



# **6<sup>th</sup> SciTech Forum on Space Engineering and Operations Support**

December 2-4, 2025

**Technical Program**

**PLENARY SESSIONS**

Place: HALL GALAXY

Zoom Link: <https://us06web.zoom.us/meeting/register/a7NZ3jCgQRy11N-wdhPFIA>

<b>Tuesday, December 2</b>	
08:00 – 10:00	Registration (6, Miklukho-Maklaya Str. Moscow, RUDN University, main building)
10:00 – 12:00	Opening Ceremony Welcome speeches: <ul style="list-style-type: none"> <li>• Sergey Chernyshev, Vice President, Russian Academy of Sciences, Russia,</li> <li>• Oleg Yastrebov, Rector of RUDN University, Russia,</li> <li>• Sergey Krikalev, Deputy General Director, State Corporation “ROSCOSMOS”, Cosmonaut, Russia,</li> <li>• Christian Feichtinger, Executive Director, International Astronautical Federation, France,</li> <li>• Aarti Holla-Maini, Director of UNOSSA, Austria,</li> <li>• Olivier Contant, Executive Director, International Academy of Astronautics, France,</li> <li>• Tatyana Titova, Daughter of the Second World Cosmonaut German Titov,</li> <li>• Yury Razoumny, Chair of International Program Committee of SciTech Forum, Director of Engineering Academy of RUDN University</li> </ul> Concert
<b>Plenary Session 1</b> Moderator – Meena Laad, Symbiosis Institute of Technology, India	
12:00 – 12:30	Highlight Lecture 1 <i>Prospects of BRICS Countries in Creating a Surveillance System for Near-Earth Objects</i> Boris Shustov, Institute of Astronomy of Russian Academy of Sciences, Russia
12:30 – 13:00	Highlight Lecture 2 <i>Interstellar Journeys: Will Ever Become Possible or Are Just a Science Fiction Topic?</i> Giancarlo Genta, Polytechnic University of Turin, Italy
13:00 – 15:00	Lunch (MOON VILLAGE HALL)
<b>Plenary Session 2</b> Moderator – Ravinder Rena, Durban University of Technology, Republic of South Africa	
15:00 – 16:00	Roundtable Meeting 1 <i>BRICS and Africa International Space Research and Education Cooperation</i> Moderators: Francis Chizea, National Agency for Space Research and Development, Nigeria Ravinder Rena, Durban University of Technology, Republic of South Africa
16:00 – 16:30	Highlight Lecture 3 <i>The Policy and Legal Roadmap for Competitive and Sovereign Space Markets in the 2030s</i> Narkhanim Orujova, Space Agency of the Republic of Azerbaijan (Azercosmos), Azerbaijan
16:30 – 17:00	Highlight Lecture 4 <i>Space for National Development – Explore Innovate Succeed</i> Anoop Kumar Srivastava, Indian Space Research Organization, India
17:00 – 17:30	Highlight Lecture 5 <i>The Nigerian Space Policy and Programme</i> Francis Chizea, National Agency for Space Research and Development (Nigerian Space Agency), Nigeria
17:30 – 18:00	Highlight Lecture 6 <i>Perspectives of AI Implementations in Space Science and Technology</i> Narendra S. Chaudhari, Assan Science and Technology University, India
<b>Wednesday, December 3</b>	
<b>Plenary Session 3</b> Moderator – Renuganth Varatharajoo, Universiti Putra Malaysia, Malaysia	
10:00 – 10:30	Highlight Lecture 7 <i>Industrial Revolution: New Era of AI Driven Transformations in Space Technologies</i> Ketan Kotecha, Symbiosis Institute of Technology, India
10:30 – 11:00	Highlight Lecture 8 <i>Filling critical environmental data gaps over the Tropics with the “Equatorial Sentinels for Environment” remote sensing constellation: From classical North-South cooperation paradigm to disruptive South-South and South-North cooperations</i> Erick Lansard, Nanyang Technological University, Singapore
11:00 – 11:30	Highlight Lecture 9 <i>Solar Sail Trajectory Optimization for Interplanetary Mission</i> Renuganth Varatharajoo, Universiti Putra Malaysia, Malaysia
11:30 – 12:00	Highlight Lecture 10 <i>Optical Space Situational Awareness as the Basis of Sustainable LEO Operations</i> Andrey Klimov, Astronomical Research Center, Russia

