



SAMARA UNIVERSITY

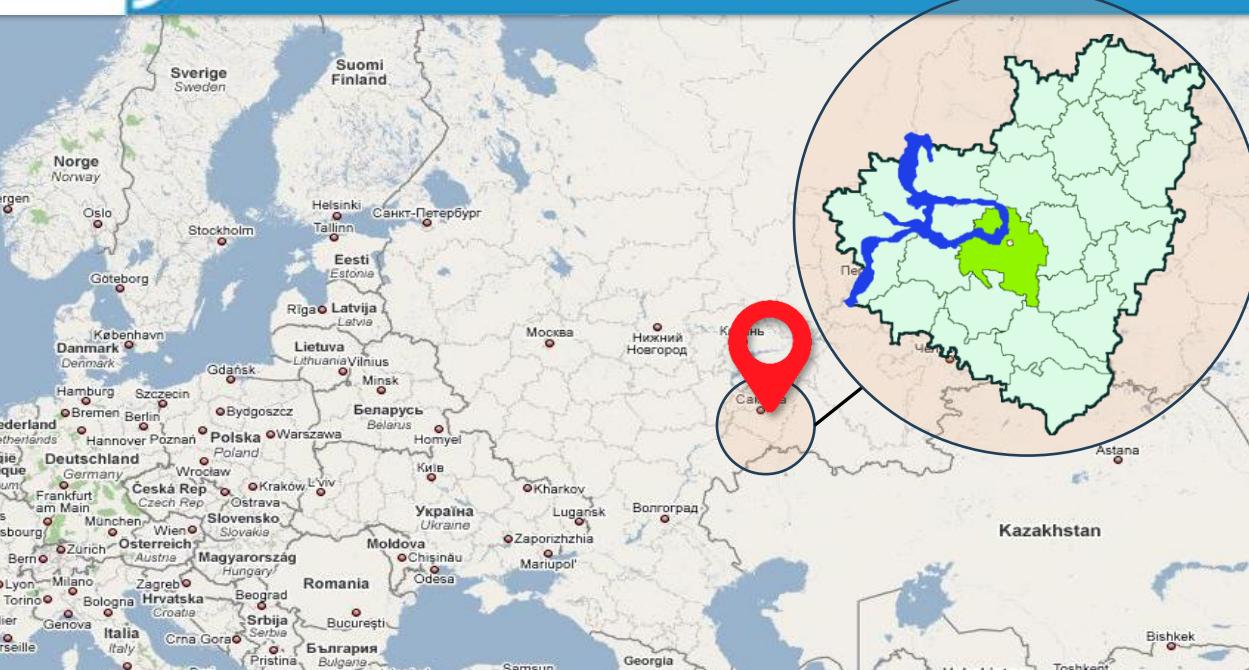
UNISEC-Samara report 2025-2026

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

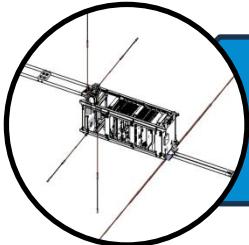




UNISEC-Samara: main areas of activity



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



1

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*





1

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:



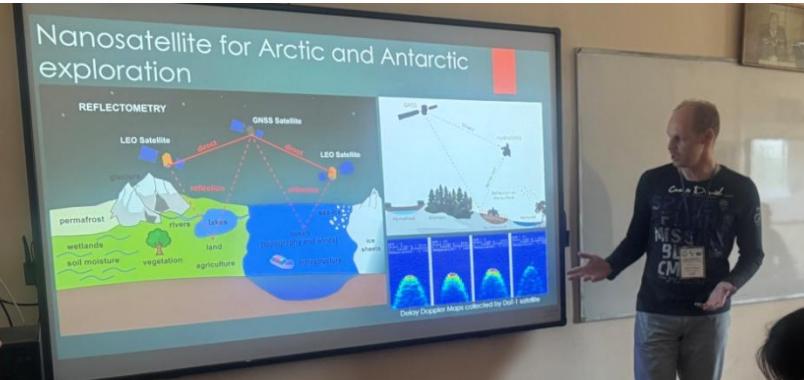
60 years since the first
human spacewalk



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:

