

SYSTEMIC CONNECTIONS



February 6, 2012 Volume 21

This is an STEM information exchange that is available to all teachers in the Anchorage School District

CALENDAR - STEM EVENTS 2011-2012

February 10-11	FIRST Tech Anchorage Qualifier SAHS Anchorage
February 25-28	ASTE 2012: Create~Collaborate~Innovate
Feb 28-Mar 2	Iditarod Winter Conference for Educators
March 2-3	High School Robotics State Championship Patty Center, UAF
March 3	First Use Science Kit Training (K-6)
March 23-25	AK Science & Engineering Fair - Begich MS
March 29 - April 1	NSTA - Indianapolis, IN
March 31	Science Olympiad - UAA Campus
April 24- May 5	Math Derby
May 8-11, 2012	CCSC - Outdoor Week (Grade 6)
May 8-11, 2012	Outdoor Week
June 24-28,2012	Nat'l Marine Educators Conference Anchorage

STEM Web Page Highlights

Objectives & Initiatives for 2011 – 2012

<http://www.asdk12.org/depts/STEM/objectives.asp>

Links to local STEM programs –

Campbell Creek Science Center, Imaginarium, UAA Planetarium, Alaska Zoo. <http://www.asdk12.org/depts/STEM/>

Please read and then TRY some of these!

1. **UAF Summer Research Academy Accepting Applications**
2. **Registration Opens for Aviation Career Academy**
3. **Nominations Open for Agriscience Awards**
4. **Nominations Open for Life Sciences Awards**
5. **NASA Offers Opportunity for Female High School Juniors**
6. **Campbell Creek Science Series**
7. **3 Tips for Students to Fill the Tech Talent Gap**
8. **7 Billion and Counting: Dreams, Ideas & Actions to Change the World**
9. **National Engineers Week – February 19-25, 2012**
10. **Discovery Southeast Teacher Expedition**

11. **Prevent Chemical Spills PLUS Nitric Acid Accident Story from Flinn**

12. **Discovery Southeast Teacher Expedition**

13. **from EED Info Exchange February 2, 2012**

14. **Amazon Rainforest Workshop & Machu Picchu Extension**

CHECK OUT THESE SITES:

The GREAT BACKYARD BIRD COUNT

<http://www.birdsource.org/gbbc/>

EXPLORE THE BLUE

<http://www.exploretheblue.com/>

EARTH SCIENCE WEEK - year round resources

<http://www.earthsciweek.org/>

TI MATH

<http://education.ti.com/calculators/timath/>

NASA BLUE MARBLE

http://www.nasa.gov/vision/earth/features/blue_marble.html

UAF Summer Research Academy Accepting Applications

The Alaska Summer Research Academy at the University of Alaska Fairbanks is accepting applications for the 2012 summer programs.

In its 12th year, the academy provides hands-on, experiential learning in science, technology, engineering and mathematics for students in middle school and high school. Students attend one module for two weeks. Classes are small, with eight students and two instructors. The ASRA staff includes UAF faculty members, graduate students and industry professionals.

June 18-29 is a day program for students in 7th-12th grades and features robotics, math in nature, forensic anthropology, electric car construction, the science of art and plant genetics.

July 18-29 is a residential program for students in 9th-12th grade. Students live in the UAF dorms and receive one college credit.

Nineteen modules include archaeology, biomedicine, engineering design, extreme photography, game design, fiber and electronics, marine biology and many more. Financial aid and scholarships are available.

The application deadline is February 29. Visit www.uaf.edu/asra <<http://www.uaf.edu/asra>> for more information or contact Kate Pendleton, ASRA Coordinator, kpendleton@alaska.edu, 907-474-7221 <tel:907-474-7221> .

Registration Opens for Aviation Career Academy

The Aviation Career Education Academy will once again be held during spring break, March 12-16, at the Challenger Learning Center in Kenai. The academy is open to students in 8th through 11th grade. It is sponsored by Kenai Aviation, the Experimental Aircraft Association, the Young Eagles, and the FAA.

Students learn about aviation careers by doing hands on activities such as an orientation flight, using the

Medallion simulator (that pilots train on), learning aircraft manufacturing techniques, touring the Alaska FAA facility in Kenai, and talking with pilots from the private sector, such as UPS and the military, such as the Air National Guard.

Home-school students can earn ½ high school credit. Other interested students can talk to their counselor and to Challenger about earning credit. Students from outside the Kenai area can contact Challenger about options for staying at Challenger for the week long academy.

For more information, call the Challenger Learning Center at 907-283-2000 or go to <http://akchallenger.org/Camps/SpecialtyCamps/ACEAcademy/tabid/103/Default.aspx>.

Nominations Open for Agriscience Awards

The Christopher Columbus Fellowship Foundation, a federal agency, is accepting nominations for the 2012 Agriscience Awards. One of the four awards, for \$5,000, recognizes a high school educator with at least five years of experience. Another award, for \$1,000, recognizes a high school student. See <http://www.agriscienceawards.com>. Nominations are due March 13.

