



RUDN
university

6th SciTech Forum **on Space Engineering** **and Operations Support**

December 2-4, 2025

Technical Program

6th SciTech Forum Technical Program

PLENARY SESSIONS

Place: HALL GALAXY

Zoom Link: <https://us06web.zoom.us/meeting/register/a7NZ3jCgQRyI1N-wdhPFIA>

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

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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
Thursday, December 4	
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

Tuesday, December 2		
15:00 – 18:00	Technical Session 1: DEEP SPACE EXPLORATION <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: SPACE MATERIALS & STRUCTURES 1 <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: EARTH OBSERVATIONS 1 <i>Co-Chair: Aleksander Kotelnikov, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Esina, RUDN University, Russia</i>	HALL NEPTUNE
	Technical Session 4: SPACE SENSORS & ACTUATORS <i>Co-Chair: Svetlana Agasieva, RUDN University, Russia</i> <i>Co-Chair: Siamak Ghorbani, RUDN University, Russia</i>	HALL PLUTON
	Technical Session 5: SPACE ARCHITECHTURE <i>Co-Chair: Ivan Khalil, RUDN University, Russia</i> <i>Co-Chair: Elizaveta Shemyakina, RUDN University, Russia</i>	HALL SATURN
Wednesday, December 3		
10:00 – 13:00	Technical Session 6: SPACE FLIGHT MECHANICS <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: SPACE MATERIALS & STRUCTURES 2 <i>Co-Chair: Vera Galishnikova, RUDN University, Russia</i> <i>Co-Chair: Gebre Tesfaldet Hadgembes, RUDN University, Russia</i>	HALL MARS
	Technical Session 8: SPACE POWER & PROPULSION <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: EARTH OBSERVATIONS 2 <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: SPACE POLICY, LAW & ECONOMICS 1 <i>Co-Chair: Irina Chernych, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Kovaleva, RUDN University, Russia</i>	HALL SATURN
Thursday, December 4		
10:00 – 13:00	Technical Session 11: SPACE MATERIALS & STRUCTURES 3 <i>Co-Chair: Serdar Yazyev, RUDN University, Russia</i> <i>Co-Chair: Marina Rynkovskaya, RUDN University, Russia</i>	HALL MERCURY
	Technical Session 12: AIML IN SPACE APPLICATIONS <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: SPACE POLICY, LAW & ECONOMICS 2 <i>Co-Chair: Irina Chernych, RUDN University, Russia</i> <i>Co-Chair: Ekaterina Kovaleva, RUDN University, Russia</i>	HALL NEPTUNE
	Technical Session 14: EARTH OBSERVATIONS 3 <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

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