## 6<sup>th</sup> SciTech Forum Technical Program

12:00 – 12:30	Highlight Lecture 11 <i>Indian Space Policy: Economical Effect</i> Tarun P. Singh, Symbiosis Institute of Geoinformatics, India
12:30 – 13:00	Highlight Lecture 12 <i>Venus: Investigation of Mysterious Planet</i> Lev Zeleny, Institute of Space Research of Russian Academy of Sciences, Russia
13:00 – 15:00	Lunch (MOON VILLAGE HALL)
Plenary Session 4 Moderator – Vera Galishnikova, RUDN University, Russia	
15:00 – 16:00	Roundtable Meeting 2 <i>Lunar Resources: Technical, Commercial and Legal Challenges</i> Moderators: Leslie I. Tennen, Private Practice Sterns and Tennen, USA Narkhanim Orujova, Space Agency of the Republic of Azerbaijan (Azercosmos), Azerbaijan
16:00 – 16:30	Highlight Lecture 13 <i>Space Reforms in India: Vision, Framework and Impact</i> Chandra Prakash Singh, Indian National Space Promotion and Authorization Centre (IN-SPACe), India
16:30 – 17:00	Highlight Lecture 14 <i>Remote Sensing Data Analysis for Crop and Land Cover Change in Thailand</i> Sarawut Ninsawat, Asian Institute of Technology, Thailand
17:00 – 17:30	Highlight Lecture 15 <i>Ethiopian Way to Space: Projects and Programs</i> Yeshurun Alemayehu, Space Science and Geospatial Institute (Ethiopian Space Agency), Ethiopia
<b>Thursday, December 4</b>	
Plenary Session 5 Moderator – Shufan Wu, Shanghai Jiao Tong University, China	
10:00 – 10:30	Highlight Lecture 16 <i>Spacecraft Orbital Stability Under Total Solar Irradiance</i> Aleksandr Yefremov, RUDN University, Russia
10:30 – 11:00	Highlight Lecture 17 <i>Unlocking the Full Potential of Satellite Technology in Sub-Saharan Africa through Training, Capacity Building, and Regional and International Cooperation</i> Emmanuel Mashonjowa, University of Zimbabwe, Zimbabwe
11:00 – 11:30	Highlight Lecture 18 <i>Axisymmetric Supersonic Intake Buzz Characteristics and its Alleviation Adopting Plasma</i> Sudip Das, Birla Institute of Technology, India
11:30 – 12:00	Highlight Lecture 19 <i>Space Monitoring Legal and Illegal (Galamesay) Mining Industrial Contaminants in Ghana</i> Manfred Quarshie, Space Science Systems Research Institute, Ghana
12:00 – 12:30	Highlight Lecture 20 <i>Space4Water: an UN Proposed Remote Sensing Satellite Mission</i> Shufan Wu, Shanghai Jiao Tong University, China
12:30 – 13:00	Highlight Lecture 21 <i>Navigating the New Space Era: Coordination, Sustainability, and Orbital Stewardship</i> Bocar Ba, World Space Sustainability Association, President, UAE
13:00 – 15:00	Lunch (MOON VILLAGE HALL)
Plenary Session 6 Moderator – Antonio Prado, National Institute of Space Research (INPE), Brazil	
15:00 – 16:00	Roundtable Meeting 3 <i>The Sustainability of Outer Space as a Significant Challenge for the Space Ecosystem as a Whole</i> Moderator: Antonio Prado, Institute of Space Research (INPE), Brazil
16:00 – 16:30	Highlight Lecture 22 <i>Hybrid Carbon Nanotube – Graphite Reinforced PVDF Composites: A Novel Approach for Space-Grade Lightweight Materials</i> Meena Laad, Symbiosis Institute of Technology, India
16:30 – 17:00	Highlight Lecture 23 <i>Mission Design to Triple Asteroids</i> Antonio Prado, National Institute of Space Research (INPE), Brazil
17:00 – 17:30	Highlight Lecture 24 <i>Leveraging Earth Observation to Advance Zimbabwe's Socio-Economic Development</i> Shekede Davis, Zimbabwe National Geospatial and Space Agency, Zimbabwe
17:30 – 18:00	Highlight Lecture 25 <i>“Success Story” Related to Acta Astronautica Journal</i> Rock Chern, Ryerson University, Canada, Editor-in-Chief of Acta Astronautica Journal

