

# Pennsylvania

Science Matters eBlast

May 25, 2018



**Members receiving the Science Matters eBlast: 7,140**

**Please note that if you are transitioning** over the summer to a new job or retiring, please take time to change your email within either the [SAS Science Learning Community](#) or on the [Science Matters website](#). If you are leaving your building, please find someone within your building to be the contact for the eBlasts. Send them the links above.

## PSTA Conference

**PSTA Annual Conference** will be held September 30 – October 1, 2018, with the theme of **STEM Education: A Pathway to Success**. **Jeff Remington**, [national STEM Ambassador](#) and middle school science teacher at Palmyra Area School District, will be the Keynote Speaker. **Registration** is [now open](#). Register and pay by June 15 to be entered in a drawing for a \$25 Amazon gift card. **PSTA Session Proposals** can be submitted by accessing the [Conference](#) page on the [PSTA website](#).

## Science Education in the News

**The Council of Chief State School Officers (CCSSO)** and New America jointly released a paper highlighting how states are supporting Open Educational Resources (OER) in the classroom and lessons other states can apply to improve these resources in the future. [Navigating the New Curriculum Landscape](#) provides a deeper look into specific work underway in states related to OER, how states are supporting OER implementation, and what lessons can be learned. The report also spotlights examples of new approaches for promoting and sustaining open, relevant, and high-quality instructional materials. It concludes with five key takeaways for state leaders to consider as they improve the quality and affordability of the materials teachers are using every day.

**STEM For All** [video showcase](#) is available with numerous videos of students and projects. These [videos](#) are from Transforming the Educational Landscape, May 14-21.

**Science in the Learning Gardens (SciLG):** [a study of students' motivation, achievement, and science identity in low-income middle schools](#) was recently released. [Science in the Learning Gardens](#) program was designed to address two well-documented, inter-related educational problems: under-representation in science of students from racial and ethnic minority groups and inadequacies of curriculum and pedagogy to address their cultural and motivational needs. Funded by the National Science Foundation, SciLG is a partnership between Portland Public Schools and Portland State University. The sixth- through eighth-grade SciLG curriculum aligns with Next Generation Science Standards and uses school gardens as the milieu for learning. This provides the context to investigate factors that support success of a diverse student population using the motivational framework of self-determination theory. Findings suggest that garden-based activities show promise for supporting students' engagement and learning in science classes and in fostering students' interest in pursuing science long-term.

**Joe Walker students** [are working with the Western Pennsylvania Conservancy](#) to help stem erosion along a stream through the planting of native trees and shrubs to protect a stream that runs by school. [The Pittsburgh-based](#)

[conservancy](#) has been given a \$55,000 grant from the [EQT Foundation](#) to overhaul the banks of a stream that runs alongside the playground at the school after students noticed the stream banks were eroding.

**The 2018 Innovation Finalists** for excellence in [GSI for innovation](#) were awarded on May 18. The finalists are listed [here](#). Stroud Water Research Center has an excellent app, [Model My Watershed](#), that functions as both a learning tool and a land-use decision making tool. Students can explore the environmental impact of human activity on their neighborhoods and watersheds by using two different models to estimate storm water runoff and human impacts to water quality.

**Broadening Youth Participation in Computer Science & Engineering** – [The Center for Innovative Research in Cyber Learning](#) is addressing the need to support and engage underrepresented groups in science and engineering. Some programs have had success in the goal of increasing the interest and engagement of underrepresented groups in engineering and STEM. Many of these developed curriculum, intensive teacher training, student competitions, and other practices—such as providing mentors and same-gender/race role models, and using real motivating problems in the students’ community—to engage underrepresented groups in engineering and design. In general, the most successful programs that have an impact on underrepresented groups are those that have role models that youth can identify with, and that develop appropriate situational, culturally relevant interactions with target youth.

**Computer Science for All** has a [blog](#), [resources](#), journals, [events](#), and a [focus on different levels](#). Check out the blog and don’t hesitate to contribute!

**NSTA has a call for papers** to be included in their different journals. Check out the topics for [Science and Children](#), and [Science Scope](#) (middle level). Individuals all across Pennsylvania are involved in amazing projects along with creating exciting classrooms. This is your time to share what you have learned with educators across the US.

## Professional Opportunities and Resources

**NSTA’s NEXT GEN NAVIGATOR** May issue has quite a few resources. You can view it as a [web page](#) and sign up for [monthly emails here](#). This issue deals with planning and carrying out an investigation as an important science and engineering practice as described by the [Framework of K–12 Science Education](#). It states, "Scientists and engineers investigate and observe the world with essentially two goals: (1) to systematically describe the world and (2) to develop and test theories and explanations of how the world works. In the first, careful observation and description often lead to identification of features that need to be explained or questions that need to be explored." ([Framework, page 59](#)) We want our students thinking, acting, and communicating the way scientists do. In this issue we see how kindergarten students carry out investigations as citizen scientists. At the high school level, Heather Johnston leads her students into complex learning about nucleon interactions.

