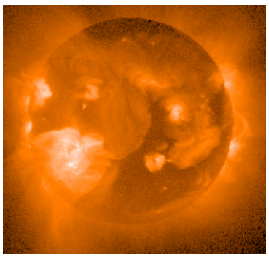
Secondary Science Bytes

A newsletter for secondary teachers of science

February 14, 2007

Today in Science History

(from the NSTA home page http://www.nsta.org/index.html)



On February 14 in 1896, cosmologist Edward Arthur Milne is born in Hull, England. He determined the sun's temperature at various depths and demonstrated the sun's ejection of particles at enormous speed (1000 miles per second), which introduced the notion of a solar wind.

Grants to Increase Impact of Service-Learning Projects on Climate Change

http://www.ysa.org/awards/

Youth Service America and the Civil Society Institute are awarding Red, White, and Green Climate Change Grants to design a service-learning project that promotes awareness about climate change and possible solutions. Projects should be youth-led, and the service must take place between May 1 and October 31, 2007.
Maximum Award: $500.
Eligibility: youth between the ages of 15-25 or to organizations that serve engage youth ages 15-25.
Deadline: March 9, 2007.

Equipping High-achieving Low-income Students to Apply Successfully to Leading Schools

http://www.questbridge.org/access/collegepreptext/

Questbridge, a non-profit organization dedicated to giving high-achieving low-income students resources during the college application process, is accepting applications for its College Prep Program for High School Juniors.
Maximum Award: full scholarship to summer program, college admissions counseling, and attendance at college preparatory conferences.
Eligibility: Qualified low-income High School Juniors.
Deadline: May 31, 2007.

2007 Thacher Scholar Awards for secondary school students

Entries Postmarked April 2, 2007

The Institute for Global Environmental Strategies (IGES) announces the 2007 Thacher Scholars Award. This national competition for secondary school students was founded in honor of former IGES board member Peter Thacher, who died in 1999. Peter Thacher was former deputy executive director of the United Nations Environment Program, NASA advisor, and, at the time of his death, president of the Earth Council Foundation/U.S. He was a leader in promoting the use of satellite remote sensing.

The 2007 Thacher Scholars Award will be awarded to secondary school students (grades 9-12) designing and conducting the best projects using satellite remote sensing of the Earth. Satellite remote sensing has numerous uses in science research, ranging from climate prediction to archaeology. It can improve our understanding of the Earth system, including interactions among the atmosphere, biosphere, geosphere and hydrosphere. And it can improve the quality of our lives by supporting weather prediction, natural hazards monitoring, transportation, land-use planning, agriculture, coastal management, public health and emergency response. The Thacher Scholars Award is an excellent opportunity for student-designed investigations using satellite remote sensing data and imagery.

Student Awards: Three cash awards will be given 1st place - $2,000, 2nd place - $1,000 and 3rd place - $500.
Teacher Awards: In addition to prizes for the winning students, the teachers of the 1st, 2nd, and 3rd place students will receive a $200 amazon.com gift card.
Eligibility

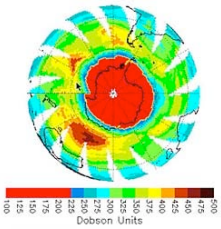
For more information including eligibility, rules, judging rubrics and resources, visit:
http://www.strategies.org/education/index.aspx?sub=education&sub2=scholars&sub3=scholars2007

EPA ANNOUNCES NEW CLIMATE CHANGE KIT FOR HIGH SCHOOL STUDENTS

Climate CHECK is a free, Excel-based kit that teaches high school students about the science, drivers, and impacts of climate change and provides them with knowledge, tools, and resources to increase climate-change awareness and to help them reduce greenhouse gas emissions at their school. Using Climate CHECK, students will estimate greenhouse gas emissions using built-in calculators and school-specific "activity data" and develop and implement a mitigation action plan.

To download Climate CHECK, go to http://www.epa.gov/climatechange/wycd/school.html and click on the link under "2. High school students check your school's climate impact." Instructions are included in the tool. Further questions should be directed to ClimateCHECK@icfi.com.

