

Volume 4, No. 5

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

Contents:

- 1. K-12: International Polar Year**
- 2. K-12: BaP Events at the NSTA National in St. Louis**
- 3. K-12: Happy Birthday Albert Einstein! (March 14, 1879)**
- 4. K-12: Advanced Project WILD--Ohio's Reptiles and Amphibians:
Reviled or Revered?**
- 5. K-12: Celebrate St. Patrick Day in style this year!**
- 6. K-12: A Collage of Math and Science**
- 7. K-12: US Department of Education Summer Workshops for Teachers**
- 8. K-12: 2007 Dow AgroSciences-Lilly BioDreaming Posters Competition**
- 9. K-12: for teachers and administrators:
The 7th Annual Leadership Initiative in Science Education**
- 10. Gr 3-9: Operation Physics**
- 11. Gr 6-9: AWISCO sponsors Women in Science Programs**
- 12. Gr 7-12: Win a Trip to Space Camp**
- 13. Gr 7-12: Second Annual National DNA Day High School Essay Contest**

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1. K-12: International Polar Year

http://www.ohiorc.org/bookmark/view_a_folder.aspx?mid=55310706&folderID=7513

This set of ORC resources relates to IPY topics. Use them to explore earth, physical, and life science concepts in the context of the International Polar Year. Learn more about the International Polar Year at <http://www.ipy.org/>

2. K-12: BaP Events at the NSTA National in St. Louis

If you are going to St. Louis, and you are involved with BaP Ohio, you are more than welcome to attend these two events:

Wednesday evening: Dutch Treat Dinner with Ohio BaPers: We'll meet in the lobby of the Adams' Mark Hotel at 7:00 pm and find a good spot for dinner and conversation. Contact Mary Lightbody for more details: (614) 361-7083 cell or Lightbody.1@osu.edu

Thursday afternoon: 5:00 – 7:00 BaP Members' Reception, sponsored by Texas Instruments
Location: Renaissance Grand Hotel, Crystal Ballroom
This will be listed in the program book as "By Invitation Only". This eBlast is your official invitation; no documentation is necessary, but do come to meet others from Ohio, and to learn more about where NSTA thinks BaP might be headed.

This informal reception of heavy hors d'oeuvres provides BaP members an opportunity to meet and chat with colleagues within the BaP community. Bernie Zubrowski, Senior Scientist with Education Development Center, Inc. (EDC), will discuss how simple engineering challenges can help students learn physical science concepts.

3. K-12: Happy Birthday Albert Einstein! (March 14, 1879)

<http://www.learner.org>

Appreciate the scope of Einstein's impact on physics and related fields with "The Mechanical Universe...and Beyond" <<http://learner.org/redirect/march/mech50.html>>. In particular, watch Program 25, "Kepler to Einstein," and Program 43, "Velocity and Time."

Elementary and middle school teachers can explore central ideas in physics with "Science in Focus: Force and Motion" <<http://learner.org/redirect/march/force51.html>> and "Science in Focus: Energy" <<http://learner.org/redirect/march/energy52.html>>.

"Essential Science for Teachers: Physical Science"

<<http://learner.org/redirect/march/phys53.html>> equips teachers with ways of dealing with children's preconceived ideas about matter.

4. K-12: Advanced Project WILD--Ohio's Reptiles and Amphibians: Reviled or Revered?

March 21, 2007--9am-4pm.

Norma Johnson-Brandywine Center (formally called "The Grange") in Dover, Ohio.

Unlike traditional Project WILD workshops, the day will be focused on the successes and hardships Ohio's indigenous reptiles and amphibians have experienced. Speakers include Kristin Stanford, Lake Erie's resident "snake lady" who will talk about her research on the Lake Erie water snake. Division of Wildlife Law Enforcement Officers will give insight to necessary permits and PIT tagging for captive herps. Information on Ohio's frog and toad calling survey and salamander survey and how you can get involved will be presented along with activities and lessons that educators can use in their classrooms and their own workshops. The workshop is free, lunch will be provided

For more information, or to register, contact Jamey Graham (330) 644-2293 or jamey.graham@dnr.state.oh.us

5. K-12: Celebrate St. Patrick Day in style this year!

http://www.nasa.gov/centers/glenn/events/vc_mar07.html

Visit the NASA Glenn Center and attend this month's Third Saturday event, Space Medicine, on March 17th. By combining the talent and knowledge of NASA and the Cleveland Clinic, we can improve life on Earth and develop real solutions to the human health issues faced during long-duration spaceflight. Learn about how space medicine affects your health.

