

CONNECTICUT SCIENCE CONNECTION

February SECOND HALF 2016

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

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

Resources

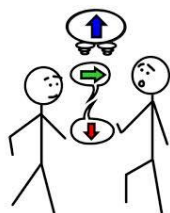
NGSS adopted by Connecticut! Training begins in the spring of 2016 in your region. Watch for updates on the CSD's [science curriculum web site](#).

[Visit the NGSS@NSTA Hub](#) :

The [NGSS@NSTA Hub](#) now offers a dynamic version of the *Next Generation Science Standards*..

Connecticut Green LEAF Schools has been awarded a **Teacher Quality Partnership Grant** through the CT Office of Higher Education. . More information about Connecticut Green LEAF Schools can be found at www.ctgreenleaf.org

SAVE THE DATES! CONNECTICUT SCIENCE SAFETY NETWORK CSSN 2015-16 WORKSHOP CALENDAR can be found at: http://www.wesleyan.edu/greenstreet/professionaldev/science_safety/2015-16%20CSSN%202015-16%20Workshop%20Calendar.pdf



A Science Argumentation rubric has been developed by Mary Lou Smith and her colleagues. If

anyone tries it out, they would really like to get some feedback! To get a copy, you can request one by email from Eloise Farmer at eloisef302@gmail.com

Would you like a complete list of grants that has been provided by the National Science Teachers Association? NSTA has put these grant and their deadlines in an easy to follow calendar. It includes: deadline date, description, category, and grade level. To view this list, please visit: <http://www.nsta.org/publications/calendar/>

PROFESSIONAL DEVELOPMENT

LEADERSHIP AT SEA: PROFESSIONAL DEVELOPMENT FOR TEACHERS



Mystic Seaport and the schooner Victory Chimes are pleased to offer a special joint professional development program for teachers. This is a unique, multidisciplinary teaching and learning experience that is designed to share the resources available to teachers at Mystic Seaport, and to provide an extraordinary environment for learning and connecting with others on board the schooner Victory Chimes, a national landmark vessel that

represents our living heritage. This program can accommodate up to 24 teachers. Participating teachers will also learn how they can involve their school in the upcoming Leadership at Sea program for students in 2016-2017.

Shore Component: August 2-4, 2016 at Mystic Seaport

Sea Component: August 18-22, 2016 on board the schooner Victory Chimes, sailing out of Rockland, ME.

Cost: \$1,295/person, includes room and board for entire program (if housing is not needed for shore component, subtract \$80)

Shore Component at Mystic Seaport (August 2-4, 2016), Mystic CT

Sea Component on board Victory Chimes (August 18-22, 2016), Rockland, ME

Registration Information: Go to [this registration form](#) before April 30, 2016 and let us know if you are paying with a purchase order.

Please email registration form to: Kristi Otterbach, Breath Wind expressive arts and education. breathwind11@gmail.com

Mystic Seaport for Educators. Mystic Seaport hosts free monthly professional development workshops that provide teachers with "behind-the-scenes" tours and thematic workshops that correlate the Museum's vast collections with classroom curriculum. Workshops show teachers how to utilize the Museum and its collections in their classrooms through active participation and interaction with experts, primary source documents, and exhibition objects. Topics range from immigration, whaling, and life at sea, navigation and nautical instruments to the Civil War and World War II. Each session will also highlight our website for teachers.



New Women in STEM Resource Available

The Connecticut Women's Hall of Fame is pleased to announce the release of **STEMfems: Women Transforming Our World**, a new module in our award-winning **DIY History** series. Specifically designed to help educators bring women's perspectives into the classroom, **STEMfems** includes **Common Core-aligned information and activities related to pioneering Connecticut women in diverse STEM fields from 3D printing and architecture to biology and astronomy.** Training and support in how to incorporate **STEMfems** content into your existing lesson plans is also available from **CWHF** staff. Register and download **STEMfems** today by visiting www.cwhf.org/DIY! It's free! Contact **Bambi Mroz, Director of Education**, for more details or with any questions (203-392-9013).