[Kindergarten Citizen Scientists: Taking Action to Save the Earth](#)

[Creating Visuals for Nucleon Interactions](#)

[Quality Examples of Science Lessons](#)

K-2: [Robots Everywhere](#)

3-6: [Taking the “Mystery” Out of Argumentation](#)

6-8: [The Day the Mesozoic Died](#)

9-12: [Global Energy Flows](#)

[Planning and Carrying Out Investigations progression chart](#)

[STEM Teaching Tool](#)

Recommended reading: [Designing Meaningful STEM Lessons](#) by Milton Huling and Jackie Speake Dwyer

**Science Week, sponsored by Pittcon** has announced the [fall workshops](#) at the David L. Lawrence Convention Center. Dates are Saturday and Sunday, October 20 & 21. There are both [teacher](#) and [student](#) workshops planned. As part of the workshops, [teacher equipment grants](#) are also available.

**The Dive Deeper Youth Water Education Summit** is scheduled for September 20. The [program](#) includes: a wide variety of presentations to choose from throughout the day (snorkeling, pond storytelling, aquatic bugs, manure as a water pollutant, inquiry investigations, curriculum integration, and more); new and innovative curriculum, tools, resources for use with youth of all ages (pre-K, K-12, even adults); amazing keynote and capnote speakers on incorporating art and technology in water education; networking lunch with others in the water education community; exhibitors with great resources to share; free testing of your home drinking water (optional), and; pre-conference tours the day before the summit. Act 48 hours will be available for certified PA teachers.

**There are multiple PD** opportunities all across Pennsylvania. They are now listed in the table below with links to descriptions. Take advantage of the numerous opportunities available for promoting high quality teaching and learning of science.

## Calendar of Events

<p><b>Pennsylvania State Parks</b> continue to <a href="#">offer innovative, multi-modal educator workshops</a> across the state. Act 48 Credit is available for all sessions. Descriptions of all sessions are in the link above. To be added to newsletters, email Carissa Longo: <a href="mailto:calongo@pa.gov">calongo@pa.gov</a></p>			
Wild About Elk Educator Workshop – limited to 28; Act 48; Free	June 8	Elk Country Visitor Center (ECVC)	570-398-4744 Ext. 311.
Archaeology Field School: Levels 1 and 2; Act 48; Graduate Credit	June 18	Greenwood Furnace State Park	Registration: Connie Flaherty, Tuscarora Intermediate Unit #11 at 814-542-2501
Wonders of Wetlands (WOW) Educator Workshop	June 21	Middle Creek Wildlife Management Area Classroom	Registration: Dan Lynch at 610-926-3136 ext.6610 or <a href="mailto:dalynch@pa.gov">dalynch@pa.gov</a>
Advanced Project Wild Workshop: Wildlife Forensics – Act 48; \$10	June 28	Trexler Environmental Center	<a href="#">Registration and Information</a>
Advanced Project Wild Workshop: Wild About Bears – Act 48	July 10	Elk Country Visitor Center	Registration: 570-398-4744 ext.311
Advanced Project Wild Workshop: Wildlife Forensics – Act 48	July 12	Yellow Creek State Park	Registration: Lisa Meadows: <a href="mailto:limeadows@pa.gov">limeadows@pa.gov</a>
Watershed Education (WE) Teacher Workshop – Act 48	July 12 & 26	Moraine State Park	Registration: Natalie Simon, <a href="mailto:nasimon@pa.gov">nasimon@pa.gov</a> or 724-368-3612.
Nature for Little Learners Educator Workshop	July 24	Ricketts Glen State Park Visitor Center	Registration: Rhiannon Summers: <a href="mailto:rhsummers@pa.gov">rhsummers@pa.gov</a> or 570-477-7780
Project WILD Educator Workshop – Act 48; \$15	July 24	Tuscarora State Park	<a href="#">Registration and Information</a>
Advanced Tree Measuring Teacher Workshop – Act 48; \$75	July 26 & 27	Cook Forest State Park	Dale Luthringer: (814)744-8475 or <a href="mailto:dluthringe@pa.gov">dluthringe@pa.gov</a>
Project Learning Tree Educator Workshop; Act 48; Free	August 10	Clear Creek State Park	<a href="#">Registration and Information</a>
Advanced Project Wild Workshop: Wild About Animal Sign and Tracking; Act 48; \$10	August 7	Kettle Creek Environmental Education Center	Registration: Dan Lynch at <a href="mailto:dalynch@pa.gov">dalynch@pa.gov</a>
Project Learning Tree Educator Workshop; Act 48; Free	August 10	Frances Slocum State Park	Registration: Kathy Kelchner: <a href="mailto:kkelchner@pa.gov">kkelchner@pa.gov</a> or 570-696-9105

