

Volume 5, No. 6

November 14, 2007 - Building a Presence for Science: Ohio eBlast

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1. From the Ohio Resource Center: New OATs Mini-Collection at ORC

ORC continues to add mini-collections to the Ohio Achievement Tests, Science Grades 5 and 8 project. We will be adding collections of released OAT items and updating existing mini-collections to include these items when appropriate. Look for a new addition or update about every 2 weeks. Here are the two most recently added mini-collections:

Grade 8: Life Sciences Benchmark D: Environmental Changes

http://ohiorc.org/bookmark/view_a_folder.aspx?folderID=11755

Grade 8: Science and Technology Benchmark A

http://ohiorc.org/bookmark/view_a_folder.aspx?folderID=11756

2. K-12: Beyond Penguins and Polar Bears

<http://expertvoices.nsdli.org/polar/>

ORC has partnered with Ohio State University, OSU Byrd Polar Research Center, COSI Columbus, National Science Digital Library, Core Integration team at Cornell University, and the University Corporation for Atmospheric Research on this exciting project funded by the National Science Foundation. One of the features of this project is a blog for elementary

teachers. This blog is focused on helping elementary teachers become more knowledgeable about the polar regions and providing best practices on how to integrate polar concepts into their teaching. Each posting will begin with “Did you know...” and include incredible pictures, tales of adventure, and stories of indigenous people and amazing animals. Ideas for connecting science and literacy through children’s literature, writing prompts, and exemplary science activities will be part of each post. Check out the blog at <http://expertvoices.nsd.org/polar/>. The blog topic changes each week so be sure to visit often.

3. PK-16: The 2008 SECO conference will be outstanding: Be sure to be there
<http://www.secoonline.org/conference.html>

Be sure to make your plans NOW to join us in Akron in February for the 2008 SECO Annual Conference! The dates, which should already be on your calendar, are February 7 – 9, 2008.

Currently, the Preliminary Schedule of Concurrent Sessions and Registration Information are already available on the web site. The link above will be updated frequently as the conference date approaches. Make frequent visits to this page for the latest information!

Note: December is the date by which you must register to qualify for the Early Bird conference rate. The Early registrations help the SECO Conference committee make plans and maximize the experience for you, so if you know you are coming, send in your registration so we know to expect you and have time to make arrangements for all the details that make the experience one of the best professional development experiences of your career!

4. PK-16: Page Keeley (NSTA President-elect) and NSTA are looking for you!
<http://www.nsta.org/standingcommittees>

Page Keeley wrote in the most recent NSTA Reports: “If you are a member of NSTA, you have an opportunity to effect change in science education at a national level through service on one of NSTA’s standing committees, advisory boards, or panels. Through membership on one of these groups, you interact with colleagues, gain insights into the complexity of issues affecting science education, and have a positive impact on science teaching and learning in [Ohio] as well as nationally.”

In a recent conference call with the Board and Council, Page Keeley said that volunteers are especially needed for these committees:

- Preschool-Elementary Science Teaching
- Coordination and Supervision of Science Teaching
- Multicultural Equity in Science Teaching
- Budget and Finance
- NSTA Reports Advisory Board
- NSTA Life Members Advisory Board
- NSTA Retired Members Advisory Board
- NSTA Development Advisory Board

The deadline to submit your name for an NSTA Standing Committee or Advisory Board or Panel is December 10. Please consider stepping up and getting more involved; new faces and voices are especially welcome, so even if you have never done anything like this before, NOW is a good time to step up and volunteer to contribute some of your expertise to the profession.

5. K-12: Amgen Award for Science Teaching Excellence

<http://www.amgen.com/citizenship/aaste.html>

The Amgen Award for Science Teaching Excellence (AASTE) is an annual awards program that recognizes extraordinary contributions by K-12 educators across the United States and Canada who are elevating the level of science literacy through creativity in the classroom and motivation of students. An independent panel of judges selects the winners based on the following criteria: creativity of teaching methods; effectiveness in the classroom; plans for the use of grant money to improve science education resources in their schools; submission of a science lesson plan showcasing innovative methods in the classroom; and a plan for dissemination/sharing the lesson plan with other teachers.

32 science teachers will be awarded an unrestricted cash grant of \$5,000, and their schools will receive a restricted grant of \$5,000 to be used to expand or enhance the school's science program, purchase new science resources, or further the professional development of their science teachers.

For more details and the application and guidelines, visit the web site above.

Deadline: January 31, 2008

6. K-12: A summer Professional Development opportunity: My NASA Data

Apply for workshop: <http://mynasadata.larc.nasa.gov/workshop.html>

View main site: <http://mynasadata.larc.nasa.gov>

What is MY NASA DATA?

