

2025 CSA-IAA Conference on Advanced Space Technology (Shanghai• China) Program

1. About the Conference

The International Academy of Astronautics (IAA), Chinese Society of Astronautics (CSA), and Shanghai Academy of Spaceflight Technology (SAST) will jointly host The 2025 CSA-IAA Conference on Advanced Space Technology (Shanghai•China) during September 22-24, 2025 in Shanghai. This conference will focus on the theme of "Exploring a New Home on the Moon", explore how space can serve human society and promote international space cooperation.

2. Date and Venue

Date: September 22-24, 2025

Venue: Platinum Hanjue Hotel, Shanghai (No. 1577 Humin Road, Minhang District, Shanghai, China)

3. Organization

Host Organization

International Academy of Astronautics (IAA)

Chinese Society of Astronautics (CSA)

Shanghai Academy of Spaceflight Technology (SAST)

Honorary President

Liu Jiuyan

Former Vice President, IAA

John Schumacher

President, IAA

President

Jean-Michel Contant

Secretary General, IAA

4. Program at a Glance

DATE	TIME	ACTIVITY
Sep.22 (Monday)	14:00-21:00	Registration
Sep.23(Tuesday)	08:30-09:00	Opening Ceremony
	09:00-10:00	IAA Academy Day
	10:00-12:00	Plenary (Keynotes 1-4)
	13:30-17:00	Plenary (Keynotes 5-10)
Sep.24(Wednesday)	09:00-17:00	Technical Sessions
	09:00-17:00	1) Advanced Aerospace Transportation Technology Empowering Lunar Exploration 2)Advanced Manufacturing and Equipment Technologies for Extreme Space Environments 3)New Technologies for Space Target Optoelectronic Perception
	14:00-17:00	4)New energy technologies for space

5. Opening Ceremony and Plenary

Time: September 23 (Tuesday), 08:30 – 17:00

Venue: the Platinum Hanjue Hotel, Shanghai

Moderator of Opening Ceremony: Wang Yiran, Vice President & Secretary General,
CSA

Moderator of Plenary: Ji Feng, Vice President, SAST

TIME	EVENT	ACTIVITY
08:30–09:00	Opening Ceremony	
08:30–08:35	Introduction of VIP Delegates	
08:35–09:00	Opening Remarks	
09:00–10:00	IAA Academy Day	
09:00–09:10	Remarks	Jean-Michel Contant, brief introduction of IAA Academy Day
09:10–09:25	Academician Certificate Presentation	1) Video of the newly elected academicians 2) Presenting certificates & individual photo shooting
09:25–09:35	IAA Awards Presentation	1) Introduction of the award recipients 2) Presenting certificates & individual photo shooting 3) Acceptance speech (2 minutes each)
09:35–09:50	Special Tribute	1) Video about the Von Karman Award (5-8 minutes) 2) Video about the Team Award (5-8 minutes)
09:50–10:00	Group Photo	Newly elected academicians, award recipients, and award presenter(s)

10:00–12:00	Plenary
10:00–10:20	<p>Keynote 1: China's lunar exploration project/Open co-construction and future plans of International Lunar Research Station</p> <p>Speaker: Wu Weiren, Academician of the Chinese Academy of Engineering, IAA Academician, Deep Space Exploration Laboratory</p>
10:20–10:40	<p>Keynote 2: Current Application Status and Development Trends of Lightweight Structures in the Field of Deep Space Exploration</p> <p>Speaker: Zhang Weihong, Academician of the Chinese Academy of Sciences, Vice President and Professor of Northwestern Polytechnical University</p>
10:40–11:00	<p>Keynote 3: Breakthroughs and Applications of New Materials Technology in the Aerospace Industry</p> <p>Speaker: Leng Jinsong, Academician of the Chinese Academy of Engineering, Professor of Harbin Institute of Technology</p>
11:00–11:15	Break
11:15–11:35	<p>Keynote 4: Key Infrastructure Challenges in Lunar and Deep Space Exploration and Development</p> <p>Speaker: John Mankins, IAA Academician,, Professor of Space Entrepreneurship, Former Vice President of Kepler Space Institute, Member of the Moon Village Association</p>
11:35–11:55	<p>Keynote 5: Introduction of the ChangE'8 Hong Kong Operation Robot</p> <p>Speaker: Yu Hongyu, Professor of Hong Kong University of Science and Technology, Co-Director of the Hong Kong Center for Space Robotics and Energy</p>
11:55–12:15	<p>Keynote 6: Construction of Lunar Energy Station and Its Key Technologies</p> <p>Speaker: Zhang Chongfeng, Chief Designer of the Lunar Surface Activity Support System for the Manned Lunar Exploration Program, Member of the Standing Committee of the S&T Committee, SAST</p>

