



SCIENCE BYTES

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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:

Science Olympiad 2008-09

April 4, 2009 @ Begich Middle School - Anchorage

2009 - Alaska Math & Science Conference

INQUIRY - The Bridge to Understanding

October 14-17, 2009 Juneau, AK

NSTA Conferences 2009-2010

Alaska Digital Pipeline leads to Alaska Science Explained site

The Alaska Digital Pipeline is a great conduit of articles and reference sources for educators and students. It is available through SLED, the Statewide Library Elec-

tronic Doorway, at <http://sled.alaska.edu> <<http://sled.alaska.edu/>> .

Each week, the Information Exchange will highlight one facet of the pipeline. Under "kids' stuff" you'll find resources such as Alaska Science Explained, a fun web site by Alaska educator Neal Brown. It includes sections on rockets, the aurora, and remote mapping.

SLED is joint effort of the Alaska State Library and the University of Alaska libraries.

NASA Presents "Frozen"

In an era when change itself seems to be the subject of attention, NASA presents a spectacular new movie that depicts the changing Earth. Called "Frozen," this film introduces the idea of our transitioning home planet in ways that have never been seen before.

"Frozen" brings Earth to life, projecting images of the planet onto completely spherical movie screens hanging in the center of darkened theaters. Turning in space, images on the screen become a portal onto a virtual planet, complete with churning, swirling depictions of huge natural forces moving below. "Frozen" showcases the global cryosphere, those places on Earth where temperatures don't generally rise above water's freezing point. As one of the most directly observable climate gauges, the changing cryosphere serves as a proxy for larger themes.

"Frozen" opens around the U.S. and in several locations around the world on March 27, 2009. For more information about the film and a partial list of Science On a Sphere theaters, visit <http://www.nasa.gov/centers/goddard/multimedia/frozen/index.html>.

Alaska Agriculture Day - May 5, 2009

Alaska Agriculture Day is less than 2 months away, and I hope you've marked it on your calendars as Tuesday, May 5.

As seems to be the theme of 2009, Alaska Ag in the Classroom must economize this year, and while I have some funds for Alaska Ag Day, I have no grant money to supplement it.

You've all been participants in Alaska Ag Day activities in the past, and I am hopeful we can partner again this year. I don't have the funds to send lots of books all over and leave them at the schools, but I can try to arrange guest readers of books you already have from past years, and get some books out to local Farm Bureau chapters for them to use in this and subsequent years.

Of course there are many other ways you can and do celebrate Alaska Ag Day, and I will do what I can to support those efforts.

Please let me know how you'd like to be involved this year -- have a reader, do an activity, hold an all-school event, have a guest speaker, go on a field trip etc. I do have access to lots of grade-appropriate lessons and can help you find what you need to make Alaska Ag Day a fun and educational experience for your students. There will also be some high school students in the Valley with fun lesson plans to deliver to mid elementary students through a Northland Pioneer Grange program, if you'd like to see if that's an opportunity in your classroom.

Please also note that we have two Alaska AITC Educator Institutes scheduled for this summer. UAF credits are available at the June 2-4 session in Fairbanks; UAA credits for the Aug. 4-6 event in Palmer. More details will follow soon but you can sign up for the Fairbanks course now through the UAF's summer course schedule. These are great learning experiences and this year we are trying a two-tier approach so we can be of more value to teachers of all grade levels.

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Ag-Discovery Program

"Ag-Discovery is an outreach program to help students learn about careers in animal science, veterinary medicine, agribusiness and plant pathology. This 2 week program allows participants ages 12-17 to live on a college campus and learn about Agricultural science from university professors, practicing veterinarians and professionals working for the U.S. Government.

Students chosen to participate in Ag-Discovery will gain experience through hands-on labs, workshops, field trips and other group and team building activities. For more information, please see <http://www.aphis.usda.gov/agdiscovery/> Applications must be postmarked no later than April 17, 2009."

