



**SAMARA** UNIVERSITY

## UNISEC-Samara report 2025-2026

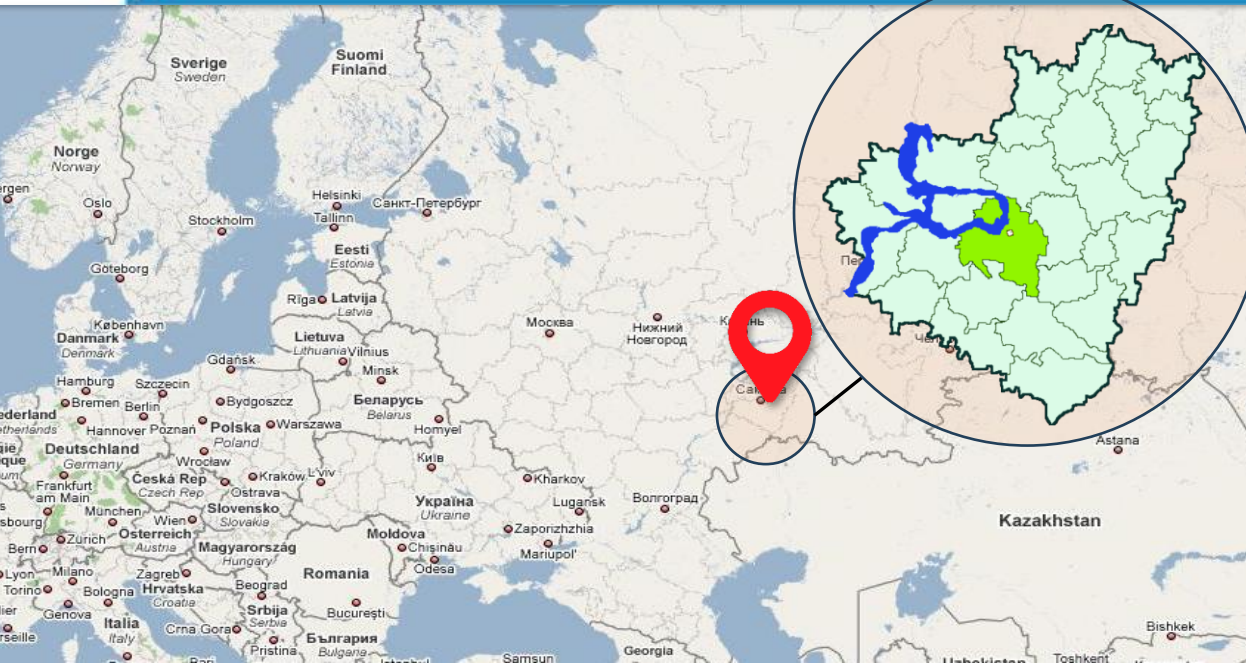
The Head of Inter-university Department of Space  
Research, Professor Igor Belokonov

**64th Virtual UNISEC-Global Meeting**  
**January, 2026**





# SAMARA: The Space Capital of Russia

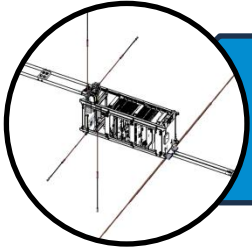




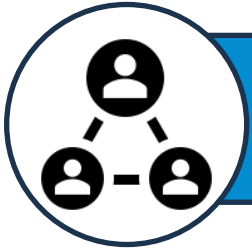
# UNISEC-Samara: main areas of activity



1. Organization and implementation of the Summer Space School “Future Space Technologies and Experiments in Space”



2. Developing of space technologies and carrying out experiments in space on the base of nanosatellites



3. Participation in conferences/symposiums/congresses



4. Annoucements for 2026





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# General information: International Summer Space School – *Space Technologies and experiments in space*

*“From mission idea to nanosatellite project.”*



## Global participation

- ✓ Participants for *40+ countries* with experience and interest in *diverse fields*



## Theoretical & practical knowledge

- ✓ **Duration:** 2 weeks. **Language:** English
- ✓ Theoretical and practical classes led by experts, teachers, and researchers *directly involved in real space missions*



## Hands-On experience

- ✓ Classes held in the department's *testing laboratories and flight control center*
- ✓ Team project development supervised by the engineers of the *SamSat family* missions
- ✓ Concept development of a *real nanosatellite mission*
- ✓ Concludes with the *project's defense* presented to a commission of experts



