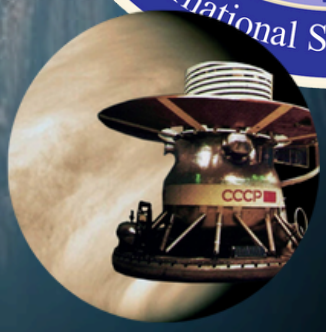
ALAR
Training Center

SUMMER SCHOOL

XIX INTL SUMMER SPACE SCHOOL

Future Space Technologies and Experiments in Space
Samara University
Russian Academy of Cosmonautics
The International Summer Space School

June 23 to July 4th



DEDICATED TO:

- 60 YEARS SINCE THE FIRST HUMAN SPACEWALK, PERFORMED BY THE SOVIET COSMONAUT ALEXEI LEONOV, IN 1965
- 50 YEARS SINCE THE FIRST INTERNATIONAL DOCKING OF THE SOVIET SOYUZ AND THE AMERICAN APOLLO, IN 1975
- 50 YEARS SINCE THE FIRST PHOTOS OF VENUS'S SURFACE, TAKEN BY THE SOVIET SPACECRAFT VENERA-7, IN 1975

ECTS credits: 3.0

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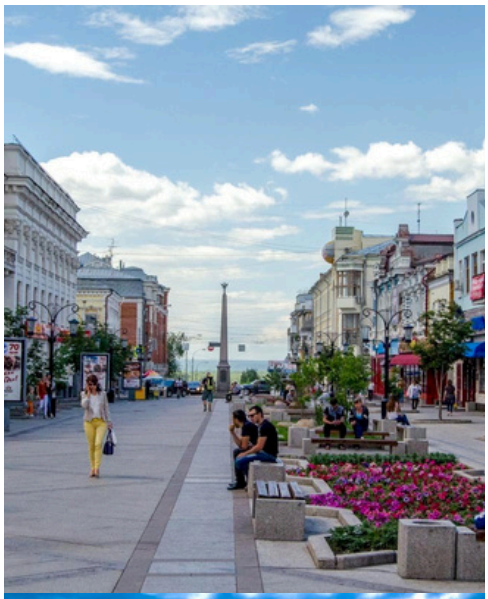

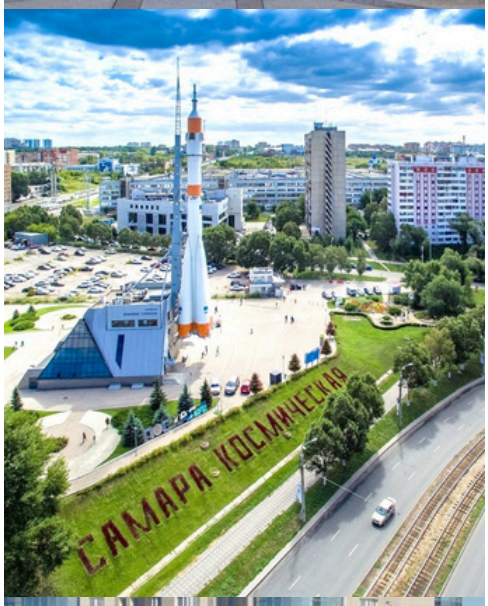

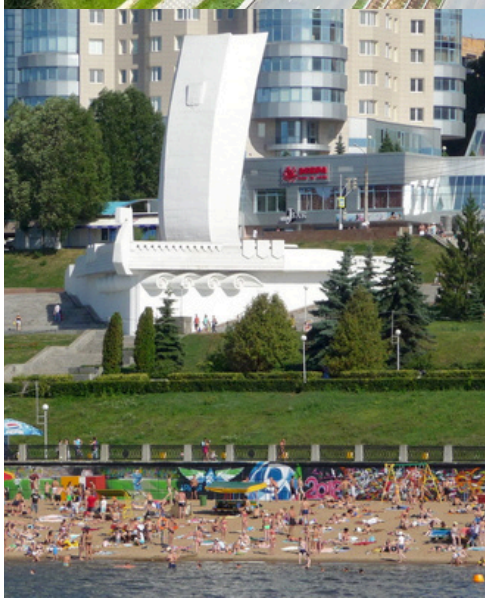

BRIEF DESCRIPTION

Attending the School participants have an opportunity to share there challenging ideas of new space missions with russians and people from other countries and establish inter university cooperation. Discussing the results of realized space projects, visiting lectures and seminars given by leading scientists and experts in the field of space technologies and space experiments. According to the concept of competitive activity participants included in one of the teams working on nano satellite projects with regard to their interests and background.

