

CONNECTICUT SCIENCE CONNECTION

December 2017

THE CONNECTICUT BUILDING A PRESENCE FOR SCIENCE NETWORK IS SUSTAINED THROUGH THE ADVOCACY OF THE CCAT, CONNECTICUT SCIENCE SUPERVISORS ASSOCIATION, THE CONNECTICUT SCIENCE TEACHERS ASSOCIATION, AND THE CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING

State Coordinator.David Lopath lopath@comcast.net , List Moderator..Eloise Farmer eloisef302@gmail.com
NAMES AND E-MAIL ADDRESSES OF OUR POINTS OF CONTACT AND KEY LEADERS ARE NOT SHARED WITH ANY OTHER ENTITY



HAPPY HOLIDAYS!!

Professional Development Opportunities! Are you interested in high quality, low cost, Teacher Professional Development opportunities? Visit the [CSTA website](http://CSTAwebsite) and click on Opportunities. You will not be disappointed. Contact us if you have questions.



SciJinks E-Newsletter



Click on the link to learn more about JPSS! <https://scijinks.gov/subscribe/>

Green Teacher

Green

Teacher has recently launched a YouTube Channel. In time, we hope this will grow into a valuable resource for educators.

<https://greenteacher.com/check-out-these-videos/>

Next CSSA Professional Development and Dinner Meeting

**DECEMBER 6TH
RADISSON HOTEL, CROMWELL
SPONSOR:**



Houghton
Mifflin
Harcourt.

[Join the CSSA](#)

FUTURE MEETINGS:

**FEBRUARY 21ST Discovery Center
APRIL 4TH**

**DO YOU KNOW A SCIENCE TEACHER DESERVING OF
RECOGNITION? CONSIDER NOMINATING A CANDIDATE FOR:**



Presidential Awards for Excellence
in Mathematics and Science Teaching

Rewarding & Inspiring Great Teaching Since 1983



[Click here](#) to nominate

The 2017 Secondary Science Finalists, whom CSSA honored at their October 11 Professional Development Dinner Meeting are as follows:

Matthew Brodeur - East Hartford High School

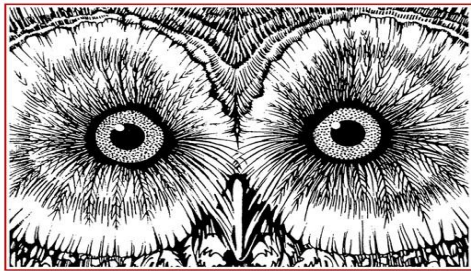
Erin Lucia - New Milford High School

Alexa Mitchell - RHAM High School - Region 8

Anja Pennell - Greater Hartford Academy Of The Arts Magnet Middle School

Diane Pintavalle - Glastonbury High School





Black Bears In Connecticut:

When, Where, And How Many?

Dr. Tracy Rittenhouse,

Department of Natural Resources
and the Environment, UConn

Saturday, December 2, 1 pm

Biology/Physics Building, Room 130,
UConn, Storrs, CT. No registration
required – FREE

**Uncovering Connecticut's Past:
Recent Discoveries from the Office
of State Archaeology**

Dr. Brian Jones, State Archaeologist,
Museum of Natural History, UConn .
Saturday, December 9, 3 pm –
Biology/Physics Building, Room 130,
UConn, Storrs, CT. No registration
required – FREE

The New York Academy of

Sciences is proud to announce the
release of its new Innovation
Curriculum, a free resource to engage
middle and high school students in
authentic project-based learning!

Aligned to Next Generation Science
Standards, this flexible curriculum
teaches students how to solve
challenges facing their
communities—and communities
around the world—by applying
principles of scientific research and
design thinking. Along the way,
students will build STEM knowledge
and develop 21st-century skills like
critical thinking, creativity,
collaboration, and communication.

Use the materials to support
students competing in the [Future of
Buildings and Cities Challenge](#)
starting **October 19**, or run a
challenge of your own!

Download the Curriculum: This FREE resource is available in two forms.