## International recognition

- ✓ All participants receive a certificate of completion equivalent to **3 ECTS**



## Unique opportunities

- ✓ Visit the *Space Capital of Russia* during a great weather time
- ✓ Enjoy excursions to famous touristic places, *space and technology* museums
- ✓ Meet people from all over the world and establish *international cooperation*







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# 19th International Summer Space School – 2025

Took place on June 23rd - July 4th, 2025

*Samara, Russia*

In 2025, the School honoured key three milestones in space exploration:



60 years since the first  
**human spacewalk**



50 years since the first  
**international docking**



50 years since the first  
photos of **Venus's surface**



For the 19th edition's program, media gallery, and other materials, please visit:

<https://volgaspace.org/school-2025>





**Some of the topics covered during theoretical and practical classes were:**

- Problems of motion control and navigation of small spacecraft in interplanetary missions
- Orbital mechanics in mission analysis
- Methods and algorithms for nanosatellite attitude determination
- Software development for nanosatellite microcontrollers

**Participants were divided in 3 groups and developed two mission concepts:**

Spherical satellites for studying atmospheric density in VLEO

6U CubeSat for studying cislunar space

CubeSat mission for Earth Remote Sensing

**Among the many activities, students had the opportunity to:**

- Conduct a communication session with the department's satellite at our ground-based Mission Control Center
- Visit the Rocket Engine Center at Samara University
- Assemble nanosatellite subsystems using our real engineering model
- Visit the Technical Open-Air Museum in the city of Tolyatti, traveling there by boat along the beautiful Volga River





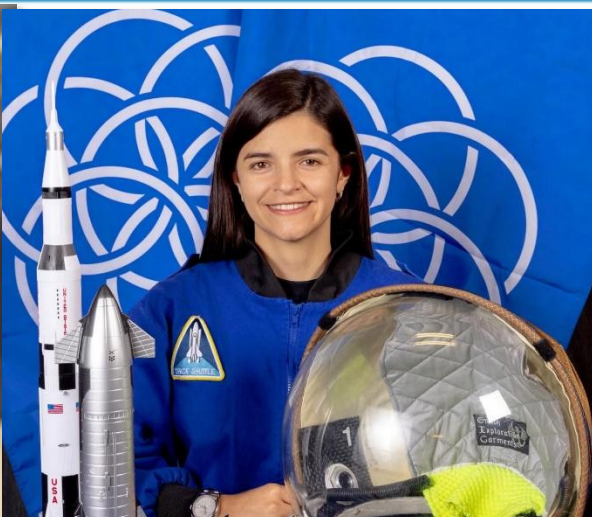


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## Post-School results and further cooperation



**Giovanna Ramirez in our radio communication lab (left, ISSS 2023).**  
The first analog astronaut from Colombia.



**Celia Chavez in our Ground station control center (left, ISSS 2023).**  
Winner of the IAF 2025 award for Space Leaders in emerging countries.



**Sainath Vamshi in one of our practical classes (left, ISSS 2025).**  
Founding director of the space startup Teivos Dynamics