12:15–14:00	Lunch
14:00–17:00	Plenary
14:00–14:20	Keynote 7: Overview of the International Moon Day Speaker: Nasr Alsahhaf, International Moon Day Group
14:20–14:40	Keynote 8: Legal progress and interpretation of outer spac Speaker: Li Shouping, IAA Academician, professor of School of Law, Beijing Institute of Technology
14:40–15:00	Keynote 9: Development and utilization of extraterrestrial water ice and lunar soil resources Speaker: Yao Wei, China Academy of Space Technology
15:00–15:20	Keynote 10: Vision of lunar exploration and development Speaker: Madhu Thangavelu, professor of University of Southern California
15:20–15:35	Break
15:35–15:55	Keynote 11: Discussion on the Development of a Cis-Lunar Space Transportation System Speaker: Wang Yijun, Chief Designer of China Aerospace Science and Technology Corporation Commercial Rocket
15:55–16:15	Keynote 12: Urgent protection of the far side of the Moon and celestial body protection Speaker: Claudio Maccone, IAA Academician, Director of Space Exploration Technology of IAA
16:15–16:35	Keynote 13: Psychological changes in long-term space missions - results from Chinese crews Speaker: Wu Ruilin, IAA Academician, Professor of Beihang University
16:35–16:55	Keynote 14: Thales Alenia Space Contributions to Space Exploration Speaker: Maria Antonietta-Perino, Thales Alenia

6. Technical Sessions

Technical Session 1

Theme: Advanced Aerospace Transportation Technology Empowering Lunar Exploration

Time: September 24 (Wednesday), 09:00 – 17:00

Venue: the Platinum Hanjue Hotel, Shanghai

Organizers: Shanghai Institute of Aerospace System Engineering

National Key Laboratory of Aerospace Space Mechanisms

Moderator: Zhu Liangcong, Deputy Director of the S&T Committee, Assistant to the Director of Shanghai Aerospace Systems Engineering Research Institute

Paper Reviewers: Wang Xianzhong, Member of the S&T Committee of SAST;

Zhang Liang, Professor of Shanghai Institute of Aerospace System Engineering;

Chen Hui, Professor of Shanghai Institute of Aerospace System Engineering

TIME	EVENT
09:00–9:15	Opening Remarks
Invited Presentations	
09:15–9:40	Invited Presentation 1: Development Trends of Low-Cost Aerospace Launches in China Speaker: Li Yang/Zhang Zhong, Deputy Director/Director of Shanghai Institute of Aerospace System Engineering
09:40–10:05	Invited Presentation 2: Lunar-Based Astronomy Research and Demand for Low-Cost Earth-Moon Transportation Systems

	Speaker: Su Meng, Professor of the University of Hong Kong
10:05–10:30	Invited Presentation 3: Current Status and Trends of Low-Cost Reusable Propulsion Technology Development Speaker: Lv Fazheng, Professor of Xi'an Aerospace Propulsion Institute
10:30–10:45	Break
10:45–11:10	Invited Presentation 4: Current Status and Trends of Earth-Moon Space Orbit Transfer Technology Development Speaker: Liang Yuying, Professor of Beihang University
11:10–11:35	Invited Presentation 5: Prospects for Unmanned Lunar Research Stations and Facilities Speaker: Zhao Chen, Professor of Shanghai Institute of Aerospace System Engineering
11:35–11:55	Invited Presentation 6: Current Status and Trends of Lunar Surface Transportation Systems Speaker: Wang Weijun, Professor of Shanghai Institute of Aerospace System Engineering
11:55–14:00	Lunch
14:00–17:00	Paper Discussion

Technical Session 2

Theme: Advanced Manufacturing and Equipment Technologies for Extreme Space Environments

Time: September 24 (Wednesday), 09:00 – 17:00

Venue: the Platinum Hanjue Hotel, Shanghai

Organizers: Shanghai Aerospace Equipment Manufacturer Co., Ltd.

Moderator: Ju Pengfei, Deputy General Manager/Professor of Shanghai Aerospace Equipment Manufacturer Co., Ltd.

Paper Reviewers: Gao Jiashuang, Deputy Director of the S&T Committee of Shanghai Aerospace Equipment Manufacturer Co., Ltd.