[Classroom Model](#): designed to be implemented over 8–10 weeks, with in-class
lessons (approximately 1–2 hours per week) and assignments for students to
complete outside of class

[Workshop Model](#): packaged as an intensive 1–2 day session, similar to a “hack-a-
thon”

American Museum of Natural History

Curriculum Collections

Collections of activities, articles, videos and more, for educators, families,
students and anyone interested in teaching or learning about science.

<https://www.amnh.org/explore/curriculum-collections>

JASON Learning opportunities

Open Access to JASON Programs for Public School Educators & Students in
Connecticut Through 2018 JASON Learning is a nonprofit whose mission is to
inspire and educate students everywhere through real science and exploration.
JASON offers hands-on labs, digital simulations and games, articles, videos,
interdisciplinary connections, and powerful classroom management tool for
teachers. Explore earth science, forces & motion, energy, climate, recycling,
ecology, environmental science, oceanography, weather, wetlands and more.
Register at www.jason.org/ct using your school email address for free access to
JASON's award-winning curriculum.

Also visit our NGSS page: <http://www.jason.org/ngss> for guidance on what
resources best support NGSS and lesson planning and classroom tools.

JASON Learning Professional Development for 2018 ! Check back at
<http://www.jason.org/ct> for updates on dates and locations.

**NEW! Two-part Series: Resources and Tools for an NGSS Curriculum & Problems
of Practice (Recommended for middle school) Getting ready to or already
designing your NGSS units of instruction? These two-part workshops will help
educators build capacity to implement NGSS pedagogy, be introduced to
resources, tools, and strategies that can be included in NGSS units of instruction,
and pilot lessons and activities with opportunities to ask new questions, share
out challenges, successes, and recommendations with a network of peers.**
Although selected investigations and resources from specific JASON curricula will
be used to illustrate strategies and pedagogy, ideas and tools will be transferrable
to other resources educators may be working with. During Day 1 of each
program, participants will experience selected three-dimensional investigations
and will resources, explore key JASON-NGSS teacher tools, and locate additional
candidate resources for inclusion in NGSS units of instruction. Educators will take
away actual lessons, ideas and strategies to use and pilot with students in the
classroom. During Day 2, educators will share their experiences using the
resources, successes and challenges, and tips and strategies for integrating them
into larger NGSS units. Sessions will also include strategies for connecting lessons
and resources to other science disciplines through PE bundles. Participants must
attend both dates. Three programs will be offered in 2018. Full descriptions
coming soon at www.jason.org/ct.

<https://drive.google.com/file/d/0Bz8yoOUPBg9xZFFuaHdyczRwSXM/view>

World of Waves is an innovative, career- and practice-focused middle school physical sciences curriculum, designed to build a deep, working understanding of the physics of waves and their importance in our world.

Students explore how sound, light and other electromagnetic waves are involved in engaging real-world phenomena, like surfing in the ocean, animal communication, and mobile networks. Through immersive, hands-on learning experiences gain:

- Foundational content knowledge and insights into expert applications of waves
- Critical and design thinking skills
- Data and modeling skills
- Experience with coding and engineering applications.

WANT TO GO TO THE AMAZON?

Scholarship & Grant \$ for Amazon Rainforest PD Workshop

What: 2018 Educator Academy in the Amazon Professional Development

When: July 1-11, 2018

Grant: \$1500 Vernier Software & Technology Grant for a HS/AP Science Educator

Scholarships: \$1100 Amazon Workshops Scholarships for K-12 Educators

Application Deadline: February 1, 2018

Get more

info: <http://amazonworkshops.com/educator-academy/>

The July 1-11, 2018 Educator Academy in the Amazon Rainforest of Peru is a cross-curricular professional development workshop for formal and informal science educators. Highlights include:

- **21st Century Instruction:** 5E Lesson Design ~ Inquiry-Based Exploration ~ STEM
- **Inquiry Protocols & Resources:**

Vernier Software & Technology ~ Celestron Digital Microscopes

- **Global and Cultural Perspectives:** Service Learning ~ Sustainability ~ Global Education
- **NEW!** A specialized track for **HS bio and environmental science educators** with a focus on **sustainability, conservation**, and field work with the **Maijuna indigenous community**
- **Work side-by-side with scientists and researchers** on citizen science projects and field studies.
- Explore the ¼ mile long **ACTSPeru Rainforest Canopy Walkway** in one of the world's most biologically diverse environments.
- Work with fellow educators to explore strategies for using the Amazon as a vehicle for incorporating **STEM education, inquiry-based learning, and sustainability science** education into your classroom.

