CONFERENCE PROGRAM

The 4th Asian Aerospace and Astronautics Conference (AAAC 2026)

Hongkong, China | August 21-23, 2026

Venue:

City University of Hong Kong (CityU)

Address: 83 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong, China

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Welcome Address

Distinguished guests, esteemed colleagues, ladies and gentlemen,

On behalf of the organizing committee, it is our great honor to extend a heartfelt welcome to all attendees of the 2026 4th Asian Aerospace and Astronautics Conference (AAAC 2026), scheduled to be held in Hongkong, China from August 21-23, 2026.

The conference is co-sponsored by Nanjing University of Science and Technology (NJUST), IEEE and SCIEI, local organized by City University of Hong Kong (CityU) and IEEE, patrons with Nanyang Technological University (NTU), Samara University, Nanjing University of Aeronautics and Astronautics, Department of Aeronautical and Aviation Engineering (AAE) of The Hong Kong Polytechnic University (PolyU), York University, Bauman Moscow State Technical University (BMSTU) and etc.

This year, the 4th Asian Aerospace and Astronautics Conference (AAAC 2026) serves as a vital platform for fostering collaboration, exchanging cutting-edge research, and addressing the global challenges in aerospace engineering and astronautics—covering areas such as aircraft design, space systems, propulsion technologies, avionics, materials and structures, guidance and control, as well as emerging space applications. As we face pressing issues such as climate monitoring, space security, sustainable space exploration, and the digital transformation of the aerospace industry, your contributions and discussions here will play a pivotal role in shaping a more resilient, innovative, and technologically advanced future for Asia and beyond.

We would like to extend my heartfelt gratitude to our organizing committee, sponsors, and partners for their tireless efforts in making this event possible. To our speakers, presenters, and participants, thank you for your dedication to advancing the field and for sharing your expertise with us. Your presence here today enriches the dialogue and inspires us all to push the boundaries of what is possible. Together, let us make the 4th Asian Aerospace and Astronautics Conference not just a gathering of minds but a catalyst for meaningful change.

Thank you, and welcome to AAAC 2026!

Organizing Committees of AAAC 2026
August, 2026

Conference Committees

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Xi Shen, The Hong Kong Polytechnic University
Hao Zhu, Beihang University
Yuntao Guo, Beijing Institute of Technology
Bing XU, The Hong Kong Polytechnic University

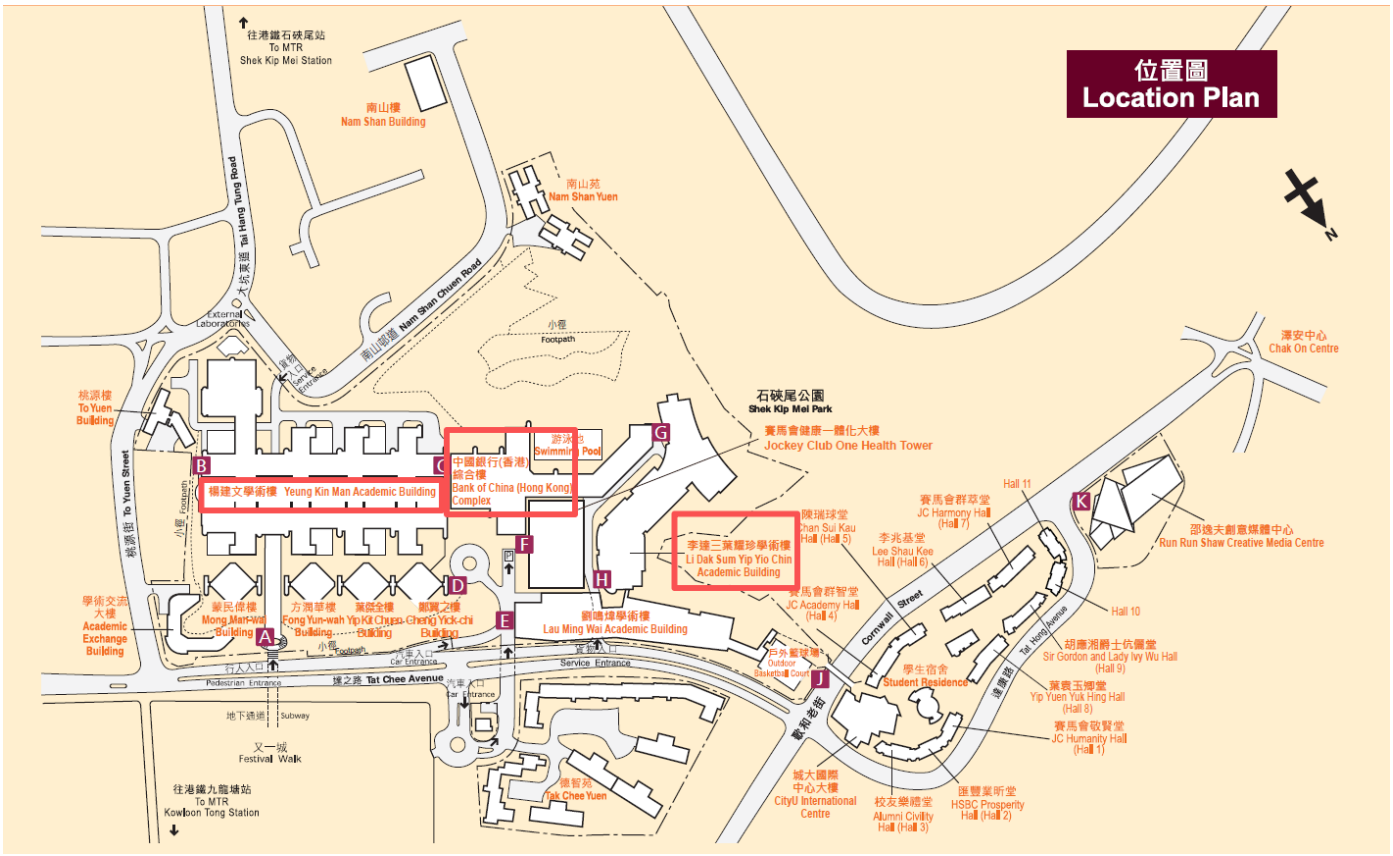
Local Information

❖ Conference Venue

City University of Hong Kong (CityU)
香港城市大学

Address: 83 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong, China
地址：香港特别行政区九龙九龙塘达之路 83 号

❖ Campus Map



❖ Conference Room Schedule

Building	Floor	Meeting Room	August 21	August 22	August 23
Li Dak Sum Yip Yio Chin Academic Building (李達三葉耀珍學術樓)	3F	3505	Sign in	Sign in & Plenary Speech	----
Yeung Kin Man Academic Building (楊建文學術樓)	4F	LT-3	----	Invited Speech Onsite Oral Session 1 & 5	----
		LT-7	----	Invited Speech Onsite Oral Session 2 & 6	----
		LT-8	----	Invited Speech Onsite Oral Session 3 & 7	----
		LT-9	----	Invited Speech Onsite Oral Session 4 & 8	----
		LT-18	----	Poster Session 1 & 2	----
Bank of China (Hong Kong) Complex (中國銀行(香港)綜合樓)	9F		----	Lunch	----
	8F		----	Dinner	----

❖ Time Zone

- Hong Kong Time: UTC +8

❖ Conference Tips

- Please take care of your valuable articles and don't place them in the conference rooms or other public place to prevent from being lost.
- Please don't throw your name card away when you don't need it, just return it to the registration table.
- Conference organizers do not provide accommodation, please reserve your hotel room in advance.
- Please keep your Lunch/ Dinner Coupon in a safe place. We will not give you a new one if get lost.

Author Guideline

FOR ONSITE PRESENTERS

Oral Presentation

- Each oral presentation is allocated a **10-minute** time slot, including presentation and Q&A time.
- Your punctual arrival and active involvement in each session will be highly appreciated.
- Get your Presentation PPT slides, or PDF files prepared in advance and backed up.
- Laptop, projector & screen, laser sticks will be provided in the meeting room for presentation use.

Poster Presentation

- No fixed template is required; presenters may design your own posters. **Poster size: 0.6m width X 0.8m height (or A1 size)**.
- **Poster to be printed and brought to conference venue by presenter self.**
- Each poster presentation is allocated **2–3 minutes** for the presenter to introduce your poster.

FOR ONLINE ORAL PRESENTERS

Online Platform--Zoom

- Install Zoom tool on your device (https://zoom.us/download), join the meeting by click the Zoom link or insert the meeting ID, with audio and video on.
- For presenters: rename yourself with “ID+Name”, such as “S1-A1001 +Name”.
- For Keynote Speaker, IS or Session Chair, please rename as “KN/IS/SC+Name”.
- Laptop with stable internet connection (wired connection preferred).
- Headsets or earphones are recommended to be used during presentation to avoid howling.
- Keep muted when the other presenters speaking until it’s your turn to present, then you could unmute yourself.
- **Only oral choice for online presentations.** Each online oral presentation is allocated a **10-minute** time slot, including presentation and Q&A time.

Time Zone

- Whole conference scheduled in **Hong Kong Time**: **UTC+8**
- Please make sure your device time is set to correct time zone.

Recording

- Plenary session and online sessions will be recorded; your proper behavior and appearance will be appreciated. Only staff will record the video, presenters will not be allowed to record.

ONLINE ROOM INFORMATION

❖ Zoom Meeting ID

Zoom Online Room	Meeting ID	Zoom Link
Room A	874 2332 5202	https://us02web.zoom.us/j/87423325202

❖ Online Zoom Test

Time | August 21	Room A Zoom ID: 874 2332 5202
10:30-11:30	Presenter Test

Conference Agenda

Day 1 | August 21, 2026 (Friday, UTC +8)

Time	Activity	Venue
10:00-16:30	Sign in & Conference Kit Collection	Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 李達三葉耀珍學術樓 · 3 楼 · 3505
10:30-11:30	Online Test	Zoom ID: 874 2332 5202 Zoom Link: https://us02web.zoom.us/j/87423325202

Day 2-Morning | August 22, 2026 (Saturday, UTC +8)

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)

Time	Activity	
Host: Peng Zhang, City University of Hong Kong		
09:00-09:10	Opening Remarks	**Danhe Chen** **Nanjing University of Science and Technology**
	Welcome Address	**Yong Yang** **City University of Hong Kong**
	Program Address	**Jinsheng Xu** **Nanjing University of Science and Technology**
09:10-09:40	Plenary Speech 1	**Wenhe Liao** Nanjing University of Science and Technology **Speech Title:** *Design and Manufacturing of Ultra-Large Scale Lattice Structures*
09:40-10:10	Plenary Speech 2	**Lim Wee Seng** Nanyang Technological University **Speech Title:** *Mission Control at Scale: Ground Segment Operations in the Age of Mega-Constellations*
10:10-10:40	Best Paper Award & Group Photo & Coffee Break	
Host: Tingting Liu, Nanjing University of Science and Technology		
10:40-11:10	Plenary Speech 3	**Jian Lv** City University of Hong Kong **Speech Title:** *Recent Development of Advanced Material and Structure for Space Applications via Biomimetic Design and Additive Manufacturing*

