Magnetic Circuit with Pulse Forming Network for Experimental Study of Magnetohydrodynamic Aerobraking — *Takeaki MURAMATSU, Yosuke KUROSAKA, Kohei SHIMAMURA, Akira KAKAMI (TMU, Japan), Hiroshi KATSURAYAMA (Tottori Univ., Japan)*	**HiSST 2024 - 230** Investigation of Aerodynamic Coefficient and Compressibility Effect of AGARD-B Model Based On Wind Tunnel Experiment and CFD Simulation — *Hung-Yen CHOU, Hsien-Hao TENG (NCSIST, R.O.C.)*	**HiSST 2024 - 058** LES Investigation of Thermally Choked Mode Combustion Characteristic of the Dual Combustion Ramjet Engine — *Min-Seon JO, Bu-Kyeong SUNG CHOI (PNU, Korea), Seung-Min JEONG (KARI, Korea), Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 037** Experimental and Numerical Research on a Design Concept of Two-stage Compression Inward-turning TBCC Inlet — *Zhancang HU, Yiqi TANG (Xiamen Univ., China), Zhonglong LI (AECC Sichuan Gas Turbine Establishment, China), Zejun CAI, Zhenqi SUN, Chengxiang ZHU, Yancheng YOU (Xiamen Univ., China)*	**HiSST 2024 - 100** First Hot Combustion Subsonic Retro Propulsion Tests in the Vertical Free Jet Facility Cologne (VMK) — *Ansgar MARWEGE, Daniel KIRCHHECK, Ali GÜLHAN (DLR, Germany)*	**HiSST 2024 - 182** Drag due to Distributed Roughness in Supersonic Turbulent Boundary Layers: Comparison between Experiments and Numerics — *Quentin CHANZY, Antoine DURANT (MBDA, France), Sylvain MORHILAT, Vincent BRION (ONERA, France)*	**HiSST 2024 - 183** A Study on the Mechanical Properties and Microwave Absorption Performance of Nickel-coated Basalt Fiber/ aluminosilicate Ceramic Composite Applicable to Hypersonic Vehicle — *Kwonwoo PARK, Hoyoung SHIN (GNU, Korea), Dongjun HONG (KAU, Korea), Hyunseok KO (KICET, Korea), Jinhwe KWEON (GNU, Korea), Youngwoo NAM (KAU, Korea), Byeongsu KWAK (GNU, Korea)*	**HiSST 2024 - 069** Analytical Model of Curved-shock Inverse Mach reflection — *Chongguang SHI, Rongguang SU, Tao ZHANG, Chengxiang ZHU, Yancheng YOU (Xiamen Univ., China)*
12:30-13:00	**HiSST 2024 - 265** Hypersonic Crossflow-induced Breakdown and Transition Correlation Based on Secondary Instability Modes on a Swept Flat Plate — *Gen LI, Caihong SU (Tianjin Univ., China)*	**HiSST 2024 - 106** A 3D Parallel Lagrangian Finite Volume Scheme for Ideal MHD Equations — *Xiao XU, Hongbo LU, Jian LIN, Feng JI, Nong CHEN (CAAA, China)*	**HiSST 2024 - 120** Numerical Study on Post-Combustion Chamber Impact on Hybrid Rocket Performance — *Andrija DARANOVIC, Joël MARTIN, Stefan MAY, Viola WARTEMANN (DLR, Germany)*	**HiSST 2024 - 180** Observation of Hydrogen Combustion Characteristics in a Scramjet Combustor Based on Cavity Type — *Geon Wook YIM, Hyoung Jin LEE (Inha Univ., Korea)*	**HiSST 2024 - 250** Multidisciplinary Analysis Framework for The Mission Design of Reusable Space Transportation Re-Entry Vehicles — *Federico TOSO, Giovanni MEDICI, Jacopo GUADAGNINI, Gabriele DE ZAIACOMO (Deimos Space S.L., Spain)*	**HiSST 2024 - 132** The Dynamic Test of the Longitudinal Stage Separation for the Parallel-staged Two-stage-to-orbit Vehicle in Hypersonic Shock Tunnel — *Yue WANG, Yun Peng WANG (IMCAS, China)*	**HiSST 2024 - 371** Thermophysical Properties of a High Density Carbon/Carbon Composite to Ultra-High Temperatures — *Marco ATTIA, Wyman ZHUANG (DST Group, Australia)*	
13:00-14:00	Lunch The Party Restaurant (B1, Exhibition Hall)							
14:00-14:30	Poster Presentation Side Lobby (2F)							
14:30-15:30	Keynote Speech 3 — Chair: Prof. Johan STEELANT (ESA ESTEC, Netherlands) — Rocket Lab's HASTE vehicle – Electron for Hypersonic Flight Test — *Dr. Sandy TIRTEY (Director of Rocket Lab Australia, Australia)*							
Session	HSA 5	HSA 6	PSC 5	PSC 6	HSM 3	T&E 3	M&S 3	GCS 1
Chairs	Prof. Sang LEE (KAIST, Korea); Dr. Jimmy-John HOSTE (Destinus, Switzerland)	Prof. Chongam KIM (SNU, Korea); Dr. Tamara SOPEK (UniSQ, Australia)	Prof. Hyunchang LEE (Kyungnam Univ., Korea); Dr. Marc FERRIER (ONERA, France)	Dr. Dermeval CARINHANA JR (IAS, Brazil); Dr. Tristan VANYAI (UQ, Australia)	Dr. Aaron KOCH (DLR, Germany); Dr. Hideyuki Taguchi (JAXA, Japan)	Dr. Marco MARINI (CIRA, Italy); Dr. Jeroen VANDENEYNDE (ESA, Netherlands)	Dr. David Glass (NASA, USA); Mr. Ilan WEISSBERG (Israel Aerospace Industries, Israel)	Prof. Tao CHAO (HIT, China); Ms. Sunayna SINGH (DLR, Germany)
