



SCIENCE BYTES

OCTOBER 14, 2008 VOLUME 9

This is an information exchange that is available to all teachers in the Anchorage School District. Please read and then DO it!

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For your Calendar:

CNIPM - Invasive Plants Conference

October 21-23, 2008 - Anchorage

NSTA Conferences 2008-2009

NSTA Regional Conferences – 2008

October – Charlotte, NC: October 30-November 1, 2008

November – Portland, OR: November 20-22, 2008

December – Cincinnati, OH: December 4-6, 2008

2009 National NSTA Conference

New Orleans, LA – March 19-22, 2009

Science Fair 2008-09

Alaska Science and Engineering Fair

March 27-29, 2008 Looking for volunteers for the SF Board.

Science Olympiad 2008-09

TENTATIVE April 4, 2009 @ Begich Middle School

Fall 2008 Cassini Scientist for a Day Contest

The Cassini Scientist for a Day contest challenges students to become NASA scientists studying Saturn. Participants are challenged to examine three target images taken by Cassini and choose the one that they think will yield the best scientific results. This choice must then be explained in a 500-word essay.

The contest is open to all students in the United States from grades 5-12, working alone or in groups of up to four students. The essays will be divided into three groups: grades 5-6, 7-8 and 9-12. All submissions must be students' original work. Each student can submit only one entry.

Deadline for submission is Oct. 30, 2008. For more information, visit <http://saturn.jpl.nasa.gov/education/scientist/>. If you have questions about this contest, please e-mail your inquiries to scientistforaday@jpl.nasa.gov.

2008-2009 Fundamental Aeronautics Student Competition

The Fundamental Aeronautics Program has announced its new competition for the academic year. Students from high school grades through graduate school are invited to research and design a small supersonic airliner that could enter service in the next decade. The competition has two divisions: High School and College/University. Teams or individuals may enter either contest, and the program encourages interdisciplinary partnerships.

High school participants must be enrolled in an accredited high school, secondary school or home school. For the high school division, a notice of intent is requested by Dec. 15, 2008. Final projects are due March 15, 2009.

Undergraduate and graduate participants must be enrolled in an accredited college or university. For the college and university division, a notice of intent is requested by Jan. 15, 2009. Final papers are due April 30, 2009. International students may participate, but they are not eligible for certain prizes.

For more information about the contest, visit <http://aero.larc.nasa.gov/competitions.htm> . Questions

about the contest should be directed to Dr. Elizabeth Ward at Elizabeth.B.Ward@nasa.gov .

Alaska Visionaries: Seekers, Leaders, and Dreamers

Alaska Historical Society will hold their 2008 annual meeting and conference at the University of Alaska, Anchorage, October 16 - 18, 2008. This year's theme, Alaska Visionaries: Seekers, Leaders, and Dreamers, provides an opportunity to discuss fifty years of Alaska statehood and the men and women who helped shape modern Alaska.

On Friday, October 17 and Saturday, October 18, an "All Things Alaskan" Fair will be held in the first-floor lobby of UAA's Rasmuson Hall. Participating organizations, including U.S. Geological Society, UAA, Cyrano's Playhouse, and the Cook Inlet Historical Society, will provide information to conference participants or join the festivities with a statehood display. Volunteers are needed for Friday morning setup and Saturday afternoon cleanup, and for passing out programs or handouts at some conference sessions. Volunteers are welcome to sit in on sessions when they are done with their duties.

For more information on this year's conference, visit <http://www.alaskahistoricalociety.org/index.cfm?section=conferences> <<http://www.alaskahistoricalociety.org/index.cfm?section=conferences>> .

If you are interested in volunteering, please contact CarolAnne Mocarski at Mocarski_CarolAnne@asdk12.org <mailto:Mocarski_CarolAnne@asdk12.org>

Flinn Scientific Announces FREE Laboratory Design Advice

Flinn Scientific, the leader in school science safety, offers two free ways to help teachers design a new lab or improve an existing lab. Flinn offers a Laboratory Design Packet and the opportunity to discuss your lab design project with Flinn's Lab Design Specialist.