11:10-11:40	**Plenary Speech 4**	**Hui Tang** The Hong Kong Polytechnic University **Speech Title:** *Efficient-Sampling-Based Deep Active Optimization for Complex Aerodynamic Systems*
11:40-12:10	**Plenary Speech 5**	**Nam Seo Goo** Konkuk University **Speech Title:** *Thermal Protection Systems of Reusable Launch Vehicles*
12:10-13:30	**Buffet Lunch @ Faculty Lounge** **Bank of China (Hong Kong) Complex · 9F** **(中國銀行(香港)綜合樓 · 9 樓)**	

Day 2-Afternoon | August 22, 2026 (Saturday, UTC +8)

Time	Activity	Venue
13:30-15:30	**Invited Speech 1: Ivan S. Tkachenko** Samara University **Speech Title:** *Scientific Research and Training of Specialists based on Small Satellite Projects: The Experience of Samara University*	**Yeung Kin Man Academic Building · 4F · LT-3** **(楊建文學術樓 · 4 樓 · LT-3)**
	Invited Speech 2: Ling Keck Voon Nanyang Technological University **Speech Title:** *GNSS Localization Using Mobile Devices: From Model-based to Data-driven Methods*	
	Onsite Oral Session 1	
	Invited Speech 3: Xiangyu Meng Nanjing University of Aeronautics and Astronautics **Speech Title:** *Three-dimensional Burning Surface Spatiotemporal Distribution Prediction Technology for Wheel-shaped Hybrid Rocket Motors*	**Yeung Kin Man Academic Building · 4F · LT-7** **(楊建文學術樓 · 4 樓 · LT-7)**
	Onsite Oral Session 2	
	Invited Speech 4: Mingliang Bai Beihang University **Speech Title:** *Superconducting Hydrogen-Electric Propulsion for Zero-Carbon Aviation: Multi-Field Coupling and System-Level Optimization*	**Yeung Kin Man Academic Building · 4F · LT-8** **(楊建文學術樓 · 4 樓 · LT-8)**
	Onsite Oral Session 3	

	Invited Speech 5: Shuai Zhang Institute of Mechanics, Chinese Academy of Sciences **Speech Title:** *New Developments and Application Exploration of Multidisciplinary Design Optimization (MDO) for Aircraft*	**Yeung Kin Man Academic Building · 4F · LT-9** **(楊建文學術樓 · 4 樓 · LT-9)**
	Onsite Oral Session 4	
15:30-16:10	**Poster Session 1** **&** **Coffee Break**	**Yeung Kin Man Academic Building · 4F · LT-18** **(楊建文學術樓 · 4 樓 · LT-18)**
16:10-17:40	**Onsite Oral Session 5**	**Yeung Kin Man Academic Building · 4F · LT-3** **(楊建文學術樓 · 4 樓 · LT-3)**
	Onsite Oral Session 6	**Yeung Kin Man Academic Building · 4F · LT-7** **(楊建文學術樓 · 4 樓 · LT-7)**
	Onsite Oral Session 7	**Yeung Kin Man Academic Building · 4F · LT-8** **(楊建文學術樓 · 4 樓 · LT-8)**
	Onsite Oral Session 8	**Yeung Kin Man Academic Building · 4F · LT-9** **(楊建文學術樓 · 4 樓 · LT-9)**
17:40-18:20	**Poster Session 2**	**Yeung Kin Man Academic Building · 4F · LT-18** **(楊建文學術樓 · 4 樓 · LT-18)**
18:30-20:00	**Dinner @ City Chinese Restaurant（城大中菜廳）** **Bank of China (Hong Kong) Complex · 8F** **(中國銀行(香港)綜合樓 · 8 樓)**	

Day 3 | August 23, 2026 (Sunday, UTC +8)

Time	Onsite Activity
09:30-11:00	参观（自愿选择） Visiting (Optional) 南京理工大学香港科创研究院 HONG KONG SCIENCE & TECHNOLOGY INNOVATION RESEARCH INSTITUTE NANJING UNIVERSITY OF SCIENCE AND TECHNOLOGY 地址：香港数码港（港南区数码港道 100 号数码港 3 座 D 区 7 楼） Address: 7/F, Area D, Building 3, Cyberport, 100 Cyberport Road, Southern District, Hong Kong

Time	Online Activity	Venue
10:00-11:20	Online Oral Session 9	ROOM A Zoom ID: 874 2332 5202 ZOOM Link: https://us02web.zoom.us/j/87423325202
11:20-13:30	Break	
13:30-14:50	Online Oral Session 10	ROOM A Zoom ID: 874 2332 5202 ZOOM Link: https://us02web.zoom.us/j/87423325202

Plenary Speaker

Time: 09:10-09:40 August 22

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)

Wenhe Liao
Nanjing University of Science and Technology

Speech Title: ***Design and Manufacturing of Ultra-Large Scale Lattice Structures***

Abstract: Ultra-large-scale lattice structures have attracted increasing attention in aerospace, energy systems, and thermal management owing to their lightweight characteristics, high specific strength, high specific stiffness, and multifunctional integration capability. As structural size and geometric complexity continue to increase, conventional manufacturing approaches face substantial challenges in fabricating complex internal architectures, achieving integrated manufacturing, and maintaining dimensional stability in large-scale structures. This presentation focuses on the design and manufacturing of ultra-large-scale lattice structures. Key topics include complex lattice topology design, multi-scale lightweight optimization, and multifunctional integrated structural design strategies. Furthermore, based on the laser powder bed fusion process, critical issues and regulation mechanisms related to fabrication accuracy, manufacturing stability, thermal evolution, and defect control in ultra-large-scale lattice structures are discussed. Finally, representative engineering applications and future perspectives of ultra-large-scale lattice structures in high-performance equipment, advanced thermal management, and intelligent manufacturing are highlighted.

Biodata: Prof. Wenhe Liao is a leading professor working at the School of Mechanical Engineering of Nanjing University of Science and Technology. He is a member of the Expert Committee of the Additive Manufacturing Alliance of China, a standing director of Chinese Society of Astronautics, a standing director of Chinese Society of Aeronautics and Astronautics. He has led the team to develop intelligent additive manufacturing technology integrating structural lightweight design, process optimization, online monitoring, manufacturing of 3D structural circuits. He has devoted to the construction of an intelligent AM system and its industrial application. To date, under his supervision, some hardware and software systems for AM have been developed together with the process parameter library, high efficiency AM process software, lightweight design software and molten pool monitoring system.

Plenary Speaker

Time: 09:40-10:10 August 22

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)

Lim Wee Seng
Nanyang Technological University

Speech Title: ***Mission Control at Scale: Ground Segment Operations in the Age of Mega-Constellations***

Abstract: Making a satellite is difficult. Operating one successfully throughout its mission is even harder. In the coming decade, satellite operators will no longer manage a handful of spacecrafts, but entire constellations distributed across multiple orbits and supported by networks of geographically dispersed ground stations.

Future mission operators must rapidly understand the health, status, priorities, and opportunities across dozens or even hundreds of satellites while dynamically assigning tasks and communication resources in real time. At the same time, with the emergence of numerous launch providers and the rapid growth of commercial constellations, we may soon see hundreds of thousands of satellites operating in the crowded low Earth orbit environment.

How does an operator decide when to execute a collision avoidance manoeuvre without creating a new conjunction risk? What information is truly needed to make the right decision, and how should that information be presented? This talk explores the future of ground station networks, mission control architectures, AI-assisted operations, and decision-support systems that will enable operators to safely and efficiently manage the increasingly complex space environment.

Biodata: LIM Wee Seng is the Executive Director of the Satellite Research Centre (SaRC) at Nanyang Technological University (NTU), Singapore. He leads NTU's satellite programmes, overseeing the end-to-end design, development, launch, and operations of more than 10 nano- and microsatellites, supported by cumulative project funding exceeding S$40 million.

In his current role, he is driving NTU Space initiatives such as AI Space and in-orbit edge computing, supporting the transition of satellites from traditional data acquisition platforms toward more intelligent and autonomous systems. He works closely with faculty and research teams on integrating onboard processing, ground system intelligence, and space situational awareness capabilities, enabling more responsive and informed in-orbit operations. His work also supports the development of remote sensing applications, translating satellite data into useful insights for environmental monitoring, disaster response, and urban analytics.

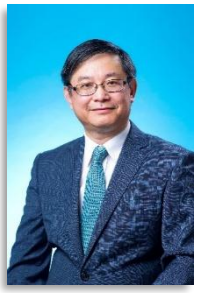
Prior to joining NTU, Mr Lim was a Senior Manager at Renesas, where he led the microcontroller business unit, overseeing product marketing and R&D in embedded systems. He drove sustained commercial growth, achieving monthly sales exceeding USD 10 million. Over his career, he has designed and managed the development of more than 30 industry-grade products across multiple technology domains.

Mr Lim holds a Bachelor of Engineering (Honours) in Electrical and Electronic Engineering from NTU (1996).

Plenary Speaker

Time: 10:40-11:10 August 22

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)



Jian Lv
City University of Hong Kong

Speech Title: ***Recent Development of Advanced Material and Structure for Space Applications via Biomimetic Design and Additive Manufacturing***

Abstract: This presentation will feature our discovery of structural and functional materials for aerospace and mechanical systems. The material achieved by various additive manufacturing techniques and AI empowered design will be reported: newly developed ultrahigh specific strength alloys for reusable space launcher and structure, supra-nanostructured and Turing structured materials. The application of advanced materials on various areas will be discussed: 3D/4D printing of lightweight space materials and structure; additive manufacturing of complex shape high temperature resistant structure, lightweight highly efficient thermal management system, ultrahigh sensitivity SERS (Surface Enhanced Raman Spectroscopy) for space exploration; highly efficient catalysis for new hydrogen energy solution via circular splitting water and fuel cell system.

Biodata: Prof. Sir. Jian LU is Chair Professor of Mechanical Engineering, former Vice President Research and Technology (VPRT) and Dean of the College of Engineering at the City University of Hong Kong. President of HK-MRS. Professor LU's primary research interest is development of advanced materials and its integration in aerospace, energy, and mechanical systems. He was elected as an academician by the National Academy of Technologies of France in 2011 and Fellow of Hong Kong Academy of Engineering in 2012. He was elected as Fellow of the National Academy of Inventors (NAI) in 2025 and he is an inventor of 90 granted patents in Europe, China and USA including 53 granted US patents. He published more than 650 journal papers including articles in Nature (cover story), Science, Nature Materials, Nature Chemistry, Nature Water, Nature Communications, Science Advances, PNAS and his research works are cited more than 60000 times with H-index of 111. He is listed by the Clarivate as Highly Cited Researcher for 2025. He received the French Knight of the National Order of Légion d'Honneur in 2017 and the Guanghua Engineering Science and Technology Award from the Chinese Academy of Engineering in 2018.

