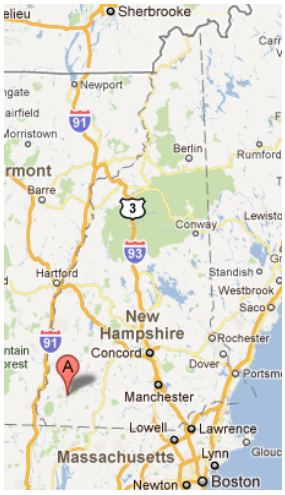
New Hampshire Science Teachers' Association

Winter Newsletter (E-Edition), 2011-2012

NHSTA Newsletter Editor: Paul Williams **Volume 8, Issue 2** Winter 2011-2012

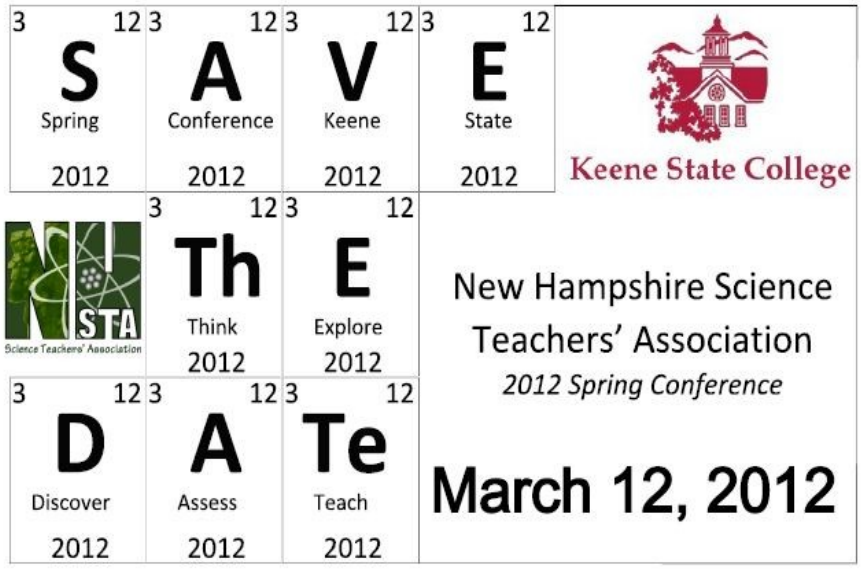
NHSTA Spring K-12 Science Conference at Keene State College March 12, 2012! By Mark Parsons, NHSTA Spring Conference Chairperson, NHSTA 2nd Vice-President.

It is time to plan to attend the Spring Science Conference at Keene State College in Keene, New Hampshire on Monday March 12, 2012.



We are delighted to be holding our traditional spring conference at this new site. The workshops and exhibitors will be held in the newly renovated and spacious science building. This facility has wireless access throughout and laboratory classrooms to meet the needs of presenters and attendees. Lunch will be provided and held in the next door in the Dining Commons which will be totally open with an amazing variety of culinary options.

Over forty workshops will be offered in four sessions that will span all content areas and grade levels. When you attend a NHSTA conference, you can be sure that you will find opportunities to expand in both professional and personal learning. Time is allowed to visit the exhibitors and to meet with other teachers of science from throughout the state.



At present, we are soliciting proposals to present workshops. To submit a proposal, you can use the following links to our Survey Monkey site: Regular Proposals—https://www.surveymonkey.com/s/X3FJQY8;

Commercial workshop proposals: https://www.surveymonkey.com/s/XGQ75TG

If you have any questions about the form, whether it was received (or sent), you can e-mail nhsta@together.net. You will promptly be answered. We anticipate having the entire conference finished in mid-December and an on-line registration ready shortly thereafter.

Inside this issue:

NHSTA Board of Directors, 2011/2012

Annual Spring Conference: Keene State College, Monday, March 12, 2012

Annual Fall Conference. Church Landing, Meredith, Sunday and Monday, November 4 and 5, 2012

The New Hampshire Science Teachers' Association is the professional science teaching organization for our state. Its purpose, as stated in its constitution, is to promote and improve science education in New Hampshire. NHSTA membership consists of all people interested in science education who have paid their regular membership dues. Dues are presently $20.00 per year. NHSTA is a volunteer organization run by an elected Executive Board consisting of a president, first vice-president, second vice-president, secretary, treasurer, and director-at-large. The Board of Directors is appointed by the Executive Board and represents New Hampshire's geographic regions and its various educational levels and disciplines. The Board meets monthly. For more info visit ***www.nhsta.net*** ***NHSTA, PO Box 583, Littleton, NH 03561***

Note: Although we try and keep announcements current, it is possible that sign-up dates may have elapsed by the time you get this. Check via phone or web addresses to be sure.

It's that time of year, again—time to start thinking about going to the

8th Annual K-12 Nanotechnology Teacher Conference

Wednesday, April 11, 2012 at Holloway Commons on the Campus of

The University of New Hampshire Durham, NH

FREE and Open to all K-12 teachers with a knowledge of or interest in science and technology.

Nanotechnology is the latest "revolutionary" technology that is bringing sweeping changes to the 21st Century. Some of the applications are already here. Find out what they are, and how they will affect the lives and professions of your students in the near future. Come to the Nanotechnology Conference and get answers to the following questions:

- What is Nanotechnology?
- Where is it being investigated?
- Why is it so important?
- What applications of nanotechnology already exist?
- What applications are thought possible in the next 5 to 15 years?
- What are the societal and ethical impacts of nanotechnology?

Also learn how **you** can get involved in developing ways to inform the next generation of workers (your students) who may very well earn their living as well as benefit from this new technology.

If you have never been to this conference, or if you haven't attended in some time, it's time to get a fresh perspective on the up and coming field that is already sweeping the nation, and the world.

Tentative Program Schedule:

- 8:30 am—check-in
- 9:00 am—Continental Breakfast
- 9:15 am—Welcome
- 9:30-10:30 am—First session of workshops
- 10:30-10:45 am—Break
- 10:45-11:45 am— Keynote speaker
- 12:00 pm — Buffet Lunch
- 1:00-2:00 pm— Second session of workshops
- 2:15 pm—Announcements and concluding remarks

REGISTRATION BEFORE THE CONFERENCE IS **REQUIRED—**

Deadline, March 26, 2012. Registration information available from the Center for High-rate Nanomanufacturing at the University of New Hampshire and funded through a grant from the National Science Foundation. Please contact: Susan Greenberg, K-12 Outreach Coordinator, at UNH, Parsons Hall, 23 Academic Way, Durham, NH 03824, 603-862-3325, 862-4278 fax, susan.greenberg@unh.edu.