19

**Editions**

520

**Participants in  
total**

48

**Countries around  
the globe**

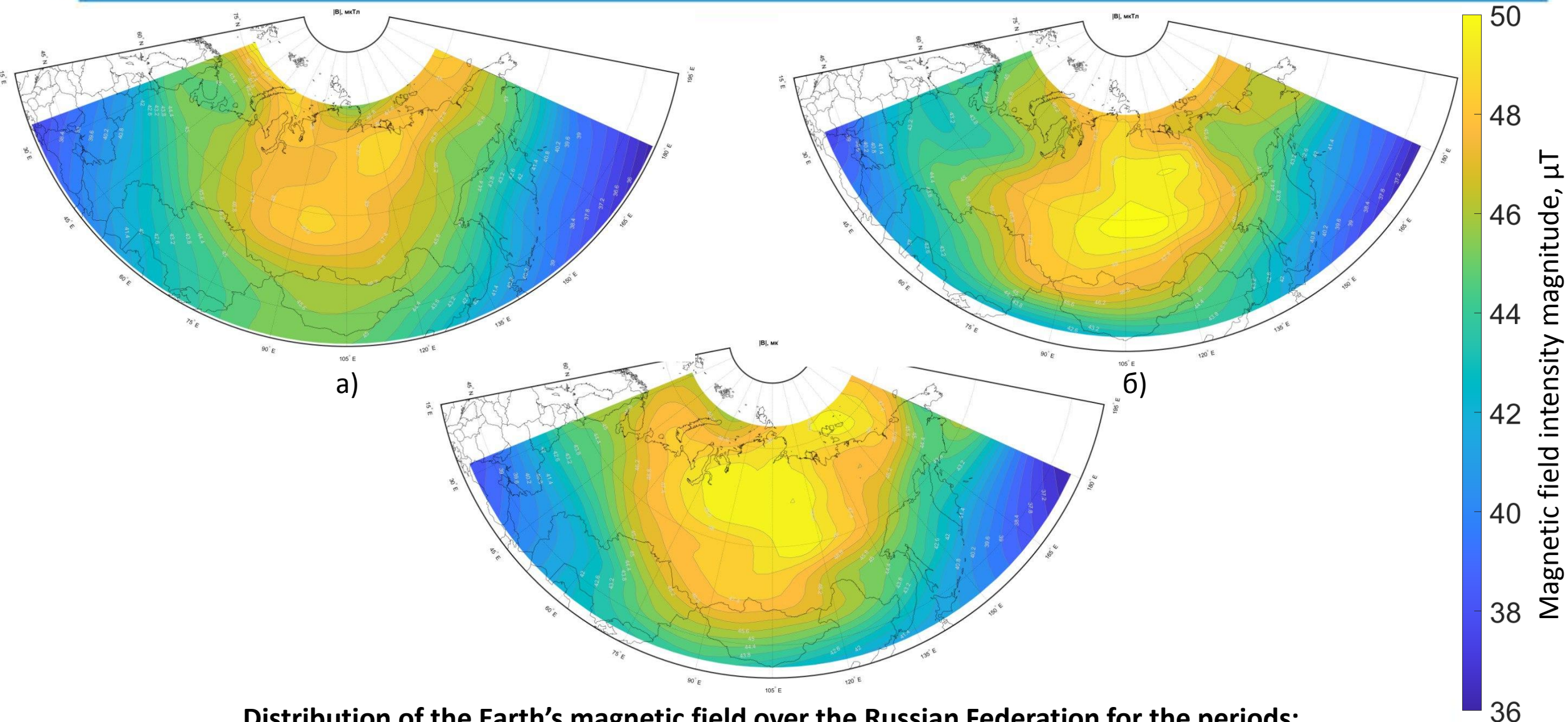
Our summer school is not limited to the classroom: our students continue to apply the experience they gain in the space industry, initiate new collaborations, and build long-term professional connections with our Department.





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## Advancements on space research based on our mission results



Distribution of the Earth's magnetic field over the Russian Federation for the periods:

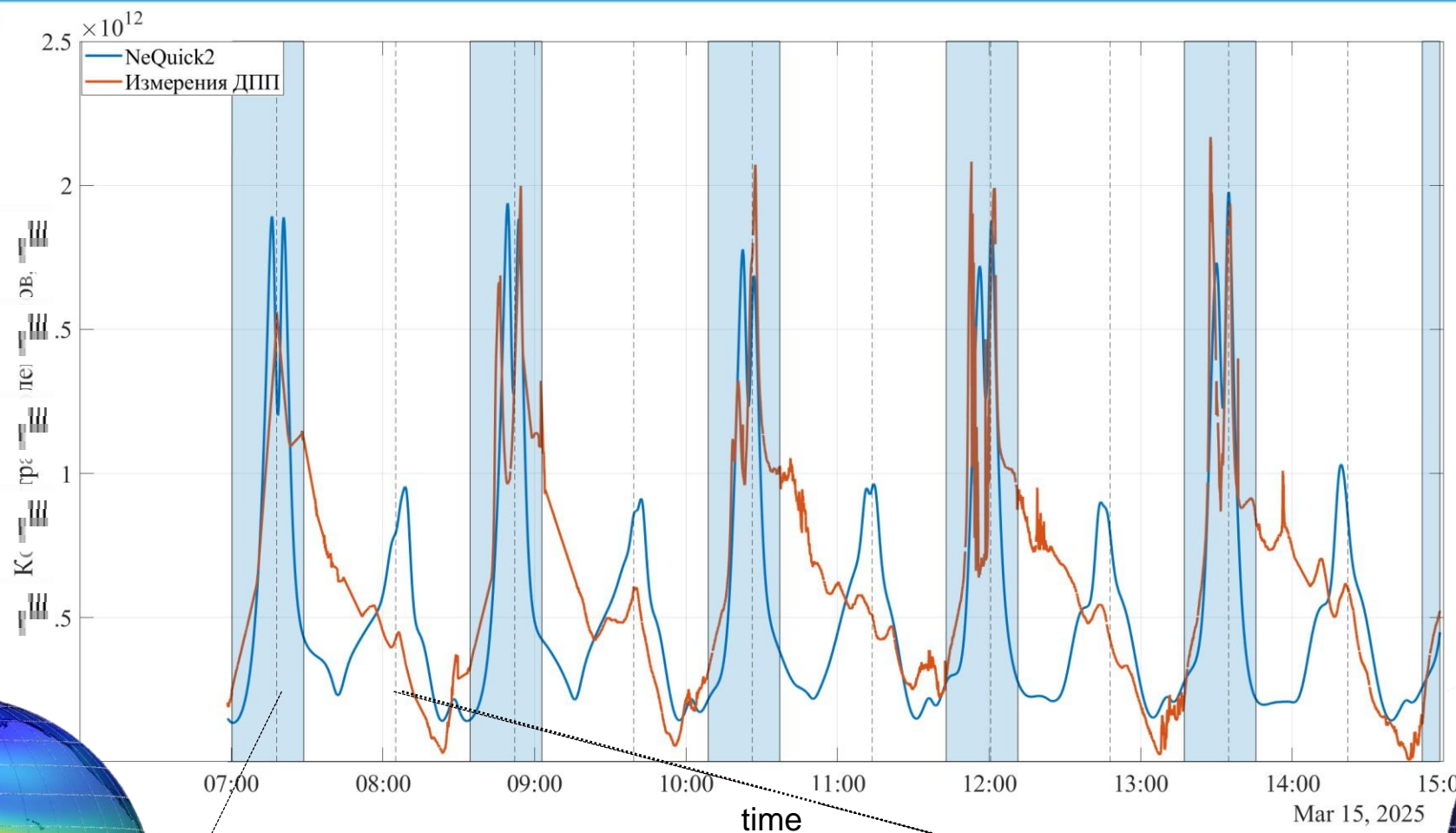
a) 27.02.2025–12.03.2025 b) 13.03.2025–27.03.2025 c) 28.03.2025–20.04.2025



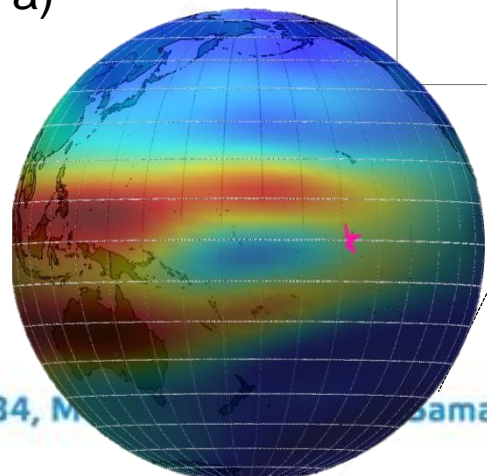


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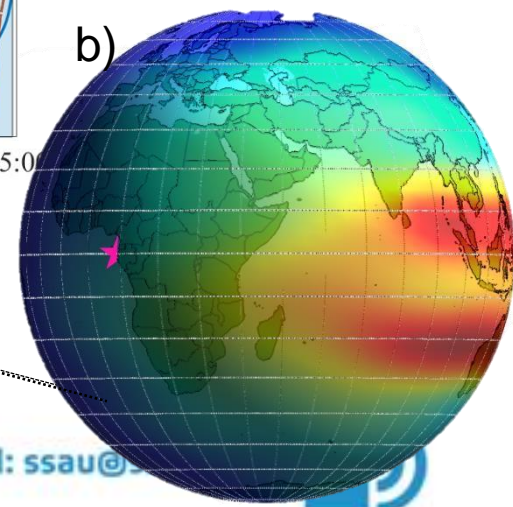
## Advancements on space research based on our mission results



a)



b)



Comparison of plasma parameter measurements with the  
NeQuick2 model for 15 March 2025

Equator crossings at the following times: a) 07:18 b) 08:05





## SamSat-Ionosphere: Nanosatellites as a Tool for Connecting the World

In 2025, the Interuniversity Department of Space Research celebrated two important dates connected with space exploration:

- Gagarin's Day on April 12
- Victory Day on May 9

To mark these important events, **our nanosatellite SamSat-Ionosphere** transmitted a commemorative signal from space. Radio amateurs around the world successfully received the signal and were awarded exclusive QSL cards







## Reception points of the Gagarin's Day commemorative beacon



**Gagarin's Day 2025**

Dear \_\_\_\_\_!