AIMS

The overall aims of the School is to involve young people into the development of micro/nanosatellites and implementation of experiments in space, to provide new fundamental knowledge and skills in applied technologies.

Registration deadline: **February 28th 2025**

Costs : Applies to **selected students** based on a curricular evaluation after registration

1. Registration fee, migration support, 62h Russian survival virtual course with certificate of conclusion: US$400 - **until March 08th 2025**
2. Studies, 3 ECTS Certificate, cultural activities at the University, lunch from monday to friday: US$380 - **until June 15th 2025**
3. Accomodation: aprox.US$250 for 11 nights
4. Visa US$80; airticket to Samara from your country

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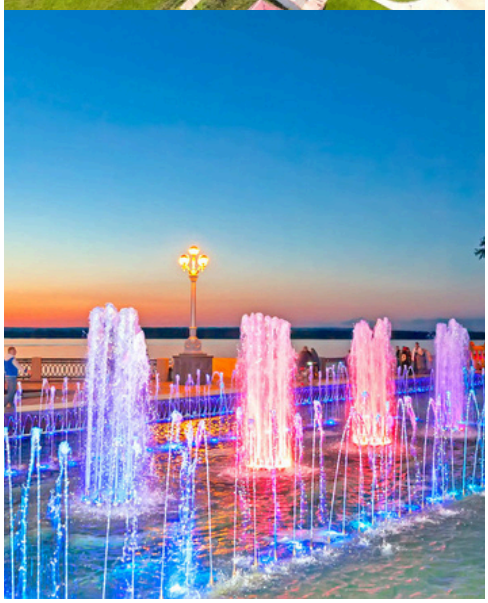

Participation requirements

. Intermediate English B1 or higher
. At least second year of university studies of technical directions or specialties

Full-time Education stage

Main goals and topics of the School program:
.Projects of scientific-educational nano satellites;
. Advanced technologies (methods and devices) for research of space environment and remote sensing;
. Attitude control technologies for nano satellites;
. Advanced space navigation technologies;
. Design principles of onboard electronic systems (sensors, onboard computers, communication systems, power supply systems) for nanosatellites;
. Relative motion in space (formation flight);
. Piggyback launch of nano satellites;
. Space Physics;
. State-of-art technologies used in the design of nano satellite's (Solid Works / Altium Designer).

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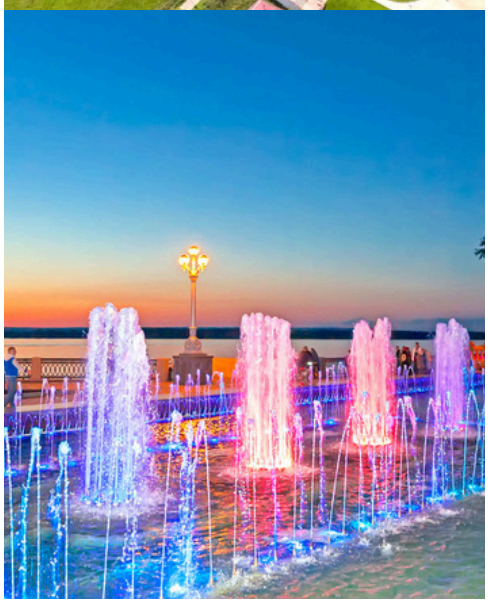

Courses:

. Introduction to the nano satellite design
. Design of electronic subsystems for nano satellites
. The space environment and its impact on a spacecraft
. MatLab for mission analysis
. Mission analysis: space flight mechanics
. Features of the nano satellite dynamics in LEO
. The problems of nano satellite cluster launching and the deployers for nano satellites separation
. Space navigation
. Methods and algorithms for nano satellite attitude determination & control
. Tests of nano satellites; facilities, types and programs of tests
. Aviation engines history center / Nano satellite testing center
. Introduction to the software development for nano satellite micro controllers
. Operating of nano satellites and the ground operating center
. Software development for micro controllers
. Innovation education programs in space technologies of Samara University

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