



ASTA Newsletter Spring/Summer Edition May 2014

ASTA Mission Statement

To inspire, promote and support excellence in science education

Goals

- * Advocate 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.

ASTA Executive Board

President Cynde Hill hill_cynde@asdk12.org
***President-elect** Michelle Daml michelle.daml@k12northstar.org
Secretary Janet Warburton warburton@arcus.org
Treasurer Tennie Bentz trbentz10@gmail.com
Southeast Representative Chip McMillan chipmcmillan@gmail.com
Southcentral Representative VACANT--You?
Northern Representative VACANT--You?
***Interior Representative** Carri A. Forbes carri.forbes@k12northstar.org
***Representative-at-large Seat A** Michael Haller michael.haller@boem.org
Representative-at-large Seat B Cindy Fabbri cfabbri@alaska.edu
Presidential Awards Dave Gillam gillam_david@asdk12.org
NSTA Region XVII Stephen Rutherford (Washington) rutherford@einsteinfellows.org
Editor of this newsletter Patty Brown, Past President pattyb@aptalaska.net

*Newly elected: Welcome aboard!

ASTA Web site: aksta.org

Also check out Alaska Science Teachers on Facebook

Inside this edition:

ITSE Awardee from Alaska, ASTA Special Science Fair Awards, Fall Professional Development Mini-grant application, curriculum resources, 2015 Math/Science Conference Plans, SOS Recruitment

ALASKAN PLACES THIRD at ITSE Science Fair

Taylor Seitz and Alisa Aist, both ASD students from the Polaris BioTaPP Program, earned the top two places in the Alaska Science and Engineering Fair and went on to compete in the International Science and Engineering Fair (ISEF) in Los Angeles, CA, May 12-May 16. Alisa and Taylor competed in ISEF along with 1600 other finalists from over 40 countries.

Each year, approximately 7 million high school students around the globe develop original research projects and present their work at local science competitions with the hope of making it to the Intel International Science and Engineering Fair, a program of Society for Science & the Public. Only the best and brightest—nearly 1,800 winners of local, regional, state, and national competitions—are invited to participate in this week-long celebration of science, technology, engineering, and math. At the event, these young innovators share ideas, showcase cutting-edge research, and compete for more than 5 million in awards and scholarships.

For her work in developing an on-site lateral flow test to detect the presence of paralytic shellfish poisoning (PSP), Taylor Seitz won third place overall in the division of Engineering: materials and bioengineering, and \$1000. Taylor is in the early stages of obtaining a patent for her lateral flow test.

Alisa Aist entered with her research in examining the effect of a Halibut and Salmon disease, Ichthyophonus, on the production of proteins in infected fish.

Both students will be continuing their research in the BioTaPP research program next year.

Love that glow of STEM pride! Congratulations!

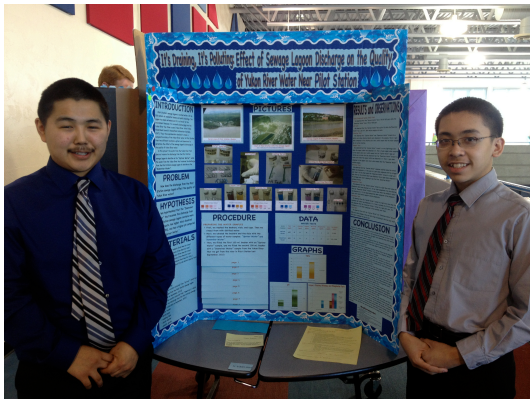


ASTA Awards Special Commendation at State Science Fairs

ASTA honored exemplary projects that addressed environmental impacts on culture.