NGSS-JASON SAMPLER FOR GRADES 6-8 THURSDAY, APRIL 7, 2016

JASON Learning Now Offering Professional Development Focused on **NGSS: JASON Learning's comprehensive professional development program** is designed to provide educators with the tools and strategies to implement student-driven, in-depth scientific exploration and inquiry. Each workshop is designed to increase educators' comfort and expertise with providing rich, STEM-based experiences that address State Standards, Next Generation Science

Standards, and Common Core. Teachers will put on their "student" hats while experiencing a variety of lab activities, video resources, and digital simulations and learning games, and "teacher hats" while discussing pedagogy, best practices in curriculum integration and implementation, and differentiation for a variety of learners. Workshops also include a tutorial and hands-on practice with navigating the JASON Learning website and understanding how to access resources best directed at their grade specific scope and sequence.

Location: LEARN, Old Lyme, CT
Time: 8:30am-3:30pm
Cost: \$25.00
Register: <http://www.jason.org/training> or <http://www.jason.org/roll-outs/ct-statewide> **Questions?**
Contact: amy@jason.org



SUMMER 2016 ACTIVITIES @ UCONN!
JOULE FELLOWS PROGRAM

Have an outstanding summer learning about engineering in the classroom and earning a generous stipend! You will spend 6 weeks researching in engineering laboratories, participating in seminars and workshops, and touring companies. You will work closely with Ph.D. students under the supervision of our excellent engineering faculty. Apply with another teacher from your school to share the fun!



SAMPLES OF WORKSHOPS

- Sustainable Engineering
- Biomass to Energy
- Polymers in Medicine
- Robots: Industry, Elderly Assistance

SAMPLES OF INDUSTRY VISITS

- Proton OnSite
- ALSTOM Power
- Hooker Brewery

TOURS OF

- UConn Cogeneration Facility
- Center for Clean Energy Engineering
- Wastewater Treatment Plant

SEMINARS ON

- Effective Technology Education
- Innovations in Educational Presentation Technology
- Video Editing
- Applied Engineering Ethics
- Art of Writing Winning Proposals
- Creativity and Engineering

SAMPLES OF LABORATORIES

- Biofuels Production
- Various Aspects of Fuel Cells and Fuel Cell Membranes
- Flame Dynamics in Power Generation
- Cloud Device for 3D Cell Culture
- Smart Ocean Wave Power Generator
- Nanomaterials
- Remediation Technologies
- Multihazard Resilient Infrastructure

EXTRA ACTIVITIES FOR TEACHERS

- Developing Experimental Setups for the Classroom
- Creating Curriculum Modules
- Making a Short Movie Entitled "How I Spent My Summer at UConn!"
- Presenting Lesson Plans, Experimental Setups and Movies to the UConn Community and School Districts
- Developing a Partnership with UConn Engineering Faculty to Provide Research Opportunities for High School and Community College Students

FOR MORE INFORMATION PLEASE CONTACT

Aida Ghiaei
aida@engr.uconn.edu
joulefellows.enr.uconn.edu

JULY 5th - AUGUST 12th, 2016
APPLICATION DEADLINE:
MARCH 1, 2016



5th Annual STEM Forum & Expo, hosted by NSTA Denver: July 27–29, 2016! The dynamic, 5th Annual

STEM Forum & Expo hosted by NSTA, brings together educators and organizations who are actively implementing STEM programs in their schools or districts. Held in Denver next July 27-29, come prepared to learn tactics that work, build your professional learning network, connect with effective outreach programs and partnerships, discover new resources, and build a strong curriculum. Keynote Speaker: Derek Muller, Australian-Canadian science communicator, filmmaker, and television presenter created the leading science YouTube channel, Veritasium, that features experiments, expert interviews, cool demos, and discussions with the public about "everything science." Join the over 2 million subscribers and see him in person at the Expo! <https://www.youtube.com/user/1veritasium>

PlantingScience: Digging Deeper Together: **A MODEL FOR COLLABORATIVE TEACHER/SCIENTIST PROFESSIONAL DEVELOPMENT**...BSCS, THE BOTANICAL SOCIETY OF AMERICA, AND THE AMERICAN SOCIETY OF PLANT BIOLOGISTS are looking for high school life science teachers interested in participating in a unique professional development opportunity collaborating with research scientists, teachers, and students.

- collaborating with scientist mentors to help students learn how to conduct research on plants
- taking part in face-to-face and online professional development to help enhance your teaching practices
- participate in a research project to find out how collaborations among teachers,

research scientists, and students can lead to enhanced student learning

- having your students work more with plants
- Digging Deeper is a professional development (PD) research project that builds on the success of PlantingScience, an online science mentoring community for high school biology students.