**PARALLEL TECHNICAL SESSIONS**

<b>Tuesday, December 2</b>		
15:00 – 18:00	Technical Session 1: <b>DEEP SPACE EXPLORATION</b> <i>Co-Chair: Elena Fomina, Institute of Biomedical Problems of RAS, Russia</i> <i>Co-Chair: Aleksander Inyushin, RUDN University, Russia</i>	HALL MERCURY
	Technical Session 2: <b>SPACE MATERIALS &amp; STRUCTURES 1</b> <i>Co-Chair: Meena Laad, Symbiosis Institute of Technology, India</i> <i>Co-Chair: Kazem Reza Kashy Zadeh, RUDN University, Russia</i>	HALL MARS
	Technical Session 3: <b>EARTH OBSERVATIONS 1</b> <i>Co-Chair: Aleksander Kotelnikov, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Esina, RUDN University, Russia</i>	HALL NEPTUNE
	Technical Session 4: <b>SPACE SENSORS &amp; ACTUATORS</b> <i>Co-Chair: Svetlana Agasieva, RUDN University, Russia</i> <i>Co-Chair: Siamak Ghorbani, RUDN University, Russia</i>	HALL PLUTON
	Technical Session 5: <b>SPACE ARCHITECTURE</b> <i>Co-Chair: Ivan Khalil, RUDN University, Russia</i> <i>Co-Chair: Elizaveta Shemyakina, RUDN University, Russia</i>	HALL SATURN
<b>Wednesday, December 3</b>		
10:00 – 13:00	Technical Session 6: <b>SPACE FLIGHT MECHANICS</b> <i>Co-Chair: Antonio Prado, National Institute for Space Research (INPE), Brazil</i> <i>Co-Chair: Vladimir Razoumny, RUDN University, Russia</i>	HALL MERCURY
	Technical Session 7: <b>SPACE MATERIALS &amp; STRUCTURES 2</b> <i>Co-Chair: Vera Galishnikova, RUDN University, Russia</i> <i>Co-Chair: Gebre Tesfaldet Hadgembes, RUDN University, Russia</i>	HALL MARS
	Technical Session 8: <b>SPACE POWER &amp; PROPULSION</b> <i>Co-Chair: Felix Mora-Camino, Universidade Federal Fluminense, Brazil</i> <i>Co-Chair: Kazem Reza Kashy Zadeh, RUDN University, Russia</i>	HALL NEPTUNE
	Technical Session 9: <b>EARTH OBSERVATIONS 2</b> <i>Co-Chair: Shufan Wu, Shanghai Jiao Tong University, China</i> <i>Co-Chair: Maria Suvorova, RUDN University, Russia</i>	HALL PLUTON
	Technical Session 10: <b>SPACE POLICY, LAW &amp; ECONOMICS 1</b> <i>Co-Chair: Irina Chernych, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Kovaleva, RUDN University, Russia</i>	HALL SATURN
<b>Thursday, December 4</b>		
10:00 – 13:00	Technical Session 11: <b>SPACE MATERIALS &amp; STRUCTURES 3</b> <i>Co-Chair: Serdar Yazyev, RUDN University, Russia</i> <i>Co-Chair: Marina Rynkovskaya, RUDN University, Russia</i>	HALL MERCURY
	Technical Session 12: <b>AIML IN SPACE APPLICATIONS</b> <i>Co-Chair: Ketan Kotecha, Symbiosis Institute of Technology, India</i> <i>Co-Chair: Renuganth Varatharajoo, Universiti Putra Malaysia, Malaysia</i>	HALL MARS
	Technical Session 13: <b>SPACE POLICY, LAW &amp; ECONOMICS 2</b> <i>Co-Chair: Irina Chernych, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Kovaleva, RUDN University, Russia</i>	HALL NEPTUNE
	Technical Session 14: <b>EARTH OBSERVATIONS 3</b> <i>Co-Chair: Tarun Singh, Symbiosis Institute of Geoinformatics, India</i> <i>Co-Chair: Olga Saltykova, RUDN University, Russia</i>	HALL PLUTON