Presentations:

"Keeping Bones Healthy on Mars", Dr. Peter Cavanagh at 11:00 a.m. and

"Space Exercise Brought Down to Earth" Gail Perusek at 1:00 p.m.

Tours at 10:30 a.m., 11:30 a.m., 12:30 p.m. and 1:30 p.m.

Don't miss your chance to tour the Exercise Countermeasures Lab and see the eZLS treadmill.

Enjoy Kids crafts, "Picture Yourself in Space" photos and bonus tour! Call (216) 433-9653 to register.

6. K-12: A Collage of Math and Science

There have recently been some stories in the press on interesting intersections of math, science, and art -- just in time for Youth Art Month. Two researchers, Peter J. Lu at Harvard University and Dr. Paul J. Steinhardt of Princeton University, have concluded that designs in medieval Islamic architecture consist of complex decagonal quasi-crystalline patterns -- created 500 years before such patterns were understood in the West. Also of note, the February 2007 issue of Discover Magazine spotlights the metallic creations of mathematical sculptor Bathsheba Grossman, along with the work of artist Laura Splan, whose digitally designed doilies are based on the symmetrical structures of viruses.

March is Youth Art Month, a good time to consider our resources that can help you stretch the boundaries of math or science to include an artistic dimension.

** Our "Connecting with the Arts" workshop <<http://learner.org/redirect/march/conartw4.html>> and video library <<http://learner.org/redirect/march/conartl5.html>> help teachers devise ways of integrating the arts with subjects across the curriculum in the middle grades.

** Elementary teachers will find ways of integrating art with math and science in "The Arts in Every Classroom: A Video Library, K-5" <<http://learner.org/redirect/march/aec16.html>>.

** Our hour-long documentary "Surprises in Mind" <<http://learner.org/redirect/march/sim7.html>> demonstrates that mathematical creativity -- expressed in art, architecture, and music -- is hard-wired in the human brain. A 12-year study shows the positive impact of instruction aimed at facilitating children's natural mathematical inclinations.

** For a general overview of geometry covering polygons, dissections, symmetry, and more, see "Learning Math: Geometry" <<http://learner.org/redirect/march/geom8.html>>.

** Observe a first-grade class experimenting with polygons and patterns to create a work of art in "Thanksgiving Quilt," Program 18 of "Teaching Math: A Video Library, K-4" <http://learner.org/redirect/march/tmvlk4_9.html>. Also see the related session of our "Teaching Math: Grades K-2" workshop <http://learner.org/redirect/march/tmk2_10.html> and our Teacher's Lab, "Shape and Space in Geometry" <<http://learner.org/redirect/march/shape11.html>>.

** "Mathematics: What's the Big Idea?" <<http://learner.org/redirect/march/math12.html>> Program 4 looks at aspects of geometry that appear in art and architecture, with visits to real classrooms engaging in hands-on activities.

** Explore the science-inspired artwork -- "Quantum Aesthetics" -- of June Wayne, featured in "A World of Art: Works in Progress" <<http://learner.org/redirect/march/art13.html>>.

7. K-12: US Department of Education Summer Workshops for Teachers

<https://www.t2tweb.us/workshops/schedule.asp>

Only one month until registration opens for the 2007 Teacher-to-Teacher Summer Workshops! Be sure to mark Monday, April 9, 2007, on your calendar, as the first day to sign up to participate in an exciting professional development experience free of charge. Prominent educators will discuss effective strategies for all grade levels and content areas.

You will not want to miss an opportunity to attend a Teacher-to-Teacher Workshop this upcoming summer! Check with your district about receiving professional development credit for your participation. Space is limited so don't delay. We look forward to seeing you there!

