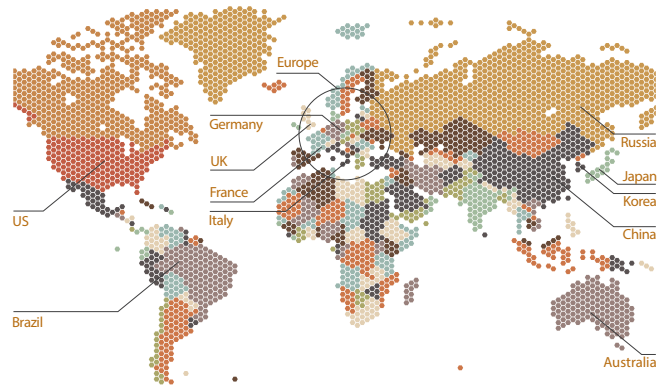


International Technical Committee



Australia	Prof. Vincent Wheatley (Univ. of Queensland)
Brazil	Dr. Marco A.S. Minucci (Institute for Advanced Studies)
China	Prof. Xisheng Luo (Institute of Mechanics, Chinese Academy of Sciences)
Europe	Prof. Johan Steelant, Host of 2 nd HiSST Conference (European Space Agency)
France	Francois Falempin (MBDA)
Germany	Dr. Jan Martinez-Schramm (DLR, German Aerospace Center)
Italy	Dr. Gennaro Russo (DAC, Campania Aerospace District)
Japan	Prof. Masataka Maita (International Aerospace Consulting)
Korea	Prof. Yunghwan Byun (Konkuk University)
Russia	Prof. Sergey Chernyshev, Host of 1 st HiSST Conference (TsAGI)
UK	Prof. Matthew McGilvray (Oxford University)
US	Dr. Adam Siebenhaar, Committee Chairman (Mach 7H Consulting)

Registration Fee

Registration	Delegates	Student/Retiree*
Early-bird	€ 900	€ 500
Regular	€ 1,100	€ 500
On-site	€ 1,150	€ 550

* For €110, students/retirees can buy a ticket of the gala dinner.

The registration fee includes:

- Conference registration
- Conference kit
- Networking lunches
- Two coffee breaks per day
- Welcome party
- Gala dinner
- Farewell party
- Technical tour



Korea and Host City, Busan

Korea is one of the most spirited and colorful countries in the world. In the short time following its dramatic and impressive development, it has managed to maintain the delicate balance between preserving its impressive history and tradition whilst embracing all the conveniences and technology of the modern world.

Busan, the center of various cultural experiences, a space where all possibilities and infinite values exist. A lively and passionate life that blooms in Busan, where cutting-edge technology and nature coexist and has a variety of charms at the same time!



Learn Useful Korean Phrases and Expressions

Here's a list of Korean phrases that you will need to join in on the fun and converse in Korean.

English	Korean	Transliteration
How are you/Hello	안녕하세요	annyeonghaseyo
Nice to meet you	만나서 반갑습니다	mannasuh bangapseumnida
Yes	네	ne
No	아니요	aniyo
Bon appetit/Have a nice meal	잘 먹겠습니다	jal meokkesseumnida
Excuse me	실례합니다	sillyehabnida
Have a nice day	좋은 하루 되세요	joeun haru dweseyo
Thank you	감사합니다	kamsahamnida
I miss you	보고 싶다	bogoshipda
I love you	사랑해	sarang hae

HiSST 2024 Office

Force Monster Co., Ltd
 ✉ info@hisst2024.org

Supported by



2024 HiSST Busan

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

April 14-19, 2024 | Busan, Korea

www.hisst2024.org

Invitation Message

We kindly invite you to the "3rd International Conference on High-Speed Vehicle Science and Technology (HiSST 2024)" to be held in Busan, Korea from April 14 – 19, 2024.

The HiSST community promotes open discussion between research institutions, academia, and industry from around the globe on the research and development of enabling technologies from supersonic to high-speed vehicles. The conference will bring together leading specialists from research companies from all over the world, including invited experts for providing general lectures.

It is very meaningful that South Korea, which recently successfully launched the Korean launch vehicle Nuri, has been selected as the host of the 3rd HiSST conference. With the successful hosting of HiSST 2024, the Korean society of aeronautical and space science will fulfill its role and responsibilities as a member of the International HiSST community.

With your strong support and help, we would like to offer you all with a safe, wonderful, and most enjoyable week-long program. The local host committee will look forward to meeting great colleagues and sharing new and exciting results in high-speed vehicle science and technology.