The Digging Deeper project will develop, implement, and test a professional development (PD) model whereby teachers and scientists work closely together over extended periods to guide students in authentic science investigations and then to reflect on instructional and mentoring strategies that are effective for enhancing student learning.

LEARN MORE

REAL WORLD SCIENCE—YESTERDAY, TODAY, AND TOMORROW

How Necessity Creates Innovation in Science and Technology
July 17-22, 2016 in New Orleans, LA

The National WWII Museum is excited to announce a week-long professional development opportunity to take place in the summer of 2016 for middle school science teachers. Twenty eight teachers from across the country will come to New Orleans to experience hands-on how necessity, knowledge, perseverance and skill lead to inventions, innovation, and careers in STEM (Science, Technology, Engineering, and Mathematics), just like in World War II.

WHO CAN PARTICIPATE: The seminar application is open to any science teacher (public, public charter, private, and parochial) with between 2 and 10 years of teaching experience in 5th-8th grade science, and who will be teaching a science course to students in the same age group in the 2016-2017 school year.

Applications will be evaluated through a competitive process that will include information on teaching experience, a short written statement, and two letters of recommendation. Two spots will be reserved for qualifying Louisiana teachers.

COST: This seminar is supported by a grant from the Northrop Grumman Foundation. Teachers will receive free room and board in New Orleans, a travel stipend, and all seminar materials free of charge.

<http://www.nationalww2museum.org/learn/education/for-teachers/summer-teacher-seminar.html>



3/5/16

New Date!! Intro to TinkerCAD, 3D Printing & Project Ignite
Goodwin College Manufacturing Center, E. Hartford K-8
teachers with little or no experience with CAD pdficon
Eventbrite - Intro to TinkerCAD, 3D Printing, and Project Ignite
\$50 [CLICK HERE TO REGISTER](#)

3/15/2016

Invention Dimension: Maximizing Next Generation Science Standards with Aligned Instructional Time Through Invention...Administrators, Superintendents and Principals: [REGISTER HERE](#)



JUDGES NEEDED! Once again we invite our friends, both old and new, to consider judging at the 33rd Annual 2016 Connecticut Invention Convention. We need your help to continue to encourage young students to move toward careers in science, technology, engineering, and entrepreneurial endeavors. Could you invest a few hours on Saturday, April 30, 2016 at UConn, Storrs to support a child's interest in becoming an inventor, engineer, or entrepreneur?

And your help is needed more than ever.

This year we have increased participation to 245 schools!

As a result, we will have nearly 1,200 inventors that will need to be judged. We need your help judging AND recruiting additional judges. No experience is needed since new judges will be teamed with experienced partners.

The judging process, and your participation, is critical to the success of the Invention Convention. Children's lives are forever changed by having learned to think critically, creatively, and commercially to solve their very own real problems. Indeed, one of our participant's parents said: "You have no idea what the CIC has done for our child. It opened doors we didn't know existed. It changed her life and ours, too."

If you are still undecided about helping this year, please see the testimonies in this video:

[TESTIMONY VIDEO](#) . To enter the Judges On-Line System Registration process directly from this email, and submit your request to Judge, click on the link below:

<http://www.cicregistration.org/judges/> (Click on the JUDGES button in the header.) We'll work to assign you to one of your preferred Age/Grade groups, team you with a co-worker, spouse, or friend, and provide Judge Training the morning of the event.

Judges should register as a "STANDARD" Judge unless you have been asked by a Sponsor to be a Sponsor Judge. If you are a Sponsor Judge, select the "Sponsor Judges" option and select the award name in the section below this selection. We will need at least 15% more judges this year. We need your help getting the word out! If you know someone who might enjoy contributing their Saturday morning to fostering innovation in

Connecticut, simply forward this email to them and they will be able to submit their information to be a judge. We would also appreciate it if you could click here to download, print and post this poster for other prospective judges to see. Also, please pass along this Youtube video: [Youtube video](#). As the event day approaches, a more definitive schedule will be sent to you along with a complete set of directions, FAQs, and a Judges overview. In the meantime, here are two important dates: Judges Nominations Close: April 15, 2016 at 2:00 PM. Invention Convention Judging: April 30, 2016, 8:30 am to 1:00 PM . Information about the 2016 Connecticut Invention Convention can be found at :

<http://www.ctinventionconvention.org/>

We are really excited about this year's Convention. We look forward to welcoming you to the 33rd Annual Connecticut Invention Convention Finals as a valuable judge and mentor to our kids. Thanks for your help and support, Jake Mendelsohn, Judging Coordinator, judgesinfo@ctinventionconvention.org (860) 205-3840 or the CIC Hotline: (860) 793-5299

NAWI's Next 50 Years - Looking to the Future of CTE

You are invited to participate in this year's National Association for Workforce Improvement conference in historic Mystic Connecticut May 24, 25, and 26. NAWI just celebrated it's 50th year and this year NAWI members will be taking a serious look at CTE of the future..