8. K-12: 2007 Dow AgroSciences-Lilly BioDreaming Posters Competition

<http://www.biotechinstitute.org/programs/biodreaming.html>

Encourage your students to showcase their artistic talent and their commitment to the public understanding of the benefits, promises and challenges of biotechnology by participating in the annual Dow AgroSciences-Lilly BioDreaming Poster Competition.

Posters must be postmarked on or before March 16, 2007.

Posters should express a positive concept of the role that biotechnology plays in our lives, the community, and/or in the world thereby increasing student awareness of the importance of biotechnology in their lives today and in the future.

The first place winner in each category will receive \$500! The top 12 winners receive an all expense paid trip to an awards celebration held in their honor in Indianapolis this June. They will also have their artwork displayed at the Institute's Annual Conference in Boston and at the 2007 Biotechnology Industry Organization's Conference in Boston, MA.

For more information or to view previous winners visit:

<http://biotechinstitute.org/programs/biodreaming.html>

or contact Janelle Kawamoto at 703.248.8681

9. K-12: for teachers and administrators:

The 7th Annual Leadership Initiative in Science Education

21st-Century Science Education: Preparing Teachers and Students for the Future

16-17 April 2007

Location: Chemical Heritage Foundation

315 Chestnut Street, Philadelphia, PA 19106

The LISE 7 conference will highlight new developments in both 21st century science and science education. The conference will begin on 16 April with a practical workshop for science educators, supervisors, and curriculum specialists conducted by Susan Van Gundy, director of Education and Outreach at the National Science Digital Library. The workshop will focus on

technology skills for today and tomorrow. The day will end with a reception and dinner, featuring a keynote address by Ron Breslow, University Professor of Chemistry at Columbia University, and former president of the American Chemical Society.

A full day of conference sessions will be held on 17 April. Among the speakers will be Bruce Fuchs, director, Office of Science Education, National Institutes of Health; Mary Kirchoff, director of the Education Division, American Chemical Society; Kathy Frame, vice president of Educational Programs, Biotechnology Institute; Jeanne Narum, Director, Project Kaleidoscope; John Penick, head, Department of Mathematics, Science and Technology Education, North Carolina State University; Diane Jass Ketelhut, assistant professor of Science Education, Temple University; Robert de Groot, education specialist, Southern California Earthquake Center; and Jean-Claude Bradley, associate professor of Chemistry and E-Learning Coordinator, Drexel University.

The registration fee for LISE 7 is \$25 for each day or \$40 for both days. The price includes dinner on 16 April and lunch on 17 April. This fee may be waived under special circumstances. The registration form may be mailed to Chemical Heritage Foundation, 315 Chestnut St., Phila., PA 19106, Attn: John Theibault or faxed to 215-629-5208. To register online or for additional conference information, visit www.chemheritage.org/events/lise7. Please register by 9 April. If you have questions, please contact John Theibault at 215-873-8256 or jtheibault@chemheritage.org.

10. Gr 3-9: Operation Physics

Not much background in physical science, but you'd teach it if you could? Or, you'd teach physics concepts and critical thinking better and more often if you had practical lessons for middle grade students? You've noticed that children's perceptions and explanations about natural events are sometimes different from your own? You've heard about "hands-on", "minds-on" inquiry and want to try some? Does the mention of Ohio Science Standards make you feel uncertain about how to prepare your students? You'd like a solid graduate course in which to explore selected topics in physics, children's thinking, and science education? If you answered YES to two or more of the above questions, consider taking Operation Physics – KSU graduate course funded by the Ohio Board of Regents Teacher Quality Fund.

Operation Physics is a highly motivational, teacher-friendly, proven-to-be-effective graduate course for teachers grades 3-9. This tuition-free five (5) credit hour, graded Kent State course combines basic physical science concepts with hands-on materials and activities. \$800 in materials free. Operation Physics will be held at the Cuyahoga Falls High School, in Cuyahoga Falls, Ohio, from June 11-15, with additional follow-up dates through the next school year.