Plenary Speaker

Time: 11:10-11:40 August 22

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)

Hui Tang
The Hong Kong Polytechnic University

Speech Title: ***Efficient-Sampling-Based Deep Active Optimization for Complex Aerodynamic Systems***

Abstract: To address the challenges of high experimental or computational costs in complex engineering problems, this study introduces the Deep Active Neural Tree Exploration (DANTE) architecture—a deep neural network surrogate-assisted active tree-search optimization framework—into aerodynamic shape optimization problems. The global optimum search capability of this architecture on high-dimensional, multi-peaked problems is validated. The test cases employed include the RAE 2822 airfoil with 20 design variables and the M6 wing with 36 design variables, with optimization objectives encompassing lift enhancement and drag reduction. To reduce computational cost and fully utilize existing data, high-fidelity Kriging models are established for different optimization objectives to predict the aerodynamic performance of new geometries. Compared with traditional Bayesian optimization, DANTE reduces the number of samples required to identify the global optimum by over 70%, significantly improving optimization efficiency. Furthermore, DANTE can rapidly bypass local optima while maintaining exploratory behavior in the vicinity of the global optimum. These substantial performance improvements highlight the strong potential of this method for practical engineering applications.

Biodata: Professor TANG Hui is now a Professor of Mechanical Engineering at The Hong Kong Polytechnic University. His research spans various areas of fluid mechanics, with particular emphasis on flow control and fluid–structure interaction. He has published over 140 papers in renowned journals in the field, including 5 ESI highly cited papers. In 2024, he was elected a Fellow of the Royal Aeronautical Society (FRAeS). In 2025, he chaired the International Symposium on AI Empowered Fluid Mechanics in Hong Kong. He currently serves on the editorial boards of several journals, as Vice President of the Institute for Liquid Atomization and Spray Systems – Hong Kong (ILASS HK), as Secretary General of the Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM), and as Deputy Director of the Intelligent Fluid Mechanics Professional Group of the Chinese Society of Aerodynamics.

Plenary Speaker

Time: 11:40-12:10 August 22

Venue: Li Dak Sum Yip Yio Chin Academic Building · 3F· 3505 (李達三葉耀珍學術樓 · 3 楼 · 3505)

Nam Seo Goo
Konkuk University

Speech Title: ***Thermal Protection Systems of Reusable Launch Vehicles***

Abstract: This speech outlines the concepts, types and design method of thermal protection systems (TPS) for reusable launch vehicles. A robust TPS is essential to protect reusable launch vehicles from severe aerodynamic heating encountered during atmospheric re-entry. While metallic TPS offers excellent thermal protection performance and structural stability, it has limitations when applied to the curved surfaces of re-entry vehicles, where aerodynamic design is critical. To overcome this drawbacks, flexible external insulation (FEI) was investigated to achieve design flexibility for curved structures while maintaining adequate thermal protection performance. For the practical application of FEI, it is necessary to establish a reliable thermal property database and to verify its thermal protection capability. This presentation describes the processes involved in the design and characterization of FEI.

Biodata: Dr. Nam Seo Goo graduated from department of Aeronautics Engineering of Seoul National University with honors in 1990 and subsequently earned his master and Ph. D degrees in department of Aerospace Engineering at the same university in 1992 and 1996, respectively. His Ph. D. degree was on the structural dynamics of aerospace systems. As soon as he got a Ph. D. degree, he entered the Agency for Defense Development as a senior researcher. He joined Department of Aerospace Engineering in Konkuk University, Seoul, Korea in 2002 and currently serves as a professor of Department of Mechanical and Aerospace Engineering. He was nominated as a Young Scientist by Korea Science & Engineering Foundation, in 2003 and received the First Prize for Outstanding Research Achievements from the Korean Society for Aeronautical & Space Sciences in 2021. Additionally, in 2025, he the KSME Outstanding Research Award of Dynamics, Control and Robotics Division in 2025. He served as the division chair of Dyanmics, Control and Robot in the Korean Society of Mechanical Engineers in 2022 and currently serves as the president of the Korean Society for Aeronautical & Space Sciences. His primary research interests are thermal protection system, structural dynamics of aerospace systems, smart structure and material, and opto-mechanics. He has published 88 papers in SCIE-indexed journals as the corresponding author.

Invited Speaker

Time: 13:30-13:50 August 22

Venue: Yeung Kin Man Academic Building · 4F · LT-3（楊建文學術樓 • 4 楼 • LT-3）

Ivan S. Tkachenko
Samara University

Speech Title: ***Scientific Research and Training of Specialists based on Small Satellite Projects: The Experience of Samara University***

Abstract: This paper provides an overview of scientific research and the training of specialists for the space industry at Samara University, based on small satellites. A distinguish feature of the approach is the stratification by level of complexity (there are projects for school teams, undergraduates, as well as graduate students and young scientists), by the purpose of the satellite (educational goals; technology demonstrartion; Earth monitoring; scientific experiments in space and research), as well as by the degree of industrial partners' involvement in the projects (joint development and creation, use of ready made platforms, full cycle development at the university). The presentation will also demonstrate some results of the in-orbit operation of Samara University's small satellites.

Biodata: Dr. Ivan S. Tkachenko is the director of the Institute of Aerospace Technology. He also heads the Advanced Aerospace Engineering School "Integrated Technologies in the Creation of Aerospace Engineering", established at Samara University in 2022. From 2013 to 2023, he worked as a leading researcher at the Space-Rocket Center "Progress" (Samara, Russia), being the responsible executor of projects for the creation of small satellites for scientific, educational and experimental purposes of the "AIST" series. He has published more than 150 peer-reviewed journal papers, including 47 indexed in the Scopus database. He is the author of 4 monographs and 30 patents for inventions. Dr. Tkachenko is a corresponding member of the Russian Academy of Cosmonautics named after K. E. Tsiolkovsky, as well as the Academy of Navigation and Control. He is a laureate of the Yuri Gagarin Prize of the Government of the Russian Federation in the field of space activities for 2021.

Invited Speaker

Time: 13:50-14:10 August 22

Venue: Yeung Kin Man Academic Building · 4F · LT-3（楊建文學術樓 • 4 楼 • LT-3）

Ling Keck Voon
Nanyang Technological University

Speech Title: ***GNSS Localization Using Mobile Devices: From Model-based to Data-driven Methods***

Abstract: Advances in GNSS technologies and the ever-increasing capabilities of mobile devices have fuelled many useful applications and opportunities. In this talk, I will describe my PhD student's journey in seeking techniques to improve the GNSS localization accuracy of low-cost mobile devices. In particular, the journey began with the well-established model-based design methods, evaluating their localization performances using raw GNSS measurements collected from low-cost Android devices. While model-based techniques can reduce the impact induced by pseudorange inaccuracy, it is still challenging to eliminate the pseudorange errors that were caused by multipath, non-line-of-sight (NLOS) propagation, etc. This journey demonstrated the value of marrying the knowledge encapsulated in the well-established model-based methods with the emerging datadriven paradigm.

Biodata: Dr Keck Voon LING is an Associate Professor at the Nanyang Technological University (NTU) in the School of Electrical and Electronic Engineering (EEE). He is also the current Chairman of the EEE Accreditation Committee since 2020 and was the Deputy Programme Lead (2022-2025) of the Master of Science (Computer Control & Automation) Programme. He was previously Deputy Head of the Control and Automation Division (2006-2008) in the School of EEE, and was concurrently Programme Manager of A*STAR Embedded and Hybrid Systems II (EHS-II) Research Programme (2006-2010) where he oversaw R&D efforts in Body Sensor Networks for Healthcare Applications. In 2010, Dr LING chaired the International Conference on Body Sensor Networks that was held in Singapore. He was in the organising committee, served as Financial Chair, of the 2018 IEEE International Conference on Intelligent Rail Transportation. Dr LING obtained a BEng (First Class) in Electrical Engineering from the National University of Singapore in 1988 and a DPhil in Control Engineering at Oxford University in 1992. He was awarded the Commonwealth Fellowship by the Association of Commonwealth Universities in 2001 and the Tan Chin Tuan Fellowship by NTU in 2006. Dr LING was a visiting researcher at the Department of Engineering, University of Cambridge in 2001 and 2006. He was appointed as a senior scientist at the Singapore Institute of Manufacturing Technology (SIMTech) from 2005 to 2010. In 2016, he was a visiting by-fellow at Churchill College, Cambridge University. Dr LING's research interests include Model Predictive Control, Receding Horizon Estimation, and their embedded implementation on reconfigurable computing platforms and applications. In recent years, his focus is on applying his research in control and estimation to multi-band GNSS software receiver, navigation and positioning applications, as well as smart grid and power systems applications.

Invited Speaker

Time: 13:30-13:50 August 22

Venue: Yeung Kin Man Academic Building · 4F · LT-7（楊建文學術樓 • 4 楼 • LT-7）

Xiangyu Meng
Nanjing University of Aeronautics and Astronautics Sciences

Speech Title: ***Three-dimensional Burning Surface Spatiotemporal Distribution Prediction Technology for Wheel-shaped Hybrid Rocket Motors***

Abstract: The wheel-shaped hybrid rocket motor has the advantages of large thrust and continuous adjustability, which meets the demand for intelligent control of the power system of the new generation of air and aerospace vehicles. In order to realize the intelligent control of the motor, it is necessary to grasp the real-time performance of the motor, so it is necessary to carry out the numerical simulation research considering the dynamic change of the combustion surface, but the three-dimensional combustion surface spatio-temporal distribution is very complex, and the existing model is difficult to realize the accurate prediction of the combustion surface and performance, which seriously restricts the development of the motor performance prediction technology. Therefore, to carry out the wheel-shaped hybrid rocket motor three-dimensional combustion surface spatio-temporal distribution prediction technology research has an important application value. This paper establishes a three-dimensional dynamic numerical simulation model of wheel-shaped hybrid rocket motor, adopts the dynamic mesh technology based combustion surface prediction model and coupled with the discrete Laplace operator mesh smoothing method, completes the prediction of three-dimensional combustion surface spatial-temporal distribution of the wheel-shaped grain, and systematically analyzes the three-dimensional combustion surface spatial-temporal distribution and the change of performance parameters. This paper realizes the dynamic change of the combustion surface of wheel-shaped hybrid rocket motor, which provides a reference for the development of performance prediction technology of other complex fuel shape in hybrid rocket motors.

Biodata: Associate Professor at the College of Astronautics, Nanjing University of Aeronautics and Astronautics. The main research focus includes advanced aerospace power system design, rotating detonation rocket engines, and hybrid rocket motors. He serves as a professional member of the International Deep Space Exploration Society, China Society of Astronautics, and Chinese Society of Aeronautics and Astronautics. He also holds editorial positions as a Young Editorial Board Member for Nano Micro Letters and Exploration, as well as for the Journal of National University of Defense Technology. He has published 30+ papers in reputable journals and conferences, including Aerospace Science and Technology, Chinese Journal of Aeronautics, and Acta Astronautica, and won the Wu Zhonghua Award for Outstanding Doctoral Dissertation by the Chinese Society of Engineering Thermophysics in 2025.

