

## TECHNICAL SESSION 1 (DSE)

Place: Hall Mercury

Day: Tuesday, December 2 · Time: 16:00 to 18:15 Moscow Time (GMT+3)

### DEEP SPACE EXPLORATION

#### Co-Chair:

Elena Fomina

Institute of Biomedical Problems of RAS, Russia

#### Co-Chair:

Aleksander Inyushin

RUDN University, Russia

- |               |  |
|---------------|--|
| 16:00 – 16:15 | <b>1. SciTech2025-010</b><br><i>Adaptation of Medical Architecture Principles to Ensure Crew Health and Well-Being in Space Environments</i><br>Gutierrez Madrid Anthony Jesus, RUDN University, Venezuela   |
| 16:15 – 16:30 | <b>2. SciTech2025-029</b><br><i>The Psychology of Confinement: How Architectural Design Can Mitigate Stress in Isolated Space Habitats</i><br>Hijazi Adli, RUDN University, Jordan   |
| 16:30 – 16:45 | <b>3. SciTech2025-037</b><br><i>The Interplanetary Transport Hub: Architectural Design for the First Spaceports</i><br>Gutierrez Madrid Anthony Jesus, RUDN University, Venezuela  |
| 16:45 – 17:00 | <b>4. SciTech2025-191</b><br><i>Guidance and Control for Descent and Final Approach to Asteroid Bennu</i><br>Souza Shyenne, Negri Rodolfo, Prado Antonio, INPE, Brazil   |
| 17:00 – 17:15 | <b>5. SciTech2025-192</b><br><i>Functional Adjustments of the Motion Control System During Adaptation to the Conditions of Space Flight and Readaptation to the Conditions of the Earth</i><br>Burakova Anna, Kislitsyn Alexey, Fomina Elena, Institute of Biomedical problems of RAS, Russia  |
| 17:15 – 17:30 | <b>6. SciTech2025-194</b><br><i>A Modern Set of Countermeasures to Negative Effects of Microgravity for Deep Space Exploration</i><br>Lemeshko Yegor, Institute of Physiology, National Academy of Sciences of Belarus, Belarus<br>Fomina Elena, Romanov Pavel, Senatorova Natalia, Burakova Anna, Kokueva Maria, Ganicheva Anna, Bakhtereva Vera, Institute of Biomedical problems of RAS, Russia |
| 17:30 – 17:45 | <b>7. SciTech2025-195</b><br><i>Changes in the brain bioelectric activity before and after physical and cognitive load and the success of cognitive tasks performance in the «SIRIUS-23» long-term isolation experiment</i><br>Cotuk Hasan Birol, Marmara University, Istanbul, Turkey<br>Ganicheva Anna, Fomina Elena, Institute of Biomedical Problems RAS, Russia                               |

17:45 – 18:00

**8. SciTech2025-200**

*The Leading Factor in The Development of Chronic Processes of Adaptation to Supportlessness (During Two-Week Dry Immersion) in the System of Spinal Reflexes*  
Shigueva Tatiana, Tomilovskaya Elena, Artamonova Nelly, Institute of Biomedical Problems of the Russian Academy of Sciences, Russia

18:00 – 18:15

**9. SciTech2025-201**

*The MSU-RAS-RUDN team's plan for solving the problem of settling the galaxy*  
Samokhina Marina, ICS RAS, Russia  
Samokhin Alexander, ICS RAS, MSU, RUDN University, Russia

## TECHNICAL SESSION 2 (SMS)

Place: Hall Mars

Day: Tuesday, December 2 · Time: 15:00 to 18:30 Moscow Time (GMT+3)

### SPACE MATERIALS & STRUCTURES 1

#### Co-Chair:

Meena Laad

Symbiosis Institute of Technology, India

#### Co-Chair:

Kazem Reza Kashy Zadeh

RUDN University, Russia

15:00 – 15:15

#### 10. SciTech2025-005

*Bioluminescent Materials as Sustainable Resources for Lunar Habitats: Innovations in Lighting, Energy, Structural Integration, and Adaptive Biotechnology*

Gomez Lopez Angie Vanesa, Fazlollahi Seyed Hamidreza, RUDN University, Russia  
Gomez Cubillos Luis Alberto, Catolica University of Colombia, Colombia

15:15 – 15:30

#### 11. SciTech2025-007

*Pattern Integration and Aesthetic Expression in Space Material and Structural Design*

Guo Xue, RUDN University, China

15:30 – 15:45

#### 12. SciTech2025-019

*The Legacy of Buckminster Fuller: Geodesic Domes from Earth to Mars*

Kadi Sidi Mohammed, RUDN University, Algeria

15:45 – 16:00

#### 13. SciTech2025-058

*Improvement of The Methodology for Calculating Structures Using Composite Reinforcement for Spaceport Facilities*

Okolnikova Galina E., RUDN University, National Research University MGSU, Russia

Uwais Mohannad Mousa Aqel, RUDN University, Jordan

16:00 – 16:15

#### 14. SciTech2025-061

*Modeling of Multilayer Structures Based on Wide-gap Oxides for space industry*

Smetanin Egor, Belyaev Victor, Otenov Adilet, RUDN University, Russia

Abduev Aslan, Associate Professor Principal Scientist State University of Education, Russia

16:15 – 16:30

#### 15. SciTech2025-064

*Enhancing the Freeze-Thaw Resistance of High-Performance Concrete for Spaceport Construction Using Industrial and Agricultural Wastes*

Okolnikova Galina E., RUDN University, National Research University MGSU, Russia

Alipour Mohammad, RUDN University, Iran  
Saad Lina Abass, RUDN University, Djibouti

16:30 – 16:45

**16. SciTech2025-076**

*Influence of Silicon Carbide Aggregate and Cenospheres on the Compressive Strength Improvement of Refractory Concrete in the Application of Hybrid Rocket Nozzles*

Reza Kashyzadeh Kazem, Ghorbani Siamak, Khlopkov Sergey, Asoyan Artur, RUDN University, Russia

16:45 – 17:00

**17. SciTech2025-079**

*Finite Element Simulation of 3D Printing Process to Fatigue Specimen Fabrication from the Perspective of Residual Stress*

Reza Kashyzadeh Kazem, Ghorbani Siamak, Said Abdesselem, RUDN University, Russia

17:00 – 17:15

**18. SciTech2025-085**

*Patterned Alignment of Liquid Crystal Molecules in Silica Micro-Capillaries: New Special Fibers for Aerospace Applications*

Chigrinov Vladimir, RUDN University, Russia

Ertman Slawomir, Warsaw University of Technology, Poland

17:15 – 17:30

**19. SciTech2025-086**

*Fast Ferroelectric Liquid Crystal Modulators for Space Applications*

Chigrinov Vladimir, RUDN University, Russia

Guo Qi, Beihang University, China

17:30 – 17:45

**20. SciTech2025-087**

*Optically Rewritable E-Paper Displays for Space Applications*

Chigrinov Vladimir, RUDN University, Russia

Murauski Anatoli, Belarus Academy of Science, Belarus

17:45 – 18:00

**21. SciTech2025-093**

*Smart Windows for Aerospace Applications*

Chigrinov Vladimir, HKUST, Russia

Sun Jiatong, College of Information Science and Technology, Donghua University, Shanghai, China