New Hampshire Environmental Educators: Excellence in Environmental Education from the Mountains to the Sea. http://www.nhee.org Submitted by Susan B. K. Farrelly, NHSEE

Founded in 1979, New Hampshire Environmental Educators (NHEE) is the state professional organization for people working and/or interested in environmental education. NHEE is dedicated to promoting, supporting and improving environmental education in New Hampshire and providing professional support to its members. NHEE is a non-profit organization whose members include environmental and conservation educators, classroom teachers, students, administrators and others.

NHEE's Mission is to advocate for high quality environmental education in New Hampshire and to provide environmental educators with a forum for networking and professional development.

NHEE is operated by a dedicated, all volunteer working board. Our board currently consists of classroom teachers, naturalists, environmental and outdoor educators and environmental professionals from across NH. The 8-12 board members work cooperatively to provide NHEE's services.

NHEE provides members with current information about important EE issues, programming, and resources; provides members with a quarterly newsletter; sponsors professional development programs and workshops; hosts the New England Environmental Education Alliance regional conference every six years; affiliates with the North American Association for Environmental Education for professional development opportunities; provides opportunities for networking and collaboration among its members; and works to build EE capacity in NH.

AGI Accepting Applications for 2012 Award for Excellence in Earth Science Teaching Alexandria, VA . From the APAST Communications Listserv.

Does someone you know teach earth science to students between kindergarten and eighth grade? Do they excel in their teaching through leadership and innovation, bringing new ideas and approaches to teaching about our planet? If so, they may be eligible for the Edward C. Roy Award for Excellence in K-8 Earth Science Teaching. Given annually, this award recognizes one classroom teacher nationwide for his or her leadership and innovation in earth science education. The winner will receive a prize of $2,500 and an additional travel grant of $1,000 to attend the 2012 National Science Teachers Association (NSTA) Annual Conference in Indianapolis, Indiana, 29 March through 1 April 2011. To be eligible, applications must be postmarked by 10 January 2012.

The award is named in honor of Dr. Edward C. Roy, Jr., who was a strong and dedicated supporter of eEarth science education. He served as President of AGI, chaired the AGI Education Advisory Committee, and received both the Ian Campbell Medal and the Heroy Distinguished Service Award. In addition, he served as the

Gertrude and Walter Pyron Distinguished Professor of Geology at Trinity University, as Dean of the Division of Sciences, Mathematics, and Engineering, and as Vice President for Academic Affairs. Roy was also appointed Chair of the Texas Earth Science Task Force by the Commissioner of the Texas Education Agency.

To learn more about competition requirements, application procedures, and deadlines, visit http://www.agiweb.org/education/awards/ed-roy/.

The American Geosciences Institute is a nonprofit federation of 50 geoscientific and professional associations that represents more than 250,000 geologists, geophysicists and other earth scientists. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in the profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resiliency to natural hazards, and interaction with the environment.

Postal Museum Launches Owney the Dog Curriculum. From APAST Communications Listserv. The Smithsonian's National Postal Museum has announced the development and release of new curriculum and supporting materials based on the museum's beloved "Owney the Dog." The announcement took place at the recent Smithsonian Institution's annual Teacher Night held this year at the National Museum of the American Indian with more than 4,000 teachers in attendance.

The 60-page full-color curriculum guide features four different units that use the story of Owney the Dog to meet reading, writing, math, social studies, science and art standards. The lessons are designed to provide inspiring and meaningful interdisciplinary experiences in classrooms from kindergarten through third grade.

The curriculum guide features four themed interdisciplinary units on mapping, autobiography, jobs and primary sources. Targeted towards second grade learning standards, these lessons combine to illustrate the life and legacy of Owney the Postal Dog. The curriculum is developed in tandem with Owney-themed technology tools, including an e-book and an augmented reality postage stamp. Also accompanying the curriculum are worksheets, rubrics and companion lessons for students with special education needs.

A special online microsite has been created for the Owney curriculum (**www.npm.si.edu/owneycurriculum**) and resides on the museum's main website. The site features a downloadable curriculum guide for teachers, which includes units on maps, jobs, tags and stories. Worksheets, rubrics and other resources are also available on the site.

The museum makes other teacher resources available on the museum's **recently redesigned website for educators** at **www.npm.si.edu/educators**.

Transit of Venus Project– APAST Communication Listserv http://www.transitofvenus.nl/. At the end of this academic year, a marvelous and rare astronomical phenomenon will take place: on 5 and 6 June 2012 the planet Venus will pass exactly in front of the solar disk for the very last time this century. This transit of Venus provides for a unique and unparalleled opportunity to get your students actively involved in observing a daytime astronomical event and exchanging the results with others from abroad. In 2004, when a transit of Venus also took place for the first time since 1882, millions of students across the globe watched the planet against the sun and were engaged in activities increasing their understanding of solar system mechanics, the history of astronomical ideas and career opportunities. One of the aims of the Transit of Venus Project, launched last June, is to help you science educators exploiting the full potential of the transit of Venus, from elementary to college level. For more information visit www.transitofvenus.nl or email info@transitofvenus.nl.

Calling all Elementary School Teachers!!!!! By Lisa Iavalley

Have you wanted to join state educator organizations but didn't know which ones to join, and found that it was too expensive to join all of them?
The state educator organizations of the four core discipline groups have worked together to offer elementary teachers a special rate to join *New Hampshire Teachers of Mathematics (NHTM) *New Hampshire Council of Teachers of English (NHCTE) *New Hampshire Council for the Social Studies (NHCSS) *New Hampshire Science Teachers Association (NHSTA)
The benefits of a **New Hampshire Joint Elementary Membership** (NHJEM) are:
Newsletters from all four organizations, full of news, events, resources, activities, and classroom ideas.
The opportunity to become involved with the organizations by serving on committees or the Boards of Directors
Access to high-quality, content-rich professional development opportunities
Connection with hundreds of other elementary as well as middle and high school teachers across the state
Member rates to workshops, conferences, and other activities for all four organizations Ω

Announcing the Student Spaceflight Experiments Program (SSEP) Fourth Flight Opportunity - SSEP Mission 2 to the International Space Station (ISS). New Remarkable Grade 5-12 STEM Education Program Opportunity for School District and School Communities. Dr. Jeff Goldstein, Center Director and SSEP Program Creator

November 15, 2011

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

Be part of history by making history

Dr. Jeff Goldstein, Center Director and SSEP Program Creator, National Center for Earth and Space Science Education (NCESSE) http://ncesse.org PO Box 3806 Capitol Heights, Maryland 20791

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.