The Flinn Laboratory Design Packet contains problem-solving ideas and helpful suggestions including:

- Science Lab Design Priority Lists.
- Sample Lab Designs.
- Safety and Equipment Checklists.
- Plus more great tips and advice gained from helping hundreds of teachers improve their laboratories.

Flinn's Laboratory Design Specialist can offer advice specific to your school, your budget, and your needs. You can rely on Flinn's safety expertise, practical knowledge, and years of experience to help you design an effi-

cient laboratory that will provide a safe and successful learning environment.

Teachers are invited to request a free Laboratory Design Packet and to contact Flinn's Lab Design Specialist for free advice guaranteed to improve your laboratory. Flinn Scientific, Inc.

P.O. Box 219

Batavia, IL 60510

1-800-452-1261

E-mail: flinn@flinnsci.com

Web site: www.flinnsci.com <<http://www.flinnsci.com/>>

ARMADA Project- Research and Mentoring Experiences for Teachers

The University of Rhode Island's Office of Marine Programs is now accepting applications for the ARMADA Project- Research and Mentoring Experiences for Teachers. The ARMADA Project, funded by the National Science Foundation, provides K-12 teachers an opportunity to actively participate in ocean, polar, and environmental science research and peer mentoring.

Selected Master Teachers (with five or more years teaching experience) are paired with leading scientists and participate in shipboard, field, or laboratory research. Research experiences will take place during the summer, although there may be opportunities during the school year. Upon completion of their research experience, Master Teachers develop ways to bring the fruits of their research experiences, including scientific data, methodologies, and technology into their classrooms. They share their experiences by mentoring new teachers in their school district and by presenting their results at the National Science Teachers Association National Conventions.

The ARMADA Project has placed teachers in research experiences all over the world. Past experiences include taking part in the largest North Pacific humpback whale study in the waters off the coast of Alaska, investigating the impacts of global change in the Arctic Ocean and the Antarctic, monitoring and assessing tidal creeks in South Carolina, studying the impact of human activity on dusky dolphins in New Zealand, identifying foraging behaviors of Antarctic Crabeater Seals, water circulation studies in the Norwegian Sea, and a variety of ecosystem monitoring projects in the Bay of Fundy, Narragansett Bay, Gulf of Maine, Stellwagen Bank, Western Shelf of Florida, Sargasso Sea, Bahamas, Alaska, and Block Island Sound.

See <<http://www.armadaproject.org>> for more information on past research experiences.

Application deadline is February 9, 2009

For more information about teacher qualifications, responsibilities, and to download an application see the ARMADA Project website

<<http://www.armadaproject.org>> or contact Andrea Kecskes at 401-874-6211 or armada@gso.uri.edu.

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<http://www.armadaproject.org>

NOAA - Teacher At Sea Program

The mission of the National Oceanic and Atmospheric Administration's (NOAA) Teacher at Sea (TAS) program is to give teachers a clearer insight into our ocean planet, a greater understanding of maritime work and studies, and to increase their level of environmental literacy by fostering an interdisciplinary research experience. The program provides a unique environment for learning and teaching by sending kindergarten through college-level teachers to sea aboard NOAA research and survey ships to work under the tutelage of scientists and crew. Then, armed with new understanding and experience, teachers bring this knowledge back to their classrooms. Indeed, the greatest payoff of NOAA's Teacher at Sea program is the enthusiasm for learning more about our ocean planet generated between teachers and students.

Since its inception in 1990, the program has enabled more than 500 teachers to gain first-hand experience of science and life at sea. By participating in this program, it becomes possible for teachers to enrich their classroom curricula with a depth of understanding made possible by living and working side-by-side, day and night, with those who contribute to the world's body of oceanic and atmospheric scientific knowledge.

If you're ready for a life-enriching adventure that will benefit you, your students, and your community you could be our next Teacher at Sea. Visit the website <<http://teacheratsea.noaa.gov>> for more information.

Jennifer Hammond
NOAA Teacher at Sea Program Manager
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NASA/NSTA Symposium: Discover the Universe -- From Galileo to Today

Join NASA and NSTA in a hands-on symposium that will provide educators with strategies and resources to empower students to discover the universe for themselves during the International Year of Astronomy 2009. Designed for educators of grades 5-12, this symposium will take place on Dec. 5, 2008, in conjunction with the NSTA Area Conference in Cincinnati, Ohio. Attendance at the symposium requires conference registration.

