



# SCIENCE BYTES

OCTOBER 6, 2008 VOLUME 8

**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:**

### **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**

## **Campbell Creek Science Center Scholarships**

Would you like to introduce the wonders of nature to your students?

There are Winter Scholarships available for your class to visit the Campbell Creek Science Center! Programs at the science center are designed to support and enhance the science units taught in the Anchorage School District! Request a program for your grade level or design your own day with input from the CCSC staff!

Thanks to the generous support of the Friends of the Campbell Creek Science Center, scholarships are available for Title-I schools who book outdoor education programs in November, December, January, February, & March at the Campbell Creek Science Center.

The cost for each student will be ONLY \$2.00! Funding includes bus transportation.

Reservations will be accepted on a first come, first serve basis!

To schedule your education program today, call Jen at 267-1247!

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## **Target® Field Trip Grant**

Interested in funding Field Trips - here is an opportunity. Must be submitted by November 1.

<http://sites.target.com/site/en/corporate/page.jsp?contentId=PRD03-002537>

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## **Celebrate National Wildlife Refuge Week**

### **Climate Change 101: Some Hard Truths You Should Know**

When: Monday, September 29th 7:30 pm

Where: UAA's Wendy Williamson Auditorium Anchorage

When: Tuesday, September 30th, 7:00 pm

Where: Westmark Hotel's Yukon Room Fairbanks

When: Saturday, October 4th 7:00 pm

Where: Islands and Ocean Visitor Center Homer

Join Dr. Michael Schlesinger, head of the Climate Research Group and Noble Laureate for a discussion on our changing environment. If the Earth's atmosphere did not contain water vapor, carbon dioxide (CO<sub>2</sub>) and ozone, which make up less than 0.25% of its composition, the average surface temperature would be 0°F - so cold there would be no liquid water and, thus, no life. The fact that the temperature is a life-supporting 60°F is due to these seemingly minor greenhouse gases (GHG's). In contrast, on Venus the atmosphere is all CO<sub>2</sub>, the surface pressure is 90 times that on Earth, and the greenhouse warming is 900°F, about twice as hot as your home oven can get!

learn more>>>

[http://rs6.net/tn.jsp?e=001G95CLgcNrFPJB-2MYR\\_srNzGFyYgbgqEHoQCmcJaTAOVstObENz2KavsxHrrPHlbO\\_N6OI0ENJAK8KJIOVsz6FUZ5qikpousyBgQPUKDs1HGAFaern\\_18d2kdkHgU62nvQdi3dY2Gzs68CTZPATcAVkQa-MpnhCa34-TH9xJsl0=>](http://rs6.net/tn.jsp?e=001G95CLgcNrFPJB-2MYR_srNzGFyYgbgqEHoQCmcJaTAOVstObENz2KavsxHrrPHlbO_N6OI0ENJAK8KJIOVsz6FUZ5qikpousyBgQPUKDs1HGAFaern_18d2kdkHgU62nvQdi3dY2Gzs68CTZPATcAVkQa-MpnhCa34-TH9xJsl0=>)

### Wildlife Wednesdays

#### Under Aleutian Waters: Exploring Alaska's Remote Underwater Worlds

When: October 8th 7:00 pm

Where: Wilda Marston Theater Z.J. Loussac Library

3600 Denali Street Anchorage, Alaska

Marine biologist Reid Brewer talks about his work exploring never-before-seen marine environments in the Aleutian Islands. A research diver based in Dutch Harbor, Reid will share some of his spectacular underwater footage, talk about several new species discovered during his 2007 field research, and discuss the currents, climate, and ecological diversity that help define this remote part of Alaska.

[http://rs6.net/tn.jsp?e=001G95CLgcNrFM0dtejcIVZLsFIFrDCOkLUOgyGZG9GLFKNbCiuWOVm5RUcQk3s15z6b-QqgtNBo4jKH5G5DOKsbWlhvxZ2q3K9ja\\_qgQHow-nakGA4QEAPHJwINza2wmH](http://rs6.net/tn.jsp?e=001G95CLgcNrFM0dtejcIVZLsFIFrDCOkLUOgyGZG9GLFKNbCiuWOVm5RUcQk3s15z6b-QqgtNBo4jKH5G5DOKsbWlhvxZ2q3K9ja_qgQHow-nakGA4QEAPHJwINza2wmH) Following the presentation, author and illustrator Libby Hatton will be on hand to sign copies of her new children's book, *Pete Puffin's Wild Ride Cruising Alaska's Currents*, a richly illustrated journey through the wild oceans of Alaska. An ideal event for families, ocean lovers, and anybody who thrills in discovering new places.