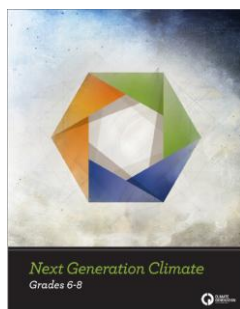
Do you have ideas how Career and Technical Education can better support workers, innovators, creators, entrepreneurs, and producers? What lies ahead for CTE delivery? How does CTE align with the new Maker Movement? To what extent does CTE support the workforce as well as the innovationforce and entrepreneurs? We would love to hear from you!

To see more about NAWI's past conferences, go to

<http://www.nawionline.org/index.html> For more information on this year's conference and how you can apply to present and/or attend, check back at the website and stay tuned to future emails. Also, be sure to visit and LIKE NAWI's Facebook page at <https://www.facebook.com/National-Association-for-Workforce-Improvement-191445027561664/>

Are you a high school teacher looking to give your environmental class a great challenge? Check out the new **Our Town Microgrid Challenge** for great NGSS engineering connections beyond the usual "...compare and contrast renewables and nonrenewables...." **Our Town Microgrid Challenge**

What are microgrids and why would you want one? This unit leads students to understand and apply the answers to that question. The unit includes a multiple step process, with industry and policy readings, investigation of town maps and properties, consideration of emergency needs in the event that electric power is lost, and design of a system that will meet that need. Throughout the unit students hold a "public hearing" with their peers to discuss and fine-tune their ideas, and a capstone presentation to town leaders to discuss their solutions in a real-world context. The unit is supported with readings and background information, suggested "building" and energy "generator" cards, and a suggested process to lead students to an understanding of the unit question. This lesson is listed at CT Energy Education www.ctenergyeducation.com



Give me an N! Give me a G! Ok, sorry! We are just really excited about the Next

Generation Science Standards (NGSS) and the fact that they

include climate change. Our newest curriculum, Next Generation Climate for grades 6-8, supports NGSS and we want to help you incorporate both these new standards and climate change into your educational setting. Register today for our 11th annual Summer Institute for Climate Change Education to get hands-on training to teach climate change and network with other educators in a fantastic setting. See you in June! <http://www.climategen.org/what-we-do/education/professional-development/summer-institute/summer-institute-2016/> Share our event on Facebook.



CALL FOR PRESENTERS FOR THE THIRD ANNUAL STEM FEST

Where: Mill River Park,
Stamford/STEMford

When: Saturday, May 14,
2016

(Rain date will be Sunday, May 15, 2016) Time: 10 AM – 4 PM
Stamford Public Schools is seeking presenters and volunteers for the third annual STEMfest; a day filled with activities focusing on STEM (Science, Technology, Engineering, and Mathematics). Last year, we had over 100 activities for approximately 2,000 visitors. The deadline to submit an application to present at STEMfest is Pi Day, March 14th. To sign up to be a presenter or a volunteer at #STEMfest2016, please visit the website at <http://www.stemfest.us/> . stamfordstemfest@gmail.com

Visit STEMfest: Date: Saturday,
May 14 (rain date Sunday, May 15)
Time: 10am-4pm

Location: Mill River Park, Stamford/STEMford, CT

Cost: Free

What: Activities and displays designed to give preK-12 students and their families a chance to experience STEM (Science, Technology, Engineering and Mathematics)

Purpose:

- 1) To help students and their families learn about what STEM is;
- 2) To show how much fun these disciplines can be;
- 3) To show how these disciplines are inherent in many of the things we do every day
- 4) To share future opportunities available through college and career paths in STEM

PROGRAMS FOR STUDENTS:

UConn's Natural Resources Conservation Academy (NRCA)

<http://nrca.uconn.edu/>). UConn's NRCA is an exciting program that engages high school students (grades 9 to 11) in natural resource conservation in their local community that is meaningful for the student, complementary to existing science curriculum, and beneficial to our communities and environment. First, students attend a week-long field experience at UConn in July. Afterwards, each student conducts a conservation project under the mentorship of a local conservation leader. Projects culminate in March, when students present their work at the Connecticut Conference on Natural Resources and graduate as "Connecticut Conservation Ambassadors."