Invited Speaker

Time: 13:30-13:50 August 22

Venue: Yeung Kin Man Academic Building · 4F · LT-8（楊建文學術樓 • 4 楼 • LT-8）

Mingliang Bai
Beihang University

Speech Title: ***Superconducting Hydrogen-Electric Propulsion for Zero-Carbon Aviation: Multi-Field Coupling and System-Level Optimization***

Abstract: Achieving carbon-neutral aviation demands a fundamental shift in propulsion paradigms. Liquid hydrogen, with its exceptional specific energy and zero-carbon combustion, combined with superconducting electrical systems capable of near-lossless power delivery at significantly reduced weight, offers a compelling pathway toward high-power, zero-emission flight. However, the deep integration of hydrogen energy conversion, superconducting power transmission, and cryogenic thermal management introduces complex multi-field coupling effects—spanning thermodynamic, electromagnetic, and electrochemical domains—that critically constrain system efficiency, stability, and scalability. These coupling challenges remain insufficiently understood and constitute a primary barrier to practical deployment. This report addresses the above issues through a systematic investigation of superconducting hydrogen-electric propulsion architectures. The representative system configurations and their hydrogen–electric–thermal coupling mechanisms are analyzed. Key enabling technologies, including hydrogen turbines, fuel cells, superconducting powertrains, and integrated cryogenic thermal management, are reviewed with focus on current bottlenecks. A multi-field coupling optimization framework is then proposed and validated on civil aircraft platforms, demonstrating improved energy efficiency and operational adaptability for future green aviation propulsion systems.

Biodata: Dr. Mingliang Bai is currently a Postdoctoral Research Fellow at Beihang University, China. He received his Ph.D degree in Aerospace Propulsion Theory and Engineering from Beihang University in 2025. His research focuses on superconducting electric machine systems, integrated energy management, and hydrogen-powered aircraft. He has authored over 20 peer reviewed journal and conference papers, published in Int. J. Hydrog. Energy, Chin. J. Aeronaut., and Green Energy Intell. Transp., and participated in ten national and provincial research projects. Dr. Bai acts as a regular reviewer for numerous international journals and conferences. His academic honor includes the Science and Technology Progress Award of China Electrotechnical Society.

Invited Speaker

Time: 13:30-13:50 August 22

Venue: Yeung Kin Man Academic Building · 4F · LT-9（楊建文學術樓 • 4 楼 • LT-9）

Shuai Zhang
Institute of Mechanics, Chinese Academy of Sciences

Speech Title: ***New Developments and Application Exploration of Multidisciplinary Design Optimization (MDO) for Aircraft***

Abstract: Multidisciplinary Design Optimization (MDO) for aircraft was formally defined by AIAA in the 1990s. NASA subsequently introduced MDO processes into the development of several advanced demonstrators and related projects, significantly improving design efficiency and the degree of disciplinary integration. MDO technology was then gradually promoted and applied in industry. In 2007, the International Council on Systems Engineering (INCOSE) released a clear definition of Model-Based Systems Engineering (MBSE), and the MBSE methodology began to take shape. The integration of MDO and MBSE has since entered a stage of large-scale accelerated application. In 2016, GPUs were widely adopted for AI training; big data, deep learning, and multi-layer neural networks have driven the reintroduction of AI technology into MDO engineering applications, with MDO rapidly evolving toward intelligent systems engineering.

This report first reviews cases of MDO methodology research and engineering applications in which the presenter participated or gained knowledge during doctoral studies at Nanjing University of Aeronautics and Astronautics, summarizing challenges faced by traditional MDO methods. It then describes the application and exploration of MDO in civil aircraft pre-research and conceptual design. Next, it introduces recent attempts by the team over the past three years to integrate AI technology into aircraft MDO. Finally, the presenter offers several reflections on the impact of AI technology on the future development and application of aircraft MDO.

Biodata: Ph.D. in Aircraft Design from Nanjing University of Aeronautics and Astronautics (NUAA). Mainly engaged in aircraft conceptual design and multidisciplinary design optimization (MDO). Research focuses on aircraft design parameters analysis and multidisciplinary optimization methodologies. Developed design parameters analysis and optimization design workflows for various types of aircraft, which have been successfully applied in multiple production model programs and pre-research projects.

Previously served as Technical Expert for Conceptual Design, Deputy Chief Engineer at the Aircraft Level, and Chief Engineer of the New-Energy Verification Aircraft at COMAC Beijing Research Center. Responsible for establishing the conceptual design process and multidisciplinary integrated optimization framework for new-energy aircraft.

Joined the Institute of Mechanics, CAS in 2023. Currently serves as Head of the Aircraft MDO Team at the Wide range Flight Engineering Science and Applications Center (WESA), leading the construction and application of the Aircraft MDO platform.

Onsite Oral Session 1

Time	**13:30-15:30 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-3** **（楊建文學術樓 • 4 楼 • LT-3）**
Topic	**Structural Design Using Lightweight Aerospace Materials and Analysis of Aviation Fuel Combustion Characteristics**
Chair	**Wei Huang, Nanjing University of Science and Technology**

Time	ID	Detail
13:30-13:50	 **Invited Speech**	***Scientific Research and Training of Specialists based on Small Satellite Projects: The Experience of Samara University*** **Presenter: Ivan Tkachenko** Samara University
13:50-14:10	 **Invited Speech**	***GNSS Localization Using Mobile Devices: From Model-based to Data-driven Methods*** **Presenter: Ling Keck Voon** Nanyang Technological University
14:10-14:20	**K006-A**	***Block Copolymers as Dispersants for Hydrocarbon Fuels*** **Presenter: Bin Sun** Zhejiang University **Authors:** Bin Sun, Wenjun Fang
14:20-14:30	**K018**	***Recursive Event-stream Evolution for Faint Space Target Detection*** **Presenter: Jiachen Xie** Beihang University **Authors:** Jiachen Xie, Gangyi Wang, Xinguo Wei, Guangjun Zhang
14:30-14:40	**K100-A**	***Synergistic Enhancement of Catalytic Cracking and Heat Sink Capacity in Ethylcyclohexane via a Pseudohomogeneous Calixarene-Capped Platinum Nanofluid*** **Presenter: Xiwei Ye** Zhejiang University

		Authors: Xiwei Ye, Yongsheng Guo
14:40-14:50	**K031**	***A High-Throughput and Scalable Parallel Architecture for Star Spot Detection in Star Sensors*** **Presenter: Tian Lu** Beihang University **Authors:** Tian Lu, Xinguo Wei, Gangyi Wang
14:50-15:00	**K035-A**	***Variable-configuration Design of an On-Orbit Cryogenic Propellant Tank*** **Presenter: Yu Ma** Southeast University **Authors:** Yu Ma, Dahai Zhang, Qingguo Fei
15:00-15:10	**K085**	***Plywood based Main-Frame for Stratospheric Gondola – EVE CURiE Experiment*** **Presenter: Marcel Szubartowski** Warsaw University of Technology (WUT) **Authors:** Marcel Szubartowski, Justyna Obrępalska, Marek Pąśko, Aleksander Tytus, Dorota Kazibudzka, Małgorzata Stacherczak, Damian Grabowski, Tomasz Miś
15:10-15:20	**K157-A**	***End-to-End Monocular Pose Estimation of Uncooperative Spacecraft with Keypoint Depth Reconstruction and Differentiable Optimal Alignment*** **Presenter: Shijie Wang** Beihang University **Authors:** Shijie Wang, Haichao Gui, Rui Zhong
15:20-15:30	**K236**	***A Novel Reliability Modeling Method of Aviation Support Systems Based on Discrete Event Simulation and System Dynamics*** **Presenter: Mingrui Yang** Harbin Engineering University **Authors:** Jingbo Gai, Mingrui Yang, Xuejiao Du, Ao Chai

Onsite Oral Session 2

Time	**13:30-15:20 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-7** **（楊建文學術樓 • 4 楼 • LT-7）**
Topic	**Numerical Simulation of Aerodynamic Performance and Analysis of Complex Flow Field Mechanisms**
Chair	**Xiaolong Tang, Shanghai University**

Time	ID	Detail
13:30-13:50	 **Invited Speech**	***Three-dimensional Burning Surface Spatiotemporal Distribution Prediction Technology for Wheel-shaped Hybrid Rocket Motors*** **Presenter: Xiangyu Meng** Nanjing University of Aeronautics and Astronautics
13:50-14:00	**K185**	***A Wall Function for Turbulent Boundary Layers under Rotation via Symbolic Regression*** **Presenter: Yao Ma** Beihang University **Authors:** Yao Ma, Zhi Tao, Ruquan You, Haiwang Li
14:00-14:10	**K029-A**	***A Generalized Approach for Aerodynamic Load Identification Based on Optimal Spatial Distribution Estimation*** **Presenter: Hao Zheng** Southeast University **Authors:** Hao Zheng, Yanbin Li, Rui Zhu, Qingguo Fei
14:10-14:20	**K048**	***Research on High-Precision Aerodynamic Performance Modeling of Turbines in Sparse Data Scenarios Based on Active Learning*** **Presenter: Lele Li** Beihang University **Authors:** Lele Li, Weihao Zhang, Shiqi Zhou

14:20-14:30	**K059**	***Research on Two-Dimensional Airfoil Flow Field Prediction and Generation based on Flow Matching*** **Presenter: Chao Feng** Zhejiang University **Authors:** Chao Feng, Fangzhou He, Gaojia Chen, Jun Li
14:30-14:40	**K065-A**	***Flutter Prediction Method Integrating Continuous Random Decrement Technique and Eigensystem Realization Algorithm*** **Presenter: Yilin Li** Southeast University **Authors:** Yilin Li, Rui Zhu, Xiaochen Hang, Qingguo Fei
14:40-14:50	**K231**	***Comparative Analysis of RCS Characteristics of Typical Hypersonic Vehicle Configurations*** **Presenter: Ling Linyu** Beihang University **Authors:** Ling Linyu, Lv Mingyun, Huang Minjie, Du Huafei, Yi Mingxu, Shen Lihui, Zong Guoli, Zhou Wenshuo, Teng Ziang
14:50-15:00	**K134-A**	***An Improved Hanson’s Model and Its Validation on Noise Prediction for Contra-Rotating Propellers*** **Presenter: Xiaolong Tang** Shanghai University **Authors:** Xiaolong Tang, Tengfei Ma
15:00-15:10	**K179**	***Analysis of Underwater Wake-Flow Characteristics of a Parabolic Nozzle with a Large Expansion Ratio*** **Presenter: Kaiqiang Fang** Nanjing University of Science and Technology **Authors:** Kaiqiang Fang, Wenxiang Cai, Mingcheng Zhang, Luhao Wang, Shan Zhang
15:10-15:20	**K189-A**	***Design and Experimental Validation of a Multi-mode Variable Camber Wing Trailing Edge with Fishbone-Corrugated Compliant Structure*** **Presenter: Shuoming Cui** Beihang University **Authors:** Shuoming Cui, De Gong, Jun Cai