Prof. Jeong-Yeol CHOI (Pusan National University)
Host of HiSST 2024 (Chair of Local Organizing Committee)

Key Dates (tentative)

Call for abstract	May 10, 2023
Abstract deadline	September 30, 2023
Notification of acceptance	November 15, 2023
Early bird registration	February 15, 2024
Full paper submission deadline	March 15, 2024

Preliminary Program and Social Events (tentative)

Sun, April 14, 2024

- Registration
- Welcome Party

Mon, April 15, 2024

- Global Reviews
- Invited Sessions
- Paper Sessions

Tue, April 16, 2024

- Invited Sessions
- Paper Sessions
- HiSSTTC Meeting

Wed, April 17, 2024

- Invited Sessions
- Paper Sessions
- Gala Dinner

Thu, April 18, 2024

- Invited Sessions
- Paper Sessions
- Farewell Party

Fri, April 19, 2024

- Technical & Cultural Tour

Technical Topics

• High-Speed Missions and Vehicles including:

- Planned and ongoing national and international high-speed vehicle programs and missions
- Advanced launch vehicle concepts and hypersonic atmospheric flight vehicle concepts including commercial space tourism, intercontinental transport and (re)-entry
- Design, development and manufacturing of related technologies and components, both for reusable and expendable applications
- Overall system performance & optimization
- Design methodologies and engineering models

• Propulsion Systems and Components including rocket, ramjet, dual mode ramjet, scramjet, rocket and turbine combined cycles, detonation engines, electric propulsion and other advanced propulsion systems addressing:

- Advanced cycles & concepts including plasma assisted combustion techniques covering full Mach range with application to hypersonic regimes
- System & component performance, development & manufacturing: inlets, isolators, combustors, injectors, ignition, flameholding, nozzles...
- Combustion and mixing processes incl. ignition, flame-out, instabilities...
- Airframe interaction and integration
- Conventional, cryogenic & alternative fuels, additives, catalysis
- Propulsion and fuel (sub)systems: feed-lines, pumps, tanks...
- Advanced computational techniques, CFD & engineering models

• Thermal, Energy and Management Systems for vehicle, subsystems, and payload, including sources, conversion and distribution systems addressing:

- Thermal protection, heat exchangers, cooling, coating & ablative systems
- Active and Passive systems
- System & component performance, development & manufacturing
- On-board power generation and environmental control
- Design methodologies, engineering models and advanced computational techniques

• Guidance & Control Systems including flight mechanics, guidance, navigation, routing, trajectory optimization, operations research, sensors, actuators, controllers and algorithms, and health monitoring addressing:

- Flight control and trajectory optimization techniques
- Health monitoring and management, fault detection isolation and recovery, health and usage monitoring systems
- System & component performance, development & manufacturing
- Advanced computational techniques, CFD & engineering models

• Materials and Structures for vehicle and all subsystems covering:

- Metallic & non-metallic materials for hot and cooled structures and thermal protection systems
- Active/functional materials
- Hot, cold and integrated structural architectures incl. conformal layouts
- Quality control, damage tolerance, structural health monitoring and survivability
- Materials manufacturing and processing
- Advanced modelling & computational techniques

• High-Speed Aerodynamics and Aerothermodynamics with application to hypersonic regimes covering full Mach range from take-off, cruise and (re)-entry including:

- Numerical and experimental studies including aero-thermodynamics, stability-transition-turbulence, MHD, gas physics and chemistry, radiation physics, destructive re-entry
- Numerical and experimental thermal studies incl. passive and active heat transfer, regenerative, transpiration, ablation, pyrolysis, endothermic decomposition...
- Advanced modelling & computational techniques: development and validation
- Multi-disciplinary techniques and models: fluid-structure interaction, conjugate heat transfer, CFD/flexible and rigid body dynamics...

• Testing & Evaluation covering:

- Ground and in-flight test facilities, flight test operations and simulations

- Diagnostics and data systems
- Scale limitations and facility effects
- Validation and verification
- Facility modelling & simulation

• Operation and Environment including:

- Economic and market analysis incl. cost modelling
- Regulatory, certification, operation, maintenance, health & safety issues: on-ground and in-flight
- Environmental effects including sonic boom, noise and emissions
- Infrastructure and traffic management

• Hypersonic Fundamentals and History including:

- Theoretical and analytical studies including aero-thermodynamics, stability-transition-turbulence, SWBLI, MHD, gas physics and chemi-stry, radiation physics, fluid-structure interaction and destructive re-entry
- Theoretical and analytical thermal studies incl. passive and active heat transfer, regenerative, transpiration, ablation, endothermic decomposition...
- Basic materials science for high temperature and aggressive environment, life-time predictions...
- Historical aspects, analyses and assessments and lessons learned
- Educational initiatives and workforce development activities