15:30-16:00	**HiSST 2024 - 029** A Boundary Layer Analysis on the HEXAFLY-INT Experimental Flight Test Vehicle — *Frederik JACOBS, Johan STEELANT (ESTEC, Netherlands)*	**HiSST 2024 - 256** Hypersonic Flow over the Double Wedge in Low and High Enthalpy Free Stream Conditions — *Anurag RAY, Ashoke DE (IIT Kanpur, India)*	**HiSST 2024 - 093** Design and Commissioning of TNO's modular Rotating Detonation Engine (RDE) test facility — *Tim ROOS, Wolter WIELING (TNO, Netherlands), Moana LENGKEEK (TU Delft, Netherlands), Martin OLDE (TNO, Netherlands)*	**HiSST 2024 - 082** Numerical Study on Unstart Characteristics of Supersonic Engine Induced by Fuel Injection — *Hyunwoo KIM, Hong-Gye SUNG (KAU, Korea)*	**HiSST 2024 - 118** Comparison of Different Fidelity Approaches for the Coupled Aerothermodynamic Heating of Hypersonic Reentry Vehicles — *Fynn BARZ, Marius FRANZE (DLR, Germany)*	**HiSST 2024 - 090** System Study of an Integrated Facility with Arc-Jet and Expansion Tube for Hypervelocity Testing with Ablating Spacecraft Models — *Eric Won Keun CHANG, Tobias A. HERMANN (Univ. of Oxford, UK)*	**HiSST 2024 - 348** Development and Qualification Status of the CMC based TPS of Space Rider — *Mario DE STEFANO FUMO, Giuseppe RUFOLO, Roberto GARDI, Roberto FAUCI, Angelo DE FENZA, Francesca PISANO, Giuseppe Maria INFANTE (CIRA, Italy), Lorenzo CAVALLI, Massimiliano VALLE (Petroceramics s.p.a, Italy)*	**HiSST 2024 - 072** Two Stage to Orbit using a Hypersonic First Stage and Horizontal Launch — *Michael PALUSZEK, Christopher GALEA, Stephanie THOMAS (PSS, USA)*
16:00-16:30	**HiSST 2024 - 083** Compressible Correction and Correlation of γ-Reθ Transition Model for High-speed Flows — *Fan YUXIANG, Zhao RUI, Zhang XU (BIT, China)*	**HiSST 2024 - 318** Reduction of Pressure and Heat Load by Counter-flow Jet on a Blunt Body in Hypersonic Flow — *Min Su HWANG, Hyoung Jin LEE (Inha Univ., Korea)*	**HiSST 2024 - 115** Experimental Study on the Propagation Characteristics of Rotating Detonation Engine by JISC Fuel Injector Configuration — *In-hoi KOO, Keon-Hyeong LEE, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 222** Experimental Investigation of the Global Equivalence Ratio Influence in a Hydrogen-fueled Supersonic Combustor — *Eden Schiavinato de SOUZA, Lucas RIBEIRO, Leda VIALTA, Pedro MATOS, Luiz BARRETA, Giannino CAMILLO, Israel RÊGO, Lucas GALEMBECK, Dermeval CARINHANA JR (IAS, Brazil), Pedro LACAVA (ITA, Brazil)*	**HiSST 2024 - 189** TSTO Launcher for Small Satellites — *Lakshmi Narayana Phaneendra PERI, Sasi Kiran PALATEERDHAM, Antonella INGENITO (La Sapienza, Italy), Francesco MARGANI, Luca ARMANI (GAUSS Srl, Italy)*	**HiSST 2024 - 102** Heterodyne Dual Frequency Comb Laser Absorption Spectroscopy Measurements in Supersonic Combustion — *Jan MARTINEZ SCHRAMM, Leni SCHMIDT (DLR, Germany)*	**HiSST 2024 - 233** Optical, Magnetic, and Structural Stability Analysis of PbS Nanoparticles using a Shock Tube — *P. SIVAPRAKASH, Surendhar SAKTHIVEL, Ki-Won KIM, Ikhyun KIM (Keimyung Univ., Korea)*	**HiSST 2024 - 167** Trajectory Optimization Method for Dual Mode Scramjet Engine Vehicle using a Unstart Informed Combustion Model — *Jiwon SON, (SNU, Korea), Hyo Sang KO, Han-Lim CHOI (KAIST, Korea), Kwanjung YEE (SNU, Korea)*
16:30-17:00	**HiSST 2024 - 269** Numerical Study of Turbulent Phenomena in Hypersonic Boundary Layers from the Presence of Protuberances and Cavities — *Alan FLINTON, Jim MERRIFIELD (FGE Ltd, UK), Matthew MCGILVRAY, William IVISON (Univ. of Oxford, UK), Frederik JACOBS, Johan STEELANT (ESA ESTEC, Netherlands)*	**HiSST 2024 - 255** Analysing Convective Heat Transfer over a blunt cone across different gas environments — *Sreejita BHADURI, Naveen KUMAR (IIT Kanpur, India), SLN DESIKAN (VSSC, India), Mohammed Ibrahim SUGARNO (IIT Kanpur, India)*	**HiSST 2024 - 174** Investigation of Wave Behaviour in Non-Premixed H2-Air Annular Rotating Detonation Combustor using Large-Eddy Simulations — *Yuxiang LIM, Thommie NILSSON, Christer FUREBY (Lund Univ., Sweden)*	**HiSST 2024 - 236** Comparative Analysis of Rectangular-to-Elliptical Shape Transition (REST) intakes with Diverse Leading-Edge Profiles — *Daegi YEOM, Hyeonseo LEE, Seongkyun IM (Korea Univ., Korea)*	**HiSST 2024 - 374** Overview of the Hypersonic Atmospheric Flight KREPE-2 — *Alexandre MARTIN, Seungyong BAEG, Raghava S.C. DAVULURI (Univ. of Kentucky, USA),*	**HiSST 2024 - 261** Design and Implementation of Electronic Sub-systems for the STAJe- Phase 1 Payload — *Sampada Vijay SHELAR, Allan PAULL (UQ, Australia)*	**HiSST 2024 - 031** Development of Ultra-High Temperature Ceramic Matrix Composites for Hypersonic Applications via Reactive Melt Infiltration and Mechanical Testing under High Temperature — *Luis BAIER, Martin FRIESS, N. Hensch, Vito LEISNER (DLR, Germany)*	**HiSST 2024 - 279** Relative Navigation Implementation for the In-Air Capturing of a Winged Reusable Launch Vehicle — *Sunayna SINGH (DLR, Germany), Briek LUYTEN, Marco SAGLIANO (DLR, Germany)*
17:00-17:30	Coffee Break Lobby (2F)							