2012 Summer Programs

HUNTSMAN
oceansciencesocéaniques




Looking for a great **gift** for yourself, significant other or children? Why not a summer field course at the Huntsman Marine Science Centre in beautiful St. Andrews, NB, Canada?

Nearby, you'll discover the diversity of marine mammals, seabirds and invertebrates living in and around the bountiful waters of the beautiful Bay of Fundy—home of the world's highest tides.

Introduction to Marine Biology

July 9-13, 2012

Open to ages 15-18

Join us for a fun, hands-on introduction to marine biology and some local research projects.

All Things Marine

July 16-20, 2012

Open to adults and teachers

Join us as we explore the unique environment of the Bay of Fundy and the diversity of life it supports. What we catch and collect is what we will study, draw, print and cook!

This year we are offering Early Bird Discounts!

For more information on these programs or to apply, visit www.huntsmanmarine.ca.

These articles are provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Check out our great sites for kids: http://climate.nasa.gov/kids http://scijinks.jpl.nasa.gov http://spaceplace.nasa.gov

Dark Clues to the Universe. By Dr. Marc Rayman

Urban astronomers are always wishing for darker skies. But that complaint is due to light from Earth. What about the light coming from the night sky itself? When you think about it, why is the sky dark at all?

Of course, space appears dark at night because that is when our side of Earth faces away from the Sun. But what about all those other suns? Our own Milky Way galaxy contains over 200 billion stars, and the entire universe probably contains over 100 billion galaxies. You might suppose that that many stars would light up the night like daytime!

Until the 20th century, astronomers didn't think it was even possible to count all the stars in the universe. They thought the universe was infinite and unchanging.

Besides being very hard to imagine, the trouble with an infinite universe is that no matter where you look in the night sky, you should see a star. Stars should overlap each other in the sky like tree trunks in the middle of a very thick forest.

But, if this were the case, the sky would be blazing with light. This problem greatly troubled astronomers and became known as "Olbers' Paradox" after the 19th century astronomer Heinrich Olbers who wrote about it, although he was not the first to raise this astronomical mystery.

To try to explain the paradox, some 19th century scientists thought that dust clouds between the stars must be absorbing a lot of the starlight so it wouldn't shine through to us. But later scientists realized that the dust itself would absorb so much energy from the starlight that eventually it would glow as hot and bright as the stars themselves.

Astronomers now realize that the universe is not infinite. A finite universe—that is, a universe of limited size—even one with trillions of stars, just wouldn't have enough stars to light up all of space.

This Hubble Space Telescope image of Galaxy NGC 4414 was used to help calculate the expansion rate of the universe. The galaxy is about 60 million light-years away. Credit: NASA and The Hubble Heritage Team (STScI/AURA)

Although the idea of a finite universe explains why Earth's sky is dark at night, other factors work to make it even darker.

The universe is expanding. As a result, the light that leaves a distant galaxy today will have much farther to travel to our eyes than the light that left it a million years ago or even one year ago. That means the amount of light energy reaching us from distant stars dwindles all the time. And the farther away the star, the less bright it will look to us.

Also, because space is expanding, the wavelengths of the light passing through it are expanding. Thus, the farther the light has traveled, the more red-shifted (and lower in energy) it becomes, perhaps red-shifting right out of the visible range. So, even darker skies prevail.

The universe, both finite in size and finite in age, is full of wonderful sights. See some bright, beautiful images of faraway galaxies against the blackness of space at the Space Place image galleries. Visit http://spaceplace.nasa.gov/search/?q=gallery.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

"Satellite Insight" for iPhone and other iOS devices is now available on iTunes. It's free! It's challenging! It's fun! Colored blocks represent different types of data gathered by GOES-R's amazing science instruments. The data blocks fall into columns on a grid. Your job is to bundle like data types together and store them safely before the data grid overflows. It is the very first iPhone app from the National Oceanic and Atmospheric Administration (in partnership with NASA). Check it out at http://itunes.apple.com/us/app/satellite-insight/id463588902?mt=8. *"It is engaging and supports a good cause so I suggest you download it." - AppAdvice.com* Distributed by Laura K. Lincoln, on behalf of the Space Place Team.

Have you ever wondered how astronomers can predict when there's going to be an abundance of shooting stars in the night sky? Showers of meteors, the scientific name for "shooting stars," occur predictably several times a year, usually peaking within the same two- or three-day period. So what causes them? Why do they seem to come from the same part of the sky? What's the best way to see them? Visit http://spaceplace.nasa.gov/meteor-shower and get ready to enjoy the next show.

Distributed by Laura K. Lincoln, on behalf of the Space Place Team.

Check out our great sites for kids:

http://climate.nasa.gov/kids http://scijinks.gov http://spaceplace.nasa.gov

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It's always a good idea to maintain a healthy respect for the Sun, especially if you are in charge of operating any satellites, which can be badly damaged by high-energy charged particles from solar storms. Thankfully, many satellites can now be put into a temporary "safe" mode when necessary. However, operators must know when to flip the "safety" switch. The GOES satellites are in geostationary orbit high above most other satellites. Along with keeping an eye on Earth's weather, the GOES also keep an eye on the Sun's antics and give warning when bad space weather threatens other satellites. "Shields Up!" is a new game on the SciJinks website, in which the player's job is to keep three separate satellites safe from random blasts of damaging rays and particles from the Sun, while still keeping the satellites operating as much of the time as possible. Read the story of a super solar storm in 1859, and play "Shields Up!" at http://scijinks.gov/shields-up.

These articles are provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Check out our great sites for kids: http://climate.nasa.gov/kids http://scijinks.jpl.nasa.gov http://spaceplace.nasa.gov

The Gray Cubicle You Want to Work In. By Dr. Tony Phillips

It's another day at the office. You're sitting in a gray cubicle, tap-tap-taping away on your keyboard, when suddenly your neighbor lets out a whoop of delight.

Over the top of the carpeted divider you see a star exploding on the computer screen. An unauthorized video game? No, this explosion is real. A massive star just went supernova in the Whirlpool Galaxy, and the first images from Hubble are popping up on your office-mate's screen.

It's another day at the office ... *at NASA*.

Just down the hall, another office-mate is analyzing global temperature trends. On the floor below, a team of engineers gathers to decode signals from a spaceship that entered "safe mode" when it was hit by a solar flare. And three floors above, a financial analyst snaps her pencil-tip as she tries to figure out how to afford *just one more* sensor for a new robotic spacecraft.