18:00 – 18:15

**22. SciTech2025-095**

*Switchable Liquid Crystal Lenses for Space Applications*

Chigrinov Vladimir, RUDN University, Russia

Wang Xiao-Qian, School of Science, East China University of Science and Technology, Shanghai 200237, China

18:15 – 18:30

**23. SciTech2025-108**

*Self-Cleaning APTES-Modified Silica-Polymer Coatings: A Study of Compositional and Optical Properties and Exploring Potential in Space Applications*

Shalu Akhila, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India

## TECHNICAL SESSION 3 (EO)

Place: Hall Neptune

Day: Tuesday, December 2 · Time: 15:00 to 18:00 Moscow Time (GMT+3)

### EARTH OBSERVATIONS 1

#### Co-Chair:

Aleksander Kotelnikov

RUDN University, Russia

#### Co-Chair:

Ekaterina Esina

RUDN University, Russia

15:00 – 15:15

#### 24. SciTech2025-054

*Instrumental Processing of Spectral Satellite Images and Gravity Survey Data for Oil Exploration in the Tawke Oilfield, Duhok Area, Iraqi Kurdistan Region*

Abramov Vladimir, Qadir Danyar, RUDN University, Iraq

Mzuri Rebar, College of Science, Salahaddin University, Erbil, Iraq

15:15 – 15:30

#### 25. SciTech2025-214

*Determining the Optimal Transmission Pipeline Route Using MCDM and the Cost Path Algorithm (Case Study: Water Transmission Line from the Persian Gulf to Yazd)*

Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia

15:30 – 15:45

#### 26. SciTech2025-056

*Peculiarities of Using Limnological Methods in Planetary Studies*

Khassan Musab, RUDN University, Sudan

Rasskazov Andrey, Kotelnikov Alexander, RUDN University, Russia

15:45 – 16:00

#### 27. SciTech2025-57

*Detection of Sedimentary Bauxite Deposits in Shaanxi Province Using Gravity and Electromagnetic Techniques*

Sissoko Billy, Kotelnikov Alexander, RUDN University, Guinea

16:00 – 16:15

#### 28. SciTech2025-215

*Evaluating Urban Development Processes Using Advanced Spatial Analysis Methods and Cellular Automata Techniques, and Comparing Them with the Logistic Regression Method (Case Study: Isfahan County)*

Hatamiafkoueieh Javad, Shirali Masoud, Amini Faramarz, RUDN University, Russia

16:15 – 16:30

#### 29. SciTech2025-062

*Climate Change Perception among Fishermen and Residents of Flood Prone Areas of The Gambia. Are their perceptions Accurate?*

Jobe Lamin B., Department of Water Resources in The Gambia, Gambia

16:30 – 16:45

#### 30. SciTech2025-063

*Use of Remote Sensing in Mineral Resource Exploration: Towards a Geospatial Revolution in Mineral Prospecting*

Zakiou N'diaye Abdoulaye, Coulibaly Abdoulaye, RUDN University, Mali

Ibrahim Mohammed, RUDN University, Sudan

16:45 – 17:00

**31. SciTech2025-065**

A New Paradigm for Lithium Exploration: the Role of Remote Sensing  
Coulibaly Aboulaye, Zakiou N'Diaye Aboulaye, RUDN University, Mali  
Ibrahim Mohammed, RUDN University, Sudan

17:00 – 17:15

**32. SciTech2025-216**

*Reverse Displacement Map of a Salt Dome Using Radar Interferometry Optimization Technique*

Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia

17:15 – 17:30

**33. SciTech2025-066**

*The Possibility of Localizing Zones of Carbonate Deposits with the Best Reservoir Properties of Oil and Gas Fields Based on Space Research*

Pavel Strakhov, RUDN University, Russia

Buzibat Suheib, RUDN University, Algeria

17:30 – 17:45

**34. SciTech2025-067**

*Prospects for Mineral Resources on the Moon*

Nikolaeva D.V., RUDN University, Russia

Ibrahim Mohammed, RUDN University, Sudan

Zakariash Hamilton, RUDN University, Mozambique

17:45 – 18:00

**35. SciTech2025-071**

*Prediction of Gold Mineralization Based on Landsat 8 Metasomatic Alteration Mapping in the Ahaggar Shield, Southern Algeria*

Ghoulali Fouaze, RUDN University, Algeria

Ivanova Julia, RUDN University, Russia

## TECHNICAL SESSION 4 (SSA)

Place: Hall Pluton

Day: Tuesday, December 2 · Time: 15:00 to 19:00 Moscow Time (GMT+3)

### SPACE SENSORS & ACTUATORS

#### Co-Chair:

Svetlana Agasieva  
RUDN University, Russia

#### Co-Chair:

Siamak Ghorbani  
RUDN University, Russia

15:00 – 15:15

#### 36. SciTech2025- 015

*Application of Self-Propagating High-Temperature Synthesis Technology in the Production of Ti-Al Intermetallic Compounds for Aerospace Engineering*  
Bazhina Arina, Ivanov Artem, ISMAN, Russia  
Bazhin Pavel, ISMAN, RUDN University, Russia  
Luati Olfa, RUDN University, Russia

15:15 – 15:30

#### 37. SciTech2025- 028

*Production of Composite Materials by Free Self-Propagating High-Temperature Synthesis Compression Based on TNM for the Aviation and Space Industries*  
Antipov Mikhail, ISMAN, Russia  
Bazhin Pavel, ISMAN, RUDN University, Russia  
Zeraat Peyma, RUDN University, Russia

15:30 – 15:45

#### 38. SciTech2025- 030

*Hydrophone for Studying Subglacial Oceans on the Moons of Giant Planets*  
Baranova Margarita, Osipkov Alexey, BMSTU, Russia

15:45 – 16:00

#### 39. SciTech2025- 034

*Photoinduced Optical Switch Based on Colored Organic Glasses for space industry*  
Belyaev Viktor, Avdeenkov Vladimir, RUDN University, Russia  
Aubakirova Kamilla, RUDN University, Kazakhstan

16:00 – 16:15

#### 40. SciTech2025-041

*Biophilic Design in Space: the Critical Role of Greenhouses and Simulated Nature for Crew Well-Being*  
Zhang Jiachuan, RUDN University, China

16:15 – 16:30

#### 41. SciTech2025-092

*Polarization Imaging Sensors for Space Applications*  
Chigrinov Vladimir, RUDN University, Russia  
Bermak amine, Hamad Bin Khalifa University, Qatar

16:30 – 16:45

#### 42. SciTech2025-094

*Multipoint Fibre Optic Voltage Spacecraft Sensor*  
Chigrinov Vladimir, RUDN University, Russia  
Brodzeli Zourab, School of Electrical Engineering and Telecommunications, UNSW, Sydney, Australia