To date, we have worked with 92 students and 51 community partners on 74 conservation projects. It has been an enriching experience for both students, their partners, and their communities. This year we will be inviting teachers with students attending our program to participate in one of the field experience days as well. If you are interested in sharing this experience with your students, I would love to give a brief presentation (5-8 minutes) and answer questions. If time permits, I can also share a brief activity that we conduct during the NRCA field experience. Please feel free to contact Laura Cisneros via email (laura.cisneros@uconn.edu) or phone (860-486-4917) to discuss the NRCA further.

Eversource and The United Illuminating Company, as partners of the Energize Connecticut initiative, are now accepting entries for the 12th annual eesmarks Student Contest. The contest encourages students to demonstrate their knowledge of energy efficiency, renewable energy and sustainability by responding to grade-specific prompts or assignments. The eesmarks Student Contest is open to Connecticut students in Grades K-12. Additionally, new to the program this year is a college level playwright category entitled "Wright the World," and a new separate 12th grade category. Finalists in all categories and grade levels will be honored at a special awards ceremony on April 29, 2016 at the State Capitol in Hartford.

Visit www.eesmarks.com/contest for contest guidelines, contest prompts and submission instructions. Deadline: April 1, 2016

**HIGH SCHOOL SENIORS SOUGHT FOR
NATIONAL YOUTH SCIENCE CAMP® HONORS
2016 National Youth Science Camp®
Operated by the National Youth Science Foundation®**

You are invited to nominate Connecticut high school seniors to compete for a full scholarship to attend the 2016 National Youth Science Camp (NYSC). NYSC is a summer residential science education program that creates opportunities for talented high school science students from all 50 states to exchange ideas with working scientists and other scholars from the STEM academic and corporate worlds. This month-long experience in Charleston, West Virginia, will include hands-on research projects with scientists from across the nation, overnight camping trips to the Monongahela National Forest, and a visit to Washington D.C.!

The NYSC experience is offered at no cost to participants since it is supported through contributions to the National Youth Science Foundation®. Educational and recreational programming, as well as meals, lodging, and round-trip air passage on scheduled airlines are provided free of charge to selected delegates.

The selected delegates must demonstrate academic achievement in science and show potential for thoughtful scientific leadership. Please see attached handout and visit www.nysc.org for more information.

Eligibility Requirements

- ☑ Must graduate from high school between July 1, 2015, and June 30, 2016;
- ☑ Must demonstrate superior academic proficiency, including recognition in mathematics and/or the sciences;
- ☑ Must demonstrate an application of leadership abilities and social maturity through involvement in both school and community activities;
- ☑ Must demonstrate skills and achievements outside the realm of science and outside the realm of academic pursuits; and

☑ Must demonstrate a curiosity and an eagerness to explore many and varied topics.

☑ **MUST** be able to attend the ENTIRE NYSC program, arriving in Charleston, West Virginia, on Wednesday, June 15, and departing on Sunday, July 10, 2016.

Applications:

- Application forms and additional information are available on the NYSC website at www.nysc.org.
- Completed applications must be received by Wednesday, February 17, 2016 at 6:00 p.m. EST.
- Application forms are available on the NYSC website at <http://apply.nysc.org>.

FOR MORE INFORMATION, CONTACT NYSC State Coordinator Dr. Terry Contant at 860-434-4800 ext. 172



Check out "Soap and Water Science" -- the newest activity

on Project WET's interactive learning site for kids, DiscoverWater.org. Developed by the Project WET Foundation with support from Ecolab, "Soap and Water Science" uses animated, game-based learning to teach kids how germs spread and how soap and water work together to stop that process. **Play on your computer, tablet or smart phone today!**



About Clean and Conserve [CLICK ON!;](#) Ecolab and Project WET's Clean and Conserve Education Program is designed to reach two million people with interactive water conservation and hygiene education by the end of 2017. All materials in the program are available for download and use at no charge.

