

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
New Worlds - Innovative Space Education and Outreach (7)

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USING INTERNATIONAL SPACE STATION FOR EDUCATION AND POPULARIZATION OF
SPACE RESEARCH

Abstract

Currently, the task of using International Space Station as modern innovative element in the system of aerospace education of students is pending. Recently the YouTube and Lenovo manufacturer of laptop computers have offered to students to develop scientific experiments, the best of which are to be conducted on board of International Space Station. The project was supported by various space agencies – USA (NASA), Europe (ESA) and Japan (JAXA) - and by Space Adventures company, which specializes in space tourism. Actual start of implementing educational technologies from space platform took place during the flight of orbital complex Mir (1987-2001). Russian cosmonauts, headed by flight engineer Alexander Serebrov, conducted a series of lessons from space, demonstrating various experiments in the condition of weightlessness and illustrating the laws of nature by unique tests. As a result of such lessons, several educational videos – in Russian and in English – have been created with the topics in physics, hydrodynamics, mechanics, liquids in space, and others. Currently, in order to utilize the educational capabilities of Russian segment of International Space Station, a scientific-educational program of space experiments has been developed as part of Russia's Federal Space Agency program of space experiments. The program creates conditions for attracting the youth to independent scientific-research activity under the supervision of leading experts from space companies. The main advantage of the program is possibility to conduct dialogue by high-school and university students with the crews of International Space Station using amateur radio channels. Some of such lessons may be viewed at WWW.RSOISS.RU. Use of amateur radio frequencies allows communication with the station and experiments at schools and universities in live mode. This report demonstrates the results of Russian and International space experiments - "RadioScaf", "MAI-75", "About Gagarin from Space", "Shadow-Beacon", "Great Beginning" - and outlines the plans for new projects, such as experiment to study the deployment of frame-less thin-film structure from the extra-small-size spacecraft "Sail-BMSTU" and others. Using International Space Station as modern innovative element in the system of space education of youth allows to popularize the achievements of space exploration, improve the quality of education and increase the popularity of space activity.