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DEPARTMENT OF EDUCATION

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December 5, 2011

TO: District Superintendents
Charter School Leaders

SUBJECT: Grade 5-12 STEM Education Program Opportunity

The following announcement was received by the National Center for Earth and space Science Education. We are providing you to you for your information.

Announcing the Student Spaceflight Experiments Program (SSEP) Fourth Flight Opportunity - SSEP Mission 2 to the International Space Station (ISS) The National Center for Earth and Space Science Education (<http://ncesse.org>), in partnership with NanoRacks (<http://nanoracks.com>) invites communities across the U.S. to participate in SSEP Mission 2 to ISS. Each participating community will be provided all launch services to fly a real microgravity research mini-laboratory on ISS from September 28 to November 12, 2012, and a kit for assembly of their mini-lab. An 8-week experiment design competition in the community, held Spring 2012, will allow grade 5-12 student teams to design real microgravity experiments vying for their community's reserved mini-lab slot on ISS.

SSEP immerses a community of students in real scientific research of their own design (grade level appropriate), using a highly captivating spaceflight opportunity on ISS - America's newest National Laboratory – which will garner the community significant media attention.

SSEP is a true STEM education program. It addresses a wide range of biological and physical science disciplines (thus appropriate for all teachers of science), including: seed germination, crystal growth, physiology of microorganisms and life cycles (e.g. bacteria), cell biology and growth, food studies, and studies of micro-aquatic life. Students design experiments to the technology and engineering constraints imposed by a real research mini-lab and flight operations to and from Earth orbit.

HERITAGE:

Through the first two SSEP announcements of opportunity on the final flights of Space Shuttles Endeavour and Atlantis (STS-134 and STS-135), 27 communities joined the program, providing a combined 30,700 grade 5-14 students in 101 schools the opportunity to design and propose real spaceflight experiments; 1,027 student team proposals were received; and 27 experiments were selected and flown on the Shuttles - one for each participating community.

For SSEP Mission 1 to ISS, the third flight opportunity, 12 communities are providing 41,200 students, across 92 schools, the opportunity to design and propose experiments. Mission 1 is currently ongoing.

SOME SSEP BASICS:

1. Typically a minimum of 300 grade 5-12 students across a community engage in experiment design. The school district is free to determine the participating grade levels. SSEP is not designed for a single class or a small number of students.
2. Implementation is straightforward and well defined; all needed curricular materials are fully developed; and we provide ongoing, proactive support for your educator implementation team.
3. Well designed content resources for teachers and students support foundational instruction on science in microgravity and experimental design.
4. SSEP is flexible enough to be tailored to your community's strategic needs in STEM education.
5. A suite of SSEP program elements - the Community Program - leverages the flight experiment design competition to engage the entire community, embracing a Learning Community Model for STEM education. Elements include flying up to 2 Mission Patches resulting from an art and design competition across your community, and a SSEP Community Blog for each community.
6. Students can take part in their own research conference where they can report on experiment design and results. The conference is held in Washington, DC, in early July and likely at the Smithsonian's National Air and Space Museum, the site of the 2011 conference.

SSEP is about a commitment: to the joys of learning; to student ownership in exploration through immersive and REAL science experiences; to science as journey; to rich experiences for teachers in real science; and to science as an interdisciplinary tapestry that extends to vital written and oral communication skills.

CRITICAL DEADLINE: all participating communities must be aboard by February 27, 2012, and to do that we need to start working with interested communities right away.

NEXT STEPS - WE ARE ON A FAST TRACK:

1. CAREFULLY review the National Announcement of Opportunity (link below), which includes links to all aspects of the program.
2. Contact us at ssep@ncesse.org or call at: 301-395-0770

GO TO NATIONAL ANNOUNCEMENT OF OPPORTUNITY: <http://ssep.ncesse.org/?p=7954>

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KEY SSEP PARTNERS:

National Center for Earth and Space Science Education

NanoRacks, LLC

Smithsonian's National Air and Space Museum

Carnegie Institution of Washington / Carnegie Academy for Science Education

This on-orbit, real research opportunity for students 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.