Online Poll for NASA's Mars Rover Naming Contest Opens March 23

WASHINGTON -- NASA will post online nine names that are finalists for the agency's Mars Science Laboratory mission and invite the public to vote for its favorite. The non-binding poll to help NASA select a name

opens online Monday, March 23, and will accept votes through March 29. More than 9,000 students in kindergarten through 12th grades submitted essays proposing names for the rover in a nationwide contest that ended Jan. 25. Entries came from all 50 states, Puerto Rico and the families of American service personnel overseas. NASA will select the winning name, based on a student's essay and the public poll, and announce the name in April.

"The names that students proposed range from heroes to animals and bugs," said Michelle Viotti, manager of the Mars Public Engagement program at NASA's Jet Propulsion Laboratory, or JPL, in Pasadena, Calif. "No matter what name is finally chosen, this is a mission for everyone, and we can't wait to start calling this rover by name."

The student who submitted the winning name will be invited to JPL to sign the rover. Additionally, all 30 student semi-finalists in the naming contest will have an opportunity to place an individually-tailored message on the chip. For worldwide participation beyond the contest, the public has a chance to participate in "Send Your Name to Mars." The agency will collect names to be recorded on a microchip that will be carried on the car-sized robotic explorer. Names will be collected via the contest web link beginning Monday. The naming contest is part of a Space Act Agreement between NASA and Disney. Walt Disney Studios Motion Pictures is the prize provider for the contest. This collaboration made it possible for WALL-E, the animated robotic hero from the 2008 movie of the same name, to appear in online content inviting students to participate.

Scheduled to launch in 2011 and land on Mars in 2012, the rover will use a set of advanced science instruments to check whether the environment in a selected landing region ever has been favorable for supporting microbial life and preserving evidence of such life. The rover also will search for minerals that formed in the presence of water and look for chemical building blocks of life.

JPL manages the mission for NASA's Science Mission Directorate in Washington.

To view the nine finalist names and cast your vote, visit: <http://marsrovername.jpl.nasa.gov>

NASA's "Top Stars" Recognition

For almost 20 years, NASA's Hubble Space Telescope has inspired and engaged educators and students of all ages. U.S. formal (K-12, college) and informal educators are invited to submit their best examples of using NASA's Hubble Space Telescope for science, technology,

engineering or mathematics education. Those selected as "Top Stars" will receive national recognition and awards.

Entries will be accepted from May 2009 through January 2, 2010. For more information, visit <http://topstars.strategies.org>. Questions about this opportunity should be directed to topstars@strategies.org.

Summer Opportunity in AeRonautics for HS Scholars

It is with great excitement that NASA announces a new national summer aeronautics enrichment program for current high school juniors and seniors (classification during 2008-2009 academic term). This new program, SOAR (Summer Opportunity in AeRonautics for High School Scholars), features interactive aeronautics activities, aeronautics design projects, flight simulation, RC model aircraft, model rocketry, scientific ballooning, wind tunnel testing, tours, and many other activities. This free (travel expenses included) residential program will be held at NASA Langley Research Center in Hampton, Virginia, during July 12-31, 2009. Successful student applicants must have a GPA of 3.0 or higher. This GPA requirement is a revision to the initial announcement.

The application deadline is April 17, 2009.

For more information, visit our website at <http://www.soaratnasa.org> or e-mail SOARatNASA@gmail.com or SOARatNASA@gmail.com.

Cordially,
Embrolic Selby
SOAR Program Coordinator

Selene: A Lunar Construction GaME

Would young people learn science better if it were packaged in a videogame?

That's the question at the heart of the Selene project. Named after the Greek lunar goddess, Selene challenges players to learn the major geologic processes scientists believe formed the modern moon. Players create their own moon and then pepper it with impact craters and flood it with lava. The game offers a great opportunity for students to learn about lunar geology while helping researchers study some key videogame design principles.

The game is designed for students between the ages of 13-18 and takes about an hour to complete. But more time can be spent checking out Selene's various resources about the moon. To play, participants must be enrolled by an adult recruiter to ensure parent or guardian consent for participation.

