



## **Student Experiments on Space Shuttle Endeavour Flight Attract National Attention in Bold New STEM Education Program**

***Private Sector Effort Also Offers Potential New Space Shuttle Atlantis Opportunity for 100,000 Students to Participate***

**For Immediate Release**

**Video Interview Now Available at StemStream TV on the TV Worldwide Network  
Wednesday, December 22, 2010**

Washington, D.C. - The Student Spaceflight Experiments Program (SSEP, <http://ssep.ncesse.org>), launched June 2010 by the National Center for Earth and Space Science Education (NCESSSE, <http://ncesse.org>) in partnership with NanoRacks LLC (<http://www.nanoracks.us/>), has selected 16 grade 5-12 student microgravity science experiments to fly on STS-134, the final flight of Shuttle Endeavour currently set to launch April 2011.

Responding to a national announcement of opportunity by NCESSSE in June 2010, 16 communities joined the program. Each community was provided an experiment slot in a private sector microgravity research laboratory flying on Endeavour, and which had also flown on seven past Shuttle missions. An experiment design competition in each community, open to up to 3,200 students, allowed student teams to design real experiments vying for their reserved slot on this historic flight. Additional SSEP programming leverages the flight design competition to engage the community, embracing a Learning Community Model for STEM education.

A total of 20,000 students were given the opportunity to participate for STS-134, with 447 proposals submitted by student teams, 293 put forward to preliminary review boards in each of the communities, and 43 finalists put forward to a

National SSEP Review Board. The 16 experiments selected for flight include studies of cell biology, life cycles, seed germination, food preservation, and crystal growth.

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.

“SSEP is immersing students in real science, and inspiring our next generation of scientists and engineers so that America can compete in the 21<sup>st</sup> century,” says Jeffrey Manber, Managing Director of NanoRacks.

“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, go through a flight safety review, and have their own science conference, where they are immersed in their community of researchers,” said Dr. Jeff Goldstein, creator of SSEP and NCESE Center Director in recent video interview on StemStream TV on the TV Worldwide Network. “Science is more than a way of thinking and interacting with the natural world. Science is also a complex social landscape filled with challenges, and the need for successful communication with one’s peers. SSEP is about introducing real science to our children.”

The vision for SSEP is to provide routine student access to space via commercial payloads, and to leverage the power of such access into STEM education delivered across an entire school district, and serving a national, even international network of such communities.

Given the interest in this first flight opportunity, the National Center for Earth and Space Science Education is now announcing a Student Spaceflight Experiments Program opportunity for STS-135, the final flight of Atlantis, and the final flight of the U.S. Shuttle program, assuming Congress authorizes this additional mission. The STS-135 opportunity is available to school districts across the U.S. as well as Canada, and has been expanded to include U.S. 2-year community colleges. The Center expects that up to 50 communities will participate, engaging 100,000 grade 5-14 students in this historic adventure.

NCESSE and NanoRacks are now planning the details of a post-shuttle SSEP initiative utilizing the unique hardware of the International Space Station (ISS) U.S. National Laboratory, with participation open to the ISS partner nations. “The SSEP is a model program for engaging students in the NASA mission in a hands-on manner. The real-world experience these student scientists will gain by developing actual flight experiments will be invaluable to their STEM educational development,” says Mark Severance, NASA Education Projects Manager for the ISS National Laboratory. “We look forward to working with NCESSSE and NanoRacks to host future iterations of SSEP on the NanoRacks Platform onboard the International Space Station.”

#### Links:

SSEP Home Page: <http://ssep.ncesse.org>

SSEP Overview PDF: <http://ssep.ncesse.org/overview>

SSEP Participating Communities: <http://ssep.ncesse.org/communities>

Student Proposals Selected for Flight on Shuttle Endeavour:

<http://ssep.ncesse.org/communities/selected-experiments-on-sts-134/>

SSEP In the News: <http://ssep.ncesse.org/communities/in-the-news/>

STEM Learning Community Model:

<http://ncesse.org/about/learning-community-model/>

Testimonials: <http://ssep.ncesse.org/communities/in-our-own-words/>

#### About NCESSSE

The National Center for Earth and Space Science Education (NCESSSE) 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. NCESSSE is a Project of the Tides Center. <http://ncesse.org>

#### About NanoRacks

NanoRacks, LLC designed and operates research platforms onboard the ISS U.S. National Laboratory that permits low-cost research using payloads in the CubeSat form factor. The company also is planning space station hardware that will permit

low-cost, in-orbit analysis of microgravity research. The company brings together entrepreneurs, scientists and engineers who share a passion for entrepreneurial space including our utilization of low-earth orbit. NanoRacks currently enjoys a backlog of over 60 payloads from research, commercial and educational customers. <http://www.nanoracks.us/>

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