Onsite Oral Session 3

Time	**13:30-15:20 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-8** **（楊建文學術樓 • 4 楼 • LT-8）**
Topic	**Combustion Mechanisms in Aero-engine Combustors and Performance Evaluation of High-efficiency Propulsion Systems**
Chair	**Fengquan Zhong, Institute of Mechanics, Chinese Academy of Sciences and University of Chinese Academy of Sciences**

Time	ID	Detail
13:30-13:50	 Invited Speech	***Superconducting Hydrogen-Electric Propulsion for Zero-Carbon Aviation: Multi-Field Coupling and System-Level Optimization*** **Presenter: Mingliang Bai** Beihang University
13:50-14:00	K004-A	***Research on Flow Phase Transition and Transcritical Thermodynamic Behavior of Hydrocarbon Fuels*** **Presenter: Peilun Wang** Zhejiang University **Authors:** Peilun Wang, Wenjun Fang
14:00-14:10	K115	***Research on Vertical Nine-Component Force Thrust Vector Measurement Model and Error Analysis*** **Presenter: Jiafeng Wang** Nanjing University of Science and Technology **Authors:** Jiafeng Wang, Hong Yu
14:10-14:20	K142	***System-Level Two-Phase Modeling and Parameter Analysis in a Hall Thruster Xenon Feed System*** **Presenter: Jincheng Wang** Beihang University **Authors:** Jincheng Wang, Haowen Luo, Jie Sun, Yang Chen, Gang Chen, Hao Zhu

14:20-14:30	**K061-A**	***Modeling and Experimental Investigation of Rotor-Bearing Systems for Small Turbojet Engines*** **Presenter: Hongyu Li** Southeast University **Authors:** Hongyu Li, Yanbin Li, Dahai Zhang, Qingguo Fei
14:30-14:40	**K127**	***A Study on the Effects of Non-uniform Fuel Injection on the Operating Characteristics of Rotating Detonation Combustors*** **Presenter: Zhenghai Liu** Nanjing University of Science and Technology **Authors:** Zhenghai Liu, Zhenjuan Xia, Hu Ma, Yu Wang
14:40-14:50	**K158**	***Experimental and Numerical Investigation of Silver Screen Catalyst Beds with High Bed Loading and Capacity for 90% Hydrogen Peroxide Monopropellant Thrusters*** **Presenter: Yuchen Zhang** Beihang University **Authors:** Yuchen Zhang, Junwei Lian, Yuanjun Zhang, Hao Zhu, Guobiao Cai, Huiyan Weng
14:50-15:00	**K177**	***Simulation Analysis on Initial Burning Rate Acceleration of Wire-Embedded Propellants*** **Presenter: Mingcheng Zhang** Nanjing University of Science and Technology **Authors:** Mingcheng Zhang, Wenxiang Cai, Kaiqiang Fang, Wen Du, Chenyang Li
15:00-15:10	**K247-A**	***Analysis and Optimization Research on Air-Breathing Electric Propulsion for Ultra Low Earth Orbit Satellites*** **Presenter: Bohan Xia** Dalian University of Technology **Authors:** Bohan Xia, Guangqing Xia, Xingtong Liu, Hao Wang, Yutong Wang
15:10-15:20	**K262**	***Design and Simulation of Ultrablack Surfaces Synergistically Enhanced by Microstructures and Carbon Nanotube Coatings*** **Presenter: Ximeng Zhao** Nanjing University of Science and Technology **Authors:** Ximeng Zhao, Kan Zheng, Zeheng Cheng, Song Dong, Zhenhua Liang, Jiachen Zhu

Onsite Oral Session 4

Time	**13:30-15:20 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-9** **（楊建文學術樓 • 4 楼 • LT-9）**
Topic	**Ultra-precision Aerospace Machining Processes and Digital Twin-Driven Manufacturing Optimization**
Chair	**Song Dong, Nanjing University of Science and Technology**

Time	ID	Detail
13:30-13:50	 Invited Speech	***New Developments and Application Exploration of Multidisciplinary Design Optimization (MDO) for Aircraft*** **Presenter: Shuai Zhang** Institute of Mechanics, Chinese Academy of Sciences
13:50-14:00	K001	***Edge Computing-Driven Adaptive Compensation of Machining Deviations by On-Machine Measurement*** **Presenter: Xujie Li** Northwestern Polytechnical University **Authors:** Xujie Li, Neng Wan, Zhaolong Zeng, Haolin Yin
14:00-14:10	K024	***A Method for Measuring Multi-Payload Datum Deviations Based on Optical Datum Transfer*** **Presenter: Tianyu Hu** Beihang University **Authors:** Tianyu Hu, Xianglong Kong, Yan Ma, Jie Jiang, Yaoke Xue
14:10-14:20	K012	***MVAM: A Novel Process for Aircraft Skin Machining*** **Presenter: Haolin Yin** Northwestern Polytechnical University **Authors:** Haolin Yin, Neng Wan, Shenghong Hu, Zhaolong Zeng, Xujie Li, Yumeng Zhang

14:20-14:30	**K015**	***Modeling and Compensation of Spindle Thermally Induced Errors for On-Machine Measurement*** **Presenter: Zhaolong Zeng** Northwestern Polytechnical University **Authors:** Zhaolong Zeng, Neng Wan, Xinxin Li, Xujie Li, Haolin Yin, Yumeng Zhang
14:30-14:40	**K025-A**	***Research on the Design Method for Specimens Simulating Structural Features of Aero-engine Disk Eccentric Holes and Tenon Grooves*** **Presenter: Yanjie Li** Southeast University **Authors:** Yanjie Li, Qianyang Sun, Qiang Chen, Dahai Zhang, Qingguo Fe
14:40-14:50	**K016**	***Construction and Dynamic Simulation of a Digital Twin System for Intelligent Machining Processes*** **Presenter: Yumeng Zhang** Northwestern Polytechnical University **Authors:** Yumeng Zhang, Neng Wan, Yang Dai, Zhaolong Zeng, Xujie Li, Shengpeng Luo
14:50-15:00	**K083**	***Effect of Stagger angle and Loading Distribution on Endwall loss of Incidence Toleratnt Bladings*** **Presenter: Ruifeng Zhang** Beihang University **Authors:** Ruifeng Zhang, Weihao Zhang, Chiju Jiang, Xiaoxi Fu
15:00-15:10	**K107**	***Adaptive Fillet Machining for Tenon Grooves of Turbine Disks Based on On-machine Feature Alignment and Deformation Compensation*** **Presenter: Boqian Dong** Northwestern Polytechnical University **Authors:** Boqian Dong, Neng Wan
15:10-15:20	**K175**	***Automatic CAM Operation Sequence Generation and High-quality Data Accumulation for Aerospace Cavity Parts*** **Presenter: Yuanzhi Shi** Northwestern Polytechnical University **Authors:** Yuanzhi Shi, Neng Wan, Haiyan Shu, Zhaolong Zeng, Haolin Yin, Yumeng Zhang

Onsite Oral Session 5

Time	**16:10-17:30 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-3** **（楊建文學術樓 • 4 楼 • LT-3）**
Topic	**Autonomous Intelligent Control and Multi-Objective Task Allocation for Uavs in Complex Environments**
Chair	**Jiahao Ge, Beijing Information Science and Technology University**

Time	ID	Detail
16:10-16:20	K010-A	***A New Model of Four-Wheel Independent Steering Movement Traces with Ackermann Steering Geometry for Low Altitude Vehicles*** **Presenter: Guangcheng Dong** Baise University **Authors:** Guangcheng Dong, Yan Zhao
16:20-16:30	K050	***Online Threat Avoidance Trajectory Planning Based on Mixed-Integer Convex Optimization*** **Presenter: Jiahao Ge** Beijing Information Science and Technology University **Authors:** Jiahao Ge, Sixing Zhang, Yafeng Li, Yi Ji
16:30-16:40	K052	***Interpretable Missile Evasion: A Hierarchical Reinforcement Learning and Decision Tree Cloning Approach*** **Presenter: Chaoyue Zhang** Beihang University **Authors:** Chaoyue Zhang, Yufei Jiang, Yuxiang Luo, Yongchao Wang, Xiaohui Gao, Yiping Liu, Yaoming Zhou
16:40-16:50	K056-A	***A Dual-Channel Robust Kalman Filtering Method for Multi-UAV Cooperative Localization in GNSS-Limited Environments*** **Presenter: Hebin Yu** Southeast University **Authors:** HebinYu, XixiangLiu

16:50-17:00	**K203**	***Trajectory Optimization for eVTOL Landing with Modeling of Touchdown Safety Constraint*** **Presenter: Zhenduo Jia** Beihang University **Authors:** Zhenduo Jia, Shuguang Zhang
17:00-17:10	**K207**	***SafeATC-Agent: Guardrailed and Auditable Air Traffic Control Speech Understanding with Large Language Model-Driven Situational Awareness*** **Presenter: Xinhai Sun** Politecnico di Milano **Authors:** Xinhai Sun
17:10-17:20	**K212-A**	***A Design Concept for Ground-Air Collaborative Transportation Networks Using Fixed-Wing VTOL Aircraft*** **Presenter: Siyuan Sun** Kunming University of Science and Technology **Authors:** Siyuan Sun, Xingdong Zhu
17:20-17:30	**K235**	***A Dual-Timescale SAC Framework with Phase SOC References for Fuel-Cell Hybrid UAV Energy Management*** **Presenter: Da Xie** University of Nottingham Ningbo China **Authors:** Da Xie, Richard Amankwa Adjei, Salman Ijaz, Yong Shi

Onsite Oral Session 6

Time	**16:10-17:40 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-7** **（楊建文學術樓 • 4 楼 • LT-7）**
Topic	**Characterization of Thermo-Mechanical Coupling Properties in Advanced Composites and Design of Thermal Protection Structures**
Chair	**Jianyao Yao, Chongqing University**

Time	ID	Detail
16:10-16:20	K002-A	***Adaptive Epoxy Nanocomposites and Slippery Surfaces: A Paradigm Shift in Aircraft Materials Protection*** **Presenter: Annuncieta C. Njoku** Federal University of Technology Owerri **Authors:** Annuncieta C. Njoku, Innocent O. Eze, Simeon C. Nwanonenyi, Luvia U. Ezeamaku, Demian I. Njoku
16:20-16:30	K028-A	***Investigation and Design of Radiation Regulation Performance for Thermal Protection Structures Based on Photonic Crystals*** **Presenter: Han Ma** Southeast University **Authors:** Han Ma, Qiang Chen, Chunyan Jiang, Qingguo Fei
16:30-16:40	K091	***Surface Ablation Characteristics and Material Removal Mechanisms of 2.5D C/C Composites Under Femtosecond Laser Processing*** **Presenter: Tong Ma** Northwestern Polytechnical University **Authors:** Tong Ma, Chenwei Shan, Qixuan Sun, Wengang Liu
16:40-16:50	K038-A	***Mechanical Properties and Failure Behavior of Ceramic Matrix Composites Subjected to Off-Axis Loading at Elevated Temperatures*** **Presenter: Jun Wu** Southeast University **Authors:** Jun Wu, Peifei Xu, Dahai Zhang, Qingguo Fei