17:30-18:00	**HiSST 2024 - 087** Effects of Aft Angle on the Non-equilibrium Flows over Double Cone at High Enthalpy — *Dengke LI, Bo SUN, Chunliang DAI, Xiong CHEN (NJUST, China)*	**HiSST 2024 - 046** Multi-objective Shape Optimization of Earth Re-Entry Capsule With Aero-Thermal Analysis — *Minsul LEE, Kyu Hong KIM (SNU, Korea), Hyoungjin KIM (KHU, Korea)*	**HiSST 2024 - 282** Numerical Investigation of Pulse Detonation Engine with Resonator Injection — *Timothee HEMARD, Bayindir H. SARACOGLU (VKI, Belgium)*	**HiSST 2024 - 091** Cavity-based Combustion Characteristics of a Mach 10 Scramjet — *Hongbo LU, Hengyi WU, Jian LIN, Ruiting WANG, Feng JI, Xing CHEN (CAAA, China)*	**HiSST 2024 - 088** Comparison of Models for Aerothermal Load Prediction using Coupled Trajectory Simulations of a High Lift Reentry Vehicle — *Marius FRANZE, Fynn BARZ (DLR, Germany)*	**HiSST 2024 - 196** Flow Disturbances at Super-orbital Velocity using Spectral Analysis In Expansion Tube Hek-X — *Masahiro FUJIWARA, Keisho ITO, Shun Dylan IZUMA, Honami TOYAMA, Shuto YATSUYANAGI, Hideyuki TANNO (JAXA, Japan)*	**HiSST 2024 - 055** C/C Material Densification by CVI Process: from Experimental to Simulating Results — *Jonathan RAYNAUD (MBDA, France), Yann QUIRING, C. Cairey REMONAY (LRP, France), G. BORNE, V. BONTEMPI (MBDA, France), E. SCHAER, R. FOURNET (LRGP, France)*	**HiSST 2024 - 145** Trade Study for the Hardware Design of an AI-Driven Rocket Engine Health Monitoring System: Key Insights and Suggestions — *João MATIAS (EDGX, Belgium)*
18:00-18:30	**HiSST 2024 - 286** Direct Numerical Simulation Study on Pressure Amplification and Shock-boundary Layer Interaction — *Yujoo KANG, Sang LEE (KAIST, Korea)*	**HiSST 2024 - 302** A Code-to-code Comparison of Hypersonic Sharp Cone-flares — *Jimmy-John HOSTE (Destinus, Switzerland), Tobias ECKER, Chiara AMATO (DLR, Germany), Nicholas GIBBONS (UQ, Australia), Doyle KNIGHT (Rutgers Univ., USA), Fahri Erinç HIZIR, Tolga KÖKTÜRK (Aselsan, Turkey), Artemii SATTAROV, Olivier THIRY (Cadence Design Systems, Belgium), Jean-Pierre HICKEY (Univ. of Waterloo, Canada), Steven QIANG, Jim CODER (Penn State Univ., USA), Neil CASTELINO, Valerio VITI (ANSYS Inc., USA)*	**HiSST 2024 - 352** Numerical Study on the Characteristics of Detonation Wave Number in RDE — *Mohammed N NEJAAMTHEEN, Bu-Kyeong SUNG, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 114** Study on Equal-Intensity-Distribution Configuration of External-Compression Multi-wave Curved Compression Flowfields — *Wenguo LUO, Changkai HAO, Jianfeng ZHU, Yancheng YOU (Xiamen Univ., China)*	**HiSST 2024 - 141** Flyability Assessment and Trajectory Design for a Scramjet Hypersonic Experimental Vehicle — *Antonio VITALE, Sara DI BENEDETTO, Marco MARINI (CIRA, Italy), Simone PIZZURRO, Roberto BERTACIN (ASI, Italy)*	**HiSST 2024 - 355** Expansion Tube Capabilities for Studying Boost-Glide Re-entry Conditions — *Yuhui LIN, James J. WALLINGTON, Thien BUI, Toby VAN DEN HERIK, Christopher M. JAMES, (UQ, Australia), Eric Won Keun CHANG, Tobias A. HERMANN (Oxford, UK)*	**HiSST 2024 - 066** Tailored Directional Porosity in Ceramic Matrix Composites (CMC) for Hypersonic Applications — *Fiona KESSEL, Martin FRIESS, Carolin RAUH, Alexander WAGNER (DLR, Germany)*	**HiSST 2024 - 288** HEXAFLY-INT Actuation System Test Bench Updates — *Lucas GALEMBECK, Breno SILVA (DCTA, IEAv, Brazil), Pasquale MANZO, Carmelo STOLDER (Marotta S.R.L, Italy), Waldemar ROTÄRMEL (DLR e.V., Germany), Johan STEELANT (ESA-ESTEC, Netherlands)*

APRIL 17 (WED)

Room No.	205	201	202	203	204	103	104	105
08:00-08:30	Chair's Meeting Room 206 (2F)							
08:30-09:30	Keynote Speech 4 — Chair: Prof. Jeong-Yeol CHOI (Pusan National University, Korea) — Institute of Mechanics, Chinese Academy of Sciences — *Prof. Zonglin JIANG (Chinese Academy of Sciences, China)*							
Session	HSA 7	HSA 8	PSC 7	PSC 8	HSM 4	PSC 9	M&S 4	TEM 2
Chairs	Dr. Jan MARTINEZ SCHRAMM (DLR, Germany); Dr. Aleksandr FIRSOV (JIHT RAS, Russian Federation)	Dr. Erik TORRES (Univ. of Minnesota, USA); Dr. Tamara SOPEK (UniSQ, Australia)	Prof. Je Ir RYU (New York Univ. Abu Dhabi, UAE); Dr. Jun LIU (NUAA, China)	Prof. Hyung Sub SIM (Sejong Univ., Korea); Dr. Ravi PATEL (Eindhoven Univ. of Technology, Netherlands)	Dr. Allan PAULL (UQ, Australia); Dr. Jeroen VANDENEYNDE (ESA, Netherlands)	Dr. Tristan VANYAI (UQ, Australia); Prof. Hyunchang LEE (Kyungnam Univ., Korea)	Dr. Abhendra SINGH (Baylor Univ., USA); Mr. Yann QUIRING (CNRS, France)	Prof. Matthew MCGILVRAY (Univ. of Oxford, UK); Prof. Hyung Ju LEE (PKNU, Korea)