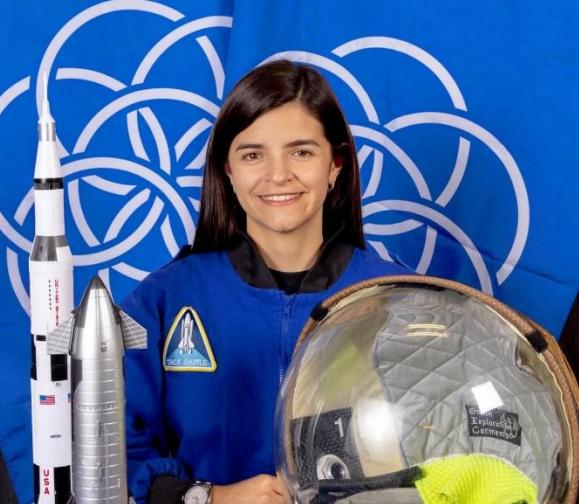
- Conduct a communication session with the department's satellite at our ground-based Mission Control Center
- Visit the Rocket Engine Center at Samara University
- Assemble nanosatellite subsystems using our real engineering model
- Visit the Technical Open-Air Museum in the city of Tolyatti, traveling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



Post-School results and further cooperation



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



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

19

Editions

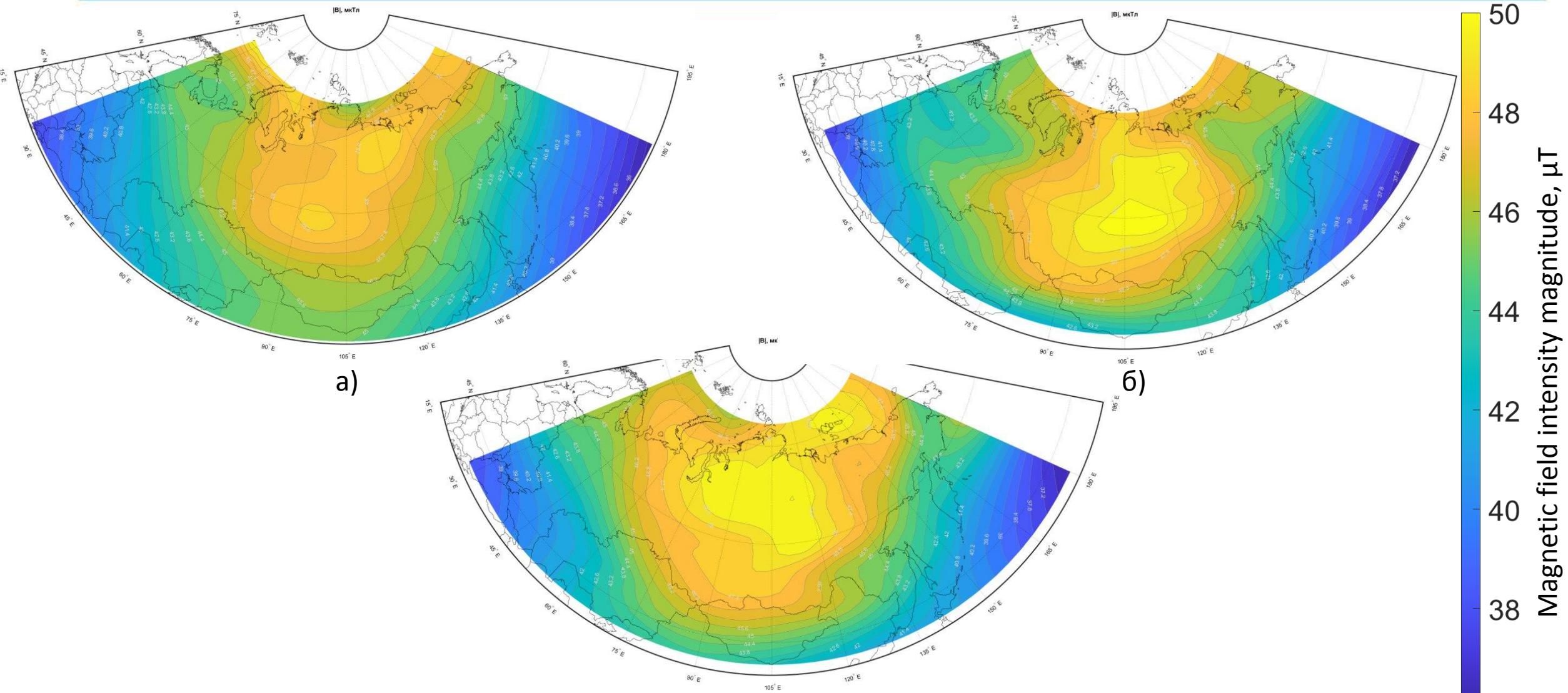
520

Participants in total

48

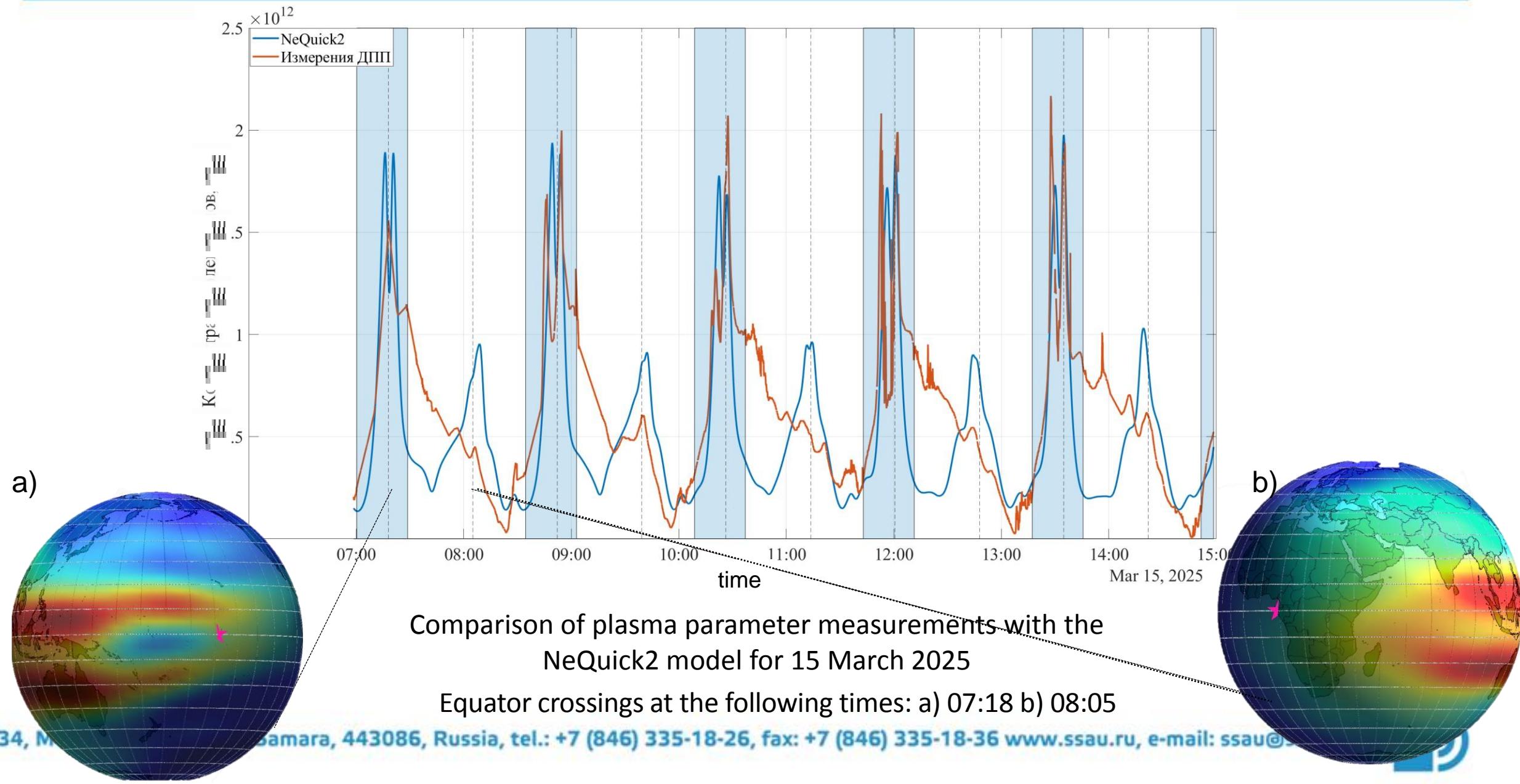
Countries around the globe

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.