16:45 – 17:00	<b>43. SciTech2025-105</b> <i>Control of Movement on Space Objects when Using Exoskeletons</i> Khlopkov Sergey, RUDN University, Russia Abdul Karim Issoufa Maman, RUDN University, Niger Tretyakov Nikita, RUDN University, Turkmenistan
17:00 – 17:15	<b>44. SciTech2025-110</b> <i>Development and Study of Metal-Ceramic Coatings Based on Tic-Nicr for Space Industry</i> Nazarko Ivan, Bazhin Pavel, RUDN University, Russia
17:15 – 18:30	<b>45. SciTech2025-115</b> <i>Evaluation of Flexible Sensor Sensitivity for Space Applications Using t-Test and ANOVA</i> Jagtap Priyanka, Laad Meena, Symbiosis Institute of Technology, SIU, Pune, India
17:30 – 17:45	<b>46. SciTech2025-119</b> <i>First-Principles Study of the Effect of Lattice Compression and Stretching on the Properties of the Tetragonal Phase of a Manganese Nitride Monolayer</i> Kushchuk Leonid, Tissen Maria, BMSTU, Russia Kasrtev Alexey, RUDN University, Russia Tiwary Chandra, Indian Institute of Technology (India), India
17:45 – 18:00	<b>47. SciTech2025-120</b> <i>Fe2I2Br3: A Novel 2D Janus Alloy for Spintronic-Based Sensors</i> Medintseva Tatiana, Kartsev Alexey, RUDN University, Russia Tiwary Chandra, Indian Institute of Technology Kharagpur, India
18:00 – 18:15	<b>48. SciTech2025-127</b> <i>Filtering of the Output Signal Of The Laser Gyroscope for High-Precision Aerospace Navigation and Stabilization</i> Smetanin Ilya, Sinelnikov Anton, RUDN University, Russia Hangeldiyev Meylis, RUDN University, Turkmenistan
18:15 – 18:30	<b>49. SciTech2025-141</b> <i>Potential Application Transparent in2O3/Ag/In2O3 Conductive Films in Space of Communication Systems</i> Shuvalova Alena, BMSTU, Russia Makeev Mstislav, Tymkovan Alexander, RUDN University, Russia
18:30 – 18:45	<b>50. SciTech2025-143</b> <i>Effect of Organic Solvents on the Quality of Transferred Graphene Using Polybutyl Methacrylate in Space Industry</i> Gosteva Ekaterina, RUDN University, Russia
18:45 – 19:00	<b>51. SciTech2025-154</b> <i>Advances in Small Satellite Missions Enabled by Miniaturized Propulsion, Power Systems, and Smart Sensors &amp; Actuators</i> Bhavankar Dhwani, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India

## TECHNICAL SESSION 5 (SA)

Place: Hall Saturn

Day: Tuesday, December 2 · Time: 15:00 to 17:00 Moscow Time (GMT+3)

### SPACE ARCHITECHTURE

#### Co-Chair:

Ivan Khalil

RUDN University, Russia

#### Co-Chair:

Elizaveta Shemyakina

RUDN University, Russia

- |               |  |
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| 15:00 – 15:15 | <b>52. SciTech2025-013</b><br><i>Inflatable Architecture in Space: From the BEAM Module to Future Orbital Hotels</i><br>Alsaleh Maria, RUDN University, Russia                                       |
| 15:15 – 15:30 | <b>53. SciTech2025-023</b><br><i>Shielding from the Void: Architectural Solutions for Radiation Protection on Mars</i><br>Alhasan Ammar, RUDN University, Syrian Arab Republic                       |
| 15:30 – 15:45 | <b>54. SciTech2025-031</b><br><i>Architectural Prototypes in Extreme Environments: A Study on the Spatial Form and Structural Adaptability of Lunar Bases</i><br>Wang Yajing, RUDN University, China |
| 15:45 – 16:00 | <b>55. SciTech2025-032</b><br><i>Blueprint for a Martian City: A Comparative Analysis of Global Concepts</i><br>Guo Xue, RUDN University, China  |
| 16:00 – 16:15 | <b>56. SciTech2025-033</b><br><i>O'Neill Cylinders: The Architectural and Engineering Challenges of Building Orbital Megastuctures</i><br>Alpíre Guerrero Marcelo, RUDN University, Bolivia          |
| 16:15 – 16:30 | <b>57. SciTech2025-036</b><br><i>The Hospitality Industry in Orbit: Architectural Design for Space Hotels and Tourism</i><br>Al-Rabadi Rana, RUDN University, Jordan                                 |
| 16:30 – 16:45 | <b>58. SciTech2025-042</b><br><i>The Psychology of Confinement: How Architectural Design Can Mitigate Stress in Isolated Space Habitats</i><br>Kazour Marah, RUDN University, Syrian Arab Republic   |
| 16:45 – 17:00 | <b>59. SciTech2025-043</b><br><i>Architecture for Low-Gravity Worlds: Novel Structural Designs for Asteroids and Small Moons</i><br>Al-Badwi Najib, RUDN University, Yemen                           |

## TECHNICAL SESSION 6 (SFM)

Place: Hall Mercury

Day: Wednesday, December 3 · Time: 10:00 to 12:45 Moscow Time (GMT+3)

### SPACE FLIGHT MECHANICS

#### Co-Chair:

Antonio Prado

National Institute for Space Research (INPE), Brazil

#### Co-Chair:

Vladimir Razoumny

RUDN University, Russia

10:00 – 10:15	<b>60. SciTech2025-004</b> <i>The Effects of Different Sized Solar Sails when Station-Keeping an Irregularly Shaped Asteroid</i> Meireles Lucas, Winter Othon, São Paulo State University, Brazil Prado Antônio, National Institute for Space Research, Brazil
10:15 – 10:30	<b>61. SciTech2025-011</b> <i>Influence of Shape and Altitude Dependent Drag Coefficient and Orbital Decay Prediction of LEO Satellites in Rarefied Flow</i> S Vigneshvara, Arshi Reem, Indian Institute of Space Science and Technology, India
10:30 – 10:45	<b>62. SciTech2025-133</b> <i>Review of Space Flight Mechanics: Principles, Challenges, and Future Directions</i> Onyekachukwu Nwosu, Austine Michael, Austine Maximus, Gregory University Uturu, Nigeria
10:45 – 11:00	<b>63. SciTech2025-161</b> <i>Adaptive Control Strategies for Baseline Maintenance in Multi-Satellite SAR Formations</i> Borges Mateus, Santos Willer, Instituto Tecnológico de Aeronáutica, Brazil Scala Francesca, European Space Agency, Italy
11:00 – 11:15	<b>64. SciTech2025-166</b> <i>System of Observation of Daytime Asteroids (SODA)</i> Shugarov Andrey, Shustov Boris, Institute of Astronomy of the Russian Academy of Sciences (INASAN), Russia
11:15 – 11:30	<b>65. SciTech2025-171</b> <i>On the Problem of "Humanity's First Robotic Exploration of a Hypothetical Exoplanetary System" at GTOC13</i> Galyaev Andrey, Samokhina Marina, Samokhin Alexander, ICS of RAS, Russia Samokhina Ludmila, Central University, Russia

11:30 – 11:45

**66. SciTech2025-173**

*Study of the Orbital Trajectories of the Brazilian Probe GARATEA-L Around the Moon*