These are just a few of the things going on every day at NASA headquarters in Washington DC and more than a dozen other NASA centers scattered around the country. The variety of NASA research and, moreover, the variety of NASA people required to carry it out often comes as a surprise. Consider the following:

NASA's Science Mission Directorate (SMD) supports research in four main areas: Earth Science, Heliophysics, Astrophysics, and Planetary Science. Read that list one more time. It includes everything in the cosmos from the ground beneath our feet to the Sun in the sky to the most distant galaxies at the edge of the Universe. Walking among the cubicles in NASA's science offices, you are likely to meet people working on climate change, extraterrestrial life, Earth-threatening asteroids, black holes or a hundred other things guaranteed to give a curious-minded person goose bumps. Truly, no other government agency has a bigger job description.

And it's not just scientists doing the work. NASA needs engineers to design its observatories and build its spacecraft, mathematicians to analyze orbits and decipher signals, and financial wizards to manage the accounts and figure out how to pay for everything NASA dreamers want to do. Even writers and artists have a place in the NASA scheme of things. Someone has to explain it all to the general public.Clearly, some cubicles are more interesting than others. For more information about the Science Mission Directorate, visit science.nasa.gov. And for another way to reach the Space Place, go to http://science.nasa.gov/kids.

Some of the employees of NASA's Science Mission Directorate may work in gray cubicles, but their jobs are anything but dull. They get to study Earth, the Sun, the Solar System, and the Universe!

Re-thinking an Alien World: The Strange Case of 55 Cancri e

Forty light years from Earth, a rocky world named "55 Cancri e" circles perilously close to a stellar inferno. Completing one orbit in only 18 hours, the alien planet is 26 times closer to its parent star than Mercury is to the Sun. If Earth were in the same position, the soil beneath our feet would heat up to about 3200 F. Researchers have long thought that 55 Cancri e must be a wasteland of parched rock.

Now they're thinking again. New observations by NASA's Spitzer Space Telescope suggest that 55 Cancri e may be wetter and weirder than anyone imagined.

Spitzer recently measured the extraordinarily small amount of light 55 Cancri e blocks when it crosses in front of its star. These transits occur every 18 hours, giving researchers repeated opportunities to gather the data they need to estimate the width, volume and density of the planet.

According to the new observations, 55 Cancri e has a mass 7.8 times and a radius just over twice that of Earth. Those properties place 55 Cancri e in the "super-Earth" class of exoplanets, a few dozen of which have been found. Only a handful of known super-Earths, however, cross the face of their stars as viewed from our vantage point in the cosmos, so 55 Cancri e is better understood than most.

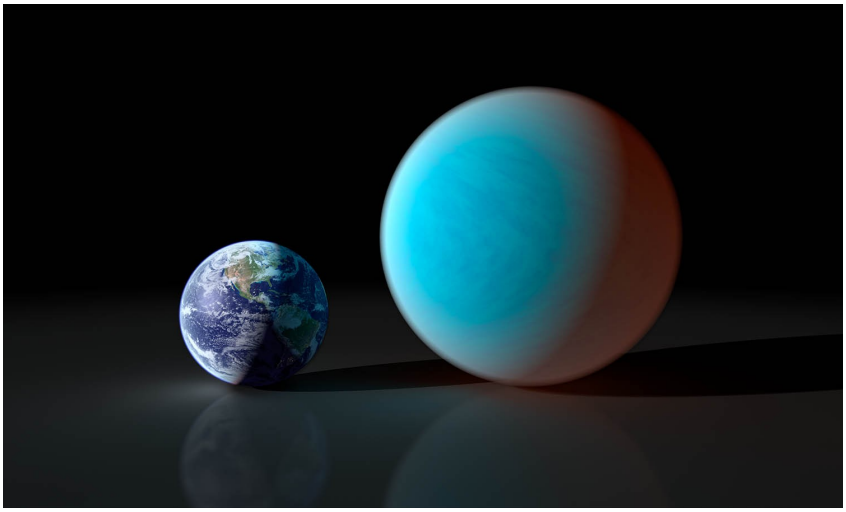
When 55 Cancri e was discovered in 2004, initial estimates of its size and mass were consistent with a dense planet of solid rock. Spitzer data suggest otherwise: About a fifth of the planet's mass must be made of light elements and compounds—including water. Given the intense heat and high pressure these materials likely experience, researchers think the compounds likely exist in a "supercritical" fluid state.

A supercritical fluid is a high-pressure, high-temperature state of matter best described as a liquid-like gas, and a marvelous solvent. Water becomes supercritical in some steam turbines—and it tends to dissolve the tips of the turbine blades. Supercritical carbon dioxide is used to remove caffeine from coffee beans, and sometimes to dry-clean clothes. Liquid-fueled rocket propellant is also supercritical when it emerges from the tail of a spaceship.

On 55 Cancri e, this stuff may be literally oozing—or is it steaming? —out of the rocks.

With supercritical solvents rising from the planet's surface, a star of terrifying proportions filling much of the daytime sky, and whole years rushing past in a matter of hours, 55 Cancri e teaches a valuable lesson: Just because a planet is similar in size to Earth does not mean the planet is like Earth.

It's something to *re*-think about.



Artist's rendering compares the size Earth with the rocky "super-Earth" 55 Cancri e. Its year is only about 18 hours long!

Get a kid thinking about extrasolar planets by pointing him or her to "Lucy's Planet Hunt," a story in rhyme about a girl who wanted nothing more than to look for Earth-like planets when she grew up. Go to http://spaceplace.nasa.gov/story-lucy. The original research reported in this story has been accepted for publication in *Astronomy and Astrophysics*. The lead author is Brice-Olivier Demory, a post-doctoral associate in Professor Sara Seager's group at MIT.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Useful Information from Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510, 1-800-452-1261, E-mail: **flinn@flinnsci.com**, Web site: **www.flinnsci.com**

FREE Laboratory Design Advice

Flinn Scientific, the leader in school science safety, can help you design a new laboratory or improve an existing lab. For more than 30 years, Flinn's expertise has helped thousands of teachers with the lab design process. Flinn offers an online Laboratory Design Course, a Laboratory Design Packet, and the opportunity to discuss your lab design project with the Flinn Lab Design Specialist—all absolutely free.

Laboratory Design Course: 12 online videos covering topics ranging from Critical Priorities to Safety Equipment and more are available at: http://labsafety.flinnsci.com/Home.aspx

Laboratory Design Packet: Problem-solving ideas and helpful suggestions including sample lab designs and lab furniture options. E-mail or call us with your request.

Lab Design Specialist: Talk to Flinn's experienced lab designer for advice specific to your school, your budget, and your curriculum.

You can rely on Flinn's commitment to safety, practical knowledge, and years of experience to help you design an efficient laboratory that will provide a safe and convenient learning environment for you and your students.