*Congratulations on the International Day of Human Space Flight!*

*Best wishes, SamSat-Ionosphere (RS75S) development team, 73!*

**SamSat-Ionosphere (RS75S)**

Date and time (UTC) of reception: 2025-04-12 12:00  
Frequency and Modulation: 437.4 MHz FSK 1200bd

**SAMARA UNIVERSITY**











## Reception points of the Victory Day commemorative beacon





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## Gagarin's Day 2025: Video Contest



To continue honouring Gagarin's Day, we invited space enthusiasts from around the world to record a two-minute video answering the question:

**“What does Gagarin and his achievement mean to me?”**



All participants were awarded a certificate authenticated and signed by the Head of the Interuniversity Department of Space Research.

Participants who later attended the International Summer Space School received their certificates in person.

From children passionate about space to adults who are experts in the field, we received videos from more than seven countries.





## Gagarin's Day 2025: 1<sup>st</sup> place

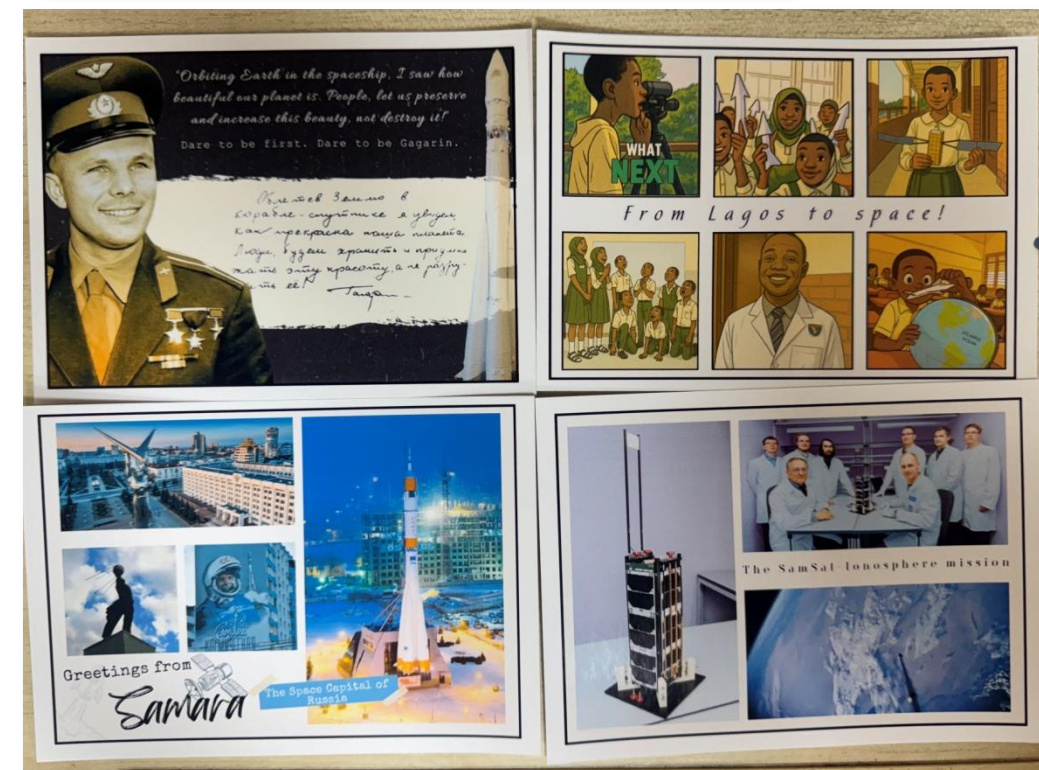


The video contest was won by space educator Olayinka Adeosun of Nigeria, together with the children from his student space club, Lagos to Space.



Scan to watch the winner's video!

The winners received a first-place certificate and an exclusive set of **commemorative postcards**, sent by mail directly from our department.



2nd Place: Vamshi Sainath  
India



3rd Place: Aisha and Abdullah  
Nigeria



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# VI Russian Symposium on Nanosatellites: July 1-3, 2025, Samara, Russia



**Total of 59 scientific presentations**

An electronic collection of symposium materials was published, **indexed in the Russian Science Citation Index (RSCI)**. The best papers were recommended for publication in **Leading Russian journals**.