MYSTIC AQUARIUM



FREE EVENT FOR EDUCATORS & ADMINISTRATORS

Thursday, March 10, 2016
4:00pm–7:00pm

(Final check-in will be at 5:00pm with Aquarium doors closing and all general public exiting at that time. Teachers and Administrators are invited to Mystic Aquarium on Thursday, March 10th from 4:00pm to 7:00pm as we dive deep into ocean conservation and

education and learn about the wide variety of STEM educational opportunities. Highlights of the event include the opportunity to enjoy the Aquarium after the crowds go home, guided tours, special presentations, including an overview of our research, chances to win a free educational program, and more! You must make a reservation, so pre-register today. Follow this link for more information and to make a reservation: <http://www.mysticaquarium.org/fun-and-learning/teachers-and-school-groups/educator-resources> This unique offering is open to educators, homeschool educators, and education administrators only. Reservations are required. For more information and to register click [CLICK HERE](#) .



Be a Citizen Scientist and help frogs and toads! FrogWatch USA is a citizen science

program of the Association of Zoos and Aquariums (AZA) that provides individuals, groups, and families with an opportunity to learn about wetlands in their communities and report data on the calls of local frogs and toads. Volunteers collect data during evenings from February through August and have been submitting data for over 15 years.

(See <https://www.aza.org/frogwatch/>). The time commitment is just 5-10 minutes one or two times per week, 1/2 hour after sunset. One does not have to be a frog expert as training is provided! Sponsored by Connecticut's Beardsley Zoo (<http://www.beardsleyzoo.org/>) and the Yale Peabody Museum of Natural History (<http://peabody.yale.edu/>), training is free for zoo or museum members and is \$10 for non-member families and will take place on the following dates:

Wednesday, February 17, 2016
(SNOW DATE: Friday, February 19, 2016)

Yale 1954 Environmental Science Center
<http://peabody.yale.edu/collections/environmental-science-center> >

Room 110 7:00-9:00pm
And *Wednesday, February 24, 2016* (SNOW DATE: Friday, February 26, 2016) Hanson Exploration Station at Connecticut's Beardsley Zoo <
<http://www.beardsleyzoo.com/> >

7:00-9:00pm
Pre-registration is necessary at least one week ahead:

<http://peabody.yale.edu/events/come-peabody-beardsley-frogwatch-citizen-scientist>

Training is also available at Mystic Aquarium and on-line:

<https://www.aza.org/become-a-frogwatch-volunteer/>

Many of you may know of or are responsible for the significant progress in reconnecting habitat for river herring in the Connecticut basin over the last decade with important runs opened by dam removals and the installation of fish passage. Despite this initial progress, populations remain in decline. We have too little information about the status of river herring following the loss of a robust monitoring program due to budget cuts and staff reductions in the Inland Fisheries Division of the Connecticut Department of Energy and Environmental Protection. The goals of this project are two-fold. First, to educate the general public about river herring and its status in the Connecticut River.



Second, to recruit and train volunteers to become citizen scientists to help CRWC, CT DEEP and the US Fish and Wildlife Service get better data that will help with restoration efforts.

Here is the link to the page on our website with information and details that you can share. At the bottom of the page there is a flyer that can be downloaded.

<http://www.ctriver.org/get-involved/migratory-fish-in-your-backyard-be-a-citizen-scientist/>

Citizen Science Professional Development for Educators

Are you a formal or informal educator interested in Citizen Science? Learn how to integrate real-life science into your instruction and earn continuing education credits, all from the comfort of your own home! NEON's Citizen Science Academy (CSA) offers online professional development courses for environmental science educators looking for out-of-the-box ways to teach scientific concepts by immersing your students in collecting, using and interpreting scientific data. By implementing citizen science projects, your students will contribute to research used by scientists all over the country. All CSA courses qualify for graduate-level continuing education credits from Colorado School of Mines.

Ready to learn how to incorporate citizen science projects into your classroom? Register for one of our courses starting February 2nd and April 4th. Learn more at <http://CitizenScienceAcademy.org/online-courses> For more information contact: Dennis Ward, dward@neoninc.org <http://CitizenScienceAcademy.org>

RESOURCES:

2016 is the K-6 cycle for the Presidential Awards for Excellence in Mathematics and Science Teaching. Currently we have 10 science nominations and 9 mathematics nominations, only one of whom has begun the application process.

Plans for a face to face information session during the month of February are underway; further details will follow.