## **ROUNDTABLE MEETING 1**

Tuesday, December 2 • Time: 15:00 to 16:00 Moscow Time (GMT+3)

## **BRICS AND AFRICA INTERNATIONAL SPACE RESEARCH AND EDUCATION COOPERATION**

### **Moderators:**

Francis Chizea  
Deputy Director General, National Space Research and  
Development Agency (NASRDA), Nigeria

Ravinder Rena  
Professor,  
Durban University of Technology, South Africa

### **Participants:**

Irina Abramova  
Director of Institute for African Studies  
of the Russian Academy of Sciences, Russia

Yeshurun Alemayehu  
Deputy Director General,  
Ethiopian Space Science & Geospatial Institute, Ethiopia

Manfred Quarshie  
President,  
Space Science Systems Research Institute, Ghana

Anoop Kumar Srivastava  
Technical Liaison Officer,  
Indian Space Research Organization, India

Ketan Kotecha,  
Director,  
Symbiosis Institute of Technology, India

Sarawut Ninsawat  
Professor,  
Asian Institute of Technology, Thailand

Petro Ernest Pesha  
Director of Academics,  
Dar es Salaam Institute of Technology, Tanzania

Agaba Doreen  
Head of Uganda Space Program,  
Ministry of Science, Technology and Innovation, Uganda

Shufan Wu  
Director of Smart Satellite Technology Centre,  
Shanghai Jiao Tong University, China

Emmanuel Chipo Mashonjowa  
Head of Department of Physics,  
University of Zimbabwe, Zimbabwe

Kuria Catherine Wangari  
General Manager,  
Skylinks International Holdings, Kenya

Renuganth Varatharajoo  
Professor,  
Universiti Putra Malaysia, Malaysia

Antonio Prado  
Pro-Rector of the Graduate School  
National Institute of Space Research (INPE), Brazil

## ROUNDTABLE MEETING 2

Wednesday, December 3 · Time: 15:00 to 16:00 Moscow Time (GMT+3)

### LUNAR RESOURCES: TECHNICAL, COMMERCIAL AND LEGAL CHALLENGES

#### Moderators:

Leslie Tennen  
Private Practice Sterns and Tennen, USA

Narkhanim Orujova  
Space Agency of the Republic of Azerbaijan  
(Azercosmos), Azerbaijan

#### Participants:

Lev Zeleny  
Science Supervisor, Institute of Space Research  
of Russian Academy of Sciences, Russia

Irina Chernych  
Associate Professor,  
RUDN University, Russia

Deen Sanders  
Special Counsel,  
Deloitte Access Economics, Australia

Manfred Quarshie  
President,  
Space Science Systems Research Institute, Ghana

Tarun Singh  
Director Symbiosis Institute of Geoinformatics,  
Symbiosis International (Deemed University), India

Shufan Wu  
Director of Smart Satellite Technology Centre,  
Shanghai Jiao Tong University, China

Giancarlo Genta  
Professor,  
Polytechnic University of Turin, Italy

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## ROUNDTABLE MEETING 3

Thursday, December 4 · Time: 15:00 to 16:00 Moscow Time (GMT+3)

### THE SUSTAINABILITY OF OUTER SPACE AS A SIGNIFICANT CHALLENGE FOR THE SPACE ECOSYSTEM AS A WHOLE

**Moderator:** Antonio Prado  
Pro-Rector of the Graduate School  
National Institute of Space Research (INPE), Brazil

#### Participants:

Boris Shustov  
Science Supervisor, Institute of Astronomy of Russian  
Academy of Sciences, Russia

Anoop Kumar Srivastava  
Technical Liaison Officer,  
Indian Space Research Organization, India

Francis Chizea  
Deputy Director General, National Space Research  
and Development Agency (NASRDA), Nigeria

Bocar Ba  
President,  
World Space Sustainability Association, UAE

Andrey Klimov,  
Chief Design Officer,  
Astronomical Research Center, Russia

Shekede Davis,  
Zimbabwe National Geospatial and Space Agency,  
Zimbabwe

Yeshurun Alemayehu  
Deputy Director General,  
Ethiopian Space Science & Geospatial Institute, Ethiopia