NASA EDUCATOR FEATURES: EARTH EXPLORATION TOOLBOOK: ANALYZING THE ANTARCTIC OZONE HOLE



The Antarctic ozone hole is bigger than ever. This troubling news was reported in October by scientists from NASA and the National Oceanic and Atmospheric Administration. “Analyzing the Antarctic Ozone Hole,” a chapter of the Web-based Earth Exploration Toolbook, provides the guidance and tools necessary for middle and high school students to perform their own studies of the ozone hole using data collected by a NASA satellite instrument, the Total Ozone Mapping Spectrometer. Read more about this EET chapter on the NASA portal at:

http://www.nasa.gov/audience/foreducators/5-8/features/F_Analyzing_Antarctic_Ozone_Hole.html

Caltech YESS Summer Program

The Young Engineering and Science Scholars (YESS) program is a three-week summer residential program for high school students that aims to increase the number of underrepresented students in science and engineering fields. The program is free of charge and we are currently seeking talented and motivated rising juniors and seniors interested in math, science and engineering to take part in this amazing experience. For more information please visit the program's web site.

Deadline: 2/28/07

Website: http:yess.caltech.edu

Are you interested in earning a Master of Science in Science Education degree?

Recently MSU agreed to price all Master of Science in Science Education courses (campus and distance) at $270 per graduate credit effective summer semester 2007. This keeps the cost of the degree program equivalent to a campus degree for our Montana teachers. At the same time, it makes campus classes and the overall degree program more affordable for non-resident teachers. The 30-credit program tuition becomes $8,100 (at $270 per graduate credit).

A web based registration system will be used for all MSSE classes starting with summer 2007 semester. For details on summer 2007 classes visit www.montana.edu/msse and open summer campus or distance at the top left menu.

Please continue to pre register for campus summer classes with Diana Paterson (dianap@montana.edu).

TEACHER TO RANGER TO TEACHER

The National Park Service offers its visitors meaningful experiences to learn and explore in its parks, but unfortunately, not everyone can visit a park to take advantage of these opportunities. The Teacher to Ranger to Teacher Program strives to reach out to those in the underserved urban and rural school districts and bring a piece of the park to them.

The teachers in this program spend the summer working as a park ranger. Over the course of the summer, the teacher could be involved in the park's interpretive programs, staffing the visitor center, and/or developing educational resources for the park. When the teacher returns to the classroom in the fall, he or she is able to engage students with a new perspective from this unique summer experience. Teachers develop lesson plans drawing from their summer work. Please visit http://www.nps.gov/wupa/forteachers/trt.htm for more information.

EDUCATOR'S ANTARCTIC JOURNALS AVAILABLE ONLINE

http://www.polartrec.com/allanmillerjournal

Allan Miller, Albert Einstein Distinguished Educator Fellow at the National Science Foundation and a NASA Educator Astronaut finalist, has returned from a tour of duty in and around Antarctica. Miller chronicled his experience in an expedition - the first of at least 30 - that allows classroom teachers to travel to field research sites in the Arctic and Antarctic and work with scientists engaged in many different types of polar research throughout the up coming International Polar Year (IPY - 2007-2009). Allan is from the Kenai Peninsula Borough School District in Alaska.

Just for fun! Check out this cosmic e-card :

http://dingo.care2.com/cards/flash/5409/galaxy.swf

SEISMAC: TURN YOUR MAC INTO A SEISMOGRAPH

http://www.suitable.com/tools/seismac.html

Suitable Systems offers **free** software that transforms a G4 Macintosh laptop into a seismograph with real-time acceleration information displayed on the screen. Tap your toe on the floor beneath the table holding a laptop and watch the seismic waves appear. Activities are currently being developed to go along with this tool.

SUN EARTH DAY 2007 FEB. AND MARCH WEBCASTS

Sun-Earth Day occurs on or near the spring equinox, which is March 20, 2007. This year's theme is Living in the Atmosphere of the Sun. In celebration of Sun-Earth day, NASA will present the following two webcasts:

February 22, 9:00 -10:00 am AKST
The Sun's Impact on the Solar System: Moon, Mars and Beyond - The Sun's impact on the entire Solar System, Moon, Mars and Beyond. Space Weather will be introduced. The Webcast will include scientists from Goddard Space Flight Center, Langley Research Center, and University of Arizona. During the webcast a special email address will be available for questions, and where students will share how they use NASA data to Track a Solar Storm and provide Space Weather forecasts.

March 20, 9:00 - 10:00 am AKST
Living in the Atmosphere of the Sun - NASA Heliophysics (solar and geospace) missions and their interrelated stories as they study our Sun and its impact on Earth and other planets.

For more information about Sun-Earth Day, visit http://sunearthday.nasa.gov .
A link to the Webcasts will be available on this site before the webcast date.

Got Forensics? Take This Week's *NSTA Express* Poll

In October 2004 we asked *NSTA Express* readers if popular television shows such as Crime Scene Investigation (CSI) and other forensic-based shows had an effect on students or classroom lessons. It's time to revisit this issue, and this week we want to know how widespread these activities have become. If you're a middle or high school science educator, take this week's *NSTA Express* poll http://science.nsta.org/survey_forensics_2007_02 and tell us what you think.

