

CONNECTICUT SCIENCE CONNECTION

June 2018

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

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NAMES AND E-MAIL ADDRESSES OF OUR POINTS OF CONTACT AND KEY LEADERS ARE NOT SHARED WITH ANY OTHER ENTITY

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/>



Join the CSSA



**Connecticut
Science Teachers
Association
Sponsored Events**

more information and registration links at
<https://www.csta-us.org/events>

Change is in the Air
Connecticut Science Educators Annual Conference 2018
Friday, November 9th - Saturday, November 10th
Heritage Hotel & Conference Center
522 Heritage Road, Southbury, CT 06488



Friday night social with refreshments, dancing, and DJ.



Beautiful facility with lunch and snacks provided.



New exhibitor layout with time to browse and network.

Closing reception with refreshments and raffle.

Hotel rooms available at a discounted rate.



**CONNECTICUT
ACADEMY OF
SCIENCE AND
ENGINEERING**



Do you know the the Connecticut Academy of Science and Engineering is an organization that is highly supportive of Science Education and Educators? It has collaborated over the years with Science

Education Organizations such as CSTA and CSSA in promoting events and in introducing science educators and students to practicing scientists and engineers . Student winners of Science Competitions in the State and Nation and their teachers are provided with a way to showcase their knowledge and talent in scientific education and to interact with CASE member scientists and engineers at their annual meeting and dinner. They are introduced and honored at this dinner meeting as they have a chance to talk and answer questions with CASE Scientists and Engineers. One comes away from these meetings feeling very impressed with the extent and variety of science in the State of Connecticut and with great respect for the dedication to learning that is demonstrated by the scientific community.

A Workshop on Supporting Three-Dimensional Learning and Teaching with New Curriculum Materials
Thursday, August 2, 2018
Sponsored by Project 2061 of the American Association for the Advancement of Science (AAAS)
Washington, DC

Middle school science and high school biology teachers are invited to submit an application to attend a free one-day workshop hosted by Project 2061, the science education initiative of the American Association for the Advancement of Science. The workshop is also open to science specialists or administrators with science curriculum responsibilities. The workshop, "Supporting Three-dimensional Learning and Teaching with New Curriculum Materials," will be held on Thursday, August 2, 2018, at AAAS Headquarters, 1200 New York Avenue, NW, in Washington, DC. Led by the Project 2061 research and development team, the workshop will introduce participants to a pair of curriculum units designed to give students a coherent understanding of matter and energy in living organisms: **Toward High School Biology** is designed for use in middle school and focuses on helping students understand what happens to atoms and molecules during the chemical reactions that result in the growth and repair of living organisms. **Matter and Energy for Growth and Activity** is for high school biology students and expands on the middle school unit to help students understand the relationship between matter and energy changes. The unit also explores how energy-releasing and energy-requiring chemical reactions are coupled in living systems so that organisms can carry out basic life functions. The workshop will demonstrate how the units tackle some common learning difficulties, including persistent misconceptions that many students have about matter and energy. Participants will also see how the

units align with *Next Generation Science Standards* and will have an opportunity to try out some sample activities and explore online teacher resources that are available with the units. Teams of two or more middle and high school educators are encouraged to apply, but all team members must submit separate applications. You will be notified by email if you are selected to attend. Certificates of participation in this AAAS-sponsored professional development workshop will be provided to all teachers who attend. A complimentary light breakfast and lunch will be served. Submit your workshop application [here](http://ct2061.org). [ct2061.org](mailto:jroseman@aaas.org)
jroseman@aaas.org

Connecticut State Museum of Natural History UConn
Summer of Discovery & Adventure

Ancient Technologies Workshop—Flint Knapping, Morning Tea with Mr. Darwin, Archaeology Field School for Kids, Archaeology Field School for Educators, Archaeology Field School for Veterans and Active Duty Military Personnel, UConn Bug Weekend, Archaeology Field School for Adults, Exploring Connecticut's Towns—Middletown, and Mysterious Mushrooms are some of the activities and talks being offered this season by the Museum and Archaeology Center. Don't miss out on exciting special events, workshops, field learning programs, and notable presentations.

