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EDUCATIONAL ANALOG MISSIONS IN LUNARES HABITAT IN POLAND

Abstract

Lunares habitat in Poland was established in 2017 by Space Garden Company. It is fully isolated educational and research base located at the military airport in Piła, remotely operated by mission control center using habitat's operational system.

In 2017 in Lunares we organized and evaluated 2-day long educational missions for primary and secondary schools. School kids were divided into two groups: analog astronaut group and mission control group. Each person received its own role for the mission described in dedicated working card, which contained full scenario of duties and tasks similarly to the astronaut schedule on the International Space Station. Additionally, working cards were used to write and compute data in prepared forms and tables. Limited timing and integration with other roles made this project demanding but interesting for kids. It was like a game, but with real players, spacesuits, laboratory equipment, lunar EVA terrain and habitat. During the mission, each person had two randomly selected roles: one day as an analog astronaut, second day as mission control member of the crew. After the mission each role was evaluated based on data from the working cards. Evaluation was focused on efficiency, quality and proper timing of realized tasks. Teachers discussed obtained results with school kids.

Beside new for kids knowledge about human missions and space exploration, multidisciplinary tasks were designed for this training. Such exercises required knowledge from school in maths, physics, chemistry, geography and biology. Analog astronauts had to follow habitat procedures, perform scientific experiments in simulated microgravity, generate medical examinations of the crew, do physical exercises to generate energy for the base or create a map of simulated lunar terrain during extravehicular activities. Mission control had to help, communicate and control the quality of realized tasks by analog astronauts.

After very positive feedback both from school kids and teachers, we observed that participation in two different groups significantly increased knowledge about human spaceflight and exploration. School kids could apply their own knowledge and talents in completely new for them situations, what increased their confidence and appreciation for education at school. Additional skills such organization, discipline, responsibility, decision making, planning and teamwork were trained. In summary, all listed above positive effects of organized educational mission allowed us to expand this activities in Lunares habitat.

We invite all interested educators and teachers to collaborate with us. Contact: www.lunares.space; www.space.garden