Vilhena de Moraes Rodolpho, de Oliveira Paes Guilherme, Institute of Science and Technology, Federal University of Sao Paulo - UNIFESP, Brazil

Galhego Thibes Xavier da Costa Maria Livia, Sao Paulo State University - UNESP, Brazil

dos Santos Carvalho Jean Paulo, Center for Science and Technology in Energy and Sustainability, Federal University of Reconcavo da Bahia (UFRB), Brazil  
Casanova Daniel, University Center for Defense Studies of Zaragoza, General Military Academy, Spain

11:45 – 12:00

**67. SciTech2025-175**

*Analytical Modeling of the Gravitational Potential of Irregularly Shaped Celestial Bodies: Application To (8567) 1996 HW1*

Prado Antonio, Aljbaae Safwan, INPE, Brazil

Mota Marcelo, IFSP, Brazil

12:00 – 12:15

**68. SciTech2025-196**

*Optical Space Situational Awareness as the Basis of Sustainable LEO Operations*

Klimov Andrey, Savin Nikolay, ANC JSC, Russia

Benkhaldoun Zouhair, Cadi Ayyad University Observatory (OUCA), Morocco

12:15 – 12:30

**69. SciTech2025-197**

*Modeling of LEO to EL2 Transfers Using Sun-Earth and Earth-Moon Interactions*

Peres Victor, Federal University of ABC, Brazil

Prado Antonio, National Institute of Space Research (INPE), Brazil

de Brum Antonio, Federal University of ABC, Brazil

12:30 – 12:45

**70. SciTech2025-198**

*Designing Small Satellite Constellations Around Io in Frozen Low Altitudes*

Ferreira Thamis, UNESP, Brazil

Prado Antonio, National Institute for Space Research - INPE, Brazil

Giulietti Winter Silvia, Ferreira Lucas, São Paulo State University- UNESP, Brazil

Casanova Daniel, Tresaco Eva, IUMA - Universidad de Zaragoza, Spain

## TECHNICAL SESSION 7 (SMS)

Place: Hall Mars

Day: Wednesday, December 3 · Time: 10:00 to 14:00 Moscow Time (GMT+3)

### SPACE MATERIALS & STRUCTURES 2

#### Co-Chair:

Vera Galishnikova  
RUDN University, Russia

#### Co-Chair:

Gebre Tesfaldet Hadgembes  
RUDN University, Russia

- 10:00 – 10:15 **71. SciTech2025-009**  
*Parametric System for Modular Lunar Habitats: Comparative Analysis of Configurations Based on Site Conditions*  
Meireles Lucas, Winter Othon, São Paulo State University, Brazil  
Prado Antônio, National Institute for Space Research, Brazil

- 10:15 – 10:30 **72. SciTech2025-052**  
*Application of Rubber-Based Concretes for A "Space Monolith"*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Anisimov Andrei A., RUDN University, Russia  
Al-athwari Sakhr Faroq Yaseen Hamood, RUDN University, Yemen

- 10:30 – 10:45 **73. SciTech2025-053**  
*Materials and Structural Design for Extraterrestrial Habitats*  
Obeid Mahmoud, Abu-Mahadi Mohammed, RUDN University, Jordan

- 10:45 – 11:00 **74. SciTech2025-055**  
*Enhancing Crack Resistance of Spaceport Structures with Basalt Fiber Concrete*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Xu Pai, RUDN University, China

- 11:00 – 11:15 **75. SciTech2025-068**  
*The Use of Heat-Resistant Concrete in Building Structures of Spaceports*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Malafeev Alexei S., RUDN University, Russia  
Prophete Gardy, RUDN University, Haiti

- 11:15 – 11:30 **76. SciTech2025-069**  
*A Study of the Performance of Reinforced Concrete Structures Exposed to Low Temperatures in Cosmodrome Facilities*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Akoev Furkat, RUDN University, Tajikistan

- 11:30 – 11:45 **77. SciTech2025-083**  
*Hybrid Polymer Composites for Aerospace and Space Applications: Challenges, Environmental Stability and Future Research Roadmap*  
Pathan Fiza, Laad Meena, Symbiosis Institute of Technology, SIU, Pune, India
- 11:45 – 12:00 **78. SciTech2025-084**  
*Frost-Resistant High-Strength Fiber Concrete for Spaceport Structures*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Soltanizadeh Hossein, RUDN University, Iran
- 12:00 – 12:15 **79. SciTech2025-089**  
*Liquid Crystal Reconfigurable Spacecraft Antennas*  
Chigrinov Vladimir, RUDN University, Russia  
Jackson John, J&R Magnetics, United States of America
- 12:15 – 12:30 **80. SciTech2025-091**  
*Liquid Crystal Photoalignment Technology for Spacecraft Photonics Devices*  
Chigrinov Vladimir, RUDN University, Russia  
Srivastava Abhishek, HKUST, Hong Kong
- 12:30 – 12:45 **81. SciTech2025-101**  
*The Use of Fiberglass Fabrics in Space Station Construction and Launch Facilities*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Alwaz Khayriyeh, RUDN University, Syrian Arab Republic
- 12:45 – 13:00 **82. SciTech2025-102**  
*Calculation Methods for Lining the Cosmodrome's Communication Tunnels*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Aproilov Abdal R., Diab Wael, RUDN University, Syrian Arab Republic
- 13:00 – 13:15 **83. SciTech2025-103**  
*Intelligent Self-Healing Materials for Next-Generation Space Systems: A Review*  
Jain Avani, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India
- 13:15 – 13:30 **84. SciTech2025-109**  
*Performance of Synthetic Rubber-Based Concrete in Aggressive Environments at Cosmodrome Launch Pads*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Morozova Yulianna A., Soudan Ruslan, RUDN University, Syrian Arab Republic
- 13:30 – 13:45 **85. SciTech2025-118**  
*Exploring Composites of High Entropy Alloy (HEAs) with Metal Oxide Nanoparticles for Self-Healing in Spacecraft Applications*  
Dhabarde Sapana, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India

13:45 – 14:00

**86. SciTech2025-188**

*Conditions of Construction on the Surface of Mars from the Perspective of Ionizing Radiation*

Florenskii Vladislav, NIISF, Russia  
Belov Vyacheslav, MSUCE, Russia

## TECHNICAL SESSION 8 (SPP)

Place: Hall Neptune

Day: Wednesday, December 3. Time: 10:00 to 14:00 Moscow Time (GMT+3)

### SPACE POWER & PROPULSION

#### Co-Chair:

Felix Mora-Camino

Universidade Federal Fluminense, Brazil

#### Co-Chair:

Kazem Reza Kashy Zadeh

RUDN University, Russia

10:00 – 10:15 **87. SciTech2025-047**

*Energy Architecture: Integrating Solar, Nuclear, and Other Power Sources into Habitat Structures*

Abdul Ahmad Sahil, RUDN University, Afghanistan

10:15 – 10:30 **88. SciTech2025-077**

*Modern Inlet Cooling Techniques for Gas Turbine Compressors: A Short Review*  
Gharehsheikh Bayat Abdolhossein, Reza Kashyzadeh Kazem, RUDN University, Russia