09:30-10:00	**HiSST 2024 - 057** Heat Transfer Characteristics of the Missile Radome Considering Flight Scenario — *Sangbin HAN, Hyung Mo BAE, Jihyuk KIM (Yonsei Univ., Korea), Dongkyun LEE, Kyeongho LEE, Sunghwan YIM (LIGNex1, Korea), Hyung Hee CHO (Yonsei Univ., Korea)*	**HiSST 2024 - 290** Effects of Ultrafast Laser Energy Deposition on a Hypervelocity Boundary Layer — *Laurent M. LE PAGE, Andrew CERUZZI (Univ. of Oxford, UK), Thomas L. J. BRAIN, Alexander J. RIELEY (QinetiQ Limited, UK), Tristan J. CRUMPTON (Univ. of Oxford, UK), James C. ROBSON, Matthew ECKOLD (QinetiQ Limited, UK), Matthew MCGILVRAY (Univ. of Oxford, UK)*	**HiSST 2024 - 287** Numerical Study of Hydrogen Injection in Crossflow to Initiate Oblique Detonation Wave — *Ashish VASHISHTHA, Rushikesh KORE (SETU, Ireland), Sasi Kiran PALATEERDHAM, Antonella INGENITO (Sapienza, Italy)*	**HiSST 2024 - 285** Influence of the Swing Angle on the Performance of Planar SSSL Nozzle — *Rui LI, Jinglei XU, Haiyin LV (NUAA, China)*	**HiSST 2024 - 294** e-DEAL Engine for a Mach 0-Mach 5 Cruiser — *Francois FALEMPIN (MBDA, France)*	**HiSST 2024 - 117** Progress in the Development of a TPaSR Model for the Simulation of Combustion in Turbulent Supersonic Flows — *Margot PRUVOST, Marc FERRIER (ONERA, France), Arnaud MURA (ENSMA, France)*	**HiSST 2024 - 040** A Multiscale Framework for Aero-thermo-chemical DFT/CFD Simulation for Re- entry Environment — *Jongkyung AN, Seunghwan Kwon, Jiseon Ahn, Rajkamal ANAND, Gun Jin Yun (SNU, Korea)*	**HiSST 2024 - 139** The Development of a Design Program for a High-speed Counter-flow Air Precooler — *Xin ZHANG, Y. LU, X.J FAN (IMCAS, China)*
10:00-10:30	**HiSST 2024 - 101** Convective Heat Flux Analysis for a Scramjet Engine — *Ana Maria Pereira LARA, Israel RÊGO, Lucas A. G. Ribeiro, Pedro P. B ARAÚJO, Lucas Galembeck, Dermeval CARINHANA JR , Tiago ROLIM (IAS, Brazil)*	**HiSST 2024 - 096** Heat Transfer to a Flat Plate under Partially Dissociated Nitrogen Freestream Condition — *Guangjing JU, Lin BAO (UCAS, China)*	**HiSST 2024 - 084** Experimental Study of Combustion Modes in PNU-DCSC with a micro-PDE — *Min-Su KIM, Keon-Hyeong LEE, Eun-Sung LEE, Hyung-Seok HAN (PNU, Korea), Seung-Min JEONG (KARI, Korea), Bu-Kyeong SUNG, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 252** Computational Parametric Study Evaluating Ramjet Combustor Geometry — *David CERANTOLA, Daniel HANDFORD, Pradeep DASS (SES, Canada)*	**HiSST 2024 - 292** Conceptual Design and Multi-Objective Optimization of an Environmentally-Friendly High-Speed Civil Aircraft — *Saeed HOSSEINI, Mohammad Ali VAZIRY-ZANJANY (AUT, Iran)*	**HiSST 2024 - 080** Numerical Investigation of Shock Induced Mixing Enhancement in Cavity-Based Scramjet Combustor — *Tomoaki NARA, Chihiro FUJIO, Hideaki OGAWA (Kyushu Univ., Japan)*	**HiSST 2024 - 281** Modelling, Simulation and Testing of Inflatable Structures Applied to Re-entry in the EFESTO-2 Project — *Roberto GARDI, Barbara TISEO, Gianluca DIODATI, A. SORRENTINO, Vincenzo QUARANTA (CIRA, Italy), Cédric JULIEN (ONERA, France), Giuseppe GUIDOTTI (Deimos Space S.L.U., Spain), Giuseppe GOVERNALE (Politecnico di Torino. Italy), Francesco PUNZO (ALI, Italy), Pietro PASOLINI (SRSED, Italy), Maxim DE JONG (TRLA, Canada)*	**HiSST 2024 - 152** Data Models for the Probabilistic Design of the Thermal Protection System of a Reusable Launch Vehicle Stage — *Aaron Dexter KOCH, Jascha WILKEN, Marko ALDER (DLR, Germany)*
10:30-11:00	**HiSST 2024 - 142** Separation Studies on Sphere and Cube Clusters in Mach 12 Flow — *Dániel Gábor KOVÁCS, Guillaume GROSSIR (VKI, Belgium), Grigorios DIMITRIADIS (Univ. of Liège, Belgium), Olivier CHAZOT (VKI, Belgium)*	**HiSST 2024 - 144** Ablation Measurements on Aluminium Spheres in a Hyperballistic Tunnel — *Flavien DENIS, Hermann ALBERS, Myriam BASTIDE, Christian REY, Serge GAISSER, Daniel ROTHER, Thierry STEIBLIN (ISL, France)*	**HiSST 2024 - 208** Modellings of Steady Shock Reflection with Chemical Heat Release and the Transition Criteria between Regular and Mach Reflections — *Haoyang LI (IMCAS, China), Zijian ZHANG (PolyU, China), Chun WANG (IMCAS, China)*	**HiSST 2024 - 237** Operational Characteristics of a Liquid-fueled Regenerative Dual-mode Combustor Model with Small Inlet Flowpath Height — *Inyoung YANG, Sanghun LEE, Kyungjae LEE, Yangji LEE (KARI, Korea)*	**HiSST 2024 - 322** Achieving Optimal Designs for High-Speed Blunt Body vehicles: A Multi-Objective Approach with an Efficient Aerothermodynamic Prediction Program — *Hoonjung YEO, Kyu Hong KIM (SNU, Korea)*	**HiSST 2024 - 334** Nitrogen Oxides Emission Estimation for a hydrogen-fuelled Dual-Mode Ramjet in the conceptual design phase — *Valeria BORIO, Roberta FUSARO, Nicole VIOLA (Politecnico di Torino, Italy), Guido SACCONE (CIRA, Italy), Ginevra CIANCI (Politecnico di Torino, Italy)*	**HiSST 2024 - 064** CMCs for Missile Applications: Elaboration and NDI of EBCs at an Industrial Scale Jonathan RAYNAUD, Maxime LHUISSIER, Magali ROLLIN — *Jonathan RAYNAUD, LHUISSIER Maxime, ROLLIN Magali (MBDA, France)*	**HiSST 2024 - 060** Numerical Simulation of Flow/Heat Transfer/Thermal Decomposition Characteristics of Supercritical Hydrocarbon Aviation Fuel in a Minichannel — *Minseo LEE, Hyung Ju LEE (PKNU, Korea)*
11:00-11:30	Coffee Break Lobby (2F)							