Mentoring and inquirY using NASA Data for Atmospheric and earth science for Teachers and Amateurs (MY NASA DATA) is a project to enable K-12 teachers and students, as well as citizen scientists, to explore the large volumes of data that NASA collects about the Earth from space. Students use scientific inquiry and math skills as they access and display microsets of the Earth System. The summer 2008 workshop is tentatively scheduled for June 22 – 28, 2008 at the NASA Langley Research Center, Hampton, Virginia, USA

What is a “microset”?

A main goal of the MY NASA DATA project is to remove the barriers (such as file size and format, and complicated computer tools) that prevent the use of authentic NASA Earth System Science data in the classroom or by the interested public. A microset is a small amount of data - perhaps a single parameter for the whole globe; or a time series for a single location - extracted from a much larger data file. It is in a simple format, such as plain text, or accessible through a user-friendly tool.

The microsets of data come from CERES and other Earth-observing instruments and measure surface type, cloud cover, cloud height and cloud temperature. CERES stands for "Clouds and the Earth's Radiant Energy System". Ideas for using the data sets are available on the web site, and many more ideas come from the workshops!

From a colleague and educator who participated in the summer workshop, we have this review of the workshop:

“I found the workshop informative, fun, and exciting. The tours of the NASA facility at Langley Research Center were absolutely great. The folks in charge of the program, Dr. Lin Chambers, and many others made the experience most rewarding. I would recommend the program to science teachers. It is a no cost, most expenses paid experience. Your airfare, hotel and all meals are covered in addition to getting lots of great materials for your classroom and be connected with a number of very fine science teachers from around the country. MY NASA DATA is working on a mentor network to connect teachers with scientists.”

NOTE: This is the last year the project will be funded so apply this year for summer of 2008. To apply go to the MY NASA DATA website for the application.

Teachers from all disciplines and grade levels are eligible. A letter of recommendation is required along with how your students will benefit from participation in the MY NASA DATA workshop in Virginia.

7. K-12: NASA Engineering Design Challenge – Bring Space Into Your Classroom! <http://www.nasa.gov/education/plantchallenge>

As NASA plans to return to the moon, plant growth will be an important part of space exploration. NASA scientists anticipate that astronauts may be able to grow plants on the moon in specialized plant growth chambers. Come participate and build your own lunar growth chamber in the NASA Engineering Design Challenge!

Through the NASA Engineering Design Challenge, elementary, middle and high school students will:

- * Design, build, and evaluate lunar plant growth chambers
- * Receive cinnamon basil seeds flown on STS-118
- * Test lunar growth chambers by growing and comparing both space-flown and earth-based control seeds

The 10 million basil seeds that flew in space on the STS-118 space shuttle mission have moved one step closer to the classroom. The seeds were returned to NASA's Johnson Space Center in Houston, Texas, on Oct. 4, 2007, and were then packaged and sent to Park Seed Company, located in Greenwood, S.C. At Park Seed Company, the seeds will be sorted and placed in small packets, each packet containing approximately 50 seeds. The packets of space-flown seeds and control packets of seeds that have not flown will then be distributed to educators who have

registered to take part in the Engineering Design Challenge. The seeds will be packaged in a commemorative envelope with an insert that provides additional information about the seeds.

The seeds are available to the first 100,000 registrants, who must be residents of the United States or U.S. Territories and Outlying Areas.

Visit the web site above to register and to receive more information about the NASA Engineering Design Challenge. You can also sign up for the NASA Express listserv to receive e-mail updates about the challenge and other NASA education activities.

Join the NASA Engineering Design Challenge and be part of space exploration by growing seeds flown in space!

8. K-12: Fly me to the Moons of Saturn

<http://www.edge.org/>

Planetary scientist Carolyn Porco says, "I'm going to take you on a journey." And does she ever. Showing breathtaking images from the Cassini voyage to Saturn, she focuses on Saturn's intriguing largest moon, Titan, with deserts, mudflats and puzzling lakes, and on frozen Enceladus, which seems to shoot jets of ice.

CAROLYN PORCO is leader of the Imaging Team for the Cassini mission to Saturn, and Sr. Research Scientist at the Space Science Institute in Boulder, Colorado.

The video of her talk lasts 18 minutes, and includes great images. What a model of what scientists do and are capable of! You will want to watch this, and no doubt share it with your students too!

9. K-12: Darwin Day Celebration - Invites Your Participation!

<http://www.darwinday.org>

Darwin's 200th Birthday will occur on February 12, 2009; it will also be the 150th Anniversary of the publication of his famous book, *On The Origin of Species*. Start planning how you could celebrate the event in your school, by doing a Darwin Day in 2008!