10:30 – 10:45 **89. SciTech2025-106**

*Ensuring the Functioning of the Vostochny Aerospace Complex During Low Temperatures*

Konoplev Vladimir, RUDN University, Russia

Abdul Karim Issoufa Maman, RUDN University, Niger

Nzang Florentino, RUDN University, Equatorial Guinea

10:45 – 11:00 **90. SciTech2025-### (Online On-Sight)**

*Development of a Compositions of Aromatic Additive for Synthetic Jet Fuel*

Ilin Andrei, Ershov Mikhail, National University of Oil and Gas Gubkin University, Russia

Makhova Uliana, Savelenko Vsevolod, National University of Oil and Gas (Gubkin University), Russia

Abdellatif Tamer, RUDN University, Egypt

11:00 – 11:15 **91. SciTech2025-124**

*Energy Storage Systems: The Cornerstone of Near-Space Exploration*

Mityagin Daniil, RUDN University, Russia

11:15 – 11:30 **92. SciTech2025-126**

*Protecting Oil Pipelines from Meteorites*

Chueva Evgeniya, RUDN University, Russia

Sissoko Belli, RUDN University, Guinea

11:30 – 11:45 **93. SciTech2025-138**

*General Nodes for Resource- and Energy Managed City Information Model*

Suvorova Maria, RUDN University, Russia

Naumov Andrey, Belgorod State Technological University n.a. V.G. Shukhov, Russia

Obaidi Adham Abdulsattar Hameed, University of Diyala, Iraq

- 11:45 – 12:00 **94. SciTech2025-148**  
*Reducing the Mass of The Spacecraft by Using a Multi-Stage Heat Pump*  
Minaev Danil, RUDN University, Russia  
Al-Aabidy Wissam, RUDN University, Iraq
- 12:00 – 12:15 **95. SciTech2025-162**  
*Study of the Adhesion and Dimensional Stability of Paraffin Grains and Their Manufacturing Using Rotational Molding for Hybrid Rockets*  
Macena Joao Vitor, Souza Jessica, Martins Jean Dereck, Cecilio Daniel, Castro Lucas, Zilio Beatriz, Domingos Keven, Gudin Daniel, Sousa Tiago, Muzzi Igor, Krykhtine Fabio, Castro Pinto Fernando, Universidade Federal do Rio de Janeiro, Brazil
- 12:15 – 12:30 **96. SciTech2025-167**  
*Mathematical Modeling of Orbital Ferry Motion*  
Kupreev Sergei, RUDN University, Russia  
Ibrahim Fadi, RUDN University, Russia
- 12:30 – 12:45 **97. SciTech2025-168**  
*Harnessing Quantum Spin for Thrust: Towards a Non-Reactive Propulsion Paradigm*  
Kupreev Sergei, Razoumny Yury, RUDN University, Russia
- 12:45 – 13:00 **98. SciTech2025-178**  
*Evaluation of High-Frequency Harmonic Effects on Reactive Power in Induction Motors*  
Boihanov Zailobiddin, Andijon state technical institute, Uzbekistan
- 13:00 – 13:15 **99. SciTech2025-179**  
*Mathematical Model and Calculation Algorithm of External Magnetic Field of Asynchronous Motor*  
Nizamov Jasurbek, Boihanov Zailobiddin, Andijon state technical institute, Uzbekistan
- 13:15 – 13:30 **100. SciTech2025-184**  
*Analysis of Types of Compressor Rotor Defects*  
Muze Gao, RUDN University, China
- 13:30 – 13:45 **101. SciTech2025-185**  
*Structural Monitoring of the Technical Condition of Structures Using the Laser Scanning Method*  
Takhirov Muzaffar, Laboratory of Structures and Center for Intelligent Infrastructure, University of California at Berkeley, Berkeley, USA, United States of America  
Rakhmonov Bakhtovar, Urgench State University, Urgench, Uzbekistan, Uzbekistan  
Boronina Liudmila, RUDN University, Russia
- 13:45 – 14:00 **102. SciTech2025-186**  
*Study of the Joint Vibration of an Underground Thin-Walled Cylindrical Structure with Soil under Seismic Explosion Impacts*  
Sagdiev Khabibovich, Leading Research Fellow, Institute of Mechanics and Seismic Stability of Structures, Academy of Sciences of the Republic of Uzbekistan, Uzbekistan  
Safarov Ismoil, Tashkent Institute of Chemical Technology (Uzbekistan), Uzbekistan  
Rakhmonov Sobirovich, Prof., Urgench State University (Uzbekistan), Uzbekistan  
Boronina Liudmila, RUDN University, Russia

## TECHNICAL SESSION 9 (EO)

Place: Hall Pluton

Day: Wednesday, December 3 · Time: 10:00 to 13:00 Moscow Time (GMT+3)

### EARTH OBSERVATIONS 2

#### Co-Chair:

Shufan Wu

Shanghai Jiao Tong University, China

#### Co-Chair:

Maria Suvorova

RUDN University, Russia

- 10:00 – 10:15 **103.SciTech2025-070**  
*Gold Mineralization Prediction in the Ahaggar Shield (Southern Algeria) Using Landsat 8 Satellite Images*  
Ghougali Fouaze, RUDN University, Algeria  
Ivanova Julia, RUDN University, Russia
- 10:15 – 10:30 **104.SciTech2025-207**  
*Monitoring flood with LANDSAT imagery in DMDP Bangladesh*  
Hatamiafkoueieh Javad, Amini Faramarz, RUDN University, Russia
- 10:30 – 10:45 **105.SciTech2025-073**  
*Application of Satellite Technologies to Monitor Greenhouse Gas Emissions in the Oil and Gas Industry*  
Tcharo Honore, Tcharo Yana, RUDN University, Benin
- 10:45 – 11:00 **106.SciTech2025-074**  
*The Remote Sensing Data to Solve Pressing Problems in the Oil and Gas Industry*  
Kharchikov Egor, Shagiziganova Polina, Berdnik Maria, RUDN University, Russia
- 11:00 – 11:15 **107.SciTech2025-081**  
*The Impact of Space Technologies on the Development Of Geology*  
Gorbunova Natalia Nikolaevna, Mirkushov Yurevich Oleg, RUDN University, Russia  
Mutara Alvin, RUDN University, Rwanda
- 11:15 – 11:30 **108.SciTech2025-208**  
*Subsidence monitoring with differential interferometric synthetic aperture radar (DInSAR) in Dhaka, Bangladesh*  
Hatamiafkoueieh Javad, Amini Faramarz, RUDN University, Russia
- 11:30 – 11:45 **109.SciTech2025-090**  
*Mapping Land Degradation Hotspots for Agricultural Security Using Earth Observation Data: A Gender-Inclusive Approach*  
Bauka Nazifa, Jantiku Jagila, Akuh Charles Jahmal, National Space Research and Development Agency, Nigeria
- 11:45 – 12:00 **110.SciTech2025-149**  
*Examination of Experience in Applying Remote Sensing Methods for the Enumeration of Wild and Domestic Animals*  
Belova Tatiana, RUDN University, Russia