For a full listing of programs and registration information visit www.cac.uconn.edu/mnhcurrentcalendar or call 860.486.4460
Find us on [Facebook](#)



Residential Summer

Workshops at the University of Connecticut's School of Engineering: *The daVinci Project*, July 9-13, 2018

Introducing our students to engineering is a national need. Most students love to be creative and to connect academics to the real world....this is what engineers do while making technologies that solve serious world problems. The UConn School of Engineering is holding its 19th annual daVinci Project. It is a weeklong (Mon-Fri) residential series of hands-on workshops for middle and high school science and math teachers. This year it's being held July 9-13th. Teachers live on campus and participate in one of 9 very engaging workshops, as well as many other seminars, a variety tours through research labs, our state of the art water reclaim and wastewater facilities, and our CoGen plant. Come and be part of an exciting week of exploration! **We have 35 fellowships available.** Please share this professional development opportunity with the other STEM teachers in your school or district.

An on-line 2018 application and more information can be accessed at <http://edoc.engr.uconn.edu/davinci/>
Registration deadline: June 15, 2018. Confirmation will be sent after your registration is received. If you have questions or need further information please contact us at engr-edpsw@uconn.edu or 860-486-5536.

The following workshops are offered for
July 2018:

1. **NEW!** [Innovative Underwater Robotics for STEM projects](#) – 8 Fellowships available
2. **NEW!** [From Geometry to Algorithms](#) – 4 Fellowships available
3. [Basic Arduino® Programming for STEM Projects](#) – 2 Fellowships available
4. [Understanding Pain: Sensory and emotional stimulus to your brain](#) – 2 Fellowships available
5. [Bioinformatics: Using Computer Science to Understand Life](#) – 3 Fellowships available
6. [Low Cost Solar Cells](#) – 2 Fellowships available
7. [Air Quality and Health: Building an Air Pollution Measurement Device with an Arduino®](#) – 2 Fellowships available
8. [Robots: Use in Industry and Elderly Assistance](#) – 2 Fellowships available
9. [Mathematical Optimization with Applications to Smart Grid and Intelligent Buildings](#) – 10 Fellowships available

Has your school transitioned from holding a formal science fair to having a STEM fair or other type of STEM event/activity to showcase what students have learned? Have the NGSS and 3-D learning inspired you to discontinue holding a traditional science fair? *NSTA Reports* would like to tell your story! Please e-mail me at the address below if you would like to be interviewed.

Debra Shapiro

Associate Editor, *NSTA Reports*
National Science Teachers Association
dshapiro@nsta.org

<http://www.nsta.org/publications/nstareports.aspx>

LONG ISLAND SOUND STUDY

A PARTNERSHIP TO RESTORE AND PROTECT THE SOUND

Long Island Sound Mentor Teacher applicants sought

Connecticut Sea Grant is accepting applications for four Long Island Sound Mentor Teachers (LISMT) for the LISMT program in Connecticut. Pairs of teachers from each of the following grade-level bands are encouraged to apply: K-8 and 9-12.

Each grade-level specific pair will work together to plan and execute a one day professional development session for their peers. Workshops will take place in Connecticut. There is funding for each pair to provide an outdoor component as part of the session. Each teacher will receive a stipend (\$40.00/hour for 35 hours = \$1,400 stipend per teacher).

LISMT positions are open to current Connecticut K-12 teachers.

The Long Island Sound Mentor Teacher (LISMT) program is sponsored by Connecticut Sea Grant and funded by the US EPA Long Island Sound Study. Program goals are to promote the use of Long Island Sound educational resources and to promote the interdisciplinary use of the Long Island Sound watershed and its resources in K-12 classrooms.

Ready to apply? Complete the application form below.

- For information regarding previous LISMT workshops, please visit: <http://longislandsoundstudy.net/get-involved/teaching-resources/mentor-teacher-program/>
- Please become acquainted with the Long Island Sound Curricular Resource Guide, developed by LISMT: <https://seagrant.uconn.edu/2010/03/02/long-island-sound-curricular-resource-guide/>

Questions? Please contact Diana Payne, Education Coordinator, at diana.payne@uconn.edu

Archaeology Field School for Educators, Dr. Brian Jones, State Archaeologist, UConn, Monday, July 16 through Friday, July 20, 9 am to 3 pm, Windsor, CT
Advance registration required: \$50 : Educators will spend a week doing hands-on archaeology at the *Archaeology Field School for Educators* sponsored by the Connecticut State Museum of Natural History and Office of State Archaeology. This field school is designed to give educators who teach history or social science in a classroom or museum setting a deeper appreciation of the importance of archaeology as a tool for learning about Connecticut's fascinating past. The field school will cover the basics of field methods, paperwork, data management, and artifact identification. Learning proper archaeological methods will develop the participant's understanding of the ethical aspects of archaeology and the archaeologist's responsibility to preserve the data they retrieve so that it will remain valuable to future researchers. These lessons provide a first step toward developing the skills needed to undertake your own archaeological investigations with students.