11:30-12:00	**HiSST 2024 - 140** Assessment of Thermochemical Degradation Effects of Charring Material on the Wall Heat Flux during Atmospheric Re-Entry — *Maxime LALANDE, Nicolas DELLINGER, Ysolde PREVEREAUD, Nathalie BARTOLI (ONERA, France)*	**HiSST 2024 - 028** Numerical Simulation of the Interaction between a Free-flying Ring and a Curved Shock Wave — *Bodo REIMANN (DLR, Germany)*	**HiSST 2024 - 199** Ignition Delay Study of Liquid Nano-fuels for Application in Pulse Detonation Engines using a Shock Tube — *Gagan GARG (GNU, Korea), Viren MENEZES, Upendra V BHANDARKAR, Bhalchandra P PURANIK (IIT Bombay, India), Rho Shin MYONG (GNU, Korea)*	**HiSST 2024 - 331** Thrust Enhancement of Rocket-Deployed Dual-Mode Ramjet Engine — *Sangwook JIN, Haeseung JEONG, Minchan KWON, Juhyun BAE, Seokjin OH, Hojin CHOI, Jaehoon RYU, Suji LEE (ADD, Korea)*	**HiSST 2024 - 268** Multidisciplinary Optimization in Conceptual Design of Hypersonic Vehicles — *Israel Da Silveira REGO, Ana Maria LARA, Brunno Campos Martins BARBOSA, Thiago ASSUNÇÃO, Ronaldo CARDOSO, Tiago ROLIM, Marco Antonio SALA MINUCCI, Lucas GALEMBECK, Dermeval CARINHANA JR, Giannino PONCHIO CAMILLO*	**HiSST 2024 - 070** Investigation on Multi-channel Gliding Arc Plasma Enhanced Supersonic Ignition at Near Blowout Limit — *Tiangang LUO, Jiajian ZHU, Mingbo SUN, Yifu TIAN, Minggang WAN, Yongchao SUN (NUDT, China)*	**HiSST 2024 - 330** STORT Hypersonic Flight Experiment CMC Thermal Protection System and Selected Flight Results — *Thomas REIMER (DLR, Germany), Giuseppe Daniele DI MARTINO, Lucas DAUTH (Bayern-Chemie, Germany), Luis BAIER, Ali GÜLHAN, Florian KLINGENBERG, Dorian HARGARTEN (DLR, Germany)*	**HiSST 2024 - 214** Numerical Analysis of Non-equilibrium Effects using a Unified Solver — *Seungyong BAEG, Raghava S. C. DAVULURI, Alexandre MARTIN (Univ. of Kentucky, USA)*
12:00-12:30	**HiSST 2024 - 150** The Combined Effects of Large-Scale Roughness and Mass Injection in Hypersonic Flow — *Wesley CONDREN, Raghul RAVICHANDRAN, Anthony FINNERTY, Chris HAMBIDGE, Matthew MCGILVRAY (Univ. of Oxford, UK)*	**HiSST 2024 - 143** Fluid and Heat Transfer Coupled Analysis of a Hypersonic Aircraft with TBCC — *Aoto KIKUI, Akiko MATSUO, Eiji SHIMA (Keio Univ., Japan), Hidemi TAKAHASI, Hideyuki TAGUCHI, Shunsuke IMAMURA (JAXA, Japan)*	**HiSST 2024 - 036** Effect of Wall Curvature on Detonation Reflection in Combustion Chambers — *Hao YAN, Xin HAN, Haochen XIONG, Chongguang SHI, Yancheng YOU (Xiamen Univ., China)*	**HiSST 2024 - 314** Experiments on High Speed Air-Breathing Propulsion for Sustainable Supersonic Flight — *Friedolin Tobias STRAUSS, Konstantin MANASSIS, Marius WILHELM, Christoph KIRCHBERGER (DLR, Germany)*	**HiSST 2024 - 339** Preliminary Design of the Flight Control System for a Mach 5 Hypersonic Civil Passenger Aircraft — *Oscar GORI, Simona LOCCISANO, Davide FERRETTO, Nicole VIOLA (Politecnico di Torino, Italy)*	**HiSST 2024 - 153** Development of an Empirical Correlation for Ethanol Jet in Crossflow Spray Profiles in Transonic and Supersonic Flows — *Aubrey MCKELVY, James BRAUN, Guillermo PANIAGUA-PEREZ (Purdue Univ., USA), Etienne CHOQUET, Thierry ANDRÉ, François FALEMPIN (MBDA, France)*		**HiSST 2024 - 274** Large-Eddy Simulation of Supercritical Hydrocarbon Flows in a Heated Horizontal Circular Tube — *Shuto YATSUYANAGI, Hideyuki TANNO (KSPC, Japan)*
12:30-13:30	Lunch The Party Restaurant (B1, Exhibition Hall)							
13:30-14:30	Keynote Speech 5 — Chair: Dr. Moritz ERTL (German Aerospace Center, Germany) — Optical Diagnostics in Supersonic Combustion Environments — *Prof. Hyungrok Do (Seoul National University, Korea)*							
14:30-17:00		Workshop 1 — High-Speed Air Intakes	Workshop 2 — High-Temperature Materials & Structures	Workshop 3 — Flight Platforms and Flight Testing	Workshop 4 — Detonation			
18:00-22:00	Gala Dinner Paradise Hotel Busan							

APRIL 18 (THUR)

Room No.	205	201	202	203	204	103	104	105
08:00-08:30	Chair's Meeting Room 206 (2F)							
08:30-09:30	Keynote Speech 6 — Chair: Mr. Francois FALEMPIN (MBDA, France) — Industry / Agency Cooperation to Face Challenges in Research — *Dr. Gerald HAGEMANN (ArianeGroup, Germany)*							
Session	HSA 9	HSA 10	PSC 10	PSC 11	T&E 4	T&E 5	O&E 1	TEM 3
Chairs	Dr. Viola WARTEMANN (DLR, Germany); Prof. Tai Jin (Zhejiang Univ., China)	Prof. Eunji JUN (KAIST, Korea); Prof. Zhi-Hui WANG (UCAS, China)	Dr. Inyoung YANG (KARI, Korea); Dr. Marco MARINI (CIRA, Italy)	Prof. Hyung Sub SIM (Sejong Univ., Korea); Dr. Christoph KIRCHBERGER (DLR, Germany)	Prof. Gisu Park (KAIST, Korea); Dr. Sandy TIRTEY (Rocket Lab, Australia)	Prof. Vincent WHEATLEY (UQ, Australia); Dr. Ajmal MOHAMED (ONERA, France)	Prof. Jeong-Yeol CHOI (PNU, Korea); Dr. Aaron Dexter KOCH (DLR, Germany)	Prof. Matthew MCGILVRAY (Univ. of Oxford, UK)