Teachers are invited to take the online Laboratory Design Course, to request the Laboratory Design Packet, and to contact Flinn's Lab Design Specialist for free advice guaranteed to improve your laboratory.

FREE Middle School Science Activities

Flinn Scientific offers free demonstrations and activities that middle school science teachers can share with their students. These activities are guaranteed to engage your students and help them understand valuable and sometimes difficult to learn concepts that are relevant to National Science Education Standards.

The demonstrations currently available are:

Putting the "Squeeze" on Apples – Demonstrate how enzymes are used to extract juice from apples and let students design their own experiments to discover the ideal conditions for maximum juice production.

Resonance with Washers – Do any objects in your home vibrate when music is playing? If so, resonance is occurring. It's easy to demonstrate this phenomenon using six pendulums made of fishing line and metal washers. Ask students to predict what will happen when one pendulum is set into motion.

These two activities are free to middle school science teachers. More science activities and demonstrations are available on the Flinn Scientific Web site at www.flinnsci.com

To access and print your copies of *Putting the "Squeeze" on Apples* and *Resonance with Washers* please go to: http://www.flinnsci.com/pr/msfax2012.asp

Flinn Scientific Offers FREE Biology Lab Safety Video

Flinn Scientific's new free online laboratory safety training course includes a video entitled "Biology Lab Safety—Dissection and Microbiology." The video provides practical training to help biology science teachers gain the knowledge and confidence to improve biology lab safety.

Topics in this concise 13-minute Biology Lab Safety Video include:

Procedures, Instruments, and Safe Methods; Sterilization and Aseptic Techniques; Field Activity Safety; Biotechnology

The Flinn Laboratory Safety Course which contains the Biology Lab Safety Video provides:

Maximum Convenience

You can view the videos anytime and anywhere, over and over again, 24/7. No constricting webinar schedule. Free printable downloads are available for each chapter.

Free Training

No payment required. Purchase orders or credit cards are not necessary. Online training means no conference

registration fees or out-of-town travel expenses.

Flexibility

Watch the Biology Lab Safety Video or any videos you choose, in any sequence you wish.

Or you can follow a certification course sequence and complete online assessments to become "Flinn Certified" in safety.

To view "Biology Lab Safety—Dissection and Microbiology" go to www.flinnsci.com

Click on "Free Online Laboratory Safety Training." In the High School Safety Course scroll to chapter 31; in the Middle School Safety Course scroll to Chapter 28.

Online Graduate Credit for High School Chemistry Teachers

High school chemistry teachers can advance their professional goals and improve their pedagogical skills with Illinois State University's online, graduate-level courses. Teachers can register now for the spring semester. The courses, which use Flinn Scientific's Teaching Chemistry Video Series as a core component, are designed to help teachers sharpen existing skills and develop new teaching techniques to increase motivation and success.

Courses offered for the Spring 2012 semester which begins January 17th and ends on May 7th are:

CHE 401.01 Advanced Chemistry Demonstrations: Gas Properties, Laws, and Reactions

CHE 401.02 Advanced Chemistry Demonstrations: Chemical Reactions, Stoichiometry, and the Mole

CHE 401.04 Advanced Chemistry Demonstrations: Atomic and Molecular Structure

These online courses will enable high school chemistry teachers to:

- Connect content knowledge to modern demonstrations and teaching activities.
- Learn from the best high school chemistry teachers in the United States.
- Inspire students with a variety of effective lab activities.
- Save Money! Earn graduate credit from the comfort and convenience of your home without spending money on travel, room and board, and out-of-state tuition.

For more information go to www.flinnsci.com and click on "Earn Graduate Credit Online."

NSTA Competitions and Grant Programs. Submitted by Kate Falk, NSTA

It's that time of year again! NSTA and its sponsors are kicking off another exciting year of rewarding and recognizing high-performing science educators and students through our large-scale, nationally known competitions and grant programs.

Although we reach a large number of individuals involved in the science education community, there are still many science educators out there who don't know about these programs. Help spread the word and include the news about these amazing opportunities for teachers and students on your Website and/or in your member newsletters and communications. Check out the following opportunities listed below.

America's Home Energy Education Challenge. America's Home Energy Education Challenge (AHEEC) is a new nationwide student competition to help families save money by saving energy at home. AHEEC engages students in elementary and middle schools to make smarter energy choices that reduce U.S. reliance on fossil fuels and put money back in their parents' pockets. This initiative aims to educate America's youth about the benefits of energy efficiency, motivate students to play a more active role in how their families use energy, and help families across the country reduce their energy bills. Participating schools compete for more than $200,000 in prizes distributed at the regional and national levels of the competition. Official registration for the Challenge ends **October 7, 2011**. Students, teachers, and principals are encouraged to register to participate at http://homeenergychallenge.org/. Participation in AHEEC is broken into two parts, the Home Energy Challenge and the Energy Fitness Award. Each is designed to encourage students to learn about science and home energy savings. Visit the website for more details and updates.

Disney's Planet Challenge. Disney's Planet Challenge is a project-based environmental competition for elementary and middle school (grades 3-8) classrooms developed in collaboration with NSTA and the WestEd K-12 Alliance. Classrooms are empowered to make a difference in their homes, schools, or communities and compete for a trip to Disneyland, classroom grants, Disney DVDs, student eco-friendly prize packs and more. Disney's Planet Challenge also provides matching grants through Donors Choose for classrooms participating in this program. Disney's Planet Challenge is a great way to get students involved with their environment in a fun and creative way. Visit the competition website to register now. Registration closes **December 23**.

The DuPont Challenge© Science Essay Competition. The DuPont Challenge Science Essay Competition is a student competition that invites seventh through 12th grade students to write a 700 to 1,000-word essay about a scientific discovery, theory, event or technological application that has captured their interest. Developed in collaboration with The Walt Disney World Resort, NASA and NSTA, the competition offers young students the opportunity to explore science, develop new skills and gain confidence in communicating scientific ideas. Created to honor the Challenger astronauts, students can win savings bonds up to $5,000, and a trip to Walt Disney World and to the Kennedy Space Center. Teachers win too! Along with the trips with their students, teachers can also win $500 grants. To learn more about the competition, check out the website. Entries will be accepted from **October 15 until January 31**.

Mars Education Challenge. The Mars Education Challenge is a nationwide competition that calls on high school science educators to develop new and innovative curricula that focuses on Mars science and exploration. $17,500 in cash prizes are awarded annually, including a $5,000 grand prize. Registration closes **December 16, 2011** and curricula support materials submissions are due **January 16, 2012**. More information, including entry details, curricula requirements, and detailed prizing information for the Mars Education Challenge, can be found on the competition website.