The course includes instruction in Physical Science concepts appropriate for middle school and constructivist teaching strategies that will lead to student (and teacher) involvement and understanding. Activities are designed to help teachers learn basic concepts, and most of the activities can be used or adapted for use in the middle school classroom.

Contact Dr. Wendy Sherman: (330) 672-0614 or by email: wshermal@kent.edu

11. Gr 6-9: AWISCO sponsors Women in Science Programs

<http://awisco.osu.edu> and <http://awisco.osu.edu/registration2007.php>

The Association for Women in Science of Central Ohio cordially invites teachers to bring talented girls in the 6th to 9th grade to the 23rd Women in Science Day program at the Ohio State University. The program features hands-on workshops, tours, and demonstrations led by faculty in science, mathematics, engineering, and medicine. Workshop topics range from Aquatic Biology to Wildlife Ecology.

Registration is open to school groups. The limit is 18 students plus 2 adults per school. Fees, including lunch, are \$10 per student or adult if received by March 15. After March 15, fee is \$15 per person. We regret we can not accept purchase orders. Please register online and mail fees to 234 Oakland Park, Columbus OH 43214. Confirmations will be sent upon receipt of fees. Students must be prepared for a lot of walking on campus, dress for the weather, and wear walking shoes.

Check-in is from 8:00 – 8:30 am at the Drake Union, Main Lounge, at 1849 Cannon Drive. The program ends at 3:00 pm.

Short Essay & Picture Contest

<http://awisco.osu.edu>

A contest about women and science is open to girls in all Ohio schools. The winners of the Women in Science Short Essay and Picture Contest will be announced at lunchtime. We encourage participation by female students in any grade in any school in Ohio.

For more information contact Dr. Raquel Diaz-Sprague, Director, Women in Science Day, 614-268-1488 diaz-sprague.1@osu.edu

12. Gr 7-12: Win a Trip to Space Camp

<http://www.afa.org/aef/aid/spacecamp.asp>

Are you a student who is interested in science and space exploration? Write a 1500-word essay about space and win trip to Space Camp from July 15 to 20, 2007, in Huntsville, Alabama. If you are a student in grades 7-12, go online and enter the Air Force Association Space Camp Essay Contest today! Your application may be revised and edited until the final submission deadline at 4:00 PM Pacific Time on March 30, 2007. Winners will be notified by May 15, 2007.

Students must produce their own work, using information from other sources where appropriate. All references must be clearly marked and can appear as parenthetical citations, endnotes, or footnotes.

13. Gr 7-12: Second Annual National DNA Day High School Essay Contest

http://www.genednet.org/pages/k12_dnaday.shtml

The contest aims to challenge students to examine, question and reflect on the importance and social implications of genetic research. Essays are expected to contain substantive, well-reasoned arguments indicative of a depth of understanding of the issues addressed by the selected essay question. All students, grades 7-12, are eligible. We appreciate and carefully review each entry. All essays must be received no later than 5PM EST on March 16, 2007.

Students may choose to address either of the following questions in their essay. A first, second and third place winner will be chosen for each question.

1. If you could be a human genetics researcher, what would you study and why? Click here to see the scoring rubric for this question

2. In what ways will knowledge of genetics and genomics make changes to health and health care in the US Possible?

In addition to the prizes for teachers and students listed below, up to five students will be paired with an ASHG researcher for a summer internship. Applied Biosystems, our partner, will sponsor up to 5 interns with \$2,000.00 stipends.

First Place Winners: \$350.00

Teachers of first place students win \$2,000 to purchase classroom equipment!

Second Place Winners: \$250.00

Teachers of second place students win \$175 gift certificate to Carolina Biological Supply!

Third Place Winners: \$150.00

Essay Contest Winners will be announced on April 25, 2007 at 3:00 PM during the DNA Day Online Chat (<http://www.genome.gov/DNADay>) and on the ASHG website (www.genednet.org).

Questions? Contact Kenna R. Mills Shaw, Director of Education, American Society of Human Genetics at (301) 634-7342 or kshaw@ashg.org