Admission is Free

\*ED580 For Teachers: Teachers may earn one graduate credit towards continuing education requirements by attending Wildlife Wednesdays lectures. Teachers must attend four lectures on the topic of climate change (any talk except for the April 8 bear lecture), participate in a one-day Project WILD/Project Learning Tree climate change teacher's workshop April 11 in Anchorage and complete a follow-up assignment. For information or to register, contact Elizabeth Manning at [elizabeth.manning@alaska.gov](mailto:elizabeth.manning@alaska.gov) or 267-2168.

### Upcoming Wildlife Wednesdays

#### November 12th 7:00 pm Bringing Back the Aleutians

In 1780 rats escaped from a sinking Japanese fishing boat on the western Aleutian Island later named "Rat Island." This incident began a series of "rat spills" that proved more deadly than oil spills to island ecosys-

tems including island-nesting birds - rats crawl into nesting burrows and along narrow cliff ledges, stealing eggs and killing chicks and adults. Rats continue to be a plague on island wildlife today. Learn how researchers with the Alaska Maritime Wildlife Refuge have dealt with this epidemic and what steps are being taken to the islands to their natural splendor.

December 10th 7:00 pm

#### Polar Marine Mammals, Climate Change and Life on Thinning Ice

Mike Castellini, professor and Associate Dean in the School of Fisheries and Ocean Sciences at the University of Alaska Fairbanks, shares research about polar bears, seals, penguins and birds and discusses how ice is important to their breeding, hunting, resting and social systems.

January 14th 7:00 pm

#### Polar Bears and Changing Sea Ice

Karyn Rode, a wildlife biologist with the U.S. Fish and Wildlife Service, discusses the science behind concerns of declining sea ice and its effect on polar bears.

February 11 7:00 pm

#### Seabirds in a Sea of Change

Kathy Kuletz, a seabird biologist with the U.S. Fish and Wildlife Service, discusses how climate change is affecting Kittlitz's murrelets, a seabird adapted to life near glaciers, and other Alaska seabirds.

March 11 7:00 pm

#### How Can People Wildlife Adapt to a Changing Climate?

Peter Larsen, climate change program director with The Nature Conservancy in Alaska, talks about adaptations that will need to be made by people and animals as glaciers melt, permafrost thaws and oceans warm.

April 8 7:00 pm

#### The Bears Among Us

Sean Farley, research biologist with the Alaska Department of Fish and Game, presents data on the natural history of brown bears living in the city of Anchorage and the Kenai Peninsula, and shares photos of bear-human use of shared trails in urban areas.

May 13 7:00 pm

#### Alaska's Glaciers: Yesterday and Today

Dr. Mike Sfraga, Director of the Integrated Geography Program at UAF, will present the glacial photography of famed photographer and cartographer Bradford Washburn from more than a half century ago and reveal

the effects that global warming has had on those ice fields.

\*Wildlife Wednesdays is made possible by a generous grant from ConocoPhillips Alaska and is a collaborative effort of Alaska Geographic, Anchorage Public Library, Alaska Department of Fish and Game, The Nature Conservancy, Defenders of Wildlife, and the US Fish and Wildlife Service.

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### **NSTA Board Adopts Position Statement on E-Learning**

The NSTA Board of Directors voted recently to adopt the position statement, *The Role of E-Learning in Science Education*. The new statement supports and encourages the use of e-Learning experiences for science students, as well as for science educators engaging in professional development. The statement sets forth key elements of effective, high-quality e-Learning experiences, and makes declarations that specifically address e-Learning as a component of teacher preparation and professional development and in blended instructional approaches for preK–16 students.

NSTA wishes to thank the outstanding panel of science educators and experts who dedicated their time over recent months to develop the statement.

<http://www.nsta.org/about/positions/e-Learning.aspx?lid=exp>

<http://www3.nsta.org/main/forum/showthread.php?t=3673&lid=exp>

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### **NASA Quest - LIMA II Challenge**

NASA Quest announces the LIMA II Challenge for students in grades 4-8. In this challenge, students become scientists and propose Antarctic research. Using the Landsat Image Mosaic of Antarctica, the first true-color high-resolution satellite view of the Antarctic continent, students must develop a research question and debate the value of studying the chosen feature.