- 12:00 – 12:15 **111.SciTech2025-157**  
*Climate Change Perceptions Among Fishermen and Residents of Flood-Prone Areas of the Gambia: are Their Perceptions Accurate?*  
Jobe Lamin B., Russian State Hydrometeorological University, Gambia
- 12:15 – 12:30 **112.SciTech2025-209**  
*Using Time Series of Remote Sensing Images, It is Possible to Analyze and Monitor Coastline Changes and Geomorphological Landforms at Different Times*  
Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia
- 12:30 – 12:45 **113.SciTech2025-174**  
*GRACE Satellite Observations-based Assessment of Groundwater Storage Monitoring in Ghana: Implications for Water Resource Management*  
Afrifa George, Ansah-Narh Theophilus, Tandoh Joseph, Ghana Space Science and Technology Institute, Ghana Atomic Energy Commission, Ghana  
Opoku-Sarkodie Richmond, Methodist University Ghana, Ghana
- 12:45 – 13:00 **114.SciTech2025-210**  
*Determining the Impact and Geomorphological Process of the Frouncescence Phenomenon on Changes in Geomorphological Landform Patterns Case Study: Yazd-Ardakan Plain*  
Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia

## TECHNICAL SESSION 10 (SPLE)

Place: Hall Saturn

Day: Wednesday, December 3 · Time: 10:00 to 12:30 Moscow Time (GMT+3)

### SPACE POLICY, LAW & ECONOMICS 1

#### Co-Chair:

Irina Chernych  
RUDN University, Russia

#### Co-Chair:

Ekaterina Kovaleva  
RUDN University, Russia

10:00 – 10:15	<b>115.SciTech2025-014</b> <i>Artificial Intelligence Application for Managerial Decisions Support at Ground-Based Space Stations</i> Abdalaziz Abueissa H. T., RUDN University, Sudan Andreeva Larisa O., Vinokurov Yegor A., RUDN University, Russia
10:15 – 10:30	<b>116.SciTech2025-017</b> <i>The Role of Biotechnology in Shaping Space Bioeconomy: A Strategic and Managerial Framework for Sustainable Long-Duration Missions</i> Naserzadeh Yousef, P.A. Stolypin International Institute of Informatization and Public Administration (MIIIGU) Moscow, Russia. And., Department of Agrobiotechnology. Peoples' Friendship University of Russia (RUDN University), Iran Mahmoudi Niloufar, Poskonnaya Yuliya Dmitrievna, Nikulin Daniil Pavlovich, RUDN University, Russia
10:30 – 10:45	<b>117.SciTech2025-021</b> <i>Artificial Intelligence for Decision Optimization in Space Governance and Economics</i> Pyankov Valeriy, Kovaleva Ekaterina, RUDN University, Russia Mustafa Ali, RUDN University, Sudan
10:45 – 11:00	<b>118.SciTech2025-022</b> <i>Revolutionary Evolutions of System Engineering Management from First Space Era to Second Space Era</i> Chang Yi Wei, Minghsin Institute of Science and Technology, Taiwan Chern Jeng-Shing, York University, Canada Fong Chen-Joe, Taiwan Space Agency (TASA), Taiwan
11:00 – 11:15	<b>119.SciTech2025-049</b> <i>Economic Aspects of Labour Potential of Space Branch Staff</i> Kovaleva Ekaterina, Razoumnaya Maria, RUDN University, Russia Al Khakim Rida, RUDN University, Syrian Arab Republic
11:15 – 11:30	<b>120.SciTech2025-104</b> <i>Analysis of the factors influencing the risks of space flights</i> Asoyan Artur, RUDN University, Russia Abanub Rezk, RUDN University, Egypt Allamov Atageldy, RUDN University, Turkmenistan

11:30 – 11:45

**121.SciTech2025-114**

*Innovative Management Strategy Development in Better Unmanned Aerial Vehicle Counter Systems Production in the Digital Economy Context*  
Ermakov Dmitry, Malashkina Olga, RUDN University, Russia  
Obeid Ahmed M.N., RUDN University, Iraq

11:45 – 12:00

**122.SciTech2025-116**

*Life Cycle Analysis and Economic Assessment of the Development and Implementation of Deployable Space Modules*

Nasarzadeh Yousef, P.A. Stolypin International Institute of Informatization and Public Administration (MIIIGU) Moscow, Russia. And., Department of Agrobiotechnology. Peoples' Friendship University of Russia (RUDN University), Moscow, Russia, Iran  
Poskonnaya Yuliya Dmitrievna, Nikulin Daniil Pavlovich, RUDN University, Russia

12:00 – 12:15

**123.SciTech2025-130**

*A Preliminary Study on the Economic Effectiveness of Suborbital Tourism And Point-to-Point Transportation*

Chang Yi-Wei (Eva), Pai Tung-Yueh, Minghsin Institute of Science and Technology, Taiwan  
Chern Jeng-Shing (Rock), CHERN JENG-SHING, Canada

12:15 – 12:30

**124.SciTech2025-132**

*Review of Aerospace Engineering in the 21st Century: Innovations, Challenges, Trends and Future Perspectives*

Onyekachukwu Nwosu, Austine Michael, Austine Maximus, Gregory University Uturu, Nigeria

## TECHNICAL SESSION 11 (SMS)

Place: Hall Mercury

Day: Thursday, December 4 · Time: 10:00 to 13:45 Moscow Time (GMT+3)

### SPACE MATERIALS & STRUCTURES 3

#### Co-Chair:

Serdar Yazyev  
RUDN University, Russia

#### Co-Chair:

Marina Rynkovskaya  
RUDN University, Russia

- 10:00 – 10:15 **125.SciTech2025-018**  
*Brutalism and the Cosmic Aesthetic: Why Concrete Monoliths Evoke a Sense of Otherworldliness*  
Medina Pena Leydy Yurany, RUDN University, Colombia
- 10:15 – 10:30 **126.SciTech2025-038**  
*Self-Healing Habitats: Using Biomimicry and Advanced Materials for Resilient Space Structures*  
Alkhoury Diala, RUDN University, Syrian Arab Republic
- 10:30 – 10:45 **127.SciTech2025-080**  
*Numerical Analysis of Mold Temperature Influence on the Component Quality Created by Sand Casting Process*  
Getu Bogale Negewo, Reza Kashyzadeh Kazem, RUDN University, Russia
- 10:45 – 11:00 **128.SciTech2025-134**  
*Review of Innovations in Space Structures and Materials*  
Onyekachukwu Nwosu, Austine Michael, Austine Maximus, Gregory University Uturu, Nigeria
- 11:00 – 11:15 **129.SciTech2025-135**  
*Superabsorbent Polymers for Water Management in Extraterrestrial Habitats: Materials, Mechanisms, and Systems Integration*  
Mazumdar Aparajita, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India
- 11:15 – 11:30 **130.SciTech2025-140**  
*Next-Generation Space Structures and Materials: Harnessing Sensors, Actuators, and On-Board Intelligence for Deep Space Exploration*  
Chakraborty Ankush, Obeid Mahmoud, Rynkovskaya Marina, RUDN University, India
- 11:30 – 11:45 **131.SciTech2025-142**  
*Neutron Stars: Extreme Physics Laboratories for Understanding Gravity and Nucleosynthesis*  
Ruslanovich Daniil, RUDN University, Russia

