

PARTNERSHIPS STRENGTHEN SCIENCE EDUCATION

ASTA Newsletter Fall 2013



From the President, Cynde Hill

Greetings, Alaska Science Teachers!

As your new ASTA president, I invite you to be a part of our movement into the future. I have a great board of officers to work with and an organization of amazing educators such as you behind me as we begin some strategic plans for Science in Alaska. Many of you have significant expertise, energy, and enthusiasm for our profession and an understanding of the importance of science education for the children and youth of our state. I invite you to be a part of this effort. There are a variety of ways to serve. Please be checking on the website for opportunities to give some service in bigger or smaller ways that fit with your lives.

Now that we're through the first quarter, things have settled into productive routines full of fabulous learning for your students, right? I'm always excited to get into the meat of the learning with my students, as I'm sure you are, too.

One thing that really charges me up with enthusiasm for my profession, new ideas for classroom activities, more profound directions for my students and just plain fun with colleagues is the opportunity to attend an education conference.

I hope many of you were able to attend the biennial 2013 Alaska Math-Science Conference held in Anchorage from October 18th through the 20th. This year's conference proved to be another fabulous event for participants from all over the state. We had some powerful keynote speakers, unbeatable networking, vendors with the latest and greatest, fantastic field trips, and perfectly prodigious presenters!

Thanks for all you do to strengthen science education in our state!

Cynde Hill, October 2013

*Executive Board
of Alaska
Science
Teachers
Association*

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MISSION STATEMENT

To inspire, promote and support excellence in science education

Our **goals** are to

- Advocate for science literacy for all Alaskans.
- Promote the exchange of information about science and science education among researchers, scientists, institutions, public leaders and science teachers.
- Recognize indigenous knowledge and diverse ways of knowing about science and the natural world.
- Encourage the development of a skilled and knowledgeable work force in science related careers.

TRIBUTE TO "TUNNEL MAN"



At the biennial membership meeting at the Alaska Math and Science Conference on October 20, Kenji Yoshikawa of the University of Alaska, Fairbanks, received the prestigious Emma Walton Distinguished Service Award. Kenji is known by many adults and children as "Tunnel Man" for the mini-movies he has made to teach about permafrost and its effect on the landscape.

Nominated by teachers who have participated in his workshops, Kenji is recognized for the vast field experience he has done throughout the northern latitudes and high altitudes in Mongolia, China, Norway, Japan and Tanzania. Not only does he do the research and share it with educators, he engages children in person throughout the regions he visits. He encourages them to be citizen scientists which not only advances their process and thinking skills, it connects them to their homes in a deeply personal way.

Although Kenji was in Siberia, doing the same good work he does here in Alaska, and could not collect the award himself, in his acceptance letter shares his appreciation. He acknowledges, "I am so glad I am able to work with you at the same time in our history. And definitely, we would like to work continuously for bright Alaskan future!"

The Emma Walton Award is named for Dr. Emma Walton who passed away in October of 2012 at the age of 1979. Throughout her life, she promoted education as a teacher and curriculum director, professor, president of the National Science Teachers Association, and as a consultant for NASA's education programs at Ames Research Center. She exemplified lifetime contributions and a passion for learning and teaching science. Three other nominees for this year's award were Trisha Herminghaus, Pamela Randles, and Dave Gillam, all of whom have demonstrated admirable leadership and enthusiasm in the field of science education in Alaska and elsewhere in the U.S. and the world. Emma's husband, Jim, was present for this award and said that he believed Emma would be very pleased at the awarding of the recognition to Kenji and to see all of the dedicated educators present to celebrate the work we do.

REGIONAL NEWS

Southwest: Fish camp was held in Holy Cross in which local parents and elders were the main teachers and school teachers learned along with them. Math and biology teachers from the

school found excellent opportunities to show students how to apply needed skills and acquire hands-on learning.

Interior: Fairbanks after-school programs in Title I schools received grants to focus on STEAM activities. UAF is in its fourth year of an NSF grant for "Changing Alaska Science Education" which provides scientists in the classrooms at 12 sites, plus field trips, resources for teachers, and lesson plans.

Southeast: Haines High School offers an alternative energy course as an elective for science credit and students are exploring various ways to generate power and measure the efficiency. Haines Middle School plans to participate in the Science Olympiad. Skagway is preparing to defend its Lego League title.

SPRING CURRICULUM SURVEY

In spring of 2013, a survey was sent to all Alaskan public school districts to inquire what materials were being used to teach science and to measure the awareness of teachers and administrators about Next Generation Science Standards. Only 12 of 53 districts responded, so this survey will be conducted again in January. A wide range of published materials are used and some districts are creating their own, guided by the state standards. North Slope Borough School District is in a five-year process of revising the curriculum hoping to effectively integrate indigenous knowledge and applications with the rigorous national standards. One district reported that science education was "on the back burner" as teachers focused on addressing the new math and ELA standards.

One commonality is that all but two of the districts reported that they were reviewing curriculum now or would be in the near future, in hopes that the guide would be available in the next two years. This suggests that some dialogue among all stakeholders in STEM education would be timely.