Participants will experience an authentic and significant archaeological investigation, working with primary sources at a historic site in Windsor, Connecticut. They will also learn about the role of the Connecticut Office of State Archaeology and how it can be an important resource in developing archeological lessons and activities for students. Space is limited. To request a registration form please contact David Colberg at david.colberg@uconn.edu or 860.486.5690.

www.cac.uconn.edu/mnhcurrentcalendar — (860) 486-4460

Find us on [Facebook](#)

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STEM + Computer Science in High School

Date: Tuesday, June 12, 2018 - 8:30AM-2:30PM Location: The Chrysalis Center, Hartford, CT :

This is a FREE Professional Development Program
[Register Here to Attend](#)

Some of the most compelling innovations are at the intersection of science and technology. High School science classes are uniquely suited to work together with Computer Science Principles (CS) and Computational Thinking (CT) to achieve important STEM learning outcomes for students. Skills21at EdAdvance has a National Science Foundation grant that supports the integration of High School Science topics with CT and CS. The grant allows for development of curriculum materials such as lesson plans and unit performance assessments that

integrate CS, CT and science course content. Throughout the year students also work on an Innovation Challenge Project that allows them to use CS and CT while addressing a real world problem in the science context they are are studying. If you are a high school teacher (Science, Computer Science, TechEd/CTE) interested in learning more about integrating CS and science, this FREE professional development opportunity is for you!

Participants will receive:

- One day of PD with experts on CS, CT and STEM learning
- Access to sample curricula that integrate CS, CT and science courses
- Access to the STEM video series that documents the milestones of the course over the course of a year
- See winning Innovation Challenge Projects from the 2018 Expo Fest

Breakfast, coffee/tea and lunch will be provided. [REGISTER](#) For more information please contact Dr. Liz Radday at radday@edadvance.org or 860-567-0863 Ext 209

It's CSTA Grant time again....

<https://www.csta-us.org/grants>

Do you and your students conduct a climate summit/simulation/role-play similar to a model UN (www.unausa.org/global-classrooms-model-un/for-educators/resources/simulations)? I'm planning to write an article on this topic for an upcoming issue of *NSTA Reports*. If you are interested in being interviewed for the story, please e-mail me at the address below. If you know of another teacher who does these summits, please feel free to forward my message to that teacher.

Debra Shapiro, Associate Editor, *NSTA Reports*

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<http://www.nsta.org/publications/nstareports.aspx>



New England Science & Sailing

Think FALL for field trips!

Looking for your next field trip? Students LOVE to come learn at NESS. Get them out on the water kayaking, sailing and tidepooling! We're filling dates now for FALL...email Pam Gibbs at pgibbs@nessf.org.



Many thanks to Ron Michaels at the Connecticut State Department of Education for this excellent summary of upcoming science professional development activities :

1. **Professional Learning Opportunities with our implementation partner the CT Science Center including two new workshops. One designed specifically for Administrators, and the second to develop NGSS Implementation plans for School district decision makers.**
2. **Science Lab and safety PD opportunities**
3. **JASON Learning opportunities**

4. Connecticut Invention Convention (CIC) Educational opportunities

1. Professional Learning with our implementation partner CT Science Center

PLANS - Principals Learn About, Network, and Support 3-Dimensional Science Learning
<https://ctsciencecenter.org/education/mandell/ngsx-info/>

- Awareness PD designed for Administrators/Evaluators
- Expert facilitated in 1 1/2 days. More opportunities planned for 7/18-19, 8/21-22, 9/12-13-18. NGSX Part II Taking it Back to the Classroom
<https://ctsciencecenter.org/education/mandell/ngsx-info/>
- Hands-on, Expert-facilitated, Focus on support of 3D learning sequences with class materials
- Possible grant funding available. 24 hours of seminar-style learning (pre-req. Part I)
- Check link for several opportunities during the remainder of 2018