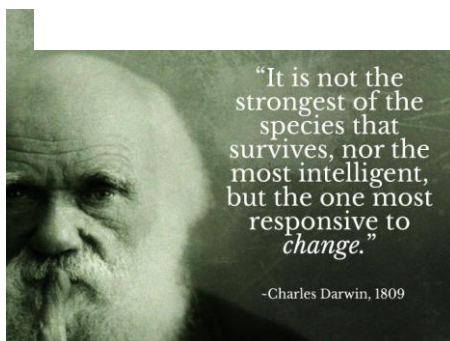
Get the details and download a syllabus and scholarship application at:

<http://amazonworkshops.com/educator-academy/>

Contact program director, Christa Dillabaugh at christa@amazonworkshops.com or [1-800-431-2624](tel:1-800-431-2624) for more information.

Welcome to the Darwin Day Roadshow!

The Darwin Day Roadshow is a way for scientists and educators to share their enthusiasm for evolutionary science with students, teachers and the general public across the United States in the spring each year, to celebrate Charles Darwin's birthday (February 12th).



Applications from host teachers for the 2018 Roadshow are now being accepted and are due **December 20, 2017**. If you would like to participate in a future Darwin Day Roadshow, check out our [“How to Apply” page](#) for more information.

Use the Twitter hashtag [#DDRS18](#) to stay up to date!

If you are a scientist interested in

participating please email [Travis Hagey](#).

The Darwin Day Roadshow is currently sponsored by the [BEACON Center for the Study of Evolution in Action](#) and the [Society for the Study of Evolution](#).

VISIT THE ENGINEER GIRL WEBSITE FOR EXCITING OPPORTUNITIES FOR THE YOUNG WOMEN IN YOUR CLASSES! <https://www.engineergirl.org/>

Every year, EngineerGirl sponsors a contest dealing with engineering and its impact on our world. Usually the announcement is posted in the fall with judging and winners announced in the spring. [Visit the contest page](#) to see past winners or view the new contest.

The great thing about being part of the Science Matters newsletter initiative is the sharing that goes on among the different State Leaders. Nancy Ridenour, one of the New York State Coordinators, compiled this list of links to available grants for teachers and students. It is a long one, and well worth looking at. Thanks, Nancy! You are the best! The following is from Nancy verbatim.

"Greetings from the STANYS conference in Rochester. I am sitting at the Science Matters booth, talking with attendees about joining the network. See attached photo of me at the booth. Come on by if you are here at the conference!

While sitting here, I developed a list of some resources that I hope will be helpful to you with grant writing. Good luck with your endeavors."

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Science Matters grant information

<https://www.grantwatch.com/cat/30/science-grants.html>

<https://www.grantwatch.com/resources.php#newyork>

- Award to a USA or Canada K-12 Teacher for Outstanding Science Instruction

<http://cityscience.org/index.php/stem-news/ClassroomGrants/>

<https://teach.com/what/grants-for-teachers/>

<http://www.cesa2.org/programs/stem/STEMgrants.cfm>

<http://www.nea.org/home/10476.htm>

http://modeling.asu.edu/modeling/GrantGuide_oldButUseful.pdf (Prepared by the Triangle Coalition Written by LaRae White, Arthur Livermore)

<http://eduscapes.com/tap/topic94.htm>

http://teachingcommons.cdl.edu/sec/grants_awards/index.html

<https://www.edutopia.org/grants-and-resources>

http://www.educationworld.com/a_curr/profdev/profdev039.shtml

<http://www.educatoral.com/wordpress/2016/06/06/sample-grant-proposals-reboot/>

<http://fundsforwriters.com/grants/>

<https://www.pearson.com/us/higher-education/products-services-institutions/educational-grants-help.html>