16:50-17:00	**K145-A**	***Probabilistic Design Methods for Thermal Protection Systems and Thermal Structures*** **Presenter: Jianyao Yao** Chongqing University **Authors:** Jianyao Yao, Yuncan Pan, Rui Zhang, Zhifu Cao
17:00-17:10	**K168**	***Reliability-Based Layout and Size Optimization of Air Rudder under Thermo-Mechanical Coupling*** **Presenter: Zhongwei Zhao** Beijing Institute of Technology, Zhuhai **Authors:** Zhongwei Zhao, Yulin Li, Haichao An, Qinyun Deng, Haoda Li, Renhe Shi, Teng Long
17:10-17:20	**K196**	***Characteristics and Ablation Mechanism of Surface Micro-textures on C/C-SiC Composites Processed by Femtosecond Laser*** **Presenter: Qixuan Sun** Northwestern Polytechnical University **Authors:** Qixuan Sun, Chenwei Shan, Tong Ma, Wengang Liu
17:20-17:30	**K256**	***Probabilistic Methods for Studying Fatigue Life of Aircraft Structures*** **Presenter: Xiaohong Li** Qinghai University **Authors:** Xiaohong Li, Yafeng Xu, Xiaodong Fu, Dedong Gao
17:30-17:40	**K209**	***Stress Prediction for Hot Creep Forming of Titanium Alloy Thin-walled Twisted Component via Sequential Coupling Modeling*** **Presenter: Yiquan Shu** Northwestern Polytechnical University **Authors:** Yiquan Shu, Juexue Ren, Xiangyu Li

Onsite Oral Session 7

Time	**16:10-17:40 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-8** **（楊建文學術樓 • 4 楼 • LT-8）**
Topic	**Orbital Dynamics Modeling and Autonomous Navigation and Guidance Methods for Spacecraft**
Chair	**Daiyang Gao, Nanjing University of Science and Technology**

Time	ID	Detail
16:10-16:20	K045	***Autonomous Optical Navigation for the Earth-Moon Transfer Phase Based on Earth-Moon Information*** **Presenter: Chuanshuo Gu** Beihang University **Authors:** Chuanshuo Gu, Xinguo Wei, Jie Jiang, Yan Ma
16:20-16:30	K063	***A Two-Stage Routing Method for Space Debris Removal Planning Based on Dynamic Programming*** **Presenter: Vadim Kravchenko** Moscow Aviation Institute **Authors:** Vadim Kravchenko, Alexey Ivanyukhin
16:30-16:40	K055	***Augmented-State Extended Kalman Filter for Low-Frequency Noise Estimation*** **Presenter: Cheng Chen** Beihang University **Authors:** Cheng Chen, Jie Jiang, Xinguo Wei
16:40-16:50	K211	***Optimal Selection of Single Beacon for Cislunar Angle-only Orbit Determination*** **Presenter: Ruize Liu** Beijing Institute of Technology **Authors:** Ruize Liu, Dong Qiao, Xingyu Zhou, Xiangyu Li

16:50-17:00	**K058**	***Three-dimensional Cooperative Guidance Law for intercepting Maneuvering Target Considering Field-Of-View Constraints and Velocity Variation*** **Presenter: Yuxiang Luo** Beihang University **Authors:** Yuxiang Luo, Qihan Sun, Chaoyue Zhang, Xiaohui Gao, Yiping Liu, Yaoming Zhou
17:00-17:10	**K062-A**	***Accuracy Analysis and Optimal Configuration for Bearing-Only Target Localization*** **Presenter: Xiangzhi Cheng** Southeast University **Authors:** Xiangzhi Cheng, Xixiang Liu
17:10-17:20	**K073**	***Low-Thrust Simple Control for Orbital Element Correction Maneuvers*** **Presenter: Alexey Ivanyukhin** Moscow Aviation Institute (MAI) **Authors:** Alexey Ivanyukhin
17:20-17:30	**K109**	***Experimental and Numerical Research on the Influencing Factors of the Anchoring Capacity of Space Debris Removal Payloads*** **Presenter: Daiyang Gao** Nanjing University of Science and Technology **Authors:** Daiyang Gao, Zhuohang Li, Zhenhua Liang
17:30-17:40	**K230**	***Polynomial Propagation of Moments Based on High-Order Stochastic Runge-Kutta Scheme for Orbit Uncertainty with Process Noise*** **Presenter: Cheng Chen** Beijing Institute of Technology **Authors:** Cheng Chen, Xiangyu Li, Dong Qiao

Onsite Oral Session 8

Time	**16:10-17:40 (August 22, 2026)**
Venue	**Yeung Kin Man Academic Building · 4F · LT-9** **（楊建文學術樓 • 4 楼 • LT-9）**
Topic	**Modular Satellite System Design, On-Orbit Performance Assessment, and Reliability Analysis**
Chair	**Zhenhua Liang, Nanjing University of Science and Technology**

Time	ID	Detail
16:10-16:20	K044	***Star Extraction and False-Star Rejection for Star Sensors Under Defective-Pixel Interference*** **Presenter: Xiwang Li** Beihang University **Authors:** Xiwang Li, Xinguo Wei, Qiaoyun Fan
16:20-16:30	K087	***Instrumentation and Measurement Strategy for Near-Space Evaluation of Hybrid PV Panels*** **Presenter: Marek Pąśko** Warsaw University of Technology **Authors:** Marek Pąśko, Aleksander Tytus, Natalia Kwaśna, Marcel Szubartowski, Dorota Kazibudzka, Justyna Obrępalska, Damian Grabowski, Tomasz Miś
16:30-16:40	K066	***Gyroscope-Assisted Adaptive Star Identification Algorithm for Sparse-Star Conditions*** **Presenter: Shengmin Yang** Beihang University **Authors:** Shengmin Yang, Xinguo Wei, Jian Li
16:40-16:50	K079-A	***Investigation of High-Frequency Localized Dynamic Response Characteristics in Spacecraft Structures*** **Presenter: Xuyang Liu** Southeast University **Authors:** Xuyang Liu, Hao Tang, Qiang Chen, Dahai Zhang, Qingguo Fei

16:50-17:00	**K089**	***Radiation-Assisted Energy Conversion in Scintillator-Covered Photovoltaic Panels*** **Presenter: Dorota Kazibudzka** Warsaw University of Technology **Authors:** Dorota Kazibudzka, Małgorzata Stacherczak, Monika Marek, Aleksander Tytus, Marcel Szubartowski, Marek Pąśko, Michał Krajewski, Tomasz A. Miś, Damian Grabowski
17:00-17:10	**K125**	***A Dual-Filesystem Architecture for Data-Intensive CubeSats*** **Presenter: Mohammed Eshaq** University of Dubai **Authors:** Mohammed Eshaq, M. Sami Zitouni, Khalid Al-Awadhi, Ibrahim Al-Midfa, Zakareyya Al-Shamsi, Saeed Al-Mansoori
17:10-17:20	**K229**	***Flat Magnetorquer with Permalloy Core for CubeSat Attitude Control*** **Presenter: Danil Gavrilov** Samara University - SJTU **Authors:** Danil Gavrilov, Alexander Ivliev, Igor Belokonov
17:20-17:30	**K245**	***PI-HRL: A Physics-Inspired Hierarchical Reinforcement Learning Framework for Rocket Vertical Landing*** **Presenter: Wenxi Zhou** Beijing Institute of Technology **Authors:** Wenxi Zhou, Borong Zhang, Zhenqian Liu, Han Hu
17:30-17:40	**K255**	***Resource-Aware Altitude Interval Tracking Control and Launch-Configuration Optimization for Variable-Altitude Balloons*** **Presenter: Xiaotao Li** Shenzhen University **Authors:** Xiaotao Li, Bo Zhang, Shiyu Chen, Haoqun Lai

Online Oral Session 9

Time	**10:00-11:20 (August 23, 2026)**
ZOOM ID	**ROOM A** **Zoom ID: 874 2332 5202** **Zoom Link: https://us02web.zoom.us/j/87423325202**
Topic	**Multi-physics Coupling Simulation and Fluid Dynamics Analysis of Aerospace Propulsion Systems**
Chair	**Bo Sun, Nanjing University of Science and Technology**

Time	ID	Detail
10:00-10:10	K095	***Flow Evolution and Mode Transition of a Permeable Nozzle*** **Presenter: Ze Deng** Harbin Engineering University **Authors:** Ze Deng, Ben Guan, Yuqin Xue, Ge Wang
10:10-10:20	K098	***Physics-Informed Domain-Adversarial Learning for Aero-Engine Bearing Fault Diagnosis*** **Presenter: Liu Haoyu** Nanjing University of Science and Technology **Authors:** Liu Haoyu, Chen Danhe, Wu Jianhai
10:20-10:30	K167	***A Distributed Adaptive Fading Information Filtering Method for 2D Cooperative Localization of Multiple Ground Robots under Extreme Communication Conditions*** **Presenter: Xinhang Li** Moscow State University **Authors:** Xinhang Li, Vsevolod Koryanov
10:30-10:40	K143	***Study on the Suppression Effect of a Tesla-Valve Isolator on Pressure Forward Propagation in a Rotating Detonation Combustor*** **Presenter: Shunyao Liu** Nanjing University of Science and Technology **Authors:** Shunyao Liu, Hu Ma, Zhenjuan Xia

10:40-10:50	**K193**	***Flow Field and Resonance Mechanism of Exhaust Resonant Pipe in Aero Two-Stroke Piston Engine*** **Presenter: Jin Wei** Feihong (Kunshan) Energy Power Technology Co. Ltd. **Authors:** Wei Jin, Songrui Li, Hongli Gao, Lei Wang, Yongsheng Liang, Xiangbo Zhang
10:50-11:00	**K206**	***Dynamic Modeling and Optimization of Sliding Locking Structures*** **Presenter: Xin Miao** Nanjing University of Science and Technology **Authors:** Xin Miao, Ao Chen, Xiang Zhang, Ronglei Mao
11:00-11:10	**K033**	***Multimodal Thermoacoustic Coupling Analysis of Self-Excited Thermoacoustic Oscillations in a Centrally Staged Combustor with Dilution Holes*** **Presenter: Han Wu** Zhejiang University **Authors:** Han Wu, Yuanqi Fang, Zhixin Zhu, Gaofeng Wang
11:10-11:20	**K260**	***Transformer Residual Learning-Aided Adaptive Kalman Filtering for Space-Based Non-Cooperative Target Maneuver Tracking*** **Presenter: Rongtao Yang** Lomonosov Moscow State University Moscow **Authors:** Rongtao Yang, Danhe Che

Online Oral Session 10

Time	**13:30-14:50 (August 23, 2026)**
ZOOM ID	**ROOM A** **Zoom ID: 874 2332 5202** **Zoom Link: https://us02web.zoom.us/j/87423325202**
Topic	**Integrated Design of Multi-System Spacecraft, Autonomous Intelligent Control, and Satellite-To-Ground Communication Technologies**
Chair	**Shengzhou Bai, Korea Advanced Institute of Science & Technology**