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



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





2

Reception points of the Gagarin's Day commemorative beacon





2

Reception points of the Victory Day commemorative beacon



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.



2

Gagarin's Day 2025: 1st 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.



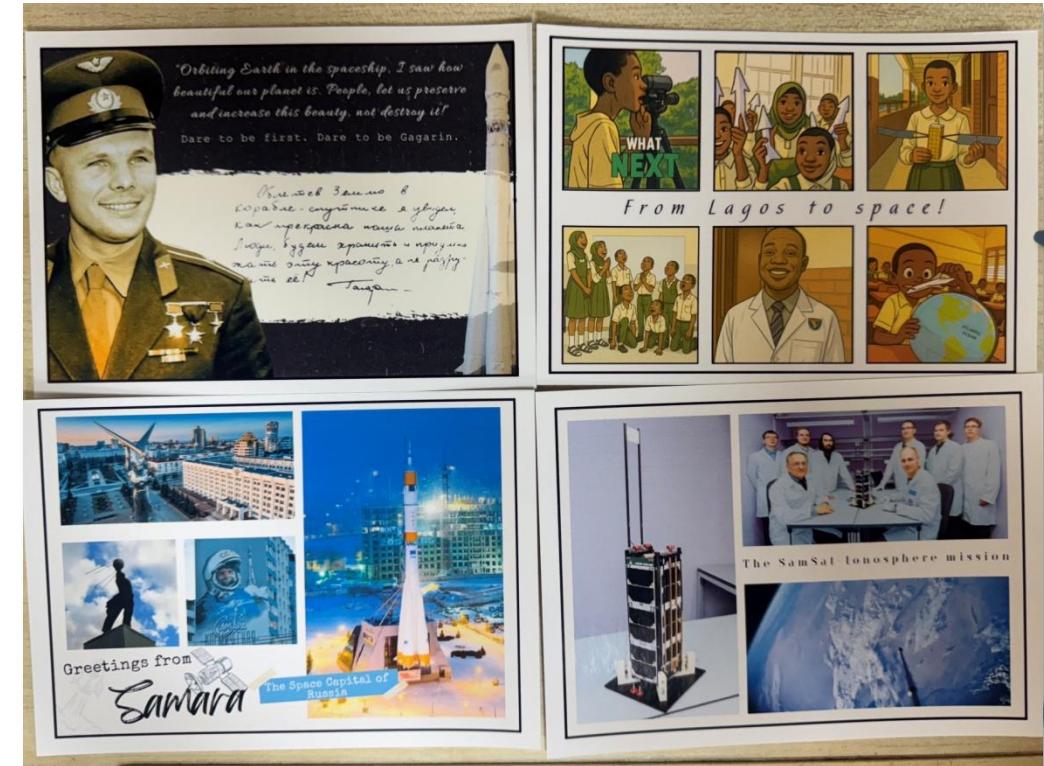
Scan to watch the winner's video!

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

(846) 335-18-26, fax: +7 (846) 335-18-36 www.ssau.ru, e-mail: ssau@ssau.ru





Total of 59 scientific presentations

Covered topics included:

Nanosatellites and Education

Lessons learned from past and current mission

New mission concepts

Guidance, Navigation and Control

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 Tatsuhi 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”*

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



#IndabaX2025,
Madagascar



16, te
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

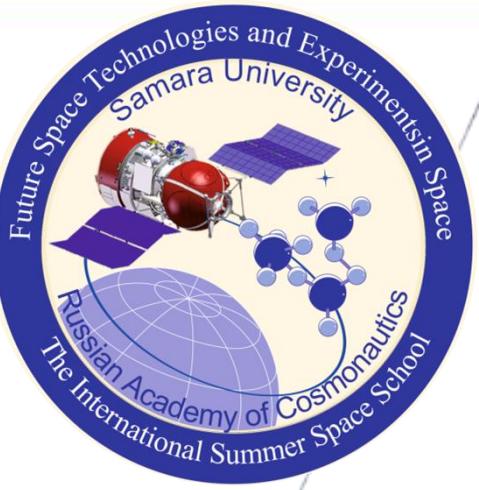
20th International Summer Space School – 2026

**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>



spaceschool@ssau.ru



Space



2026



Happy New Year!

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