The concept of an annual celebration of *Darwin, Science and Humanity* was born in 1994 and the first Darwin Day (DD) event was held at Stanford University in 1995. Since that time DD has become an annual international celebration, on, or near, Darwin's birthday, February 12. Currently, supporters of science are looking forward to a Global Extravaganza to mark the occasion of Darwin's Bicentennial Birthday in 2009 however, 2008 offers all of us an opportunity for a 'warm-up' performance!

The name "Charles Darwin" uniquely focuses the attention of both the press and the citizens of the world and by declaring February 12th the common date on which to celebrate science, scientists can establish a new tradition-- one that honors our most valuable knowledge system, and is based on empirical data. According to Darwin scholar, Janet Browne, it was the 'Great

Debate at Oxford University' in 1860 between Bishop Samuel Wilberforce and Scientist Thomas Huxley (Darwin's defender) that settled the long-standing question of whether theologians or scientists had the right to explain the origin of living things, and science won! Henceforth, all scientists have been able to interpret their empirical data in accordance with the laws of nature instead of through the lens of theology.

In 1893 Huxley pointed out that "we are all scientists" when we solve our practical problems on a daily basis and, while modern scientists must use powerful instruments to extend the sensitivity of their five senses to study the very small building blocks of living matter and the very large components of the universe, we all can appreciate the value of knowledge gained by empirical evidence. Thus an ANNUAL CELEBRATION provides an opportunity for scientists to informally share the excitement of their new discoveries with the general public. The public, in turn, will gain a greater appreciation of modern science.

Robert J. ("Bob") Stephens, Ph.D.
 Emeritus Director, Cell Biology Program
 SRI International (formerly Stanford Research Institute)
 President, Darwin Day Celebration, a nonprofit, tax-deductible
 501(c)(3)
 corp.

10. K-12: Google Sky: A new tool to view the sky from your computer

Go to:

<http://www.eschoolnews.com/resources/links/showLink.cfm?linkID=371>

or go to:

www.earth.google.com

The heavens are only a few mouse clicks away with Google's latest free tool: A new feature in Google Earth, the company's satellite imagery-based mapping software, allows users to view the sky from their computers. The tool provides information about various celestial bodies, from stars to planets, and includes imagery from the Hubble Space Telescope and other sources. It also allows users to take virtual tours through galaxies, including the Milky Way. "By working with some of the industry's leading experts, we've been able to transform Google Earth into a virtual telescope," said Lior Ron, a Google product manager. The new software also promises users the ability to see planets in motion and witness a supernova explosion. Current Google Earth users must download a new version. The software works on computers running Microsoft Windows, Apple's Mac OS X, and Linux operating systems. Google, the leading Internet search engine, already provides surface images of Mars and the Moon through its web site, along with animated and satellite-based maps of Earth.

Another idea is to borrow telescopes from another district schools and nearby colleges/universities and have a star-gazing night in a park. Perhaps a local astronomers' group would be a co-sponsor. The students and their parents could come for a being there "out of this world."

OR

Pair up with any active researcher in astronomy, astrophysics, or space science for a S.E.E.D. Grant. An active researcher is defined as one who has been the lead author on at least one refereed paper within 24 months of the application, or who is currently actively involved professionally in an astronomy or space science research project.

<http://www.astrosociety.org/education/grants/grants.html>

Guidelines and Suggestions:

- * Maximum grant is \$2,500.
- * Funds may be used to purchase equipment related to the proposed EPO activity, or to defray expenses associated with carrying out the activity.
- * The principal activities proposed must be completed within one year after funding

11. PK-12: National Teacher Hall of Fame seeking nominations

<http://www.nthf.org/nominate.htm>

The 2008 nomination packet for The National Teachers Hall of Fame (NTHF) is now available on its Web site. Nominations must be postmarked or submitted online by Jan. 2, 2008. The individual being nominated must have taught for at least 20 years at the Pre-K-12th grade level in a public and/or private school.

Teachers who have National Board certification, who may have won local, state, or national teaching awards, who have made a contribution to the professional community, who have served in leadership positions, and who have ideas and possible solutions to the pressing educational issues facing our country should absolutely be nominated. Outstanding teachers as a group do not like to spend time seeking awards like this because they are busy helping students and arranging for outstanding learning opportunities, but if you know a teacher who has these characteristics, and is a teacher of science, wouldn't it be cool if he or she won? Nominate them, and offer to help with the application, and good luck to all!

NTHF will announce the inductees in April; the 2008 ceremony will mark its 17th year of recognizing outstanding career educators from across America.