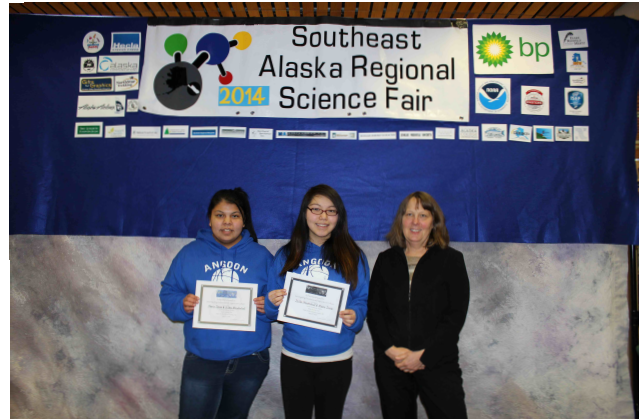
Alaska Science and Engineering Fair, "Science With Friends," was displayed March 21-23. Dan Distor, 14, and Ivan Fancyboy, 18, wanted to explore how biannual discharges from the sewage lagoon in Pilot Station into the Yukon River were affecting the quality of the river water. The lagoon is located within 100 meters to 500 meters of homes and buildings in Pilot Station.



The Pilot Station School students guessed that "downstream" water, which receives the sewage discharges, would have more contaminants, dissolved solids and a higher pH value than the "upstream" water, which does not receive the discharges. After conducting the experiment -- which involved driving four-wheelers to the river to collect samples -- the duo confirmed their contamination hypothesis was right, and plan to present the findings to Pilot Station's village council.

Interior Alaska Science Fair was held March 26-29, at Pioneer Park Civic Center. in Fairbanks. Evan Pemberton. His project was called, "Plight of Progress", about air quality in interior Alaska. He is in the 8th grade at Ben Eielson Jr./Sr. High School, Eielson Air Force Base.

Southeast Alaska Regional Science Fair was held March 1 in the Marie Drake Gymnasium in Juneau. ASTA selected Mariah James and Hillda Mendenhall of Angoon for their project "Local and Traditional Observations of Environmental and Climate Changes in Southeast Alaska." Their work included video-recorded interviews of elders in the community, asking for their observations of how subsistence harvests had changed in their lifetime as well as researching local scientific data on climate change/global warming. Girls are shown with Bonita Nelson, a science fair official.



Professional Development Mini Grant Apps: Members only!

Applications for a mini-grant up to \$500 are now open for professional development. They are DUE September 15, 2014, so shop around for a great learning opportunity for YOU! See application on-line under Awards and Grants, or use the one on the last page of this newsletter. Previously successful applicants have traveled to national and state conferences and other gatherings of science teachers. Be sure your ASTA membership is up-to-date when you apply. If you have any questions about the application, contact Cynde Hill at hill_cynde@asdk12.org

GREAT SUMMER OPPORTUNITIES FOR STUDENTS!

ASRA

www.uaf.edu/asra

Through ASRA

<http://forgirlsinscience.org/summer-weekend-camps/>

JEDC in Juneau

stemak.org/summerprograms

Science and Engineering Experience Kamp in Anchorage

seekalaska.org

Haines Science Camp in Haines

hainessciencecamp@gmail.com

through Sheldon Museum

Trailside Discovery Camp in Anchorage

<http://akcenter.org/trailside-discovery/>

Sitka Sound Science Center

<http://www.sitkascience.org/education/summer-camps/>

Prince William Sound Science Center

<http://pwssc.org/educate/discovery-summer/>

Nationwide (reference from Prince William Sound Science Center)

http://www.sciencebuddies.org/science-fair-projects/summer_science_camp-directory.shtml

YOU CAN JOIN! Science in Our Schools Visioning Group



A group of your colleagues from around the state, current and retired teachers, were spurred by energy generated before and during the 2013 Alaska Math and Science Conference. Further inspired by the mentorship of Patricia Simmons, former NSTA President, this group has been meeting throughout the winter to develop and implement ways to increase the presence, rigor, and relevance of science education in Alaska. The group is working with some support from ASTA, primarily the financing of monthly conference calls for now. Joanna Hubbard, former Presidential Awardee for Excellence in Science Teaching, is the facilitator, and she is using a highly effective leadership model to keep the group collaborating.

As with any new group, finding a focus, establishing an identity, and setting goals have been the first focus. A primary distinction between this group and ASTA is that SOS wants to rally the interest and contributions of science across the community in some specific and visible ways. This includes community and state leaders as well. Enhancing partnerships and publicizing the good work being done already would help accomplish this.