This half-day symposium will explore key science concepts -- Earth's place in the universe; light, energy, and optics; and models and evidence in science -- as participants investigate how NASA's space-based missions extend the legacy of observation and discovery that Galileo Galilei initiated when he turned his telescope to the skies in 1609. Experience NASA space science research in the context of 400 years of technology-enabled astronomical discovery, and learn how to bring today's discoveries into the classroom in a way that reinforces national science education standards.

All participants will receive NASA curriculum support materials, listings of electronically available resources, and information on participating in the International Year of Astronomy 2009's global celebration of astronomy and its contributions to society and culture. Graduate credit may be available at an additional cost to participants. To receive graduate credit, participants must pay a nominal fee and complete an action plan and a lesson plan.

For more information about the symposium, visit http://learningcenter.nsta.org/products/symposia_seminars/fall08/NASA/symposium.aspx.

The 7th Annual Rock and Mineral Show

Presented by the
Chugach Gem and Mineral Society

In conjunction with the
Alaska Miners Association
Friday, Saturday, Sunday
November 7, 8, and 9, 2008

Fri. 5-9 pm, Sat. 10-5, Sun. 11-4
Sheraton Anchorage Hotel

401 E. 6th Avenue
Anchorage, AK

for information call Sharon at the AMA
907-563-9229

FREE ADMISSION

Classroom Exploration of the Ocean

The College of Exploration with support of NOAA's Ocean Exploration and Research (OER) Program and the National Marine Sanctuaries Foundation presents **Classroom Exploration of the Ocean**

Virtual Teacher Workshop Series 2008-2009

<http://www.coexploration.org/oe>

It's not too late to join in this week as Dr. Steve Hammond, Acting Director of NOAA OER, talks about global climate change and the fascinating world of underwater volcanoes.

Come on board to explore NOAA OER's educational programs and resources. Join us on the Okeanos Bridge to meet ocean scientists from NOAA. Interact with fellow educators. Get briefings about NOAA's Ocean Exploration and Research Program, ocean issues, ocean expeditions and the new NOAA vessel dedicated solely to ocean exploration, the NOAA ship Okeanos Explorer.

Next week we'll learn more about this fabulous new ship and take a virtual tour. Find out what NOAA OER's virtual learning community is all about!

The workshop is going on now through October 10th, with resources continuing to be available after the workshop. Participate anytime that's convenient to you and the workshop is free!

Campbell Creek Science Center - Fireside Chats

October 15: Saving Energy

Winter is on the way. Is your home ready for the coming cold? Learn more about weatherization and other steps you can take to conserve energy from Cary Bolling and Rosie Ricketts of the Alaska Housing Finance Corporation. They'll also discuss the AHFC energy rebate program. The program begins at 7:00 pm at the BLM Campbell Creek Science Center (5600 Science Center Drive).

Upcoming:

November 19: *Predators and Prey in Denali National Park*

December 17: *The Bering Sea*

January 14: *Sled Dog Physiology*

February 18: *Forensic Anthropology*

March 18: TBA

April 15: *Wolverines*

May 20: *Homesteading in Alaska*

Astronomy Series

November 13: *The Search for Extraterrestrial Intelligence*

December 11: *The Night Sky—A Family Friendly Look at What's Overhead*

January 8: *Apollo to the Moon: The Technologies, Triumphs, and Tragedies*

February 12: *The Big Bang and Cosmology*

March 12: *Asteroids*

2008-2009 Pete Conrad Spirit of Innovation Awards Announcement

The Pete Conrad Spirit of Innovation Awards combine education, innovation and entrepreneurship by challenging high school students to design products using science and technology. The competition includes platforms in personal spaceflight, lunar exploration and renewable energy. Teams will compete for over \$120,000 of prize money as well as the opportunities to connect with leading scientists, engineers, and entrepreneurs. The awards create a long term community for students and teachers and also provide resources and opportunities to develop and incubate commercial products. The competition is just the beginning of this journey. For more information on the Pete Conrad Spirit of Innovation Awards go to: www.conradawards.org <<http://www.conradawards.org/>>