MINI-GRANTS AWARDED

Mini-grants are one of the excellent benefits of belonging to Alaska Science Teachers Association. Typically \$1000 is awarded for professional travel in the fall and \$1000 for classroom projects in the spring. This money is distributed among two or more recipients to help defray costs of some quality training or particularly engaging classroom activities. This year, turnout was small for both "grant seasons," so some adjustments were made, extensions and re-advertising were applied.

Spring 2013: Michelle Daml (Fairbanks), travel grant of \$500 to present at NSTA conference in Austin.

Fall 2013: Christine S'Gro (Juneau) and Laurel Sands (Dillingham) received \$500 each for travel and
Joyanne Hamilton (Shageluk) and Raphia Maglinao (Kotlik) received \$250 each, all to attend the Math Science Conference in Anchorage.
Michelle Ganoza (Savoonga) received \$250 for a classroom project.

The next deadline will be **March 1, 2014 for classroom project grants**. Watch for applications on the web site. You must be an ASTA member in good standing to receive consideration.

LEGO LEAGUES ARE UNDERWAY

According to Becca Parks of the Juneau Economic Development Council, 171 First Lego League teams (ages 9-14) are in practice mode already, plus there are 73 FIRST Tech Challenge Teams

(high school and advanced middle school). Dimond High School has the only FIRST Robotics Challenge team in the state. Teams have been practicing since September and the tournament season opens up on November 23. A full schedule, details on the teams, and ways to get involved can be found here: <http://flalaska.com>.

ASTA MEMBER PRESENTS IN SAN ANTONIO

Michelle Daml

I am so appreciative of the opportunity provided me by receiving a grant from the Alaska Science Teachers Association. I used the grant monies to attend the 2013 NSTA conference in San Antonio. It was an amazing professional experience.

I was an elementary teacher in North Pole, Alaska for over 14 years and have recently moved to my present district Elementary Curriculum Coordinator position 3 years ago. While I still consider myself a teacher, being a curriculum coordinator comes with new challenges and a different way of thinking of instruction, best practices and teacher support. Attending the NSTA conference gave me so many tools to use and share with our district's teachers and support staff.

While I have always had a "big picture view" of teaching the daily reality is that I was in MY classroom in MY school. Our district is a large one in area with a diverse population, a diverse make-up of school populations and size and also a district in a state climate with extreme temperatures, which lends itself to being isolated in the winter months. Taking the Elementary Curriculum Coordinator position made me look at the role and support of teachers on a much bigger canvas. I had to see how to support teachers in instructional focus, best practices, guaranteed and viable curriculum and implementing new standards in their various locations and with their various classroom and building populations.

The sessions I attended provided me with many techniques to help support our teachers. I had the privilege to present at the Elementary Extravaganza and join elementary groups of professionals for an exceptional opportunity in engaging hands-on activities, strategies to excite and encourage your students, and a preview of the best trade books. I presented on Glaciers using the 2009 NSTA Science and Children Journal article, Explaining Glaciers Accurately.

I found the session led by the NSTA past president Patricia Simmons, Spirit, Opportunity, and Innovation: Science Education for a Smarter Planet very informative. Points made were well received:

- How can we reach all of our students with the spirit and passion for learning science? How do we ensure that our students have an opportunity to learn to their full potential?
- What are the best teaching practices, and how do we model them?
- How do we locate or create resources to support best practices of science and science teaching?
- How can we engage and actively involve all science education stakeholders (i.e., communities, families, educators, businesses, and others) to make outstanding science teaching happen...that is, science education for a smarter planet?
- What role will the Next Generation Science Standards play in science teaching and learning?

Other sessions I attended afforded me the opportunity to learn more about Literacy

(Informational Text and Close Reading) in Science, Science partnerships with Community Museums, Science in Physical Education classes, and Scientific Method versus Scientific principles.

This year I was appointed by NSTA president, Bill Badders, as the 2013-2014 Chair of the Advisory Board for the Science and Children Journal. I feel very honored to be given this position. During the conference I was able to meet with many of the advisory board and plan for the 2013-2014 year of journal articles.

Thank you for allowing and providing me this professional opportunity. Being able to network with other education professionals as passionate about making sure teachers and students are successful each and everyday was a tremendous experience provided me by the Alaska Science Teachers Association. I am thankful for this opportunity and I intend to "pay it forward" so others may have this opportunity.

KEEPING IN TOUCH WITH EACH OTHER

In this age of so much electronic communication, input can sometimes be overwhelming. Yet for many, checking in with a network far bigger than we have access to in our remote communities, or busy urban communities for that matter, makes us feel less isolated. We can tap into great ideas from across the country or get just the right encouragement from someone. Or you might be able to share just the right tip for someone struggling to engage students with a particular concept. There is a STEM conversation you can subscribe to through LinkedIn, Bjorn Wolter has started an Alaska Science Teachers Facebook page, and NSTA has opportunities for blogging. We hope that our ASTA web site will grow into such a mosaic of great ideas, too. Send information about professional development, great web sites, opportunities for students or just your own successful experiences to me at pattyb@aptalaska.net and we will find a way to spread the word.