In the interim, information on upcoming support seminars for nominees and applicants can be found here:

<https://nsf.webex.com/mw3000/mywebex/default.do?siteurl=nsf&service=7>

Free, Online Access to JASON Learning's Award-Winning Programs Available to Public School Educators in CT. Through generous support from the Connecticut Department of Economic and Community Development, JASON Learning is providing complimentary access to JASON's gated website to all public school educators in CT through August of 2017. Each comprehensive JASON program highlights a diverse group of STEM role models, their research and real-world phenomena to engage students and motivate deeper interest in learning. JASON's online platform includes reading selections, hands-on labs and field assignments, videos, digital simulations and learning games for students; and lesson plans, implementation tips, and a powerful classroom management tool

for educators. Live, interactive events throughout the year connect JASON participants with inspirational STEM role models. Educators will have access to a host of downloadable resources from all 7 JASON Learning curricula. Sign-up today by visiting www.jason.org : Login to JASON Mission Center and Register New Teacher Account! on Regional STEM Center, as well as Certified Teacher and a recipient of the Amgen Award for Science Teaching Excellence.



JOIN CTABT Today to connect with fellow life science educators

<http://web.ccsu.edu/ctabt/membership.html>

From Donna Ellis at UConn: "IPM curriculum kits are now available to any teachers or other educators



who could use them in their classes, at no cost as long as the teachers can pick them up at UConn. We still have quite a few curriculum kits available. Teachers can view the curriculum and the excellent curriculum alignments completed by Mary Lou Smith on the UConn IPM website at

http://www.ipm.uconn.edu/pa_curriculum/ . I am available to conduct workshops or other curriculum training by request if any teachers are interested." To schedule a pickup of kits please contact Donna Ellis at donna.ellis@uconn.edu.

www.CLEANet.org has more than 640 units, lessons, videos, and diagrams

While their focus is on Middle and High school, there are some middle school activities that would be appropriate for both. <http://serc.carleton.edu/k12/index.html>



Sacred Heart UNIVERSITY

Farrington College of Education Graduate Information Session Thursday, March 10th, 6:00 P.M.

Fairfield Campus: Attend our Graduate Information Session and learn how you can take your career to the next degree. The Farrington College of Education at Sacred Heart University offers graduate programs that prepare candidates for their first teaching positions and for ongoing advancement in their careers. Long recognized as a leader in education, the Farrington College of Education addresses many critical needs in our nation's schools. Graduates of the Farrington College of Education achieve success as valued members of the education community in Connecticut and throughout the nation. Join us at our Graduate Programs Information Session on **Thursday March 10, 2016**. [Register here!](#) Refreshments will be served at 5:30pm and sessions will begin at 6:00pm.

Extend your knowledge or facilitate a career change by selecting one of the following degree programs within the Farrington College of Education: Initial Teacher Certification and Tuition-Paid Teaching Internships

- Master of Arts in Teaching
- CT Literacy Specialist Program (102 & 097 certification)
- Intermediate Administrator Certification (092)
- Special Education Cross-Endorsement (165)

staff will be available to discuss admission requirements and procedures, as well as financial aid options for each of our academic programs.

STEM PROGRAM AT CENTRAL CONNECTICUT STATE UNIVERSITY! The MS in STEM Education for Certified Teachers will prepare certified teachers in the trans-disciplinary areas of Science, Technology, Engineering and Mathematics (STEM). Courses are aligned with National and/or CT state content standards in each discipline: Science, Technology, Engineering, and Math, and the Common Core for Mathematics and Language Arts. Does not lead to CT state teacher certification or cross-endorsement <http://ccsu.smartcatalogiq.com/current/Undergraduate-Graduate-Catalog/Masters-Degree-Programs/STEM-Education-for-Certified-Teachers-M-S> . For further information, contact Marsha Bednarski at: bednarskim@ccsu.edu

WE ARE LOOKING FOR RETIRED SCIENCE CONTENT SPECIALISTS willing to support K-6 science teachers on our free website at <http://justaskateacher.com> . Our project asks the science content specialist to (1) first view a video of a K-6 science lesson, (2) then meet with the teacher online to discuss the science content, and (3) finally, allow us to post the video of the session with the teacher so that other K-6 teachers can benefit. Interested? Please let us know.

Charles Matthews
Academic Research Scientist
University of Missouri at St. Louis
Email to schedule Skype or PolyCom Session matthewscc@umsl.edu
Skype: dr.charles.c.matthews
PolyCom IP Address 98.172.76.67

IF YOU TEACH COURSES WITH CHEMISTRY OR PHYSICS CONTENT, WE NEED YOUR EXPERTISE.