K-12 Sustainability Competition

NSTA, the Siemens Foundation, and Discovery Communications have announced the launch of a new sustainability education competition that will allow students to develop innovative green solutions for their schools, homes, and communities. The Siemens We Can Change the World Challenge will launch later this fall with a national middle school competition where teams of students will identify, research, and recommend a solution to an environmental problem in their community. The competition will expand to kindergarten and elementary students in 2009 and to high school students in 2010. To learn more about the competition, visit <http://www.wecanchangetheworldchallenge.com/>

NASA Educational Materials

The Educational Materials section of NASA's Web site offers classroom activities, educator guides, posters and other types of resources that are available for use in the classroom. Materials are listed by type, grade level and subject. The following items are now available for downloading.

Adventures in Rocket Science Educator Guide -- Informal Education

This guide contains 25 activities designed for 4-H Clubs, Boys and Girls Clubs, Boy Scouts, Girl Scouts, after-school programs, and other informal education venues. Participants learn about the history and principles of

rocketry and NASA's newest rockets -- Ares I and Ares V. While doing these hands-on activities, participants also learn about Hero Engines, parachutes and surface area, altitude tracking, and Newton's Laws Of Motion. Learners can also build four types of rockets and two types of egg drops.

http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Adventures_in_Rocket_Science.html

Environmental Control and Life Support Systems Water Filtration Challenge Educator Guide -- Grades 5-8

Earth provides the air we breathe, the water we drink, and other conditions that support life. Earth is a natural life support system. On the International Space Station, the Environmental Control and Life Support System provides these needs. The functions of an ECLSS include atmosphere revitalization; atmosphere control and supply; temperature and humidity control; water recovery and management; waste management; and fire detection and suppression. The activities in this guide focus on water recovery and management.

The challenge is to design and build a water filtration device using commonly available materials. To meet this challenge, students build, test and measure the performance of the filtration device, analyze the data collected, and use this information to work towards an improved filtration design.

http://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Water_Filtration_Challenge.html

NASA - The Space Place Newsletter

We have just published our latest issue of a bi-monthly newsletter for formal and informal educators. The newsletter is all about the many useful and--it goes without saying--free resources on The Space Place website that can be helpful to classroom and home school teachers, after-school program directors, museum and library program directors, and other informal educators. Download at <http://spaceplace.nasa.gov/en/educators>.

We hope you and your colleagues find the newsletter and spaceplace.nasa.gov helpful.

Renee L. Elias, Director

NASA Central Operation of Resources for Educators

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Toll-free 1-866-776-CORE (within U.S. only)

Vernier-NSTA Technology Award

Vernier-NSTA Technology Award Deadline Extended

Were you planning to submit your innovative use of data-collection technology for this year's Vernier-NSTA Technology

Award? Don't worry, you still have time. NSTA has moved back the

deadline for submission of applications to November 30th. Seven

\$3,000 awards are presented to educators, with projects judged to

be the best use of data-collection technology in their respective

categories. Enter your high school, middle school, elementary, or

college project for your chance to win. Awards will be presented at

the 2009 NSTA National Conference and Exposition in New Orleans.

<http://www.vernier.com/e-news/2008-10-09/nsta-award/>

5 Big Questions in Earth Science Addressed

Oct. 13-17: NASA Scientists Address 5 Big Questions in Earth Science for Teachers and Students

Log in during Earth Science Week 2008 as scientists from NASA Goddard Space Flight Center answer the 5 big Earth science questions. Each day a 2-minute video clip of scientists addressing these questions will be featured at <http://www.nasa.gov/goddard>, along with links to additional Earth science educational resources.

Following is the schedule:

1. Introduction and How is the global Earth system changing? 10/13/08
2. What are the primary forces of the Earth system? 10/14/08
3. How does the Earth system respond to natural and human-induced changes? 10/15/08
4. What are the consequences of change in the Earth system for human civilization? 10/16/08
5. How will the Earth system change in the future? 10/17/08

NASA is a sponsor of Earth Science Week 2008, "No Child Left Inside." For more information on Earth Science Week, visit <http://www.earthsciweek.org>.