If you're an adult who'd like to help out, visit the Selene Web site and click on the Recruiter button. Recruiters help find players to play the game and take part in the study. Being a recruiter is simple and does not involve a lot of paperwork. The whole process involves getting oral consent from a parent or guardian, then forwarding Selene registration access to recruited players.

Selene: A Lunar Construction GaME was created through NASA by the Center for Educational Technologies® at Wheeling Jesuit University in Wheeling, W. Va., and its learning research continues through a National Science Foundation grant.

To learn more about the game and how you can play, visit <http://selene.cet.edu>. If you have questions about this project, please e-mail your inquiries to selene@cet.edu.

Alaska Biogeography: Plants and Their Symbionts

This summer course, for teachers of secondary science, teaches the basic ecological concepts of phenology, invasive plants and nitrogen fixation using plant-symbiont relationships and mycorrhizae as a unifying theme. It includes the development of teaching modules that educators use in their own classrooms. Instructional delivery combines both distance and on-site at the University of Alaska Fairbanks campus. The course will begin on June 15th with ten hours of scientific theory via distance instruction over a two-week period. This will be followed by a two-week residency at UAF, from June 29th-July 10th, to become skilled in lab and field methodology.

Travel costs to and from the UAF campus will be provided to all participants. In addition, students will be housed at UAF, with per diem funds included. Participants will also be given follow up support throughout the 2009-2010 school year in the form of classroom visits to assist in the implementation and conduction of experiments and data retrieval.

Two modules will be delivered during the course. Each participant will focus on the module most relevant to their particular geographic region, although there will be theoretical and practical overlap for all participants. Upon completion of the course, participants will have the skills and materials necessary to teach secondary students about plant symbioses (particularly mycorrhizae), phenology, nitrogen fixation and data collection techniques. Data collected by students in rural areas will contribute to both statewide and national databases. This will allow rural students the opportunity to participate in state and national research projects, while providing scientists with data at a spatial scale that would not otherwise be possible.

Teachers participating in this summer course will earn four professional development credits through the University of Alaska Southeast, Professional Education Center. The registration fee (nonrefundable) for this course, "Alaska Biogeography: Plants and Their Symbionts" is \$100 for all four credits. There is no tuition charge for this course.

**For additional information on the course specifics or to register, contact Dr. Christa Mulder at ffcpm2@uaf.edu, or at (907) 474-7152.

All responses or requests should be directed to Dr. Mulder or to Alina Cushing at alinacushing@moose-mail.com
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Adopt-a-Physicist

Attention high school physics teachers: Registration is now open for the Spring 2009 session of Adopt-a-Physicist!

This unique (and free) program pairs high school physics classes with physics degree holders in online discussion forums, for a three-week period (April 13–May 1). Through these forums, your students will get the chance to connect to "real" physicists working in fields ranging from radiation therapy to computer programming.

The Adopt-a-Physicist program is open to all high school physics classes, but registration is limited to the first 150 classes, so sign up today!

Here's what some past teachers had to say about their experience

"The main benefit of participating in Adopt-a-Physicist was exposing students to who and what physicists can be."

"My students were amazed at what these physicists have done in their careers, but I think they were even more interested in the fact that they are normal human beings."

You can read more about the program, download a Program Packet, and register your classes on the <http://www.adoptaphysicist.org/>

CCSC April Fireside Chat

April 15: Wolverines

Its scientific name means glutton. Its nicknames include devil bear and woods devil. It has a reputation for being fierce and cunning. Does the wolverine deserve its

reputation and nicknames? Come find out! Howard Golden, wildlife biologist with the Alaska Department of Fish and Game will discuss wolverine life history, status, populations in Alaska and near Anchorage, and more. The program begins at 7:00 pm on Wednesday April 15 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Please call 267-1247 for more information.