Registration is currently open and educational resources are available online. The challenge begins on Oct. 1, 2008, with a live webcast. Preliminary proposals are due Nov. 5, 2008.

For more information, visit

<http://quest.nasa.gov/challenges/lima>. Questions about this challenge should be directed to [Quest-Challenge@mail.arc.nasa.gov](mailto:Quest-Challenge@mail.arc.nasa.gov)

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### **Flinn Scientific Safety Training Notes**

This month's safety notes, "Sterilization and Aseptic Technique," will make it easier and safer to include

engaging microbiology activities in your school's life science curriculum.

Please forward this e-mail to all of the biology and life science teachers at your school who may not get these safety notes--some of them may not have received training as concise and current as this. These safety tips will help teachers provide lab experiences relating to the role of microorganisms in everyday life including health and disease, biotechnology, agriculture, and food. Thirty tested activities covering these and other microbiology topics can be found in the book, *Microbiology--Laboratory Activities Manual (FB1641)*. Go to <http://www.flinnsci.com/FB1641.asp> for more details.

To print "Sterilization and Aseptic Technique" please go to: <http://www.flinnsci.com/Sections/Safety/Snotes/snotes.asp>

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### **EXPLORAVISION AWARDS 2009**

Tomorrow's innovations come from today's young minds. Your students will invent our future. They'll discover new, improved technologies and scientific advancements that will create tomorrow's world. But how do we encourage them to make these breakthroughs? We challenge them to open our eyes and minds.

You can jumpstart your students' imaginations by having them compete in the ExploraVision Awards competition. Sponsored by Toshiba and administered by the National Science Teachers Association, the ExploraVision competition gives students in grades K – 12 the chance to create their own visions of the future.

Student teams select and research a current technology and then explore what it could be like 20 years from now. Members of the four first-place teams will each receive a \$10,000 US Savings Bond and an expenses-paid trip to Washington, DC to be recognized for their achievements. Big thinking and big stakes — those are great reasons for your students to start imagining the future.

For more information or to obtain entry materials, click here, <http://exploravision.org>

Thank you,

The ExploraVision Team

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### **FREE Access to Space Explorers**

Dear Education Professional:

During the week of October 6-12 you are invited to take advantage of FREE access to all that Space Explorers, Inc. has to offer on their website [www.space-explorers.com](http://www.space-explorers.com)

<<http://www.space-explorers.com/>> . To request your free access, simply reply to this email and you will be given a username and password allowing you to use everything Space Explorers has for seven days.

You can take your students on a virtual field trip to Mars, the Moon, asteroids, or into suborbital space.

Please visit

<http://www.space-explorers.com/internal/tours/launch.html>

<<http://www.space-explorers.com/internal/tours/launch.html>> to see an example of what your students will experience. To learn more about scheduling a mission simulation for your students at no cost, call 1-800-965-3763 and ask for Tim Lewaren.

Along with mission simulations, you and your students can investigate our Space Library®, our online space encyclopedia. You can also use our Interactive Applets to teach your students about asteroid impacts, trajectory corrections, aerobraking, and launch windows; and utilize lesson plans covering such topics as gravity, magnetism, rocketry, phases of the moon, the nature of light, Kepler's Laws, and atomic spectra.

Be sure to stop in and visit the open house at [www.space-explorers.com](http://www.space-explorers.com)

<<http://www.space-explorers.com/>> before your chance for completely free access to the site is gone. It's only open through October 12, so there is no time to waste!

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### Einstein Fellowships

The first article in this newsletter is about the Einstein Fellowship. If anyone in Anchorage wants to apply, I would be willing to talk with them and even help them with the application. Robert Taylor

### T C E B

#### Triangle Coalition Electronic Bulletin

October 2, 2008 - Volume 14, Number 37 Online Version

<<http://www.trianglecoalition.org/curtceb.htm>>

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### AK Volcano Observatory Presentation

On October 20-21, 2008, USGS and Alaska Volcano Observatory (AVO) staff Sarah Aarons and Jennifer Adleman will host a booth at the 25th annual First Alaskans Elders & Youth Conference Expo at the Dena'ina Civic & Convention Center in Anchorage, Alaska. The informational booth is part of Sarah and Jennifer's Support of Native American Relations (SISNAR) supported project, "Alaska Volcano Observatory's Proactive Approach to Volcanic Hazards Communications with Native Communities", through which AVO seeks to broaden communications with Native communities near active

volcanoes in Alaska and encourages local students to pursue interests that will aid local tribal governments with informational awareness and volcanic hazards preparedness within their communities. The Elders & Youth Conference stimulates dialogue between young people and Elders and encourages them to maintain traditional Native values and practices while thriving in the modern world. The Expo is open to conference participants, as well as to the public. Past participation at the conference has exceeded 1,000, both urban and rural, representing the five main Alaska Native cultural groups.