Shell Science Lab Challenge. The Shell Science Lab Challenge, a program of NSTA, encourages teachers (grades 6-12) in the U.S. and Canada, who have found innovative ways to deliver quality lab experiences with limited school and laboratory resources, to share their approaches for a chance to win a school science lab makeover support package valued at $20,000. Teachers and schools submitting top entries will receive additional laboratory tools, resources and rich professional development opportunities. $93,000 in prizes are

awarded annually. Applications are due **October 21, 2011**. For more information about the Challenge, visit the program website.

Siemens We Can Change the World Challenge. K-12 students have the opportunity to become "Agents of Change" as they team up with their classmates to create replicable solutions to environmental issues in their classroom, school and community. Student and teacher/mentor prizes, which vary according to grade level, include savings bonds, school grants, exciting trips, and much more. Applications are now being accepted. The deadline for entries is **March 15, 2012** (finalists and winners will be announced in April 2012). For more information about the Challenge or to register for the competition, visit the website.

Toshiba/NSTA ExploraVision. ExploraVision is a competition that encourages K-12 students of all interest, skill and ability levels to create and explore a vision of a future technology by combining their imaginations with the tools of science. Teams of two to four students research scientific principles and current technologies as the basis for deigning innovative technologies that could exist in 20 years. Students compete for up to $240,000 in savings bonds for college and cool gifts from Toshiba. First- and second-place teams also receive an expenses-paid trip with their families, mentor and coach to Washington, D.C. for a gala awards weekend in June 2012. Applications are now being accepted; the deadline for applications is **February 1**. In an ExploraVision first, the teachers who submit the largest number of qualified student projects this year will receive a Toshiba tablet PC. For more information about the program or to learn how to apply, visit the competition website.

TeachersCount Blog Strives to Raise the Status of the Teaching Profession

New York, NY – September 8, 2011 - TeachersCount has invited five teacher-bloggers from across the country to share their education insights on the most pressing topics facing educators. Each blogger represents a different part of the teaching community. The bloggers include: Keith Newman a teacher in the inner city of Philadelphia; Cathy Wilson, a junior high school art teacher in Utah; Esther Wojcicki, a high school journalism teacher in Palo Alto, California; Padmini Jambulapati, a sixth grade teacher in Washington, DC; Darla Moore, a middle school teacher in Ohio; and Tanya Diaz, who teaches gifted middle school students in Miami, Florida. Dr. Susan Neimand, Director of the School of Education at Miami Dade College will serve as the TeachersCount expert advisor to the monthly discussions.

The new blogging series for the 2011 - 2012 academic school years will begin on Friday, September 9, 2011. Discussions will change month to month, each month focusing on a different topic. September's topic is curriculum. Some aspects explored will be: the goals of education today in America; objectives educators wish to accomplish; if curriculum is the road map, what should our children know prior to their graduating?
TeachersCount is a national non-profit dedicated to raising the status of the teaching profession and providing free resources to the education community. By using a national campaign and related initiatives TeachersCount works to create a permanent culture of teacher appreciation in the United States. TeachersCount offers services that are tailored to the teaching profession, including up-to-date information about teaching awards and competitions, conference listings and a variety of unique programs designed to aid teachers both inside and outside the classroom.
TeachersCount invites you to follow and participate in this insightful blog series that begins Friday, September 9, 2011.TeachersCount is in need of your support towards making this monthly blog a unified and representative voice of all teachers nationally.
TeachersCount 224 West 4th St. Suite 200 New York, NY 10014

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Invite your participation in the

USA BIOlympiad

The Premiere US Biology Competition for High School Students

USABO Finalists at Purdue University

For more information on the USA Biology Olympiad, please e-mail Kathy Frame at **kframe@cee.org** or register for the 2012 USABO at http://www.usabo-trc.org/.

Please visit our website at www.cee.org to learn more about the Center's USA Biology Olympiad, Research Science Institute, and the National Lab Skills Initiative.

Open Exam at local schools: February 7 to 17.
Semifinal Exam at local schools: March 14 to 23.
National Finals at Purdue University: June 3 to 15.

International Biology Olympiad: July 15 to 22 in Singapore

Teachers: Register your students for the Olympiad

Fee: $75 per school with no restriction on the number of student participants (Grades 9 to 12). Registration: October 24, 2011 to February 3, 2012

2011 Team USA awarded 4 Gold Medals at the IBO

Center for Excellence in Education
8201 Greensboro Drive, Suite 215
McLean, VA 22102
Office: (703) 448-9062; Fax: (703) 448-9068
www.cee.org

Toshiba/NSTA ExploraVision – Register by February 1 (K-12)

ExploraVision is a competition that encourages K-12students of all interest, skill and ability levels to create and explore vision of a future technology by combining their imaginations with the tools of science. Teams of two to four students research scientific principles and current technologies as the basis for deigning innovative technologies that could exist in 20 years. Students compete for up to $240,000 in savings bonds for college and cool gifts from Toshiba. First- and second-place teams also receive an expenses-paid trip with their families, mentor and coach to Washington, D.C. for a gala awards weekend in June 2012. Applications are now being accepted; the deadline for applications is **February 1**.In an ExploraVision first, the teachers who submit the largest number of qualified student projects this year will receive a Toshiba tablet PC. For more information about the program or to learn how to apply, visit the competition website.

Siemens We Can Change the World Challenge – Register by March 15 (K-12)

K-12 students have the opportunity to become "Agents of Change" as they team up with their classmates to create replicable solutions to environmental issues in their classroom, school and community. Student and teacher/mentor prizes, which vary according to grade level, include savings bonds, school grants, exciting trips, and much more. Applications are now being accepted. The deadline for entries is **March 15, 2012** (finalists and winners will be announced in April 2012). For more information about the Challenge or to register for the competition, visit the "http://www.wecanchange.com/ website.

eCYBERMISSION is Seeking Teachers and Students from New Hampshire

eCYBERMISSION (http://www.ecybermission.com) is a free, U.S. Army sponsored science, technology, engineering and mathematics (STEM) competition that is geared toward increasing students' interest and participation in STEM education. Open to students in grades six through nine, eCYBERMISSION challenges students to think about real-world applications of STEM by working in teams to identify a problem in their community and applying the scientific method or the engineering design process to find a solution. Students on winning teams are awarded up to $8,000 in U.S. EE Savings Bonds, and the top 16 finalist teams are invited to the Washington, D.C. area for the all-expenses-paid National Judging and Educational Event**.** Registration for the 2011-2012 competition is open now through December 16, and we expect 15,000 students across the country to participate this year. New Hampshire has historically had a low number of students participate in eCYBERMISSION and currently does not have a single student registered for the 2011-2012 competition. We are hoping that the members of the NHSTA can help change that! Register at eCYBERMISSION.com, or call us at 1-866-GO-CYBER (462-9237) for more information.