Time	ID	Detail
13:30-13:40	K081	***A Cooperative Game-Driven Deep Reinforcement Learning Fusion Decision Framework: Layered Energy Optimization and Management for Hypersonic Vehicles*** **Presenter: Yifeng Zheng** Nanjing University of Aeronautics and Astronautics **Authors:** Yifeng Zheng, Xingjian Jin, Jiecheng Fu, Yiqun Wang, Jianhao Han, Lin Li
13:40-13:50	K165	***BE-FastKAN: Parameter-Efficient Batch Ensemble KAN for Fuel Consumption Surrogate Modeling of Low-Thrust Transfers*** **Presenter: Zhuojin Li** Lomonosov Moscow State University **Authors:** Zhuojin Li, V. V. Koryanov
13:50-14:00	K110	***Lightweight Design of Thin-Walled Stiffened Structures Based on Topology Optimization*** **Presenter: Bowei Yin** Nanjing University of Science and Technology Authors: Bowei Yin, Zhongcan Chen, Haibo Yang, Yuan Chen, Yahao Xiao, Zhong Ma
14:00-14:10	K199	***Research on Standardization Evaluation and Methods for Aviation Products in the Engineering Development Phase Based on AHP- Fuzzy Comprehensive Evaluation Method*** **Presenter: Jingying Liu** The Fifth Research Institute of the Ministry of Industry and

		Information Technology **Authors:** Jingying Liu, Jingwei Xi
14:10-14:20	**K201**	***An IMU-Prior-Based Adaptive Compensation Method for Digital-Domain TDI Imaging in Spaceborne Cameras*** **Presenter: Tongzheng Wang** Nanjing University of Science and Technology **Authors:** Tongzheng Wang, Xiang Zhang
14:20-14:30	**K238**	***Real-Time Performance Evaluation of Linux-Based Task Deployment Architectures for Micro-Nano Satellite On-Board Computers*** **Presenter: Shunyu Huang** Nanjing University of Science and Technology **Authors:** Shunyu Huang, Xiang Zhang
14:30-14:40	**K259**	***Reduced-Order Transient Modelling of a Recuperated Micro Gas Turbine Generator for Turboelectric Propulsion*** **Presenter: Richard Amankwa Adjei** University of Nottingham Ningbo China **Authors:** Richard Amankwa Adjei, Liuyue Xiong, Tai Zhu
14:40-14:50	**K067-A**	***Onboard Cross-Orbit-Plane SNO Prediction under Sparse Observations for Low-Cost Satellite Constellations*** **Presenter: Lincheng Li** Nanyang Technological University **Authors:** Lincheng Li, Michael Higgins, Aurelie Guerineau, Sylvester Tan, Keck Voon Ling, Erick Lansard

Poster Session 1

Time	15:30-16:10 (August 22, 2026)
Venue	Yeung Kin Man Academic Building · 4F · LT-18 （楊建文學術樓 • 4 楼 • LT-18）
Topic	Autonomous Flight Control, Multi-Constrained Path Planning, and Cooperative Swarm Technology for UAVs
Chair	Yunfei Jia, Nanjing University of Science and Technology

No.	ID	Detail
01	K022	***Simulation and Analysis of Directional Control Asymmetry in Powered Parafoil Vehicle*** **Presenter: Zeng Wenying** Beihang University **Authors:** Zeng Wenying, Du Chuang, Du Yujian, Liu Mengqun, Feng Yi
02	K121	***Research on Microservice Architecture Design and Service Decomposition Method for Onboard Software*** **Presenter: Bing Xu** Nanjing University of Science and Technology **Authors:** Bing Xu, Yongjun Yu, Kun Liu, Bo Yu
03	K051	***Conflict-free Feasible Path Planning for Fixed-wing UAV swarms*** **Presenter: Liwen Xu** Beihang University **Authors:** Liwen Xu, Qingyang Qin, Lingyun Gu, Xiaohui Gao, Yongchao Wang, Yaoming Zhou
04	K155	***Slave-motion Constrained Look-Ahead Planning for Five-Axis Machining based on Master-Slave Synchronization*** **Presenter: Jiaqi Leng** Nanjing University of Science and Technology **Authors:** Jiaqi Leng, Yu. V. Nikityuk Francisk Skorina, Zhuo Wu, Liangyu Xin, Aijun Zhang

05	K068	***Dynamics of Parafoil Multibody System Based on Lie Group Variational Integrator*** **Presenter: Yujian Du** Beihang University **Authors:** Yujian Du, Weiliang He, Wenying Zeng, Chuang Du, Mengqun Liu, Yi Feng
06	K102	***Orbit-Attitude Cooperative Planning for Spacecraft Thermal Control Based on Phased Optimization*** **Presenter: Fulin Zhang** Xiangtan University **Authors:** Fulin Zhang, Hexiong Li, Bowen Sun
07	K070	***Autonomous Online Calibration for FOV-gated All-Time Star Sensors based on Systematic Parameter Decoupling*** **Presenter: Peng Lyu** Beihang University **Authors:** Peng Lyu, Jian Li
08	K072	***Adaptive Fuzzy Control for Powered Parafoil Based on RBF Neural Network*** **Presenter: Mengqun Liu** Beihang University **Authors:** Mengqun Liu, Weiliang He, Chuang Du, Yujian Du, Yi Feng, Wenying Zeng
09	K076	***Multi-UAV Cooperative Path Planning and Task Allocation for Ocean-Drifting Targets*** **Presenter: Chuang Du** Beihang University **Authors:** Chuang Du, Wenying Zeng, Yujian Du, Mengqun Liu, Yi Feng, Weiliang He
10	K233	***A Distributed Collaborative Navigation and Control Method for UAV Swarms Based on Improved Consensus Theory and Virtual Structure*** **Presenter: Xueke Yu** Lishui University **Authors:** Xueke Yu, Yang Pang

11	**K093**	***Physics-Enhanced Multi-Task Learning with Thermodynamic Consistency for Flow Field Prediction in Rocket Motors*** **Presenter: Weile Xu** Beihang University **Authors:** Weile Xu, Xingchen Li, Hao Zhu, Zhiqiang Gong, Shu Wang, Guobiao Cai, Wen Yao
12	**K105-A**	***A Novel Magnetic Spatial-Gradient Long-Distance Wireless Power Transfer System: Theoretical Analysis and Experimental Verification*** **Presenter: Keyu Sun** Beihang University **Authors:** Keyu Sun, Shengmao Wang, Shiyao Wang, Longxiang Liu, Sansheng Wang, Huaizhe Xu
13	**K112**	***Research on Imaging Simulation of Spatial Targets Based on Godot Engine*** **Presenter: Bo Yu** Nanjing University of Science and Technology **Authors:** Bo Yu, Yongjun Yu, Kun Liu, Bing Xu
14	**K159-A**	***Control Allocation Strategy for a Multi-Chamber Deep-Throttling Hybrid Rocket Motor during Lunar Descent*** **Presenter: Hao Li** Beihang University **Authors:** Hao Li, Hao Zhu, Hang Yu, Guobiao Cai
15	**K240-A**	***A Highly Fault-Tolerant High-Pressure Spool Speed Reconstruction Method for More-Electric Aeroengines*** **Presenter: Xinyu Lin** Xi'an Jiaotong University **Authors:** Xinyu Lin, Zhiping Song
16	**K181**	***Resilience Assessment of Air Transport Systems Based on Nonlinear Disturbance-Response Stability*** **Presenter: Xinyue Chen** Beihang University **Authors:** Xinyue Chen, Xiaoqian Sun

17	**K182**	***Numerical Simulation Study on Working Characteristics of Double Pulse Solid Rocket Motor Isolation Device*** **Presenter: Jinsheng Xu** Nanjing University of Science and Technology **Authors:** Guang Yang, Chenyu Wang, Zongtao Guo, Jinsheng Xu, Wei Huang, Xuyang Wang

Poster Session 2

Time	17:40-18:20 (August 22, 2026)
Venue	Yeung Kin Man Academic Building · 4F · LT-18 （楊建文學術樓 • 4 楼 • LT-18）
Topic	Aero-engine Performance Simulation and Propulsion System Modeling based on Dynamic Analysis
Chair	Shuai Zhang, Institute of Mechanics, Chinese Academy of Sciences

No.	ID	Detail
01	K092	***Thermochemical Sensitivity of Divergent-Section Ablation Steps in Composite Solid Rocket Motor Nozzles*** **Presenter: Bo Yang** Nanjing University of Science and Technology **Authors:** Bo Yang, Yingkun Li, Zhenchuan He, Xiong Chen
02	K148-A	***Investigation on the Effects of Dense Particle Flow-Induced Asymmetric Heat Flux on Hybrid Rocket Motor Nozzle Ablation Under Flight Overload*** **Presenter: Yiming Ke** Beihang University **Authors:** Yiming Ke, Hao Zhu, Yuanjun Zhang
03	K128	***Effect of Rotating Detonation Backpressure Disturbance on The Axial Compressor*** **Presenter: Jun Wang** Nanjing University of Science and Technology **Authors:** Jun Wang, Hu Ma, Zhenshuang Zhang, Zhenjuan Xia
04	K141-A	***Numerical Investigation of Aerodynamic Characteristics for a Novel Reusable Rocket First Stage During High-Angle-of-Attack Reentry*** **Presenter: Haohuan Han** Beihang University **Authors:** Haohuan Han, Hao Zhu, Yidi Liu, Junjie Sun, Dajun Xu, Guobiao Cai

05	K146-A	***CFD simulation and experimental investigation of an inter-stage mixing turbine*** **Presenter: Hang Zhang** Xi'an Jiaotong University **Authors:** Hang Zhang, Zhiping Song
06	K149-A	***Revisiting the Fuel Heat of Gasification in Hybrid Rocket Engines: Flux-Dependent Correlations for Improved Regression Rate Prediction*** **Presenter: Jiaqi Tian** Beihang University **Authors:** Jiaqi Tian, Hao Zhu, Ruizhi Li, Guobiao Cai
07	K136-A	***Research on Dataset Construction and Learning Methods for Gas Turbine Thrust Estimation*** **Presenter: Haonan Wang** Xi'an Jiaotong University **Authors:** Haonan Wang
08	K153-A	***Numerical Investigation of Gas-Phase Radiative Heat Flux and Its Impact on Regression Rate in H2O2/HTPB Hybrid Rocket Motors*** **Presenter: Jingfei Gao** Beihang University **Authors:** Jingfei Gao, Hui Tian, Chuanyu Tang, Xiaoting Niu, Guobiao Cai
09	K194	***Mechanisms of Multi-Dimensional Parameter Effects on Stress Fields and Geometric Distortion in Laser Shock Peened Ti-6Al 4V Thin-Walled Plates*** **Presenter: Yuheng Song** Northwestern Polytechnical University **Authors:** Yuheng Song, Junxue Ren, Xiangyu Li
10	K164-A	***Failure Analysis of the Copper Alloy Inner Wall of a Thrust Chamber under Multiaxial Stress State*** **Presenter: Hongtao Xie** Beihang University **Authors:** Hongtao Xie, Ping Zhang, Shihui Huo, Zhengyuan Li, Ruizhi Li