The link is as follows:

<https://ctsciencecenter.org/education/mandell/ngsx-info/>

**NABT BSCS SUMMER WORKSHOP
JULY 29TH- AUGUST 3RD, 2018
LOCATION: WOODSTOCK ACADEMY,
WOODSTOCK CT.**

Registration Fee: \$425 (housing available for an additional fee)

Teachers, are you ready to transform your teaching? Come join us this summer to:

- Learn about research-based strategies to enhance pedagogical knowledge focused on increasing student's conceptual understanding of Biology
- focus on integrating the NGSS for Life Sciences and AP Biology Framework into your curriculum
- work collaboratively to analyze and enhance current curriculum to better reflect the Big Ideas and unifying concepts in Biology
- explore Biology curriculum building, teaching practices, and assessments
- build a support network of dedicated and passionate biology teachers that will serve to support excellence in teaching. For more information or to register go to <https://ctbioteacheracademy.weebly.com/> or contact Valerie May (vmay@woodstockacademy.org)

Founded in 2007, [Global Exploration for Educators Organization \(GEEO\)](http://www.geeo.org) is a 501c3 non-profit organization that has sent over 2000 teachers abroad on adventurous travel programs. With GEEO educators can earn professional development credit while seeing the world. GEEO's trips are 7 to 23 days in length and are designed and discounted to be interesting and affordable for teachers. In addition to amazing tour leaders, many of the programs are accompanied by university faculty that are experts on the destination. The deposit is \$250 for each program and then the final payment is due 60 days before departure.

GEEO also provides teachers educational materials and the structure to help them bring their experiences into the classroom. The trips are open to all nationalities of K-12 and university educators, administrators, retired educators, as well as educators' guests.

GEEO is offering the following travel programs for 2018: Argentina and Brazil, Bangkok to Hanoi, Tibet, Camino de Santiago, Eastern Europe, The Galapagos Islands, Greece, Iceland, India and Nepal, Madagascar, Ireland, Armenia and Georgia, Paris to Rome, Multi-Stan, Sri Lanka and The Maldives, Morocco, Peru, Vietnam/Cambodia, and The Balkans.

Detailed information about each trip, including itineraries, costs, travel dates, and more can be found at www.geeo.org. GEEO can be reached 7 days a week, toll-free at [1-877-600-0105](tel:1-877-600-0105) between 9 AM-9 PM EST.

Registration is Open !

**July 11-13, 2018
Pennsylvania Convention Center
Philadelphia, PA**





Registration is Open !

**July 11-13, 2018
Pennsylvania Convention Center
Philadelphia, PA**

The [2018 STEM Forum & Expo](#), hosted by NSTA, is the only event of its kind to give you an immersive experience that exemplifies the best in STEM education. We will bring together the top STEM practitioners in all disciplines, so you can learn more about teaching the wonderful array of subjects in the hottest and most exciting curriculum in teaching!

We thank these organizations for working with us:

- American Association of Chemistry Teachers (AACT)
- American Association of Physics Teachers (AAPT)
- American Society for Engineering Education (ASEE)
- International Technology and Engineering Educators Association (ITEEA)
- National Association of Biology Teachers (NABT)
- National Council of Teachers of Mathematics (NCTM)



Justification Letter

Need to check in with your principal before you register?

[Download the justification letter.](#)

Hotel Reservations

NSTA has negotiated discounted room rates with several hotels in downtown Philadelphia. [Click here for details](#) .

Strands

Learn and interact with colleagues from your respective teaching community and discover best practices by attending the STEM Forum Strands:

- Lower Elementary/Early Childhood
- Upper Elementary
- Middle Level
- High School
- Partnerships
- Administrators

Many Thanks!

Sponsors

- Pitsco Education
- Vernier Software & Technology

Program Partners

- American Association of Chemistry Teachers (AACT)
- American Association of Physics Teachers (AAPT)
- American Society for Engineering Education (ASEE)
- International Technology and Engineering Educators Association (ITEEA)
- National Association of Biology Teachers (NABT)
- National Council of Teachers of Mathematics (NCTM)
- STEMx



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.