09:30-10:00	**HiSST 2024 - 158** Application of HyperCODA to Hypersonic Flows Around Two-Dimensional Geometries — *Chiara AMATO, Stefan FECHTER, Tim HORCHLER, Immo HUISMANN, Tobias ECKER (DLR, Germany)*	**HiSST 2024 - 186** A Standard Model for the Investigation of Aerodynamic and Aerothermal Loads on a Re-usable Launch Vehicle - Second Stage Geometry — *Moritz ERTL, Tamas BYKERK (DLR, Germany)*	**HiSST 2024 - 253** Temperature Field Measurement of External Flash Boiling Spray in Region where Bubbles Generate and Grow — *Hyunchang LEE (Kyungnam Univ., Korea)*	**HiSST 2024 - 350** Numerical Study of Reactive Flow dynamics in a Hydrogen-fueled Direct- Connect Scramjet Combustor depending on Number of Injector — *Seung-Min JEONG (KARI, Korea), Jae-Eun KIM, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 050** Prediction of Static and Dynamic Derivatives of Damping Free-flight Model Using Image Processing Method — *Eunju KIM, Soo Hyung PARK (Konkuk Univ., Korea)*	**HiSST 2024 - 259** Design of a Nozzle for Hypersonic Wind Tunnel with Optimized Hyperbolic Geometry — *Masaki IIDA, Kohei SHIMAMURA (TMU, Japan)*	**HiSST 2024 - 116** A Contribution to Mitigate NOx and H2O Emissions for a Hydrogen-powered Hypersonic Vehicle — *Daniel BODMER, Jacob JÄSCHKE (TUHH, Germany), Florian LINKE (DLR, Germany), Volker GOLLNICK (TUHH, Germany)*	**HiSST 2024 - 335** A Boundary Adaptive Sharpening Topology Optimization Method for High Reynolds Number Flow in Regenerative Cooling Structures — *Xinlei LI, Kun WU, Xuejun FAN (IMCAS, China)*
10:00-10:30	**HiSST 2024 - 112** Transient Analysis of the Conjugate Heat Transfer Analysis of Scramjet Engine Inlet — *Jae-Eun KIM, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 162** Numerical Simulation of Multi-Temperature Thermochemical Non-Equilibrium Model Over High Enthalpy Flow — *Chanho KIM (SNU, Korea), Yosheph YANG (KNU, Korea), Jae Gang KIM (Sejong Univ., Korea), Kyu Hong KIM (SNU, Korea)*	**HiSST 2024 - 121** Numerical Analysis of Confined Supersonic Combustion Fueled via a Fluidic Oscillator — *Guillaume PELLETIER (ONERA, France)*	**HiSST 2024 - 184** Experimental Investigation of Combustion Mode Transitions in a Cavity-based Scramjet — *Le LI, Jiajian ZHU, Minggang WAN, Yifu TIAN, Tiangang LUO, Qinyuan LI, Shuaijia SHAO, Mingbo SUN (NUDT, China)*	**HiSST 2024 - 154** Aero-Thermal Study and Experimental Characterization of a Novel Optical Probe for High Temperature Supersonic Flows — *Ignacio LASALA AZA, Aubrey MCKELVY, Guillermo PANIAGUA-PEREZ (Purdue Univ., USA), Etienne CHOQUET, Thierry ANDRÉ, François FALEMPIN (MBDA, France)*	**HiSST 2024 - 377** Development of Neuromorphic Imaging Spectroscopy for Hypersonic Flight Observation — *Tamara SOPEK, Fabian ZANDER, Byrenn BIRCH, David BUTTSWORTH (UniSQ, Australia)*	**HiSST 2024 - 344** Analytical Formulations for NOx Emissions Prediction of a SABRE Engine — *Fabrizio BORGNA, Valeria BORIO, Roberta FUSARO, Nicole VIOLA (Politecnico di Torino, Italy), Guido SACCONE (CIRA, Italy)*	**HiSST 2024 - 358** The effect of sintering condition on the properties and transpiration cooling performance of porous Ni-based superalloy — *Jukyoung SHIN, Junhyeon BAE, Tae Young KIM (SeoulTech, Korea)*
10:30-11:00	**HiSST 2024 - 159** Direct Numerical Simulation of Supersonic Reacting Mixing Layers — *Nicholas GIBBONS, Lachlan WHYBORN, Vincent WHEATLEY (UQ, Australia)*	**HiSST 2024 - 170** Direct Numerical Simulation of Strong Shock-turbulent Boundary Layer Interaction — *Yujoo KANG, Sang LEE (KAIST, Korea)*	**HiSST 2024 - 149** Characterizations of Combustion Destabilization in an Axisymmetric Supersonic Cavity-based Combustor — *Qinyuan LI, Bo YAN, Mingbo SUN, Jiajian ZHU, Yifu TIAN, Minggang WAN, Tiangang LUO, Yongchao SUN (NUDT, Chian)*	**HiSST 2024 - 181** Numerical/Experimental Study Dual Injection in Supersonic Cross Flow — *Sem DE MAAG (TNO, Netherlands), Jan Siemen SMINK, Edwin T.A. VAN DER WEIDE, Harry W.M. HOEIJMAKERS, Cornelis H. VENNER (Univ. of Twente, Netherlands)*	**HiSST 2024 - 321** Nozzle Flow Characterization of the SNU Hypersonic Shock Tunnel — *Jinyoung KIM, Jinhwi KIM, Jungmu HUR, Bok Jik LEE, In Seuck JEUNG (SNU, Korea)*	**HiSST 2024 - 068** Establishment of Free Piston Type Expansion Tunnel — *Honhar GUPTA, Jithin SREEKUMAR, Mohammed Ibrahim SUGARNO (IIT Kanpur, India)*	**HiSST 2024 - 360** Methods and Tools for Chemical Emissions Prediction for Space Launchers — *Alessio RICCA, Valeria BORIO, Roberta FUSARO, Nicole VIOLA (Politecnico di Torino, Italy), Guido SACCONE (CIRA, Italy)*	**HiSST 2024 - 067** Experimental Investigation of Film Cooling Effectiveness using Different Coolant Gases in Hypersonic Flows — *Jithin SREEKUMAR, Talluri VAMSIKRISHNA, Honhar GUPTA, Mohammed Ibrahim SUGARNO (IIT Kanpur, India)*
11:00-11:30	Coffee Break Lobby (2F)							