11	K170	***Propagation Characteristics of Rotating Detonation Waves in Two-phase Mixtures*** **Presenter: Sanxing Zhang** Northwestern Polytechnical University **Authors:** Sanxing Zhang, Ke Wang, Zhongtian Jiao, Kuangyu Chen, Xiaodong Yu, Wei Fan
12	K187	***Numerical Simulation Analysis on Process Parameter Optimization of Temperature-Pressure Synergistic Curing for Solid Rocket Motor Propellant Grains*** **Presenter: Yixue Yin** Nanjing University of Science and Technology **Authors:** Yixue Yin, Jinsheng Xu, Shaoyu Jiang, Wei Huang, Xuyang Wang, Zhizhong Tan
13	K190	***Three-Dimensional Simulation Study on the Material Removal Mechanism of TC17 Titanium Alloy in Single-Grain Grinding*** **Presenter: Zhuofan Wu** Northwestern Polytechnical University **Authors:** Zhuofan Wu, Xiaojun Lin, Bowen Sun, Wentao Luo
14	K221	***Numerical Simulation and Process Path Optimization for Residual Strain Reduction in Temperature-Pressure Coupled Curing of a Subscale Solid Rocket Motor Grain*** **Presenter: Shaoyu Jiang** Nanjing University of Science and Technology **Authors:** Shaoyu Jiang, Yao Li, Yixue Yin, Xuyang Wang, Jinsheng Xu, Xiong Chen, Wei Huang
15	K243-A	***Effects of Transverse Overload on the Linear Acoustic Energy Growth Rate in Solid Rocket Motors*** **Presenter: Xueyan Xu** Harbin Engineering University **Authors:** Xueyan Xu, Yan Huo, Ye Gao, Xiaochang Li
16	K225	***Aerodynamic Heating Reduction for the Infrared Window of a Hypersonic Vehicle by the Combination of a Spike and an Aerodisk*** **Presenter: Zewei Du** Nanjing University of Science and Technology **Authors:** Zewei Du, Hongbin Yan, Weitao Wu

17	**K249**	***Initial Field Remapping Accelerated Parachute Descent CFD Simulation*** **Presenter: Shuyi Chen** Beihang University **Authors:** Shuyi Chen, Wei Sun, Bin Zhang, Chengliang Feng, Shuhong Xu

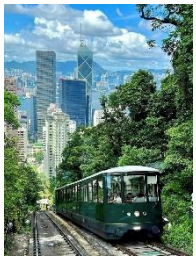
Hong Kong Attractions

Hong Kong is a captivating destination where rich Chinese heritage intertwines seamlessly with a cosmopolitan lifestyle. Beyond its iconic skyline, the city offers a vibrant tapestry of cultural experiences—from traditional tea houses and bustling night markets to world-class museums and dynamic art galleries. Visitors can explore the neon-lit streets of Kowloon, savor authentic Cantonese cuisine, and ride the historic Star Ferry across the glittering Victoria Harbour. With its unique blend of old and new, East and West, Hong Kong promises an unforgettable journey for every traveler seeking both excitement and cultural depth.

❖ Victoria Harbour (维多利亚港)

Victoria Harbour is a natural deep-water harbor nestled between Hong Kong Island and the Kowloon Peninsula. Renowned as one of the world's most spectacular harbors, it has been the heart of Hong Kong's maritime and commercial activities for over a century. The harbor is famous for its breathtaking skyline, which features a stunning array of skyscrapers illuminated by dazzling lights every evening. The Symphony of Lights, a nightly multimedia show, transforms the waterfront into a mesmerizing spectacle of synchronized lasers and music. The historic Star Ferry, operating since 1888, offers an affordable and nostalgic way to cross the harbor while enjoying panoramic views. Victoria Harbour also serves as a vibrant gathering place for cultural events, including the spectacular Chinese New Year fireworks display. Whether by day or night, the harbor's dynamic energy and scenic beauty captivate millions of visitors, making it an indispensable symbol of Hong Kong's identity and vitality.

❖ Victoria Peak (The Peak) (太平山顶)



Victoria Peak, locally known as The Peak, is the highest hill on Hong Kong Island, standing at 554 meters above sea level. As Hong Kong's most prestigious residential area and premier tourist destination, it offers unrivaled panoramic views of Victoria Harbour and the city's iconic skyline. The Peak Tram, a funicular railway operating since 1888, provides a thrilling 8-minute ascent through lush vegetation and towering skyscrapers. At the summit, visitors can explore the Peak Tower, which houses a viewing platform, retail shops, and dining venues with spectacular vistas. The Peak Galleria nearby features a free observation deck offering equally breathtaking scenery. For nature enthusiasts, the circular Peak Circle Walk allows visitors to enjoy the stunning landscape from different angles, with the best views occurring during sunset and nighttime when the city transforms into a sea of glittering lights. As a beloved symbol of Hong Kong, The Peak seamlessly blends natural beauty with urban sophistication, creating an unforgettable experience for every visitor.

❖ Hong Kong Disneyland (香港迪士尼乐园)

Hong Kong Disneyland, located on Lantau Island, is the first Disney theme park in Southeast Asia and the smallest among the global Disney resorts. Since its opening in 2005, it has captivated visitors with its unique blend of classic Disney magic and local cultural elements. The park features seven immersive themed lands, including Main Street U.S.A., Adventureland, Fantasyland, and Tomorrowland. One of its greatest highlights is the world's first "World of Frozen," a spectacular new attraction inspired by the beloved animated film. Visitors can enjoy thrilling rides, enchanting live performances, and nightly fireworks spectaculars that illuminate the sky with dazzling colors and projections. The park also offers character meet-and-greet experiences, delicious dining options, and exclusive merchandise. With its compact layout, Hong Kong Disneyland provides a more intimate and accessible experience, allowing guests to explore all attractions comfortably within a day. It continues to be a cherished destination for families, children, and Disney fans from around the world.

❖ Hong Kong Palace Museum (香港故宫文化博物馆)

The Hong Kong Palace Museum, situated in the West Kowloon Cultural District, is a landmark cultural institution that opened in July 2022. Designed by renowned architect Rocco Yim, the museum's contemporary architectural style harmoniously blends traditional Chinese elements with modern aesthetics, featuring a striking golden façade and soaring atrium. The museum houses over 900 precious treasures from the Beijing Palace Museum, spanning ceramics, calligraphy, paintings, jade, and imperial artifacts, many of which are being exhibited outside Beijing for the first time. Its exhibition galleries present the rich heritage of Chinese imperial art through innovative and immersive displays, integrating digital technology to offer fresh perspectives on history and culture. Unlike its counterpart in Beijing, the Hong Kong Palace Museum adopts a unique curatorial approach, focusing on cultural exchange and global dialogue. The museum's rooftop terrace offers stunning panoramic views of Victoria Harbour, making it a must-visit destination that beautifully bridges tradition and modernity, art and community.

❖ MacLehose Trail (麦理浩径)

The MacLehose Trail is Hong Kong's oldest and longest hiking trail, stretching 100 kilometers across the New Territories from Sai Kung to Tuen Mun. Named after former Governor Sir Murray MacLehose, it is divided into ten sections, each offering distinct landscapes—from volcanic rock formations and pristine beaches to lush woodlands and rugged mountains. The trail's first two sections are particularly renowned for their stunning coastal views, featuring crystal-clear waters and sandy coves like Long Ke Wan and Ham Tin Wan. Section Eight leads hikers to the summit of Tai Mo Shan, Hong Kong's highest peak, offering panoramic vistas of the entire territory. As the city's premier long-distance trail, the MacLehose is an internationally acclaimed hiking destination, recognized by National Geographic as one of the world's best hiking trails. It provides both challenging adventures and peaceful escapes, revealing Hong Kong's remarkable natural beauty beyond its urban jungle and offering a unique perspective on the region's diverse geography.

CALL FOR PAPERS

17th ACMAE Asia

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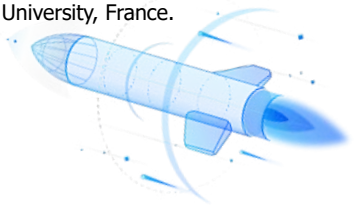
ACMAE 2026 is sponsored by Science and Engineering Insitutute and King Mongkut's Institute of Technology Ladkrabang, Thailand, technically supported by Harbin Engineering University, Beijing Institute of Technology and Department of Aeronautical and Aviation Engineering (AAE) of The Hong Kong Polytechnic University (PolyU) and The International Space University, France.



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Publication

Accepted and registered papers will be included in the ACMAE conference proceedings. which will be sent to Ei Compendex, SCOPUS, etc.

Call for Special Sessions

ACMAE 2026 proposals for special sessions within the technical scope of the conference. Accepted papers will be published by conference proceedings, inclusion to indexing databases. Welcome your proposal! Proposals should include the following information:

Title
/ Brief description of the special session
/ Related topics
/ Name, brief biodata and photo of organizer
/ E-mail address of main contact person
/ Potential participants

Proposal submission deadline: July 15, 2026

Topics of Interest

// Aerospace Communications
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Important Dates

Submission Deadline	2026-09-25
Notification Deadline	2026-10-25
Registration Deadline	2026-11-05

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Submit a full paper for conference publication.
Listener/Attendee –
Engage in face-to-face exchanges with experts in related fields.

Important Dates

Submission Deadline ---------- September 30, 2026
Registration Deadline ---------- October 30, 2026

Call for Papers

Track 01 Advanced Aircraft Propulsion and Energy Systems
Yu Wu, Northwestern Polytechnical University
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Track 02 Urban Air Mobility and Advanced Air Transportation Systems
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Chenyang Wu, Northwestern Polytechnical University, China
Lingxiao Wu, The Hong Kong Polytechnic University, China

Track 03 Aerospace Composite Materials and Advanced Manufacturing
Lu Che, Northwestern Polytechnical University
Poh Leong Hien, National University of Singapore

Track 04 Reliability analysis under uncertainty of aerospace equipments
Xindang He, Northwestern Polytechnical University, China
Xufeng Yang, Southwest Jiaotong University, China

Track 05 Intelligent and Autonomous Aerospace Systems
Haoze Wang, Northwestern Polytechnical University
Yueneng Yang, National University of Defense Technology

Track 06 Advanced Methods in Computational Aerodynamics
Jiaqing Kou, Northwestern Polytechnical University
Domenic D'Ambrosio, Politecnico di Torino
Binghua Li, Beihang University

Track 07 Digital Twins and Intelligent Decision-Making in Aerospace Engineering
Zhiping Yin, Northwestern Polytechnical University
Wei Xie, Northwestern Polytechnical University

Track 08 Sustainable and Green Aerospace Technologies
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Track 09 Intelligent Design, Additive Manufacturing, and AI Applications in Aerospace Engineering
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Track 10 Aerospace Sensing, Instrumentation, and Measurement Systems
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Track 11 High-Performance Actuation and Transmission Systems for Aerospace Applications
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