<http://govgrantsusa.org/>

Teacher education

grants... https://search.knowzo.com/kzo15/search/web?q=teacher%20education%20grants&utm_source=bing&utm_medium=cpc&utm_campaign=15-KZO-EducationGrants-Bing&utm_term=teacher%20education%20grants&utm_content=Education%20Grants%20-%20DKI

Grant writing examples for teachers-

<https://www.bing.com/search?q=grant+writing+examples+for+teachers&FORM=QSRE1>

Science grants for elementary teachers-

<https://www.bing.com/search?q=science+grants+for+elementary+teachers&FORM=QSRE2>

Grant writing tips for teachers-

<https://www.bing.com/search?q=grant+writing+tips+for+teachers&FORM=QSRE3>

Teaching grant writing-

<https://www.bing.com/search?q=teaching+grant+writing&FORM=QSRE4>

Grants for science-

<https://www.bing.com/search?q=grants+for+science&FORM=QSRE5>

Grant writing for educators-

<https://www.bing.com/search?q=grant+writing+for+educators&FORM=QSRE6>

Grant writing for educators-

<https://www.bing.com/search?q=grant+writing+for+education&FORM=QSRE8>

Professional Development Grants For Teachers

[NEA Foundation Learning and Leadership Grants External link](#)

Amount: \$2,000 to \$5,000

Description: The [NEA Foundation for the Improvement of Education External link](#) awards grants that support the professional development of public school teachers and faculty in public institutions of higher education. Grants may fund professional development experiences, such as summer institutes or action research, mentoring experiences or lesson study. Professional development must improve practice, curriculum and student achievement, and recipients must put professional leadership into practice by sharing what they learn with their colleagues. Grants cannot be used to fund a degree. For specific information, visit the NEA Foundation's [application instructions External link](#) page.

[Return to the top](#)

[Albert Einstein Distinguished Educator Fellowship Program External link](#)

Amount: \$6,000 monthly stipend, \$1,000 monthly living expenses

Description: This grant is an excellent and unique professional development opportunity for K-12 teachers who have at least five years of experience teaching in STEM subjects. STEM educators participate in 10- or 11-month positions in federal agencies or U.S. congressional offices across the country, during which time they are given the chance to have a direct impact on education programming, policy and reform efforts. After the program, teachers return to the classroom with a deeper understanding of STEM education and experience that will enrich instruction and benefit students. You can learn more about the application [here External link](#).

[Return to the top](#)

[Fund for Teachers External link](#)

Amount: \$5,000 to \$10,000

Description: [Fund for Teachers External link](#) is unique in that it awards grants for professional development based on the principle that the teacher is the one who knows what they need to grow as an educator. These grants are self-designed and allow teachers to create their own professional development opportunity based on what is most beneficial to their teaching in their own opinions. The [application External link](#) encourages educators to think about their objectives, motivations and the impact their particular plan of action will have on students.

[Return to the top](#)

[McCarthy Dressman Teacher Development Grants External link](#)

Amount: up to \$10,000 per year for three years

Description: The McCarthy Dressman Education Foundation provides Teacher Development Grants for individual teachers or small teams working in K-12 education. To foster insightful and innovative professional training and growth, the grants allow you to implement new teaching methods and strategies in the classroom. Projects can take a variety of forms, but each of them must be geared towards having a significant and lasting impact in the classroom. Winners work closely with the foundation to implement their ideas and are awarded up to \$10,000 for the first three years of the project. [Return to the top](#)

Funds For Classroom Enrichment/student Achievement

[DonorsChoose.org External link](#)

Amount: N/A

Description: While not a traditional grant, DonorsChoose.org is an excellent way of raising funds for your classroom. Public school teachers essentially propose classroom projects and post their proposals on the website. In these proposals, you will include very specific items that you need, ranging from standard tool supplies to microscopes, laboratory equipment and computer software. Donors browse the site and have the opportunity to donate money to your cause.