12. K-12: Awards of \$10,000 for 21st-century education programs

Verizon Foundation Grants Program

<http://foundation.verizon.com/02006.shtml>

Awards range from \$5,000-\$10,000

Deadline: November 30, 2007

Proposals will be considered from elementary and secondary schools (public and private) that are registered with the National Center for Education Statistics as well as eligible nonprofits. The Verizon Foundation is a supporter of innovative, technology-based approaches to literacy and K-12 education.

13. K-12: NSELA Professional Development Institute

<http://www.nsela.org>

The 2008 National Science Education Leadership Association Professional Development Institute (PDI) on “Leading Professional Development in Science Education” will be held in Boston on Wednesday, March 26, 2008. The PDI will consist of six broad strands that all support different aspects of leading professional development in science education. Each strand will involve either one six-hour session (divided into two segments) or two separate three-hour sessions. The identified strands include:

Using Data as Professional Development
 Content-Focused Professional Development
 Designing and Evaluating Professional Development Programs
 Assessment and Professional Development
 On-line Professional Development
 Partnerships that Support Professional Development

For more details and the RFP, please review the Request for Proposals that will be listed shortly on the website. If you would like the RFP emailed to you, please send a request to:

susansprague@yahoo.com

Consider how your organization or institution might share your expertise with an audience of dedicated NSELA practitioner-leaders in science education. If you have questions about the strands or the RFP, please contact Jim Short, Chair of the NSELA Professional Development Committee at 212-769-5139 or jshort@amnh.org. If you have questions about submitting a proposal, please contact the Susan Sprague, NSELA Executive Director at (928) 771-1030 or susansprague@yahoo.com.

14. K-12: Apply to Become an Astronaut. America needs YOU!

<http://www.nasa.gov/astronauts/recruit.html>

NASA is now accepting applications for its 2009 astronaut class. The agency is looking for a few men and women who want to fulfill their dreams and be a part of the next generation of explorers. The open positions are for astronaut candidates to train for tours of duty on the International Space Station, the largest human spacecraft ever built. It is also the site for research that will prepare NASA for future long-duration human missions to the moon and other destinations. The Constellation Program is responsible for building and operating the next-generation vehicles that will carry astronauts to the space station and the moon.

Applicants must meet physical standards and educational requirements, which include a bachelor’s degree in engineering, math or science and at least three years of experience in one of these fields. Teaching experience, including experience at the K-12 level, is considered to be qualifying experience; therefore, educators are encouraged to apply. The open positions require extensive travel on Earth and in space. Possible destinations may include, but are not limited to, Texas, Florida, California, Russia, Kazakhstan, the International Space Station and the moon.

All U.S. citizens, both civilian and military, who are qualified and super-motivated, can apply for these positions. Women and minorities are encouraged to apply. The deadline is July 1, 2008.

15. K-12: Are you into Robots yet? Here is a way to get started:

<http://www.tsarobotics.org/roboticsframework.html>

So much of what we do in the classroom is dictated by the standards; review the correlations provided here and should you wish to include robots and robotics in your lesson plans, you'll have plenty of justification. The work was funded by NSF.

If you want to enter your students in a competition, consider the First Robotics Competition, which has multiple age level categories:

<http://www.usfirst.org/default.aspx> and <http://www.firstlegoleague.org/>

FIRST was founded in 1989 to inspire young people's interest and participation in science and technology. Based in Manchester, NH, the 501(c)(3) not-for-profit public charity designs accessible, innovative programs that motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills.

If you need some funding to get involved, visit the NASA site and get your application in ASAP: deadline, October 31, 2007: <http://frc-grants.arc.nasa.gov/>

You would be providing your students with an opportunity to use their minds to accomplish an incredible task: starting with a bunch of unrelated parts and the ideas that exist only in the minds of your team members and then creating a functioning robot in only six weeks. Wow!

16. Gr 3-8: New Climate Change opportunities from Sally Ride Science

<http://www.sallyridescience.com>

Some lucky teachers from Ohio heard Sally Ride speak at the NSTA conference in Detroit last month. She mentioned how important her teachers were to her career, because they helped her see that the depth of understanding and ability in science and mathematics that she showed at elementary and middle school would be strengths she could expect to experience in high school, college, and beyond. She spoke eloquently about her experiences as one of the first 6 women selected to be an astronaut, and the first female astronaut to fly into space.

Now, she is promoting the next round of scientists through her foundation, Sally Ride Science. To help teachers educate the next generation on the science and solutions for global climate change, Sally Ride Science recently announced the launch of the Climate Change Classroom Set and November Educator Blog on climate change.