NSTA Presents Science for English Language Learners Conference

On **March 31, 2007**, NSTA, in collaboration with the National Science Foundation, is holding a daylong conference—Science for English Language Learners—on research, practical approaches, and policy directions for classroom teachers, school and district administrators, and university faculty.

NSTA will provide critical information, guidance, and leadership to broaden the participation of underrepresented groups in science.

The conference will take place within NSTA's National Conference on Science Education to be held in St. Louis, Missouri **March 29-April 1**. For more details, visit http://www.nsta.org/ell.

WIN A POCKET PC or 200x MICROSCOPE CAMERA!! OR THE GRAND PRIZE A PROSCOPE HR BASIC EDUCATION BUNDLE (WORTH $649)

http://schooltr.com/Products/ProScope_HR/ProScope_HR.php

School Technology Resources is sponsoring a contest to get YOUR great ideas about how to use the Scope On A RopeTM (SOAR) and ProScopeTM in the classroom.

FIVE Categories of Winners!

Prizes for each category:

1st place: Hewlitt Packard 2190 Pocket PC
2nd place: Dlite USB 10x to 200x zoom microscope camera

Categories:

1) Complete lesson plans or activity descriptions

2) Success Stories: SOAR/ProScope in education making a difference

3) Student projects with SOAR/ProScope used in the production

4) Pictures: Sets of still pictures taken with SOAR/ProScope (along with a description of the scientific or technological concept or principle that they demonstrate)

5) Movies or Time-Lapse taken with SOAR/Proscope camera (along with a description of the scientific or technological concept or principle that is demonstrated)

Contact mhoffman@strscopes.com for detailed entry specifications in each category.

Rules:

1) Only public and non-profit education school and agencies and teachers,
students or staff members may participate
2) No limit on number of submissions
3) Publicity and copy-write release is required and no fees will be paid for submissions
4) Entries must be submitted electronically via email or on a CD.
5) If your submit pictures that include the name and/or likeness of a person, a publicity release must be obtained for each person (with parents signing for minors)
6) Photos, movies, or time lapse materials must include the magnification and name or description of the item or specimen.
7) Judges will be the SOAR Program Coordinators at Louisiana State University,
8) All entries may be used on websites, books, CDs and other printed or electronic forms for both free public use and in some commercial published materials. Credit will be given, if desired, for any published entry.

Deadline:

Entries must be received by Midnight March 5. Judging will be done by March 9 and awards made the following week.
Winning entries will be displayed at National Science Teachers Association Annual Convention in St Louis, March 29-31.

Send your submissions to:
mhoffman@schooltr.com

or mail CD to:
Mark Hoffman
School Technology Resources
5274 Scotts Valley Dr. #204
Scotts Valley, CA 95066

New Online Course on Evolution from the American Museum of Natural History

Sign up today for an exciting, in-depth course on evolution with Seminars on Science. Designed by the American Museum of Natural History for K-12 educators, each award-winning six-week course from Seminars on Science is co-taught by a scientist and an educator and immerses participants in an area of contemporary research. 'Evolution' draws on the Museum's long-standing leadership in the fields of paleontology, geology, systematics, and molecular biology to tell a modern story of evolution. Learn about the contributions of Darwin, the mechanisms of evolution, human evolution, and modern applications in medicine, public health, and conservation. To read the complete article, visit http://science.nsta.org/nstaexpress/nstaexpress_2007_02_12_amnh.htm.

Graduate credit is available from several leading institutions. Courses may be used to meet your professional development needs, including degree, certification, NCLB and salary gradation requirements.

March courses include: Evolution; Earth: Inside and Out; The Ocean System; Genetics, Genomics, Genethics and Space, Time and Motion.

Come away from your class with a deeper understanding of both the science and the tools of scientific inquiry. Courses are led by educators and Museum scientists and include rich web-based discussions. Free sample resources for each course—including essays, videos and interactive simulations—are available online at http://learn.amnh.org. Choose the course your are interested in from the pull-down menu.

Registration is now open for the six-week session that begins March 19 as well as two sessions for Summer 2007. Courses are easy to use and flexible enough to fit into a teacher's busy schedule. Each participant receives a CD of course resources suitable for classroom use.

Registration closes **March 5**. Register by **February 23**, and receive a $50 discount. For more information and to register, go to http://learn.amnh.org or call 800-649-6715.