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fax. (907) 786-7425

email: [jadleman@usgs.gov](mailto:jadleman@usgs.gov)

Alaska Volcano Observatory website:

<http://www.avo.alaska.edu/>

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### Coleopterists Society - Youth Incentive Award

The Coleopterists Society, an international organization of professionals and hobbyists interested in the study of beetles, has established a program to recognize young people studying beetles. The Society has pledged to provide up to \$300 each year for the Youth Incentive Award Program. In addition to monetary grants of \$150, award recipients will receive up to \$200 (Junior Award) and \$400 (Senior Award) of equipment credit from the BioQuip Products catalog. In addition to monetary grants of \$150, award recipients will receive a one year subscription to the society journal, The Coleopterists Bulletin. This is for children of grades 7-12 only.

The objectives of the Youth Incentive Award are to:

- \* provide encouragement and assistance to young beetle enthusiasts (grades 7-12).
- \* promote the study of beetles, the most diverse group of insects, as a rewarding lifelong avocation or career.
- \* provide opportunities for young people to develop important life skills such as leadership, cooperation, communication, planning and conducting a scientific study, grant writing and managing funds.
- \* provide some financial support to enrich activities or projects.

A Youth Incentive Award Committee from the Coleopterists Society will evaluate the applications and

will select up to two winners annually; one each in junior (grades 7-9) and senior (grades 10-12) categories. The selection committee invites proposals for topics such as field collecting trips to conduct beetle species inventories or diversity studies, attending workshops or visiting entomology or natural history museums for special training and projects on beetles, studying aspects of beetle biology, etc. The proposed activities or projects will be evaluated on their degree of creativity, educational benefit to the applicant, scientific merit, feasibility and budgetary planning. This Award is for proposals by individuals only. Each applicant is strongly encouraged to find an adult advisor (teacher, youth group leader, parent, etc.) to provide guidance in proposal development, but the proposal MUST be written by the applicant. The Coleopterists Society would also be happy to assist in establishing contacts between youth and professional Coleopterists.

Additional details and application forms for The Coleopterists Society Youth Incentive Award Program can be obtained from: Dr. David G. Furth; Entomology, NHB, MRC 165; P.O. Box 37012; Smithsonian Institution; Washington, D. C. 20013-7012 (phone: 202-633-0990, FAX: 202-786-2894, email: [furthd@si.edu](mailto:furthd@si.edu)). Also check The Coleopterists Society WebPage: [http://www.coleopsoc.org/default.asp?Action=Show\\_SocietyInfo&ID=Youth](http://www.coleopsoc.org/default.asp?Action=Show_SocietyInfo&ID=Youth)

Applications for this year must be submitted by 15 December 2008.

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### **Website: MESSENGER Educator Fellows**

Join the MESSENGER Educator Fellows as they report on MESSENGER's second flyby of Mercury by navigating to the Fellows at the Flyby page at: <http://btc.montana.edu/messenger/teachers/flyby.php> Follow the links therein to the individual Fellows' Facebook, Twitter, Wiki and blog pages.

MESSENGER to Mercury mission is supported by the NASA Discovery Program under contract to the Carnegie Institution of Washington and the Johns Hopkins University Applied Physics Laboratory. For more information on the MESSENGER mission, visit <http://messenger.jhuapl.edu/>

This is an excellent website that has lots of extras - lessons, animations, and movies.

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### **Sponsorship for FIRST Robotics Competition**

NASA is pleased to announce the availability sponsorship for teams participating in the FIRST Robotics Competition. Two types of grants are available: Up to 70 Regional Challenge Grants and approximately 100 Program Growth Grants.

These sponsorships are not tied to any particular competition event. The grants will provide \$6,000 funding to cover the registration costs for a team to attend one Regional Competition event and part of the cost of constructing the robot for the competition.

Applications for this grant opportunity are due Oct. 20, 2008.

To learn more about the NASA FIRST Robotics Regional Challenge Grants and Program Growth Grants, visit <https://frc-grants.arc.nasa.gov/directions.php>. Questions about this sponsorship should be directed to [frc-grants@mail.arc.nasa.gov](mailto:frc-grants@mail.arc.nasa.gov).