11:30-12:00	**HiSST 2024 - 078** Development and Verification of Nonequilibrium Hypervelocity Reacting Flow Modeling in Open Source Framework — *Kun WU, Yu AO (IMCAS, China), Yuting JIANG (Hefei Zhongke Chongming Tech, China), Jianwen LIU (Beijing Power Machinery Institute, China), Xuejun FAN (IMCAS, China)*	**HiSST 2024 - 231** Verification of Nonequilibrium Chemistry Model for Hypersonic Computational Fluid Dynamics against First-principles Molecular-dynamics Simulations — *Erik TORRES, Thomas E SCHWARTZENTRUBER (UMN, USA)*	**HiSST 2024 - 185** Investigation of Mixing and Combustion in Supersonic Flows — *Sasi Kiran PALATEERDHAM, L N PHANEENDRA PERI, Antonella INGENITO (Sapienza, Italy), Gautam CHOUBEY (NIT Silchar, India)*	**HiSST 2024 - 351** Numerical Investigation on the Flow Dynamics of Interaction between Two Liquid-liquid Bi-swirl Injectors — *Vishnu NATARAJAN, Jongsu OH, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 103** Numerical Performance Assessment of Vitiated Air Heater for DCSC Test Facility by 3D LES — *Bu-Kyeng SUNG, Seung-Min JEONG, Min-Su KIM, Jeong-Yeol CHOI (PNU, Korea)*	**HiSST 2024 - 225** Development of a Free Jet Test Facility Aiming at Preliminary Validating Aeropropulsive Balance Prediction Methodology for Hypersonic Airbreathing Vehicles — *François FALEMPIN, Alexandra DUARTE ANTONIO, Maxime LECHEVALLIER, Quentin MOULY, Julien LEFIEUX, Etienne CHOQUET, Quentin CHANZY (MBDA, France)*	**HiSST 2024 - 108** Scaling Effects on the Ignition Process in a Single-side Expansion Scramjet Combustor — *Peiyi LI, Zun CAI, Yanan WANG, Quanqi WANG, Taiyu WANG, Hongbo WANG, Mingbo SUN (NUDT, China)*	**HiSST 2024 - 357** An Experimental Investigation on the Cooling Effects of Coverage Type of Microchannel Heat Sinks to Ensure Flow Stability of Boiling Heat Transfer — *Taeho CHOI, Tae Young KIM (SeoulTech, Korea)*
12:00-12:30	**HiSST 2024 - 105** Numerical Calculations of Hypersonic Nonequilibrium Flowfields Over a Sphere Using hy2Foam CFD Software — *Jianshu WU, Michiko Ahn Furudate (CNU, Korea)*	**HiSST 2024 - 164** Rapid Design Method for Platform-customized Waveriders Based on the Second-order Curved Shock Theory — *YiQi Tang, Zhancang Hu, Xiaoqing Ding, Xiaogang Zheng, Chongguang Shi, Yancheng You (Xiamen Univ., China)*	**HiSST 2024 - 151** Longitudinal Acoustic Field in a Two-Phase Ramjet: Numerical Simulation and Acoustics Model — *Erwin BEKAERT, Aurelien GENOT, Thomas LE PICHON (ONERA, France), Thierry SCHULLER (IMFT, France)*	**HiSST 2024 - 293** High Density Energy Particles as a Solid Fuel for Ramjet Applications — *Sasi Kiran PALATEERDHAM, Abdul RAHMAN (Sapienza, Italy), Sri Nithya MAHOT TAMANANDA (Crescent Institute), Yash PAL (HITS, India), (Sapienza, Italy)*	**HiSST 2024 - 260** Development of Millimeter Wave Plasma Interferometry for the Measurement of Precursor Electron Density — *Yosuke KUROSAKA, Kohei SHIMAMURA (TMU, Japan)*	**HiSST 2024 - 276** Multi-Temperature Modelling of High-Enthalpy T4 Shock Tunnel Nozzle Flows — *Robert WATT, Rowan GOLLAN, Nicholas GIBBONS (UQ, Australia)*		**HiSST 2024 - 313** Effectiveness-NTU model for PCM-Compact Heat Exchanger Performance Prediction — *Julie FRANK, Duncan BORMAN, Amirul KHAN, Jon SUMMERS (Univ. of Leeds, UK), Evaldas GREICIUNAS (Ignitis, Lithuania)*
12:30-13:00		**HiSST 2024 - 241** An Exploration of Adjoint-based Optimization for Hypersonic Vehicle- and Propulsion Design — *Carola Rovira SALA, Marc Famada VIZCAÍNO, Alberto Simon FELIX (Cranfield Univ., UK), Ambara BERNABEU-VAZQUEZ (Destinus SA, Switzerland), Bart VAN HOVE (Destinus Spain S.L., Spain), Tamas Istvan JÓZSA (Cranfield Univ., UK), Jimmy-John O.E. HOSTE (Destinus Spain S.L., Spain)*	**HiSST 2024 - 349** Spray Characteristics of High Energetic Powder Added Low-Temperature Gel Fuel Using Pressure Swirl Injector — *Dong-Geun LEE, Sul-Hee KIM, In-Woong LEE, Dong-Hee LEE, Hee-Jang MOON (KAU, Korea)*	**HiSST 2024 - 232** Extension of the Lean Blow-off Limit in the Scramjet Combustor by the Multi- channel Gliding Arc Plasma — *Rong FENG, Zhipeng MENG, Jiajian ZHU, Bo WANG, Mingbo SUN, Xiaoqing CHEN, Chao DING (National Innovation Institute of Defense Technology, China)*	**HiSST 2024 - 075** Force Measurement in Shock Tunnel Tests Based on Deep Learning — *Shaojun NIE, Yunpeng WANG (IMCAS, China)*			**HiSST 2024 - 107** Study of Liquid-vapor Phase Change Process inside Porous Cooling Device for Hypersonic Vehicle — *Rui MA, Shibin LI, Zhongwei WANG, Lin WANG, Lei ZHANG (NUDT, China)*
13:00-14:30	Lunch The Party Restaurant (B1, Exhibition Hall)							
14:30-15:30	Keynote Speech 7 — Chair: Dr. Huan LIAN (Institute of Mechanics, Chinese Academy of Sciences, China) — Impact of surface roughness on hypersonic boundary-layer transition: from asymptotics to numerics — *Prof. Ming DONG (Institute of Chinese Academy of Sciences, China)*							
Session	HSA 11	HSA 12	PSC 12	HSM 5	HSM 6	T&E 6	PSC 13	HFH 2