Nominations Open for Life Sciences Awards

The Christopher Columbus Fellowship Foundation, a federal agency, is accepting nominations for the 2012 Life Sciences Awards. The \$5,000 Educator Award will be presented to a high school teacher with at least five years of experience who instructs students in Advanced Placement biology, chemistry, or other AP life sciences courses. A \$1,000 award will be presented to a high school student. See <http://www.ccolumbusfoundationawards.org>. Nominations are due March 27.

NASA Offers Opportunity for Female High School Juniors

NASA invites female high school juniors to apply for the Women In STEM High School Aerospace Scholars program. The students' adventure begins with an online community and culminates with a summer experience at NASA Johnson Space Center. Participants collaborate with students from across the country and female NASA engineers and interns. See <http://wish.aerospacescholars.org>. Apply before February 22.

Campbell Creek Science Series ASTRONOMY SERIES

February 9: Dark Matter

It can't be seen and yet it's everywhere throughout the universe. What's more, it has enormous significance to the gravitational infrastructure of the universe. Join Mi-

chelle Krok from the Department of Physics & Astronomy at the University of Alaska Anchorage to find out how astronomers have observed the presence of dark matter and are studying its nature. You'll also find out about the questions astronomers continue to ask about dark matter. The program begins at 7pm on Thursday February 9 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Stargazing will follow if the skies are clear. Please call 267-1241 for more information.

FIRESIDE CHAT LECTURE SERIES

February 15: Caribou in a Warming Arctic: What Will Change Mean?

In recent years, caribou populations throughout the circumpolar north—including those in Western Alaska—have been declining. Although climate change is suspected of playing a role, the links between climate and caribou populations have yet to be established or verified. Please join us as Dr. Don Spalinger, professor of biology at the University of Alaska Anchorage, discusses the ways scientists hypothesize climate and caribou might be connected. He'll also discuss current research aimed at unraveling the connections between climate, plant and soil communities, and caribou in Western Alaska. The program begins at 7pm on Wednesday February 15 at the BLM Campbell Creek Science Center (5600 Science Center Drive). Please call 267-1241 for more information.

3 Tips for Students to Fill the Tech Talent Gap

Employers are fighting over students fluent in code, design, and analytics.

By [Kelsey Sheehy](#)

January 17, 2012 [RSS Feed Print](#)

Unemployment averaged 13.7 million people in 2011, according to the U.S. Department of Labor, but despite the available workforce, companies say talent for key roles is in short supply.

Ambitious start-ups and major players will be fighting for top software, design, analytics, and E-commerce talent in 2012, Keith Cline, founder of the recruiting firm Dissero, writes in his Inc.com article, [The 5 Hardest Jobs to Fill in 2012](#).

[Find out where the [engineering jobs](#) are.]

These tips can help job-seeking students stand out and entice employers to compete over them.

1. Get your code on: Google and Facebook buy entire companies to find "code-literate" employees, [according to a CNN article](#) by technology commentator Douglas Rushkoff, valuing them at up to \$1 million.

Programming whizzes hoping to fill a growing demand for software engineers and Web developers should be well versed on in-demand programming languages like Python, Ruby on Rails, HTML5, and JavaScript, says Cline, the Dissero founder.

Regardless of your background, understanding even basic coding is a huge differentiator for job seekers in nearly every field, Cline says.

[Find out which schools have the [Top Online Graduate Computer Information Technology Programs](#).]

To wrap your head around some basic computer science, enroll in an introductory programming class in your university's computer science department or volunteer to help on a faculty member's programming or research project, says Alan Sahakian, chair of electrical engineering and computer science at Northwestern University's [McCormick School of Engineering and Applied Science](#). If you can't squeeze another class into your schedule, join New York City Mayor Michael Bloomberg and [pledge to learn computer code](#) by the end of 2012 via [Codecademy](#), a free tutorial website.

"Codecademy is not going to make you a tried and true engineer ... but it can give you some insight and know how," Cline says. "The more people know about it, the better off they'll be."

2. Socialize, virtually: Companies drool over prospects with social media savvy and an understanding of viral marketing, Cline says.

"How people market their company and brand has completely changed—it's all social," he says. "It's still hard for companies to find people who really understand social media."

But simply knowing your way around Facebook won't cut it. Students serious about social media and marketing need to build their personal brands, Cline says.

This means building and maintaining a blog focused on your target field and using Twitter to engage with industry influencers.

"Out of 10 applicants ... that one person who has a personal blog and a social media presence, that's the person they'll hire," Cline says.

[See why [social media can help and hinder job searches](#).]

3. Take stats—stat: Data is everywhere, and companies are tracking every piece they can get their hands on. To do this successfully, they need someone who can break the data down and interpret it with a business mindset, says Vijay Subramanian, chief analytics officer for Rent the Runway, a website where customers rent high-end designer fashion.

"Someone who can get the data out of all these systems, piece that together, make sense of it, and actually have a meeting and present to the business owners ... that skill set is incredibly hard to find," Subramanian says.

<http://www.usnews.com/education/best-graduate-schools/articles/2012/01/17/3-tips-for-students-to-fill-the-tech-talent-gap>

7 Billion and Counting: Dreams, Ideas & Actions to Change the World

Join us in a live worldwide forum on topics for, by and about current and future generations of women in engineering and technology.