RESOURCES

Alaska Resource Education: www.akresources.org

Apply for a curriculum kit to use in your classroom. It contains \$300 of materials for you to present balanced lessons about use and conservation of mineral, energy, and forest resources. Kit includes samples of rocks and minerals, an interactive CD, posters, maps and references as well as lesson plans and activity descriptions.

Polar Trek: www.polartrec.com

Check out the web site for webinars, learning resources, reference materials, connections with researchers--for all grade levels. Janet Warburton is the Project Manager for ARCUS in Fairbanks.

Join in the Celebration of Antarctica Day on December 1!

Alaska Department of Fish and Game: www.adfg.alaska.gov

Kits for loan, including Critter Cams. Click on the Education link, then For Educators to see what is offered and go to "contact us" to find your local representative.

COMPETITIONS

Shell Science Lab Challenge: www.nsta.org/shellsciencelab

Have you been making due with minimal lab equipment and supplies in your middle school or high school? Tell your inspirational story and make a case why your school should be given an opportunity to improve your lab.

ECyberMission: www.ecybermission.com

For grades 6-9 a web-based STEM competition challenging students in teams to take on problems in their own community and figure out some ways to solve them that demonstrate understanding of scientific inquiry or engineering design.

America's Home Energy Education Challenge:

www.homeenergychallenge.org

Register by November 15 for a competition in which students in a team develop an energy efficiency plan and take steps to reduce their home energy use. There is another tier called the **Energy Fitness Award** in which students demonstrate their knowledge about energy. Curriculum materials are provided.

Dupont Challenge Science Essay Contest: thechallenge.dupont.com

Team up with your language arts teachers and jump into the new Alaska ELA Standards with this one.

Samsung Solve for Tomorrow:

www.samsung.com/us/solvefortomorrow/home.html

THIS ONE CLOSES TODAY! You don't have to have your project completed, but explain how you would incorporate the challenge into your classroom.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

Nurturize www.nurturize.com is a brand-new educational web platform being launched for STEAM courses, activities, and resources. The developers are seeking talented teachers with engaging ideas to provide the content on the web platform and the teachers would be paid every time that resource is tapped. You can contact rehana@nurturize.com.

NSTA Learning Center: learningcenter.nsta.org/

Anytime, anywhere, most topics. This is a tremendous resource for any of us where we can access live online seminars and classes, stand-alone interactive activities, or look up something you need to teach, but are not quite sure of. You can keep track of resources you may want to use again with students and link up with other professionals who share your challenges or would benefit from your success. Some areas may be for NSTA members only.

PARTNERSHIPS WE ARE PROUD OF

More and more groups and agencies are teaming up with schools to provide experts, resources, field experiences, training, and more so that we can teach a wide variety of science topics and incorporate the big ideas into highly engaging interactions. We would like to be sure to share successes we have with these organizations and groups. Please send the editor (pattyb@aptalaska.net) news you have of ways you work with partner organizations in your communities. We want to shine a bright light on these wonderful folks and the work they do.

Arctic Research Consortium of the United States: www.arcus.org

Provides a link to the PolarTrec projects and research throughout Arctic Regions. They announce webinars and events of particular interest to people in northern regions and can link

your classroom with a scientist to help make research real, even to young students.

Prince William Sound Science Center: pwssc.org

Staff works with the local Cordova team to prepare for the annual Alaska Tsunami Bowl, a prelude to the National Ocean Sciences Bowl where students demonstrate understanding of the ocean forces and communities. Student teams respond to questions and prepare original research and video presentations. Staff provide a Discovery Room where students can learn about their marine environment including things they cannot normally see. Materials are also taken to other communities through an outreach program. Student and teacher workshops and field experiences provide investigations of plant succession and glacial effects in intact ecosystems.

Takshanuk Watershed Council: takshanuk.org

Takshanuk staff works with Haines School to carry out research through the GLOBE program each day, including frost tube monitoring, and collecting temperature, cloud cover, precipitation and snow pack data. Staff and volunteers initiated a composting program through which "Starvin' Marvin" helps feed "Marvin's Garden." Sixth graders help take pre-sorted lunch scraps to the composter and the compost produced is added to raised beds to grow produce in the summer which is served in the school kitchen in the fall. Through a program called "Chilkat Forest Investigators," an instructor takes students around the area to learn to identify and monitor animal populations and the habitat they depend on. They create videos to educate others in the community about the importance of stewardship.

Alaska Museum of Science and Nature: www.alaskamuseum.org

Provides opportunities for students in Anchorage to understand the ice age and earth history as evidenced in their community.

Murie Learning Center: www.murieslc.org

Offers training to teachers and others in all natural science subjects. Disseminates research information helpful to linking complex science content to the environment of our state. Watch for opportunities to apply for scholarships to summer courses, usually announced in December or January.

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