<b>Department of Environment and Protection</b> has numerous workshops for teachers. Act 48 credit is available.			
Weathering the Storm – Stormwater Workshop	June 12	Erie	<a href="#">Registration / information</a>
Weathering the Storm – Stormwater Workshop	June 13	Palmer Nature Reserve	<a href="#">Registration / information</a>
<b>The Center for Science and the Schools (CSAT)</b> has a <a href="#">calendar</a> with all the professional development sessions scheduled to date. They are available for teachers of all levels with Act 48 credits.			
Using Radar for Analyzing Weather	July 16 – 20	State College	<a href="#">CSAT's Website</a>
Bighorn Basin Teacher Workshop	August 5 – 11	Yellowstone	<a href="#">Registration and Information</a>
<b>Chesapeake Bay Foundation</b> PD Opportunities designed for <b>Pennsylvania</b> Teachers – <a href="#">Information and Registration</a>			
Past to Present: Mapping the Chesapeake Bay	June 25-29	Karen Noonan Memorial Environmental Education Program	<a href="#">Information and Registration</a>
Full STEAM Ahead: Exploring Biodiversity of the Midstate and the Impacts of Human Development Through a STEAM Lens	June 25-29	Pennsylvania	<a href="#">Information and Registration</a>
Teachers on the Bay: Marine Ecology	July 9-13	CBF's Fox Island Environmental Education Program	<a href="#">Information and Registration</a>
Pennsylvania's Waterways: Investigating Water Quality and Recreation in the Cumberland Valley	July 23-25	Harrisburg Area	<a href="#">Information and Registration</a>
A Sense of Place: Developing Environmental Literacy Through Place-Based Learning	July 23-27	CBF's Port Isobel Environmental Education Program	<a href="#">Information and Registration</a>
Teachers on the Estuary: A Field-Based Scientific Inquiry	July 30 – August 3	CBF's Karen Noonan Memorial Environmental Education Program	<a href="#">Information and Registration</a>
A Bird's Eye View of the Chesapeake Bay	August 6-10	Port Isabel Island and Fox Island	<a href="#">Information and Registration</a>
<b>Pennsylvania State Library</b> in Harrisburg - <a href="#">website</a>			
Boards and Coding	July 9	Harrisburg	Ellen Shenk: 717-783-5969 or <a href="mailto:ellshenk@pa.gov">ellshenk@pa.gov</a>
Wildlife Forensics	July 16	Harrisburg	Ellen Shenk: 717-783-5969 or <a href="mailto:ellshenk@pa.gov">ellshenk@pa.gov</a>
Technology in Teaching Geology and Paleontology	July 23	Harrisburg	Ellen Shenk: 717-783-5969 or <a href="mailto:ellshenk@pa.gov">ellshenk@pa.gov</a>
<b>Lebanon Valley College STEM Course Offerings Summer 2018</b>			
STEM Leadership Beyond the Classroom Walls	6/5, 6/7, 6/12, 6/14   6-9 p.m.	LVC	<a href="#">LVC Master of Science in STEM Website</a>
Waterways	June 4-15	Middle Creek Wildlife Area	<a href="#">LVC Master of Science in STEM Website</a>
Making the most out of a Makerspace	Aug 6-10	LVC	<a href="#">LVC Master of Science in STEM Website</a>

MSE 821 – Exploration of STEM Careers	July 16-20	Various Locations	<a href="#">LVC Master of Science in STEM Website</a>
Principles of General Science	July 16- August 3	LVC	<a href="#">LVC Master of Science in STEM Website</a>

## Conferences Calendar

PD Opportunity	Date	Location	Information/Register
PSTA Annual Conference	Sept 30 – Oct 1	State College	<a href="#">Information – PSTA Website</a>
National Association Of Geoscience Teachers Eastern	June 7-9	Millersville University	<a href="#">Information and Registration</a>
NSTA's Picture Perfect	June 12-13	IU 13	<a href="#">Information and Registration</a>
NSELA's Summer Institute	July 9 – 11	Philadelphia	<a href="#">Information and Registration</a>
NSTA STEM Forum and Expo	July 11 – 13	Philadelphia	<a href="#">NSTA Conference Page</a>
PCTM	August 6-7	Harrisburg	<a href="#">Information and Registration</a>
Dive Deeper Summit	September 20	Harrisburg	<a href="#">Conference Website</a>
Pittcon Science Week	October 20-21	Pittsburgh	<a href="#">Information and Registration</a>

## Opportunities, Grants, Awards, Contests

Award/Opportunity	Date / Deadline	Information
PSSA / Keystone Exam Committee	Apply now for 2019	<a href="#">Information and Application</a>

## Science Matters Information

If someone sent you this eBlast, you can become a member of Science Matters to receive it directly! Go to [Science Matters website](#) or [SAS Science Learning Community](#). Science Matters is an initiative of the [Pennsylvania Science Teachers Association](#) and the [National Science Teachers Association](#) to promote quality science education, through the sharing of information, resources, and professional development opportunities. All eBlasts are archived in the Content Repository of the SAS [Science Learning Community](#). The Pennsylvania state coordinator is Dave Bauman: [davbauman@pa.gov](mailto:davbauman@pa.gov).

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