Chairs	Dr. Chris JAMES (UQ, Australia); Dr. Minkwan KIM (Univ. of Southampton, UK)	Dr. Nicholas GIBBONS (UQ, Australia)	Dr. Moritz ERTL (DLR, Germany); Dr. Marc FERRIER (ONERA, France)	Prof. Ali GÜLHAN (DLR, Germany); Dr. Antonio VITALE (CIRA, Italy)	Dr. Luke DOHERTY (Univ. of Oxford, UK); Dr. Martin SIPPEL (DLR-SART, Germany)	Prof. Jeong-Yeol CHOI (PNU, Korea)	Dr. Tim ROOS (TNO, Netherlands); Dr. Ravi PATEL (Eindhoven Univ. of Technology, Netherlands)	Prof. LIANG WANG (Tsinghua Univ., China)
15:30-16:00	**HiSST 2024 - 305** Evaluation of the Particle-based Bhatnagar-Gross-Krook Method in Hypersonic non-Equilibrium Flows — *Woonghwi PARK, Eunji JUN (KAIST, Korea)*	**HiSST 2024 - 045** Shock Wave Structure and Surface Pressure Prediction Using Deep Learning Model — *Min Hyun HAN, Soo Hyung PARK (Konkuk Univ., Korea)*	**HiSST 2024 - 295** Eliminating Atomic Oxygen from RST Nozzle Simulations — *Tristan VANYAI, Nicholas GIBBONS (UQ, Australia)*	**HiSST 2024 - 113** Aerothermal Loads Analysis of ReFEx by Coupled CFD Calculations — *Marius FRANZE, Viola WARTEMANN, C. MERREM, Henning ELSÄSSER, Tobias RUHE, Thino EGGERS, Hendrik WEIHS (DLR, Germany)*	**HiSST 2024 - 207** The HYPLANE Spaceplane — *Gennaro RUSSO, Claudio VOTO (DAC, Italy)*	**HiSST 2024 - 168** Experimental Measurements on Tekna"PlasmaSonic" High Enthalpy Ground Testing Facilities using 350 kW ICPT Plasma Torch to Reproduce Re-entry Conditions of Space Vehicles — *Yazid LAKAF, Siwen XUE, Eric BOUCHARD (Tekna, France)*	**HiSST 2024 - 239** Simulation of DC gliding arcs for supersonic combustion: influence on O2/H2 ignition — *Ancelin ROCAMORA, Fabien THOLIN, Aymeric BOURLET, Julien LABAUNE (ONERA, France), Christophe LAUX (CNRS, France)*	**HiSST 2024 - 223** Influence of Spanwise Wall-Vibration on Bypass Transition in Hypersonic Boundary Layers — *Qinyang SONG, Ming DONG (IMCAS, China), Lei ZHAO (Tianjin Univ., China)*
16:00-16:30	**HiSST 2024 - 209** Numerical Study on the SWBLI Induced Flow Unsteadiness Characterization in a Hypersonic Backward Facing Step — *Vignesh P, Mohammed Ibrahim SUGRANO (IIT Kanpur, India)*	**HiSST 2024 - 307** Particle-based Simulation of Solid Rocket Plume at High Altitude — *Yeongho SHIN, Eunji JUN (KAIST, Korea)*	**HiSST 2024 - 341** A Numerical Simulation on the Unsteady Flow in a GCH4-GOx Small Thrust Chamber — *Hong Yeong PARK, Yun Hyeong KANG, Chang Han BAE, Jeong Soo KIM (PKNU, Korea)*	**HiSST 2024 - 161** Local Surface Inclination Method Calculations for the HEXAFLY-INT Vehicle — *Pedro Paulo BATISTA DE ARAUJO (ITA, Brazil), Roberto YUJITANAKA, Fabio Henrique EUGENIORIBEIRO, Andre Carlos FRAILEJUNIOR, Angelo PASSARO, Lucas GALEMBECK, Giannino Ponchio CAMILLO, Dermeval CARINHANA JR (IAS, Brazil), Johan STEELANT (ESA-ESTEC, Netherlands)*	**HiSST 2024 - 323** Sensitivity Derivatives of a Low-Order Integrated Scramjet Propulsion Model for Gradient-Based Co-Design MDAO — *Amir MITTELMAN, Kieran MACKLE, Rowan GOLLAN (UQ, Australia), Ingo JAHN (UniSQ, Australia)*	**HiSST 2024 - 251** Calibration of the MBDA-Subdray Hypersonic Wind Tunnel n°5 — *Alexandra Duarte ANTONIO, Quentin MOULY, François FALEMPIN (MBDA, France), Gautier VILMART, Christophe BROSSARD (ONERA, France)*	**HiSST 2024 - 194** Simulation of The Mixing of a Supersonic Air Flow with a Transverse Jet under The Conditions of Pulse-Periodic Local Heating — *Aleksandr A. FIRSOV, Luka S. VOLKOV (JIHT RAS, Russian Federation)*	**HiSST 2024 - 247** High Performance Wall Heat Flux Surrogate Models for Vehicles/ Capsules Design Activities and Space Debris Ground Risk Estimation – Review of Onera Recent Developments — *Ysolde PREVEREAUD (ONERA, France)*
16:30-17:00	**HiSST 2024 - 258** High-Fidelity Aerothermoelastic Analysis of Hypersonic Vehicle using Fluid Solid Interface — *Muhammad Danyal KAILANI, Naveed AHMED, Hafiz Sana Ullah BUTT (CESAT, Pakistan)*	**HiSST 2024 - 048** Comparison of Focker-Planck and CFD simulations of the RFZ-ST2 Upper Stage — *Leo BASOV, Moritz ERTL, Tamas BYKERK (DLR, Germany)*	**HiSST 2024 - 218** Mechanisms for Combustion Instability by Micro-Rocket Torch in Scramjet Combustor based on Dynamic Mode Decomposition — *Shinichiro OGAWA (OMU, Japan)*	**HiSST 2024 - 190** Ram-accelerator for Future Low-orbiting Operations — *Daniele DI MARTINO, Elisa DI PAOLA (Univ. of Rome, Italy), Vincenzo ALLEGRA (Thales Alenia Space, Italy), Emanuele RUA (Power and Electronics Subsystem Engineer Rome, Italy), Abdul R., Phanindra PERI, Antonella INGENITO (La Sapienza, Italy), Luana Georgiana STOICA, Alessandro DI MARCO (Univ. of Rome, Italy)*		**HiSST 2024 - 092** Laser Ablation Experiment of Aluminum Alloy in Ma6 Air Crossflow — *Jian LIN, Xing CHEN, Hongbo LU (CAAA, China)*		**HiSST 2024 - 052** Asymptotic Analysis of Heat and Mass Transfer Performance of a Microscale Wavy Wall — *Zhi-Hui WANG, Hui-Jun GAO (UCAS, China)*
17:00-17:30	Closing							