- 11:45 – 12:00 **132.SciTech2025-153**  
*Efficiency of Using Permanent Steel Mesh Formwork in the Construction of Spaceport Launch Pads*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Alzaibak Kenan, RUDN University, Syrian Arab Republic
- 12:00 – 12:15 **133.SciTech2025-156**  
*Nanomaterials: Revolutionizing Lightweight, High-Strength Spacecraft Structures*  
Jain Ananya, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India
- 12:15 – 12:30 **134.SciTech2025-163**  
*Development of a Mechanical Ground Support System for Hybrid Rocket Operation*  
Martins Jean Dereck, Macena Joao Vitor, Souza Jessica, Cecilio Daniel, Castro Lucas, Ziglio Beatriz, Domingos Keven, Krykhtine Fabio, Castro Pinto Fernando, Gaspar Matheus, Motta Lucas, Vianna Rafael, Universidade Federal do Rio de Janeiro, Brazil
- 12:30 – 12:45 **135.SciTech2025-165**  
*Enhancement of the Performance of Concrete Cosmodrome Structures through Functionally Graded Material*  
Dabi Gizachew Megersa, Rynkovskaya Marina, RUDN University, Ethiopia
- 12:45 – 13:00 **136.SciTech2025-180**  
*A Numerical Study on Structural Performance of Beam-Column Joints under Space Launch Dynamic Loads: Full Replacement of Conventional Concrete with Hybrid Steel-Basalt Fiber-Reinforced Concrete*  
Baza Tewodros Temede, Rynkovskaya Marina I, Dereje Lami Sileshi, RUDN University, Russia
- 13:00 – 13:15 **137.SciTech2025-181**  
*Failure Mechanisms of High-Strength Concrete in Spaceport Launch Structures*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Saeed Wagdi A., RUDN University, Yemen
- 13:15 – 13:30 **138.SciTech2025-182**  
*Application of Permanent Formwork Made Of Glass Fiber Reinforced Concrete In Cosmodrome Construction*  
Okolnikova Galina E., RUDN University, National Research University MGSU, Russia  
Algnde Gamal, RUDN University, Syrian Arab Republic
- 13:30 – 13:45 **139.SciTech2025-187**  
*Shape optimization of the roof of a scientific research base on the Moon*  
Ermakova Evgenia, Rynkovskaya Marina, RUDN University, Russia  
Gebre Tesfaldet, RUDN University, Eritrea

## TECHNICAL SESSION 12 (AIML)

Place: Hall Mars

Day: Thursday, December 4 · Time: 10:00 to 13:15 Moscow Time (GMT+3)

### AIML IN SPACE APPLICATIONS

#### Co-Chair:

Ketan Kotecha

Symbiosis Institute of Technology, India

#### Co-Chair:

Renuganth Varatharajoo

Universiti Putra Malaysia, Malaysia

10:00 – 10:15 **140.SciTech2025-050**

*Application of Artificial Intelligence in Processing and Analyzing of Telemetry Data*

Buchake Samarth, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India

10:15 – 10:30 **141.SciTech2025-059**

*Intelligent Space Structures: Sensor-Driven Materials and Adaptive Systems for Interplanetary Missions*

Obeid Mahmoud, Abu-Mahadi Mohammed, RUDN University, Jordan

10:30 – 10:45 **142.SciTech2025-078**

*AI-GEAR: Integrating Earth Observation Data and AI-Driven Geospatial Analytics for Gender-Responsive Climate Resilience in African Agriculture*

Jantiku Jagila, Akuh Jahmal Charles, Bauka Nazifa, National Space Research and Development Agency, Nigeria

10:45 – 11:00 **143.SciTech2025-099**

*The Use of Artificial Intelligence to Determine Surface Roughness in Mechanical Engineering*

Malkova Marianna, Klimov Vladimir, Peoples' Friendship University of Russia, Russia

Aung Pyae Sone, Sergo Ordzhonikidze Russian State Geological Exploration University, Russia

11:00 – 11:15 **144.SciTech2025-113**

*Research of Machine Learning Methods for Optimizing Management Efficiency in the Space Industry*

Shishkin Ilya, Fonkants Roman, Shatalova Irina, RUDN University, Russia

11:15 – 11:30 **145.SciTech2025-123**

*Machine Learning in Predicting Mineralization in South Peru from Satellite Imagery and Geophysical Data*

Abramov Vladimir, Karelina Elena, Markov Vladimir, RUDN University, Russia

11:30 – 11:45 **146.SciTech2025-129**

*Using Neural Networks to Process Data from Inertial Sensors of the Spacecraft*

Smetanin Ilya, Smetanin Egor, Sinelnikov Anton, Gutiérrez Benavides Esteban Josue, RUDN University, Russia

Bykanova Uliana, Lomonosov Moscow State University Branch in the City of Sarov, Russia

11:45 – 12:00

**147.SciTech2025-131**

*The AI Frontier in Space: Review of Deep Learning Techniques for Data Frugality and On-Orbit Efficiency in Earth Observation*

Gawande Shreya, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India

Divine Finbarrs, Symbiosis Institute of Technology, Symbiosis International University, Nigeria

12:00 – 12:15

**148.SciTech2025-139**

*Interpretable Neuro-Symbolic Decision Support for Exoplanet Discovery*

Tlupov Islam, RUDN University, Russia

12:15 – 12:30

**149.SciTech2025-159**

*Space Engineering and Operations Support for Unmanned Aircraft and Artificial Intelligence Systems in Tackling Nigeria's Security Challenges*

Ikwen Akomaye, Kruglova Larisa, Undie Franka, Abiola Ayodele, RUDN University, Russia

12:30 – 12:45

**150.SciTech2025-164**

*Evolutionary Optimisation of Neural Networks for Accurate Prediction of Space Mission Outcomes*

Hameed Safa, RUDN University, Russia

12:45 – 13:00

**151.SciTech2025-169**

*Space-Enabled Health Intelligence: Using AI and Earth-Observation Technologies to Improve Disease Forecasting and Healthcare Delivery in Remote Regions*

Ikwen Akomaye, Kruglova Larisa, Ogar Joseph, RUDN University, Russia  
Undie Franka, RUDN University, Nigeria

13:00 – 13:15

**152.SciTech2025-193**

*Evolving Neural Network Based Global Optimization for Solar Sail Interplanetary Trajectories*

Abdullah Amirul Fiqri, Varatharajoo Renuganth, Mohd Harithuddin Ahmad  
Salahuddin, Department of Aerospace Engineering, Universiti Putra Malaysia, Malaysia, Malaysia

Dachwald Bernd, Faculty of Aerospace Engineering, FH Aachen University of Applied Sciences, Germany, Germany

Hiraki Koju, Department of Space Systems Engineering, Kyushu Institute of Technology, Japan, Japan