## Covered topics included:

Lessons learned from past and current mission

New mission concepts

Guidance, Navigation and Control

Nanosatellites and Education

Problems of Nanosatellites Launch

Scientific Equipment for Nanosatellites

Simulation, Optimization, Verification

## 5 scientific sections:

1. Scientific Research and Advanced Nanosatellite Projects
2. 10 Years of RusNanoSat: New Leaders
3. Problems of Nanosatellite Dynamics and Motion Control
4. Problems of Nanosatellite Design and Operation
5. Space Education

## 2 Plenary sections:

1. Perspectives for the Development of Russian Small Spacecraft
2. Small Spacecraft: New Horizons for Development and Cooperation

## International cooperation included:

- **BRICS** representative on the topic: *"International project for the creation of an orbital constellation of scientific and educational satellites of the BRICS countries"*
- **JAXA's** Moscow office representative Yoshio Wada, and JAXA's Human Spaceflight Technology Directorate Izumi Yoshizaki and Tatsuhito Fujita on the topic: *"CubeSat deployment from ISS / Japanese Experiment Module "Kibo" and capacity building measures provided by JAXA"*
- Several **Belarus** institutions on topics such as *"Ionospheric tomography and geomagnetic monitoring using low-orbit satellites"* and *"Spectral analysis and reconstruction of ionospheric electron density"*

The working language of the symposium was Russian. Foreign participants were provided with an English, Spanish or Portuguese speaking translator





## Participation in national and international conferences

Our students, researchers, and young professionals participated in both national and international scientific events dedicated to space exploration and advancement.

### National events included:

- XLIX Academic Readings on Cosmonautics, dedicated to the memory of Academician S. P. Korolev
- Samara Regional Student Scientific Conference
- LXXV Youth Scientific Conference
- XXVIII Russian Seminar on Flight Vehicle Motion Control and Navigation
- 32nd Saint Petersburg International Conference on Integrated Navigation Systems

### International events included:



76th International  
Astronautical Congress,  
Australia



LARISSA  
RAMAROMANANA  
Ingénieure Aérospatiale -  
Spécialité satellites de  
petites tailles et  
nanosatellites

#IndabaX2025,  
Madagascar



III Brazilian Aerospace  
Congress, Brazil



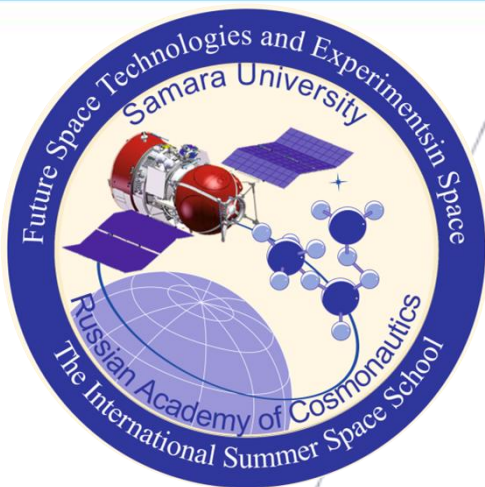
COSPAR 2025 Scientific  
Symposium on Humanity's  
Challenges and Celestial  
Solutions,  
Cyprus



ACADEMICIAN, PROFESSOR  
IGOR V. BELOKONOV  
12:45PM  
TechFest IIT Bombay,  
India



**SAVE  
THE DATE**



**Taking place on June 22 - July 3, 2026**

*Samara, Russia*

In 2026, the School will honour 4 key milestones in space exploration:



**65 years**

since the first-ever human  
spaceflight, conducted by Soviet  
cosmonaut Yuri Gagarin



**60 years**

since Venera-3 became the  
first spacecraft to reach  
another planet



**60 years**

since Luna-10 became the  
world's first artificial  
satellite of the Moon



**55 years**

since Mars-2 became the first  
spacecraft to reach the surface of  
Mars



For general information, prices,  
participation conditions, school  
calendar and participation form:

<https://volgaspace.org/school-2026>

Any questions left? Don't hesitate to contact us!



[spaceschool@ssau.ru](mailto:spaceschool@ssau.ru)







2026



*Happy New Year !*

1. [spaceresearch.ssau.ru](http://spaceresearch.ssau.ru) – department website
2. <http://spacetest.ru/> - website of the center of nanosatellites testing
3. Department e-mail: [space@ssau.ru](mailto:space@ssau.ru)