



Student Microgravity Experiments Selected to Fly on First Operational Flight of SpaceX Dragon in September 2012

11 Experiments Chosen from over 1,100 Proposed will Fly to International Space Station Via Commercial STEM Education Initiative

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WASHINGTON - The National Center for Earth and Space Science Education (NCESSSE), in partnership with NanoRacks, LLC, announces the selection of 11 microgravity experiments to fly to the International Space Station (ISS) aboard the first operational flight of the SpaceX Dragon, scheduled for launch in September 2012. The experiments were selected as part of Mission 2 to ISS, the fourth flight opportunity provided by the Student Spaceflight Experiments Program (SSEP). The first two flight opportunities were on the final flights of Shuttles Endeavour and Atlantis. The Aquarius payload of student experiments for the third SSEP flight opportunity – Mission 1 to ISS – is currently aboard ISS with 15 experiments.

In response to an announcement of opportunity in November 2011, 11 communities in 9 States are participating in Mission 2 to ISS. The communities provided a combined 15,120 grade 5-12 students in 72 schools the opportunity to design and propose real microgravity experiments. A total of 1,125 student team proposals were received, and a formal 2-step review process in Spring 2012, involving scientists, engineers, and science educators across the U.S., selected 11 flight experiments – one for each participating community.

Designed as a keystone Science, Technology, Engineering, and Mathematics (STEM) Education program launched as a U.S. National initiative in June 2010, SSEP engages entire communities. Each participating community is provided all launch services to fly a real microgravity research mini-laboratory in low Earth orbit, capable of supporting a single experiment. An experiment design and proposal process in each community, mirroring how professional research is undertaken, allows student teams to design microgravity experiments vying for their community's reserved mini-lab slot. Additional programming leverages grade K-12 community-wide engagement in STEM education.

“SSEP is designed to empower the student as scientist, and within the real-world context of science. Student teams design a real experiment, propose for a real flight opportunity, experience a formal proposal review process, and go through a NASA flight safety review. They even have their own science conference at the Smithsonian's National Air and Space Museum, where they are immersed in their own community of researchers”, said Dr. Jeff Goldstein, creator of SSEP and NCESSSE Center Director. “SSEP is about introducing real science to our children, and if you give them a chance to be scientists, stand back and be amazed.”

Selected microgravity experiments include studies of disinfectants on mold in space (grade 5), the impact of microgravity on the shelf-life of synthetic hemoglobin (grade 11), effects of uric acid on bone deterioration (grades 9 and 11), growth of *Lactobacilli Acidophilus* (grade 12), and studies of impurities in crystals grown in space (grade 6).

“We are delighted to be the space interface partner for SSEP and assist the organization and the students in realizing their space research objectives,” said Jeffrey Manber, managing director of NanoRacks.

Mission 3 to ISS – the 5th SSEP flight opportunity – was announced April 29, 2012, with experiment design starting September 2012, and a flight to ISS in Spring 2013.

SSEP is the first pre-college STEM (Science, Technology, Engineering, and Math) education program that is both a U.S. national initiative and implemented as an on-orbit commercial space venture. SSEP is enabled through NanoRacks LLC, which is working in partnership with NASA under a Space Act Agreement as part of the utilization of the International Space Station as a National Laboratory.

To learn more about the SSEP, including future opportunities for student participation, visit:

<http://ssep.ncesse.org>

About National Center for Earth and Space Science Education

The National Center for Earth and Space Science Education (NCESSE) creates and oversees national initiatives addressing science, technology, engineering, and mathematics (STEM) education, with a focus on earth and space. Programs are designed to provide an authentic window on science as a human endeavor. Central objectives of the Center’s programs are to help ensure a scientifically literate public and a next generation of U.S. scientists and engineers - both of which are of national importance in an age of high technology. NCESSE is a Project of the Tides Center.

To learn more, visit: <http://ncesse.org>

About NanoRacks

NanoRacks LLC was formed in 2009 to provide quality hardware and services for the U.S. National Laboratory onboard the International Space Station. NanoRacks now has two research platforms onboard the U.S. National Laboratory that can house plug and play payloads using the Cube-Sat form factor. Our current signed customer pipeline of over 50 payloads, including domestic and international educational institutions, research organizations and government organizations, has propelled NanoRacks into a leadership position in understanding the emerging commercial market for low-earth orbit utilization.

To learn more, visit: <http://www.nanoracks.com>

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