## TECHNICAL SESSION 13 (SPLE)

Place: Hall Neptune

Day: Thursday, December 4 · Time: 10:00 to 12:30 Moscow Time (GMT+3)

### SPACE POLICY, LAW & ECONOMICS 2

#### Co-Chair:

Irina Chernykh  
RUDN University, Russia

#### Co-Chair:

Ekaterina Kovaleva  
RUDN University, Russia

- 10:00 – 10:15 **153.SciTech2025-155**  
*Space Debris and Legal Framework: A Review of Mitigation, Liability, and Suggested Reforms*  
Chitnis Aditi, Laad Meena, Symbiosis Institute of Technology, Symbiosis International University, India
- 10:15 – 10:30 **154.SciTech2025-158**  
*Analysis of the Potential of International Cooperation in the Context Of The Competition of Lunar Programs: The Program of The USA "Artemis" & The Project of Russia and China "ISLS"*  
Bukareva Kira, Sergeeva Polina, RUDN University, Russia
- 10:30 – 10:45 **155.SciTech2025-176**  
*Commercial space flights*  
Glushkova Yuliya, RUDN University, Russia  
Yixiao Zhou, RUDN University, China  
Daher Saer, RUDN University, Lebanon
- 10:45 – 11:00 **156.SciTech2025-183**  
*About the Use of Virtual Polygons and Stands for Training Specialists in Power Engineering*  
Khmelev Roman, RUDN University, Russia  
Nguyen Wang Mang, RUDN University, Vietnam
- 11:00 – 11:15 **157.SciTech2025-199**  
*Integrated Methodology for Space Industry Development: Combining Systems Engineering Best Practices with Adaptive Project Management*  
Tatarchenko Eugène, Research Center for Space Economy and Policy, Russia
- 11:15 – 11:30 **158.SciTech2025-202**  
*Space Activities on Celestial Bodies Except of the Moon: International Legal Aspects*  
Chernykh Irina, RUDN University, Russia
- 11:30 – 11:45 **159.SciTech2025-204**  
*From Data to Dialogue: Leveraging AI-Based Terminological Collocation Extraction to Build a Unified Lexicon for Space Policy and International Collaboration*  
Korzin Andrey, Shaleeva Elena, Dmitrichenkova Svetlana, RUDN University, Russia

11:45 – 12:00

**160.SciTech2025-206**

*Contradictions Between National Interests and the Principle of the Common Heritage of Mankind in the Era of Commercial Space Exploration*  
Dementev Andrei, RUDN University, Russia

12:00 – 12:15

**161.SciTech2025-219**

*The Policy and Legal Roadmap for Competitive and Sovereign Space Markets in the 2030s*  
Narkhanim Orujova, Space Agency of the Republic of Azerbaijan (Azercosmos), Azerbaijan

12:15 – 12:30

**162.SciTech2025-220**

*A Framework for the Long-Term Analysis of Space Economy*  
Fabio P. Krykhtine, Universidade Federal do Rio de Janeiro, Brazil  
Oludolapo A. Olanweraju, Felix Mora-Camino, Durban University of Technology, South Africa  
Harvey S. R. Cosenza, Instituto Tecnológico de Chihuahua, Mexico  
Sergio González-Rojo

## TECHNICAL SESSION 14 (EO)

Place: Hall Pluton

Day: Thursday, December 4 · Time: 10:00 to 13:00 Moscow Time (GMT+3)

### EARTH OBSERVATIONS 3

#### Co-Chair:

Tarun Singh

Symbiosis Institute of Geoinformatics, India

#### Co-Chair:

Olga Saltykova

RUDN University, Russia

10:00 – 10:15

#### 163.SciTech2025-012

*High-Resolution Downscaling of Precipitation Derived from CMIP6-GCMs Using Multiscale Geographically Weighted Regression (MGWR): A Remote Sensing Approach for Semi-Arid Region*

Karan Kunal, Singh Dharmaveer, Symbiosis Institute of Geoinformatics, India  
Laskar Amzad, Physical Research Laboratory Ahmedabad, India

10:15 – 10:30

#### 164.SciTech2025-020

*Monitoring the Agglomeration of Constantine through Remote Sensing and Geospatial Analysis*

Daikh Adel, Merchela Wassim, University of Constantine3-Salah Boubnider (UC3SB), Algeria

10:30 – 10:45

#### 165.SciTech2025-051

*Satellite Radar Monitoring for Quarry Slope Stability*

Esina Ekaterina, RUDN University, Russia  
Doskalov Akbar, RUDN University, Uzbekistan

10:45 – 11:00

#### 166.SciTech2025-072

*Geophysical Investigations of the Moon Structure to Identify the Most Promising Sites for Establishing Bases for Mineral Exploration*

Kostenko Alla, Ussova Valentina, Voronova A, RUDN University, Russia  
Mutro Tekla, RUDN University, Namibia

11:00 – 11:15

#### 167.SciTech2025-111

*Instrumental Processing of Spectral Satellite Images and Gravity Data in the Search for Water Resource in the Lunar Surface*

Abramov Vladimir, Tomilova Polina, RUDN University, Russia  
Kadir Daniar, RUDN University, Iraq

11:15 – 11:30

#### 168.SciTech2025-136

*Assessment of Solar Radiation as a Power Generation Source in Nigeria Using Earth Observations (EO) Data From Satellites*

Awomewe Olumide, Department of Space Science and Applied Physics, University of Zimbabwe, Zimbabwe

Odunmorayo Michael, Department of Meteorology and Climate Science, Federal University of Technology Akure, Nigeria

- 11:30 – 11:45 **169.SciTech2025-137**  
*Prediction of Structures Favorable for the Localization of Platinum-Group Mineralization Based on Spectral and Structural Interpretation of Satellite Images*  
Shemyakina Elizaveta, Iniushin Aleksander, RUDN University, Russia
- 11:45 – 12:00 **170.SciTech2025-144**  
*Problems of Storing Terrain Data: from Maps to 3D Models*  
Dryga Danila, RUDN University, Russia
- 12:00 – 12:15 **171.SciTech2025-145**  
*Predicting Agricultural Drought and Heat Stress through Satellite Thermal Remote Sensing: A Systematic Review towards Next-Generation Earth Observation and Space Mission Integration*  
Ghosh Riya, Symbiosis Institute of Geoinformatics, Symbiosis International University, India  
ambrish Ambrish, Department of Geography, Delhi School of Economics, University of Delhi, India
- 12:15 – 12:30 **172.SciTech2025-211**  
*Estimating Biomass and Carbon Stock Using Polarimetric Radar Images and Optical Images*  
Hatamiafkoueieh Javad, Shirali Masoud, Amini Faramarz, RUDN University, Russia
- 12:30 – 12:45 **173.SciTech2025-212**  
*Identification of Laterite Layers Using Remote Sensing Techniques (Case Study: Khoranoq Laterites)*  
Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia
- 12:45 – 13:00 **174.SciTech2025-213**  
*Locating Educational Centers Using the AHP Evaluation Technique in a Geographic Information System Environment (Case Study: Guidance and High Schools in the New Pardis County)*  
Hatamiafkoueieh Javad, Shirali Masoud, RUDN University, Russia