[Return to the top](#)

[Elmer's Teacher Tool Kit Grant External link](#)

Amount: \$100 to \$500

Description: [The Kids in Need Foundation External link](#), a leading organization aiming to provide free school supplies to students in need, has partnered with the educational product company [Elmer's External link](#) to create grants specifically for classroom supplies. The Teacher's Tool Kit Grant lets K-12 teachers in high-needs schools fund classroom projects that aim to foster creativity and critical thinking in students. Grants are awarded based on financial need, a description of how the project meets the students' needs and the number of students who will be

involved. The application is available on the [Kidsin Need Foundation's website External link](#).

[Return to the top](#)

[Target Field Trip Grants External link](#)

Amount: \$700

Description: Since 2007, the Target Company has donated more than \$16 million in grants to the improvement of education. As part of their efforts, Target seeks to expand the parameters of the classroom by providing opportunities for you to fund educational excursions for your classes. Each Target store in the United States will award three Target Field Trip Grants, enabling one in 25 schools throughout the country to send a classroom on a field trip. Funds may be used for transportation, registration for events, admission prices and other field trip expenditures.

[Return to the top](#)

[NEA Foundation Student Achievement Grants External link](#)

Amount: \$2,000 to \$5,000

Description: The [NEA Foundation External link](#) allows practicing public school teachers to apply for the funding of programs designed to improve the academic achievement of students. You must create a plan that fosters critical thinking and problem solving in students and aims to expand their comprehension of various subjects. The grant will fund your efforts for 12 months, and funding may be used for resource materials, supplies, equipment, transportation and technology — any part of the proposed plan that has a direct impact on the students' learning. For specific application information, visit the

NEA Foundation's [application instructions External link](#) page.

[Return to the top](#)

[ING Unsung Heroes Program External link](#)

Amount: multiple awards

Description: [ING Commercial Banking External link](#) established the Unsung Heroes in 1995 in an effort to recognize teachers implementing new teaching methods and techniques for improving student learning. The award application is centered on a description of previous projects teachers have worked on or plans they would like to enact in the future to benefit their classroom. Applications are judged on innovation, creativity and the potential to positively influence students. Each year, 100 finalists receive \$2,000 grants, with at least one grant awarded in each of the 50 states. Of those 100 finalists, three winners are selected to receive awards of \$25,000, \$10,000 and \$5,000.

[Return to the top](#)

Stem Grants

[AIAA Foundation Classroom Grant Program External link](#)

Amount: \$200

Description: The American Institute of Aeronautics and Astronauts is dedicated to the importance of STEM education and awards \$200 in grants to K-12 teachers who want to incorporate new ways of teaching science, technology, education and mathematics into their classroom. Funds can be used to purchase laboratory equipment, math and science software, robotics supplies, and other items that will add depth and dimension to your lessons.

[Return to the top](#)

[NWA Sol Hirsch Education Fund Grants External link](#)

Amount: \$750

Description: The National Weather Association aims to support the importance of meteorology in elementary, middle and high school by awarding grants to teachers who demonstrate a commitment to improving the quality of meteorology education, a science subject that is frequently overlooked. Funds may be used for the purchasing of materials or equipment, the establishment of community outreach science programs or professional development. You can apply for the grant [here External link](#). [Return to the top](#)

[ACS-Hach High School Chemistry Grant External link](#)

Amount: \$1,500

Description: The [American Chemical Society External link](#) gives innovative chemistry teachers the opportunity to put their ideas into action. The ACS-Hach High School Chemistry Grant was established to promote dynamic and engaging scientific exploration in students. It is awarded to high school teachers

whowish to enhance classroom learning and raise students' interest in chemistry. Funds can be used to purchase laboratory equipment, supplies and instructional materials, but also the cost of professional development opportunities, field studies and science outreach events.

[Return to the top](#)

Delta Education/Frey-Neo/CPO Science Education Awards for Excellence in Inquiry-Based Science Teaching

Amount: \$3,000

Description: This is a grant offered by the [National Science Teachers Association External link](#) (NSTA) to recognize the outstanding efforts of teachers to implement an inquiry-based approach to science education that stimulates interest and exploration in students. The grant covers up to \$1,500 in travel expenses to attend the NSTA national conference, as well as \$1,500 for use in the classroom. You can explore any of the other [numerous awards offered by NSTA External link](#).