ISS EarthKAM Spring 2009 Mission

Middle school educators are invited to join NASA for the International Space Station EarthKAM Spring 2009 Mission on April 28-May 1, 2009. Find out more about this exciting opportunity that allows students to take pictures of Earth from a digital camera on board the International Space Station.

ISS EarthKAM is a NASA-sponsored project that provides stunning, high-quality photographs of Earth taken from the space shuttle and International Space Station. Since 1996, ISS EarthKAM students have taken thousands of photographs of Earth by using the World Wide Web to direct a digital camera on select spaceflights and, currently, on the International Space Station.

For more information about the project and to register for the upcoming mission, visit the ISS EarthKAM home page <www.EarthKAM.ucsd.edu>.

If you have questions about the EarthKAM project, please e-mail <ek-help@earthkam.ucsd.edu>.

Alaska Native Perspectives on Earth and Climate

Teachers' Domain, <http://www.teachersdomain.org>, a library of free digital resources and fee-based professional development courses developed by Boston public television station WGBH, has added a section called "Alaska Native Perspectives on Earth and Climate" at <http://www.teachersdomain.org/special/ean/>.

This collection of media resources looks at Alaska's unique geology and the impact of development and climate change using both Native and Western scientific perspectives. These resources examine both methods of observing nature and feature Alaska Native scientists who are working toward solutions.

Explore the collection now at: <http://www.teachersdomain.org/special/ean/>.

Alaska Science Consortium Summer Institute

_____ The Alaska Science Consortium (ASC) is recruiting participants for its Summer Institute to be held on **July 27-August 7, 2009** in Anchorage, Alaska, with a required, distance delivered follow-up course to be held in the fall. The content focus for the Institute and follow-

up course will be Inquiry Based Physical Science for K-12 teachers.

The ASC offers an intensive two-week Summer Institute followed by a distance delivered follow-up course in the fall (September-December 2009). There will be whole group instruction along with grade level small group sessions to insure attention to developmental considerations and content needs. Led by ASC master teachers, the Institute blends science content taught by scientists with science instructional strategies. Participants will be designing **physical science** lessons that utilize the ASC Learning Cycle Model (LCM).

The distance delivered follow-up in the fall stresses reflective practice, job-embedded professional development, and mentoring. An LCM lesson will be written and field tested in the classroom.

Participants are required to earn university credit for both the Summer Institute and the distance delivered follow-up course in the fall. **When a teacher completes the summer class and fall follow up class they will be considered an ASC Fellow.**

During the Summer Institute, participants are expected to fully immerse themselves and work diligently at expanding their science teaching abilities. Class usually runs from 8:00 to 5:00, five days a week, and may include occasional evening sessions and class-related trips.

The cost for the Summer Institute and distance delivered follow-up is \$900 per participant, which will cover texts, supplies, consumables, any field trip costs, and instructor fees. Participants will be responsible for their own travel and housing costs for the Summer Institute as well as the credit fees associated with the university credits for the Summer Institute and follow-up course. Please talk with your district to see what costs they will cover.

For further information about the Summer Institute and mandatory distance-delivered follow-up course in the fall, contact Cheryl Cooper, ASC Treasurer. Her email is cheryl@wildak.net and her phone number is 895-4577.

- *Changing Water Resources and Ecosystem Impacts
- *Water and Energy
- *International Boundary Water-Resources Issues Associated with Changing Climate
- *10 Years of Progress or Uncertainty?

There will be 35 oral sessions with papers of national and international interest. There are also workshops and a field trip to Prince William Sound. "On-time registration" ends April 13, after which time the price goes up. Registration Information for this conference can be found at <http://www.awra.org/meetings/Anchorage2009/>.

American Water Resources Association - 2009 Spring Conference

This professional organization is having its 2009 Spring Conference in Anchorage this year from May 4-6 at the Anchorage Marriott Downtown. Presentations will be given on the following topics;

- *Current State of Changing Climate Understanding Relationships between Changing Climate and Water Resources
- *Water Supply and Water Use Management