CONNECTICUT SCIENCE CONNECTION

December 2019

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

Professional Development Opportunities! Are you interested in high quality, low cost, Teacher Professional Development opportunities? Visit CSTA.wildapricot.org and click on Opportunities. You will not be disappointed. Contact us if you have questions. CSTA.wildapricot.org

Join the CSSA! www.cssaonline.org All Teacher leaders welcome You do not have to be in a formal Supervisor Position, but should be interested in helping keep your colleagues informed on the latest in science education.

Share your know-how and good ideas. We are now accepting session proposals for the 9th Annual STEM Forum & Expo hosted by NSTA. Click here for guidelines and to submit a proposal. Deadline for proposals is **December 3**

CONNECTICUT STEM FAIR NEEDS JUDGES

The CT STEM Fair needs your help:

Judges are needed for the CT STEM Fair that will be held Saturday, February 8, 2020, at Joel Barlow High School in Redding CT. Upwards of two hundred Connecticut science students participate in this fair. They enter research projects or research proposals in the following areas: Behavioral Science, Environmental Science, Health&Medical Sciences, and Physical Science. Each student has a face-to-face interview by two separate judging teams. As you can imagine, a lot of judges are needed. If you are interested in participating as a judge in this very worthwhile endeavor, please contact Fran Lichtenberg. Her e-mail is: judges@snet.net. More information about the CT STEM Fair can be found at the website of its parent organization, Connecticut STEM Foundation, *ctstemfoundation.org*

NATIONAL MARINE SANCTUARIES WEBINAR SERIES

Catch and Release: Large whale entanglements and response efforts to mitigate the threat Entanglement or by-catch is a global issue that affects many marine animals, including large whales like the charismatic humpback whale. Hundreds of thousands of whales die worldwide each year, but the impacts go beyond mortality. When conditions and resources allow, trained responders under NOAA's Marine Mammal Health and Stranding Response Program attempt the dangerous task of freeing whales from life-threatening entanglements. However, the ultimate goal is to gain information to reduce the threat for whales and humans alike. The Hawaiian Islands Humpback Whale National Marine Sanctuary working closely with its partners and the community, coordinates response efforts for Hawaii, the principle breeding and calving ground of humpback whales in the North Pacific. The effort represents a unique and valuable opportunity to gain a broader understanding of large whale entanglement threat. Learn more about whale entanglements and response efforts from expert Ed Lyman.

This webinar series provides formal and informal educators with educational and scientific expertise, resources, and training to support ocean and climate literacy in the classroom. Visit our archives to watch past webinar recordings.

More information on the series and upcoming webinars can be found here. After registering you will receive a confirmation email containing information about joining the webinar. The Webinar ID is 462-571-163.

Connecticut Science Center To Book any of the following, go to: https://ctsciencecenter.org/

NEW! Our Changing Earth

Permanent Exhibition - Opening October 18

Explore Connecticut's changing landscape throughout the past, present and into the future inside this stunning exhibit gallery featuring the latest scientific findings. Students will make curriculum connections as they investigate the impacts of our changing climate and how decisions we make will affect the future of our planet. The immersive experience features hands-on activities that bring textbooks to life

- Explore historical flood heights on a scale version of the Bulkeley Bridge and a flood height interactive.
- Record your own weather forecast learn how advancing technology is helping us better forecast the weather in the all-new WFSB Early Warning Pinpoint Doppler Radar Exhibit.
- Experience hurricane-force winds in the Hurricane Simulator.
- Learn about magma flow and plate tectonics as you journey to the center of the earth inside the giant geodesic dome, complete with vibrating core.
- Step into the shoes of a first-responder in the life-size, climb-in rescue raft.
- See the story of trash and how humans are impacting our Earth.
- Stand next to a towering ledge of ice to see the correlation between global temperatures and glacial ice flow.

LEGO Build the Change

Special FREE Program for Grades 1-7

ONLY $8 PER STUDENT!

LEGO® Build the Change is all about creativity, imagination, collaboration, and communication. It enables children to use LEGO® bricks as a tool to communicate and express themselves and create enduring memories. LEGO® Build the Change event participants will have access to hundreds of LEGO® bricks and their imaginations to build what they think will be a great change to the communities they live in. This 45-minute hands-on program is included with a paid Science Center field trip admission.

Book now specifically for the LEGO Build the Change program and get your field trip for only **$8/per student**. First-come, first-served, limited availability.

NEW! Mazes & Brain Games

Traveling Exhibit - Now Open

Put your brain to the test in our newest hands-on exhibit, Mazes & Brain Games. Maneuver your way through this mind-boggling collection of 3D puzzles and full-body games. You will need to use your smarts, logic, balance, memory, and dexterity to solve our mazes and puzzles. Visitors of all ages will find a challenge in Mazes & Brain Games. You'll tease your brain at the brain teaser tables, build a 3D marble maze and watch it work, bust out a beat in the music maze, multiply yourself in the infinity mirror, and much more.