[Return to the top](#)

[Emerging Teacher-Leaders in Elementary School Mathematics Grants External link](#)

Amount: up to \$6,000

Description: The [National Council of Teachers of Mathematics External link](#) (NTCM) offers this grant for math teachers in grades PreK through 5 who have demonstrated a commitment to strengthening their own teaching methods and applying innovative new ideas to their classrooms. Applicants must have the support of their principals and members of NCTM. Funds may be

used for professional development, including college coursework, fees associated with attendance at national conferences and material resources. This is one of numerous [NTCM grants available to teachers External link](#).

[Return to the top](#)

[Lemelson-MIT InvenTeams External link](#)

Amount: up to \$10,000

Description: The [Lemelson-MIT Program External link](#) at the Massachusetts Institute of Technology recognizes the important achievements of inventors and has created the [InvenTeams External link](#) initiative, a grant program that focuses exclusively on [STEM education External link](#). The InvenTeams program encourages hands-on engagement and the application of science, technology, education and mathematics concepts to the solving of real world problems. Teams of students and teachers [apply for InvenTeams grant External link](#) by finding a timely and relevant societal issue, and conceptualizing a technological invention that can help solve that problem. Up to 15 teams are chosen to receive grants that help fund the actual invention of their idea.

[Return to the top](#)

[Toyota Tapestry Grants for Science Teachers External link](#)

Amount: up to \$10,000

Description: In partnership with the [National Science Teachers Association External link](#), leading car manufacturer Toyota has established a grant that helps K-12 teachers fund innovative, community-based science projects in environmental science, physical science, and integrating literacy and science. The grants aim to help teachers increase the quality of science education and promote interest in students. For information on how to apply, visit the Toyota Tapestry [Grant Registration External link](#) page.

[Return to the top](#)

[IRA Regie Routman Teacher Recognition Grant External link](#)

Amount: \$2,500

Description: The [International Reading Association External link](#) awards grants to outstanding public school teachers in schools that serve low-income families. You must work with elementary school students in grades K-6, and 60 percent of the school's students must be eligible for free or reduced-price lunches. Grants are used to support you in improving the quality of reading and writing education through innovative approaches that combine learning and real world contexts. It is one of numerous [IRA grants External link](#) for efforts to improve literacy.

[Return to the top](#)

[James Madison Graduate Fellowships External link](#)

Amount: \$24,000

Description: This grant is for graduate students who have already demonstrated a resolute and immediate commitment to becoming a history teacher at the high school level. The James Madison Memorial Fellowship Foundation has

established this award with particular emphasis on American history education and the teaching of the United States' Constitution. If you want to help preserve the importance of American history in America's high schools, consider [applying External link](#).



What Is Science Matters? Science Matters is an initiative by the National Science Teachers Association (NSTA) to bring content, news, and information that supports quality science education to parents and teachers nationwide. Science Matters builds on the success of the Building a Presence for Science program, first launched in 1997 as an e-networking initiative to assist teachers of science with professional development opportunities. Building a Presence for Science—now Science Matters—reaches readers in 34 states and the District of Columbia. Why does Science Matter? Science is critical to understanding the world around us. Most Americans feel that they received a good education and that their children will as well. Unfortunately, not many are aware that international tests show that American students are simply not performing well in science when compared to students in other countries. Many students (and their parents!) believe that science is irrelevant to their lives. Innovation leads to new products and processes that sustain our economy, and this innovation depends on a solid knowledge base in science, math, and engineering. All jobs of the future will require a basic understanding of math and science. The most recent ten year employment projections by the U.S. Labor Department show that of the 20 fastest growing occupations projected for 2014, 15 of them require significant mathematics or science preparation to successfully compete for a job. This is why Science Matters. Quality learning experiences in the sciences—starting at an early age—are critical to science literacy and our future workforce. Feel free to publish this information in school newsletters and bulletins, and share it with other parents, teachers, and administrators.