Transit of Venus Project- http://www.transitofvenus.nl/

At the end of this academic year, a marvelous and rare astronomical phenomenon will take place: on 5 and 6 June 2012 the planet Venus will pass exactly in front of the solar disk for the very last time this century. This transit of Venus provides for an unique and unparalleled opportunity to get your students actively involved in observing a daytime astronomical event and exchanging the results with others from abroad. In 2004, when a transit of Venus also took place for the first time since 1882, millions of students across the globe watched the planet against the sun and were engaged in activities increasing their understanding of solar system mechanics, the history of astronomical ideas and career opportunities.

One of the aims of the Transit of Venus Project, launched last June, is to help you science educators exploiting the full potential of the transit of Venus, from elementary to college level.

Watching the event

The most important thing is to have your students actually see the transit of Venus. The website has a calculator, which shows when the transit is visible from your location, and also presents many different ways the transit can be safely observed by large groups. For example, you can build your own Sun Funnel, allowing for convenient and safe group viewing.

Preparatory activities

Prior to the transit, students may be engaged in learning activities that will grow their understanding of our solar system and the historical development of scientific knowledge, as well as open up their horizons to today's scientific frontiers. The Transit of Venus Project presents educational materials of its own, and is your guide to materials and activities provided by others:

In their Space Math series, NASA presents Transit Math, providing mathematical problems featuring transit applications.

Website, newsletter and Facebook

Much more educational projects are being initiated, and we would like to keep you updated on the latest developments. We do this through our website, which has a blog on its home page featuring new stories almost every day. There's also a monthly newsletter sent to you by email and you can join our group on Facebook to keep in touch with your colleagues and other transit enthusiasts.

For more information visit www.transitofvenus.nl or email info@transitofvenus.nl

Web Sites Worth Exploring:

Making Stuff: Stronger - http://www.pbs.org/wgbh/nova/tech/making-stuff-stronger.html

The first in a four-part PBS series, this hour-long video defines "strength" of materials, with examples ranging from steel cables to mollusk shells. Insight from research and experts offers a look into the process of "re-engineering" nature's materials "to create the next generation of strong stuff." Other videos in the Making Stuff series focus on making materials smaller, cleaner, and smarter. Includes an activity guide with customizable handouts, PowerPoint presentations, demonstrations, and a toolkit.

Apply for K-12 Teacher NASA Fellowships in STEM Education

What is the Fellowship? NASA's Endeavor Science Teaching Certificate Project awards 50 NASA Fellowships to in-service, pre-service and alternate route educators each year. The project helps to ensure that an earned Certificate in STEM (Science, Technology, Engineering, and Mathematics) Education from Teachers College, Columbia University, contributes toward teacher licensure or "National Board Certification", assisting Fellows in becoming "highly qualified" science or mathematics teachers.

The Project is all online, administered by NASA and designed and delivered by U.S. Satellite Laboratory, Inc. Endeavor Fellows take 5 total graduate courses in an innovative, LIVE and online format from the comfort of their home or school. They learn to apply research-based pedagogical strategies and cutting-edge content to their classroom contexts while becoming a part of a special network of like-minded educators. Endeavor Fellows may also earn a special "Leadership Distinction" designation on their STEM Certificate. Some will participate in 1-2 week summer internships at NASA Centers. The ultimate goal is for educators to become not only highly qualified, but to enact change in their classroom, school and school district.

Who Should Apply? The NASA Fellowship is appropriate for a wide audience of K-12 formal educators, including elementary generalists, middle or high school science content experts, math or technology educators, pre-service science educators and special educators. Other candidates include those seeking alternative teaching certification in STEM disciplines. New this year --- Endeavor educators earn their Certificate in STEM Education from Teachers College, Columbia, and may put their work toward becoming a **National Board Certified Teacher (NBCT),** science or mathematics.

For more information contact: **Glen Schuster, Project Director,** NASA's Endeavor Science Teaching Certificate Project. U.S. Satellite Laboratory 32 Elm Pl Rye, NY 10580

NASA's Endeavor Science Teaching Certificate Project to Award 50, New, K-12 STEM Fellowships - Applications due October 31, 2011 (K-12)http://www.us-satellite.net/nasa/endeavor

Mars Education Challenge – Register by December 16 (HS Educators)

The Mars Education Challenge is a nationwide competition that calls on high school science educators to develop new and innovative curricula that focuses on Mars science and exploration. $17,500 in cash prizes are awarded annually, including a $5,000 grand prize. Registration closes **December 16, 2011** and curricula support materials submissions are due **January 16, 2012**. More information, including entry details, curricula requirements, and detailed prizing information for the Mars Education Challenge, can be found on the competition website "ttp://www.exploremars.org/page/mars-education-challenge/

Disney's Planet Challenge – Register by December 23 (K-12)

Disney's Planet Challenge is a project-based environmental competition for elementary and middle school (grades 3-8) classrooms developed in collaboration with NSTA and the WestEd K-12 Alliance. Classrooms are empowered to make a difference in their homes, schools, or communities and compete for a trip to Disneyland, classroom grants, Disney DVDs, student eco-friendly prize packs and more. Disney's Planet Challenge also provides matching grants through Donors Choose for classrooms participating in this program. Disney's Planet Challenge is a great way to get students involved with their environment in a fun and creative way. Visit "ttp://dpcproject.com/ to register now. Registration closes **December 23**.

The DuPont Challenge© Science Essay Competition – Enter by January 31, 2012 (Grades 7 -12)

The DuPont Challenge Science Essay Competition is student competition that invites seventh through 12th grade students to write a 700 to 1,000-word essay about a scientific discovery, theory, event or technological application that has captured their interest. Developed in collaboration with The Walt Disney World Resort, NASA and NSTA, the competition offers young students the opportunity to explore science, develop new skills and gain confidence in communicating scientific ideas. Created to honor the Challenger astronauts, students can win savings bonds up to $5,000, and a trip to Walt Disney World and to the Kennedy Space Center .Teachers win too! Along with the trips with their students, teachers can also win $500 grants.

To learn more about the competition, check out the "ttp://thechallenge.dupont.com/ Entries will be accepted from **October 15 until January 31**.

States to Lead Effort to Write New Science Standards. Dana Tofig, (202) 419-1570, dtofig@achieve.org

SEPTEMBER 20, 2011—A group of 20 states has been selected to lead an important effort to improve science education for all students.