TIME	EVENT
09:00-9:15	Opening Remarks
Invited Presentations	
09:15-9:40	Invited Presentation 1: Energy Field Composite Laser Manufacturing Technology Speaker: Yao Jianhua, Professor/Dean of Zhejiang University of Technology
09:40-10:05	Invited Presentation 2: In-Space Repair Technology Speaker: Hu Yongxiang, Professor/National Outstanding Youth of Shanghai Jiao Tong University
10:05-10:30	Invited Presentation 3: Continuous Preparation and Applications of Lunar Soil Fibers Speaker: Cheng Yanhua, Professor/National Outstanding Youth of Donghua University
10:30-10:45	Break
10:45-11:10	Invited Presentation 4: Large-Scale Measurement Technology and Applications Speaker: Wang Jun, Professor/Distinguished Young Scholar at Nanjing University of Aeronautics and Astronautics
11:10-11:35	Invited Presentation 5: In-Space Manufacturing Technology Speaker: Ren Fei, Professor of Shanghai Aerospace Equipment Manufacturer Co., Ltd.
11:35-13:30	Lunch
13:30-17:00	Paper Discussion

Technical Session 3

Theme: New Technologies for Space Target Optoelectronic Perception

Time: September 24 (Wednesday), 09:00 – 17:00

Venue: Science and Technology Exchange Center, SAST

Organizers: Shanghai Aerospace Control Technology Institute

National Key Laboratory of Space Target Perception

Moderator: Zhu Qinghua, Deputy Director of Shanghai Aerospace Control Technology Institute

Paper Reviewers: Tan Tianle, Professor of Shanghai Aerospace Control Technology Institute

Zheng Xunjiang, Professor of Shanghai Aerospace Control Technology Institute

TIME	EVENT
09:00–9:15	Opening Remarks
Invited Presentations	
09:15–9:40	Invited Presentation 1: TOF Measurement Technology and Applications for Space Targets Speaker: Zheng Xunjiang, Professor of Shanghai Aerospace Control Technology Institute
09:40–10:05	Invited Presentation 2: Key Technologies for Intelligent Perception of Dim Space Targets Speaker: Wei Xinguo, Beihang University
10:05–10:30	Invited Presentation 3: Photon level sensitivity detection for space applications

	Speaker: Lin Chun, Shanghai Institute of Technical Physics
10:30–10:45	Break
10:45–11:10	Invited Presentation 4: Advanced Mathematical Methods and Intelligent Technologies in Collaborative Perception Speaker: Deng Ke, Sichuan University
11:10–11:35	Invited Presentation 5: Intelligent Reasoning for Space Events Driven by Both Knowledge Graphs and Large Models Speaker: Tan Longyu, Shanghai Aerospace Control Technology Institute
11:35–12:00	Invited Presentation 6: Perception System Design Speaker: Liu Desheng, Aerospace Engineering University
12:00–14:00	Lunch
14:00–17:00	Paper Discussion

Technical Session 4

Theme: New energy technologies for space

Time: September 24 (Wednesday), 14:00 – 17:00

Venue: the Platinum Hanjue Hotel, Shanghai

Organizers: Shanghai Space Power Research Institute

National Key Laboratory of Space Power Sources

Moderator: Liu Yong, Deputy Director of the National Key Laboratory of Space Power Sources

Paper Reviewers: Xie Jingying, Professor of Shanghai Space Power Source Institute

TIME	EVENT
14:00–17:00	Opening Remarks
Invited Presentations	
14:15–14:35	Invited Presentation 1: Energy Networking Speaker: Liu Zhigang, Professor of the China Academy of Space Technology
14:35–14:55	Invited Presentation 2: Energy Supply Systems for Lunar Habitats and Multi-Level In-Situ Power Supply Devices for Active Grid Support Speaker: Xie Jingying, Professor of Shanghai Space Power Source Institute
14:55–15:25	New Technology Promotion
15:25–15:40	Break
15:40–16:00	Invited Presentation 3: High Power Density, Wide Range Power Supplies Speaker: Xu Jianping, Professor of Southwest Jiaotong University

16:00–16:20	Invited Presentation 4: Report on Nuclear Energy Directions Speaker: TBD
16:20–16:40	Invited Presentation 5: High-Efficiency Solar Cells Speaker: Li Xinyi, Professor of Shanghai Space Power Source Institute
16:40–17:00	Invited Presentation 6: Development and Applications of Lightweight, High-Performance Solid Electrolytes Speaker: Wu Yongmin, Professor of Shanghai Space Power Source Institute