<http://www.eweek.org/EngineersWeek/GlobalMarathon.aspx>

National Engineers Week – February 19-25, 2012

The theme for 2012 is based on the projected world population of 7,000,000,000. There are many challenges facing our world that require immediate engineering solutions. The National Engineers Week Foundation delivers programs and resources used by partners locally, nationally and internationally to help the next generation of talent to meet and overcome these challenges.

<http://www.eweek.org/Home.aspx>

Prevent Chemical Spills PLUS Nitric Acid Accident Story from Flinn

Chemical spills are bound to happen in the science lab. This month's free Safety Notes from Flinn Scientific titled "Preventing Chemical Spills" offers 13 spill-reducing tips.

On page two you'll find a link to a free Flinn Safety Video containing a story about a nitric acid spill. Please share this story at your next department meeting. The teacher asked me to tell his story at every Flinn Safety Seminar ... so it would never happen to another science teacher!

To view and print "Preventing Chemical Spills" please go to:

<http://www.flinnsci.com/teacher-resources/emails/safety/snfeb12.aspx>

Discovery Southeast Teacher Expedition

Greetings, Teacher Expeditioners past and prospective! For those of you seeking an adventurous, insightful, and unique way to earn professional development credits, Discovery Southeast is offering three exciting expeditions in the wilderness classroom of Southeast Alaska this summer. Led by experienced naturalists/scientists and guides, you'll explore Alaska by foot and kayak. We provide the gear, meals, and training so that you can focus on taking all that you learn about wildlife and ecosystems back to your classroom, and you'll earn three professional development credits through the University of Alaska-Anchorage.

Summer 2012 Teacher Expedition dates:

June 4-10, 2012: *Brown Bears of Admiralty Island*

June 19-25, 2012: *Glaciers and Climate Change in Wild Alaska*

June 28-July 3, 2012: *Whales of Icy Strait*

View all details at our Teacher Expeditions webpage <<http://discoverysoutheast.org/teacherexpeditions>> .

(If none of those dates fit your schedule, check out the full list of Alaska Geographic's Teacher Trainings.

<<http://www.alaskageographic.org/static/169/teachers>>)

If you've participated in a Discovery Southeast Teacher Expedition in the past and enjoyed your experi-

ence, please pass this information along to friends and fellow teachers. Call 907-463-1500 to register -- or reply to this email with any questions!

Thank you,

Cathleen Balantic

Program Coordinator & Naturalist

Discovery Southeast

oed@discoverysoutheast.org

907-463-1500

from EED Info Exchange February 2, 2012

Civil Air Patrol Offers Membership, Materials to Educators

The Aerospace Education Division of the Civil Air Patrol has an educator membership category that does not require attending meetings or wearing a uniform. A set of educational materials is available to division members for free.

The monthly E-Newsbrief contains items of interest, as well. For the February 2012 Newsbrief, see http://www.capmembers.com/aerospace_education/stay_informed/ae_newsbriefs.cfm

To learn about educator membership, visit

http://www.capmembers.com/aerospace_education/join-a-s-aem/.

*NETS*S Resources – Building for Alaska!*

Districts: Opportunity is knocking. Ten Alaskan districts are invited to help create online resources that address the National Education Technology Standards for Students (NETS*S). Districts may receive a classroom set of seats in Learning.com for the 2012 calendar year. Districts that agree to create at least 10 lessons to put into Alaska's Digital Sandbox (www.alaskadigitalsandbox.org <<http://www.alaskadigitalsandbox.org>>) by the end of December 2012 will receive these seats. Mat-Su is working on this project in Edmodo (online anytime) and welcomes collaboration by others.

To help build resources that are Alaskan-based to include in Alaska's Digital Sandbox for free access to Alaskan educators forever, contact Roxanne.mourant@alaska.gov / 907-465-8578 by February 1.

Amazon Rainforest Workshop & Machu Picchu Extension

Searching for something unique! spirited! and fun! this summer? K-12 teachers and environmental educators can win one of three \$1000 scholarships to travel with scientists to one of the most diverse environments in the world. Join group leader Donna Krabill, Norfolk Botanical Garden and scientists Dr. Steve Madigosky, Widener University and Randy Morgan, Entomologist, Cincinnati Zoo on a rainforest discovery June 29- July 8, 2012. Experience a 1/4-mile Rainforest Canopy Walk-

way, Yagua Culture & Crafts, Village Service Project, ReNuPeru Ethnobotanical Garden, Birdwatching, Night Hikes, and Monkey Island Conservation Project. Open registration through May. Land cost is \$1850, plus air. Machu Picchu Extension is optional. Academic Credit is available. Land cost is \$850 for scholarship winners. Submit simple scholarship application by March 8. For program and scholarship information, visit <http://www.travel2learn.com/amazon.htm> (*case sensitive*). Contact Dr. Frances Gatz, 1-800-669-6806 or frances@ee-link.net.

Note: This is a fabulous trip - I did it in 1995 with three other ladies from Girdwood. Judy