The five goals are:

I. Build public awareness of the importance of STEM education (communication)

II. Help get NGSS understood & in use (in tandem with other curriculum)

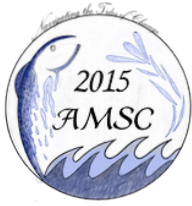
III. Support all K-12 teachers in being cutting edge & able to teach science

VI. Real science sooner (beginning Pre-K, Elementary is vital!)

V. Build a strong, unified group of stakeholders willing to act on behalf of STEM Education

Chair person, Joanna Hubbard hubbard_joanna@asdk12.org can provide you with the most updated version of objectives and activities with current priorities indicated and you can decide where to apply your skills and interests. You are needed to energize and upgrade STEM education in Alaska.

Some of your colleagues who are part of this dialogue are: Joanna Hubbard, Mike Fenster, Sheryl Sotelo, Scott Kluever, Dave Gillam, Debbe Lancaster, Texas Gail Raymond, Kathryn Kurtz, Trisha Herminghaus, Janet Warburton, Deb Greene, Jana Harcharek, Tim Buckley, Kameron Perez-Verdia, Patty Brown, and Cynde Hill.



2015 Math and Science Conference Planning: “Navigating the Tides of Change”

Plans are moving forward for the 2015 Alaska Math/Science Conference. The conference will be held in Sitka, Alaska, October 23-25, 2015. The theme is "Navigating the Tides of Change". Keynote speakers are being lined up. Friday, when all the Sitka teachers will be attending, will feature Mike Hanley, Commissioner of Education, a chance to share findings from our first assessment using the new math and ELA standards. Saturday we will hear Dan Meyer, Ted-X speaker and advocate for reforming math instruction, and on Sunday, Rodger Bybee, science leader who has been involved with the development and facilitation of NGSS, will inspire us. The website for the conference should be up and running in August 2014. We will be looking for presenters from around the state to share what they are doing with students in their classrooms.

If you're interested in helping at this stage or have input and ideas to share, contact Rebecca at himschootr@sitkaschools.org. We hope to see lots of you in Sitka in 2015.

Note: Beautiful logo was designed by Gian Carlo Coloma, sophomore at Sitka High, winner of the local design contest.

Sally Ride Science, founded by Dr. Sally Ride, America's first woman in space, provides college and career readiness training and tools to build students' passion for STEM fields and help teachers in grades 4-8 incorporate engaging career-focused approaches into their existing instruction.



Why the focus on grades 4-8? Studies have shown that this is where the biggest leak in the pipeline is. Approximately 70% of 3rd graders surveyed expressed an interest in science, but in high school only around 20% of kids are signing up for STEM courses.

Why the focus on careers? Easy: talk to 6th graders about physics, and their eyes often glaze over. Talk to them about designing roller coasters for a living (a STEM career that requires, naturally, physics) and their eyes light up. Presenting STEM through a career perspective helps keeps kids truly engaged, and often for life.

There are two free resources on their site that teachers may find useful. At STEM Central (<https://sallyridescience.com/stem-central/home>) you can explore thousands of FREE educator reviewed, rated, and ready-to-use STEM resources, including lessons plans, activities, investigations, videos, articles, and more.

They are also putting together a career mentoring website (<https://sallyridescience.com/content/tell-your-story#.U3-KtF5bTwi>) designed to promote interest in STEM topics and careers among students in grades 4-12.

Please feel free to share with STEM professionals you may know that would like to share their own story!

With its dual focus—and products like its new site license, which equips entire schools with eBooks, teacher training, and more—Sally Ride Science is helping to keep the pipeline full.

To learn more about Sally Ride Science, visit <https://sallyridescience.com>.



Reminder: Classroom Resources from ADF&G

Go outside and see how they they help you learn!

The Alaska Department of Fish and Game offers a wealth of resources designed to help educators bring fish and wildlife topics to life throughout the state. Whether you live in an urban center or a rural village, we offer a wide range of locally relevant materials and programs to assist you. It's worth your time to check out these great resources at <http://www.adfg.alaska.gov/index.cfm?adfg=educators.main>

- Conservation education kits that provide educators with hands-on materials, information and activities. They include a variety of hands on activities and lessons that incorporate math, science, language arts, social studies and art.
- *Alaska's Wild Wonders* is an annual publication available online and in printed form upon request. It serves as a resource primarily for upper elementary students to learn about Alaska's wildlife and habitats.
- Wildlife safety lesson plans, posters, coloring books, and in some regions, classroom presentations, to help teach children and adults about living with wildlife.