NEW! Themed Weeks

Mark Your Calendars

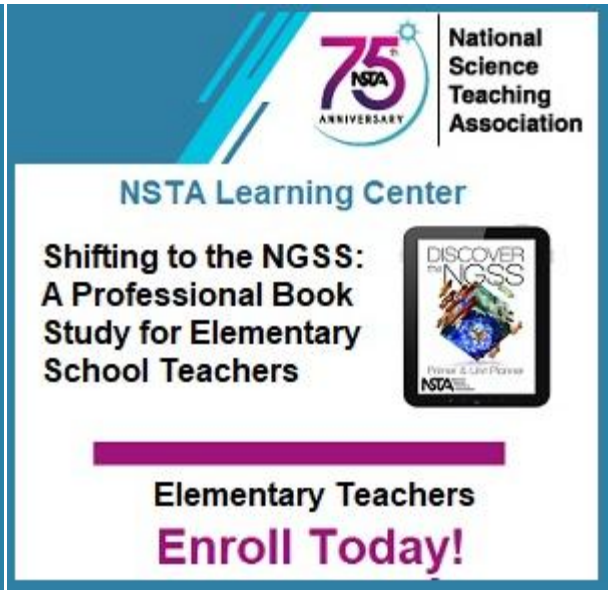
Make your field trip memorable and unique by visiting during one of our special themed weeks. We're amping up your field trip experience with extra opportunities for content-rich, hands-on science in our exhibit galleries.

Exploring Matter Week - December 10-13
National Engineers Week - February 18-21
Brain Awareness Week - March 17-20
DNA Days - April 21-24

Win Classroom Prizes in This K-12 STEM PBL Competition

The Toshiba/NSTA ExploraVision science competition challenges students to envision and communicate new technology 20 years in the future through collaborative brainstorming and research of current science and technology. It's not too late to register your teams for this project-based learning competition! Deadline for submissions is February 10.

Two Professional Book Study Opportunities
Choose the online learning experience that works best for you!



The book, ***Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices***, provides a play-by-play understanding of the practices, written in clear, nontechnical language. In our book study, through a wealth of real-world examples, you will discover what's different about three-dimensional teaching and learning at all grade levels…**Register** to participate in the **Science and Engineering Practices: Professional Book Study**, taking place in January–February, 2020.

Book Study Dates
The series of four live web seminars will take place from 7:15–8:45 PM EST on four Tuesdays:
January 28
February 4
February 11
February 18

Register Today!

This book study will be led by **Ted Willard** and **Tricia Shelton**. This opportunity offers 6 hours of live exchange with experts and other educators, in addition to time spent participating in a discussion forum.

NSTA has developed an online book study around the Enhanced E-book: ***Discover the NGSS: Primer and Unit Planner***. This enhanced e-book offers a comprehensive introduction to the *NGSS*, including background information, each of the three dimensions in depth, and steps to move teachers toward classroom implementation.

Register to participate in the **Shifting to the NGSS: Professional Book Study for Elementary Teachers**, taking place in April–May, 2020.

Book Study Dates
The series of four live web seminars will take place from 7:15–8:45 PM EST on four Tuesdays:
April 21
April 28
May 5
May 12

Register Today!

This book study will be led by **Tricia Shelton** and **Jessica Holman**. This opportunity offers 6 hours of live exchange with experts and others education, in addition to time spent participating in a discussion forum.

Please contact Flavio Mendez with any questions and to enroll your district: *fmendez@nsta.org*; 703-312-9250

During the book studies, participants will have access to:

- A moderated private forum for group discussions with other book study participants
- All archive versions of the web seminars to watch on-demand.
- NSTA Learning Center online community tools (My Library, My Learning Plan, My Profile, Community Forums)

Cost to Districts: $1,250 flat fee per district cohort of up to 25 participants per cohort. Individuals are invited as well. $63 for NSTA. members and $79 for nonmembers. Cost of the ***Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices***

FOLLOWING IS A LONG LIST OF AVAILABLE GRANTS FOR TEACHERS AS LISTED BY THE NEW YORK STATE SCIENCE MATTERS COORDINATOR, NANCY RIDENOUR. WE HAVE HER PERMISSION TO SHARE THIS EXCELLENT INFORMATION…THANKS, NANCY!

- Teaching and Learning Strategies for Higher Education External link The 8-week Teaching and Learning Strategies for Higher Education online short course is delivered by Harvard's Bok Center for Teaching and Learning, in association with HarvardX. Students in this course will engage deeply with the most relevant research on effective teaching methods in the higher education context, while refining their own practices, portfolio, and teaching philosophy. Sponsored Program 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.

- Beacon Technology Teacher Grant External link Amount: Up to $1,000 Description: This grant is for teachers who need an extra bit of funding fo classroom supplies, educational subscriptions, apps for students, and more. Beacon offers this grant 1-2 times a year. To be considered, submit a techfocused lesson plan following their guidelines and instructions External link . Winners will also have their lesson plans featured on the Beacon blog!

- Albert Einstein Distinguished Educator Fellowship Program External link 5 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 fellowship application on the Albert Einstein Distinguished Education Fellowship Program website External link .

- 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 Kids in Need Foundation's website External link .

- 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 8 $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.

- 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.

- 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 by visiting the NWA Sol Hirsch Education Fund Grants website External link .

- ACS-Hach High School Chemistry Grant External link Amount: $1,500 9 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 who wish 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.

- 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 .

- 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. 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 an 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.

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.