The 20 states will lead the development of Next Generation Science Standards (NGSS), a state-led effort that will clearly define the content and practices all students will need to learn from kindergarten through high school graduation. The NGSS process is being managed by Achieve, a non-partisan education non-profit.

"The Lead State Partners will provide important leadership and guidance throughout the development of the Next Generation Science Standards and are to be congratulated for making a strong commitment to science education," said Michael Cohen, president of Achieve. "This will be a collaborative process that will lead to a set of standards that provides America's students a strong foundation in science for the 21st century and supports college and career readiness for all."

The Lead State Partners are Arizona, California, Georgia, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Rhode Island, South Dakota, Tennessee, Vermont, Washington and West Virginia

The development of the Next Generation Science Standards is a two-step process. The first step was the building of a framework that identified the core ideas and practices in natural sciences and engineering that all students should be familiar with by the time they graduate. In July, the National Research Council released *A Framework for K-12 Science Education,* developed by a committee representing expertise in science, teaching and learning, curriculum, assessment and education policy.

The second step is the development of science standards based on the *Framework*. The 20 Lead State Partners will guide the standard writing process, gather and deliver feedback from state-level committees and come together to address common issues and challenges. The Lead State Partners also agree to commit staff time to the initiative and, upon completion, give serious consideration to adopting the Next Generation Science Standards. In order to be considered, states had to submit a letter with the signature of the Chief State School Officer and the chair of the State Board of Education.

Drafts of the science standards will be made available for public input at least two times during the NGSS development process. The NGSS should be completed by the end of 2012.

American students continue to lag internationally in science education, making them less competitive for the jobs of the present and the future. A recent U.S. Department of Commerce study shows that over the past 10 years, growth in Science, Technology, Engineering and Mathematics (STEM) jobs was three times greater than that of non-STEM jobs. The report also shows that STEM jobs are expected to continue to grow at a faster rate than other jobs in the coming decade.

"There is a clear benefit to providing our students with the strong science education they need to compete in college and the work place," said Stephen Pruitt, Vice President of Content, Research and Development at Achieve, who is coordinating the NGSS effort. "A strong science education provides all students with opportunities to be successful in the 21st century."

For more information, visit the Next Generation Science Standards website at http://www.nextgenscience.org.

ABOUT ACHIEVE. *Created in 1996 by the nation's governors and corporate leaders, Achieve is an independent, bipartisan, nonprofit education reform organization based in Washington D.C. that helps states raise academic standards and graduation requirements, improve assessments, and strengthen accountability. Achieve is leading the effort to make college and career readiness a national priority so that the transition from high school graduation to postsecondary education and careers is seamless. In 2005 Achieve launched the American Diploma Project Network. Starting with 13 original states, the Network has now grown to include 35 states educating nearly 85 percent of all U.S. public school students. Through the ADP Network, governors, state education officials, postsecondary leaders and business executives work together to improve postsecondary preparation by aligning high school standards, assessments, graduation requirements and accountability systems with the demands of college and careers. For more information about the work of Achieve, visit www.achieve.org*

Joining NHSTA—2011-2012, by Leslie McRobie, NHSTA President

Here is a reminder about membership dues for the New Hampshire Science Teachers Association, (NHSTA). This is truly the best membership deal out there! Dues are presently $20.00 per year for an individual membership. Retired, pre-service, and first year New Hampshire teachers receive a complimentary one year membership. School membership prices are as follows: (1-10 teachers $200; 11-20 teachers $250; 21 or more teachers $300). Membership dues pay for a one year membership effective from the joining date until one year later.

NHSTA is the professional science teachers' organization for the state of New Hampshire. The benefits of membership in NHSTA include:

**your own copy of the quarterly NHSTA newsletter, full of science news, events, resources, activities, and classroom ideas; *the opportunity to become involved in a leadership role by serving on an NHSTA committee or on the NHSTA Board of Directors; *access to high quality, content-rich, professional development opportunities; *a chance to be recognized through receipt of an NHSTA award such as the Bill Ewert Award or the Howard H. Wagner Award; *affiliation with the state's only professional organization specifically for science educators; *satisfaction of knowing that you are connected with over 700 other science educators throughout New Hampshire; *the opportunity to apply for mini-grants offered by NHSTA; *registration forms delivered to your home for all NHSTA sponsored events; *reduced registration fees to all NHSTA sponsored activities; *early electronic notification of science opportunities in the state.*

Your dues purchase a one year membership. You can now join/renew your NHSTA membership on-line! Go to **http://www.nhsta.net/home/join You can pay with your credit card or mail a check!**

To join/renew your membership the old way, please fill in the following form and send it with a check for the appropriate amount. A free membership is extended to retired, pre-service and first year K-16 New Hampshire teachers. Mail the form and check to: NHSTA, PO Box 583, Littleton, NH 03561. The form below is also available on line at: **http://www.nhsta.net/downloads/NHSTA_join.pdf**

Name: _____

Please check one of the following:

_____ New NHSTA Member ($20) _____ Renewing NHSTA Member ($20)
_____ Retired teacher (complimentary) _____ Pre-service teacher (complimentary)
_____First Year Teacher (complimentary - one who has not taught before...)
_____ School Membership* (1-10 teachers $200; 11-20 teachers $250; 21 or more teachers $300)

School Name: _____

NHSTA member address Preference: _____Home _____ School

School Address: Street_____ Town _____ Zip code _____

School Phone _____ school e-mail _____**

Home Address: Street_____ Town _____ Zip code _____

Home phone _____, home e-mail _____**

Grade(s) taught _____ Subject taught _____

*If this is a school membership, attach all members' information in one envelope with check and make note of school on all applications. **If you provide an e-mail address, we will confirm receipt of your application. Send form to: NHSTA, PO Box 583, Littleton, NH 03561

NHSTA Newsletter, Winter, MMXI-MMXII E-edition

The New Hampshire Science Teachers' Association is the professional science teaching organization for our state. Its purpose, as stated in its constitution, is to promote and improve science education in New Hampshire. NHSTA membership consists of all people interested in science education who have paid their regular membership dues. Dues are presently Twenty Dollars per year. NHSTA is a volunteer organization run by an elected Executive Board consisting of a president, first vice-president, second vice-president, secretary, treasurer and at-large board member. The Board of Directors is appointed by the Executive Board and represents New Hampshire's geographic regions and its various educational levels and disciplines. The Board meets monthly. For more info visit ***www.nhsta.net***

Have a teaching idea that you'd like to share? An event? An opinion? Type it in a word processing program and e-mail it as an attachment (or—just paste it in the e-mail) to: **nhsta@together.net** with "newsletter" in the subject area.