Developed for upper elementary and middle school students, the Climate Change Classroom Set brings the impacts of climate change to their world. The four books in the set — Ecosystems, The Atmosphere, The Oceans, and The Poles — blend the latest science and environmental

concerns with current ideas and solutions for facing our climate challenge and creating a healthier planet.

<http://www.sallyridescience.com/schools>

Coinciding with the release of the Climate Change Classroom Set, Sally Ride Science hosts an educator blog this month on climate change. The blog, which runs through the end of November, features entries from leading scientists and science educators on how to bring information on climate change to upper elementary and middle school classrooms.

<http://www.sallyridescience.com/blog>

17. Gr 9-16: The Astronomical Society of the Pacific has awards, but needs nominees!

<http://www.astrosociety.org/membership/awards/awards.html>

The Astronomical Society of the Pacific is now accepting nominations for the Society's 2008 awards honoring accomplishments in astronomy education and public outreach. Recipients receive a cash award and engraved plaque, as well as travel and lodging to accept the award at the Society's Annual Meeting, to be held in St. Louis in June (together with a symposium on the International Year of Astronomy).

* The Richard Emmons Award celebrates a life-time of outstanding achievement in the teaching of college-level introductory astronomy for non-science majors.

* The Klumpke-Roberts Award recognizes those who have made major contributions to the public understanding and appreciation of astronomy.

* The Thomas J. Brennan Award is given for excellence in the teaching of astronomy at the high school level in North America.

* The Las Cumbres Amateur Outreach Award honors outstanding educational outreach by an amateur astronomer to K-12 students and the public.

Submission guidelines, and lists of past recipients can be found at <http://www.astrosociety.org/membership/awards/awards.html>.

The deadline for nominations is December 15, 2007. You do not need to be a member of the Society to make or second a nomination.

If you have questions or need additional information, please contact Marilyn Delgado at 415.337.1100 x 100 or mdelgado@astrosociety.org

Contest Winner: An Ohaus Scout Pro Balance from our friends at Frey Scientific went to:
 Shannon Scott, Twinsburg High School, in Twinsburg, OH
 (SECO District IV, KL = Kim Kish)

Upcoming Events and Opportunities

November 15, 2007: Deadline for the Gr 7-12 Incentive Award from the Coleopterists Society
<http://www.coleopsoc.org/coleyout.shtml>

November 30, 2007: Deadline for the Verizon Foundation Grants Program
<http://foundation.verizon.com/02006.shtml>

December 6, 2007: Deadline for Early Bird registrations for the SECO Conference 2/7-9/2008
<http://www.secoonline.org>

December 10, 2007: Deadline to submit your name for an NSTA Standing Committee or Advisory Board or Panel: <http://www.nsta.org/standingcommittees>

December 15, 2007: Books for Children grant applications due
<http://www.librifoundation.org>

December 15, 2007: Deadline for The Astronomical Society of the Pacific awards
<http://www.astrosociety.org/membership/awards/awards.html>

December 30, 2007: Deadline to apply for the Tool Factory Podcasting Grants.
http://www.toolfactory.com/olympus_contest/olympus_podcasting.htm

January 2, 2008: Deadline for nominations for the National Teacher Hall of Fame
<http://www.nthf.org/nominate.htm>

January 10, 2008: Deadline for 2008 Frontiers in Physiology applications
<http://www.the-aps.org/education/frontiers/app.html>

January 31, 2008: Deadline to apply to become a NASA Explorer School.
<http://explorerschools.nasa.gov/portal/site/nes/menuitem.d601ef1f9fdc2c2d7010ea1051008a0c/>

January 31, 2008: Deadline for the Amgen Award for Science Teaching Excellence
<http://www.amgen.com/citizenship/aaste.html>

February 7-9, 2008: SECO Annual Conference in Akron, Ohio
<http://www.secoonline.org/conference>

February 12, 2008: Darwin Day Celebration
<http://www.darwinday.org>

March 14, 2008: Deadline for entries to the new Earth Heroes contest
<http://www.earth-heroes.org>

March 26, 2008: NSELA Professional Development Institute in Boston, MA
<http://www.nsela.org>

March 27-30, 2008: NSTA National Conference in Boston, MA
<http://www.nsta.org/conferences/>

April 24 - 27, 2008: EECO Conference at Mohican State Park
<http://www.eeco-online.org>

July 1, 2008: Applications for the next group of Astronauts are due
<http://www.nasa.gov/astronauts/recruit.html>

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Follow the directions in the lower right hand corner of the page to become a Point of Contact.

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email Mary Lightbody, State Coordinator for Building a Presence for Science in Ohio, at
Lightbody.1@osu.edu