SCIENCE AND STUDENT WORK IN ALASKA

University of Alaska Fairbanks: Center for Global
Change and Arctic System Research
<http://www.cgca.uaf.edu/>



First Lego League
<http://www.filalaska.com/>
<https://www.youtube.com/watch?v=Ah8efHI2UoM>



ASTA Mini-Grant Application for Professional Development *Deadline –September 15, 2014*

Mini-grants are awarded to ASTA members on a semi-annual basis. Applications will only be considered if they are post marked or e-mailed by the due date. This application is for a **project mini-grant**.

**If awarded a professional development grant, receipts should be submitted to the ASTA Treasurer within 45 days after the professional development, and no later than a year after receiving the grant.*

If awarded a grant, it is also expected that you will submit an article to be published on-line and accessible to ASTA members.

**Must be an Alaska resident in addition to being an member of ASTA.*

The following application is for a **professional development mini-grant**.

Name of the Professional Development Activity

Teacher Name _____ School _____

Address _____

Phone _____ E-mail: _____

Amount Requested (\$500.00 maximum) _____

You may use additional pages to complete the following questions.

Professional Development Conference or Seminar Description

1. Briefly describe the professional development activity (conference, seminar, internship, training, etc.) that you are planning on attending. Include in the description the goals of the event, the proposed activities and the Alaska or NGSS Science Standards that will be addressed. **(5)**
2. What are your personal goals for attending this conference or seminar? How will you share the information that you receive with your fellow professionals and your students **(5)**.
3. Proposed timeline including the dates of the seminar or conference and presentations of information gained at the seminar or conference.

Proposed Budget (5)

Budget Amount	Activity
Total	

Expenditures are reimbursed from receipts mailed to the ASTA Treasurer following the documented attendance at the seminar or conference.

Guidance is available to help you write a strong application. Contact the Board member listed at the end of this application.

Scoring Guide for Seminar / Conference TRAVEL - Mini-Grant Proposal

Expenditures are reimbursed from receipts mailed to the ASTA Treasurer following the documented attendance at the seminar or conference.

Scoring Guide for Seminar / Conference TRAVEL - Mini-Grant Proposal

	Project Description	Timeline	Personal Goals/ Use of Information	Budget
5	<ul style="list-style-type: none"> Description of the seminar or conference is complete, concise and includes all required elements (project goals, # of students involved, Standards addressed, proposed activities) PD focuses on active science learning for a broad range of students and professionals 	<ul style="list-style-type: none"> Timeline is realistic Goals are achievable in allotted time 	<ul style="list-style-type: none"> Personal goals are well defined A plan to share information is well defined and thoroughly described 	<ul style="list-style-type: none"> Budget is clear All expenditures are directly related to attendance at conference or seminar
3	<ul style="list-style-type: none"> Description of the activity is clear, includes all required elements PD involves some active science learning for some students and professionals 	<ul style="list-style-type: none"> Timeline is realistic Goals may be achieved in allotted time 	<ul style="list-style-type: none"> Personal goals are clear A plan to share information is minimally described 	<ul style="list-style-type: none"> Budget is clear Most expenditures are directly related to attendance at conference or seminar
1	<ul style="list-style-type: none"> Description of the activity is unclear, may be missing required elements PD does not involve active science learning for students and professionals 	<ul style="list-style-type: none"> Timeline unrealistic Goals not achievable in allotted time 	<ul style="list-style-type: none"> A plan to share information is not well defined or thoroughly described A plan to share information is not well defined 	<ul style="list-style-type: none"> Budget is not clear Expenditures are not related to attendance at conference or seminar

Mail (postmark date on or before September 15, 2014) or e-mail the completed form to hill_cynde@asdk12.org no later than September 15, 2014. Forms can be mailed to 3326 Upland Drive, Anchorage, AK 99504.

I assert that these plans I am presenting are as accurate as I can make them and that I intend to make every effort to complete this project.

Signature of Applicant

Date