Currently, our website shares 30 K-6 lessons with physics content and 32 K-6 lessons with chemistry content. In anticipation of increased numbers of K-6 teachers sharing lessons in 2015-16, we would like to have more physical science content specialists who would consider viewing a video of a K-6 lesson, meeting online with the teacher who taught the lesson to discuss the lesson's science content, and then sharing the recorded discussion on our website for the benefit of K-6 teachers nationwide. (We make all our video recordings at-a-distance). Meanwhile, you can get our Summer 2015 Newsletter, share it, and give us your ideas. Our Summer Newsletter focuses on the past, present, and future of the "Teachers Helping Teachers Teach Inquiry Science: Just ASK" project and invites suggestions and questions. Teachers currently sharing their adapted science inquiry lessons always appreciate comments and suggestions.

Charles Matthews, Academic Research Scientist, University of Missouri at St. Louis. Email to schedule Skype or PolyCom Session, matthewscc@umsl.edu
Skype: dr.charles.c.matthews PolyCom IP Address 98.172.76.

NGSS K-8 Evidence Statements Now Available The NGSS Evidence Statements for elementary grades (K-5) and middle grades (6-8) are now available. These statements were developed and reviewed by educators and scientists, including many members of the NGSS writing team. The evidence statements are intended to identify clear, measurable components that, if met, fully satisfy each performance expectation (PE) described within the NGSS. Given that each PE is three-dimensional, the statements describe how students can use the practices, crosscutting concepts, and disciplinary core ideas together to demonstrate proficiency on the PEs by the end of instruction. They are not meant to limit or dictate instruction and were written to allow for multiple methods and contexts of performance, including students' performance on multiple related PEs together at the same time.

For more information, see the Introduction and Overview, which applies to the evidence statements for all grade levels. Additional materials, including appendices for K-2, 3-5, and middle school are coming soon.

AN IMPORTANT LINK FOR EDUCATORS TO VISIT FOR INFORMATION ON THE STATUS OF SCIENCE STANDARDS IN CONNECTICUT:

<http://www.sde.ct.gov/sde/cwp/view.asp?a=2683&Q=333862>

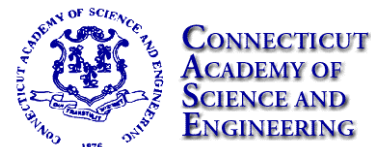
Get the latest on the Connecticut Science Center at:

<https://www.ctsciencecenter.org/education/stem2015/>

INTERESTING INFORMATION and BASIS FOR A DISCUSSION AND ANALYSIS IN CLASS THIS WINTER! SEE Following page!

NEWS RELEASE CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING, The 2015 CASE Winter Bulletin is now available. In this issue:

- CTDOT Relies on State-of-the-Art Tools to Keep Traffic Moving in Winter Weather
- New England Air Museum Continues to Soar
- News from the National Academies:
 - o The Employability Divide: Transforming US Education to Create Lifelong Learners
 - o Optimizing US Investment in Academic Research
 - o Water-Energy Nexus Critical to Economic Security
 - o Getting It Right: Improving Diagnosis in Healthcare
- In Briefs: Science and Technology News from Around the State
- Connecticut Scientists Elected to the National Academies in 2015— The Connecticut Academy of Science and Engineering (CASE) conducted a study entitled Winter Highway Maintenance Operations: Connecticut, on behalf of the Connecticut Department of Transportation (CTDOT). The study was conducted in response to Section 6 of Public Act 14-199 that directed the Commissioner of Transportation to conduct an analysis of the corrosive effects of chemical road treatments on 1) state snow and ice equipment vehicles, 2) state bridges, highways and other infrastructure, and 3) the environment; The analysis shall determine the cost of corrosion created by road treatments, and shall include an evaluation of alternative techniques and products, such as, but not limited to, rust inhibitors, with a comparison of cost and effectiveness. The study found that chloride-based deicing chemicals should be expected to be the standard for the



foreseeable future and CTDOT should continue to use sodium chloride as the primary deicing chemical. Furthermore, although corrosion inhibitors are available for use with deicers, literature reviewed did not find evidence of their effectiveness in the field. It is important to note that vehicle washing is the best defense to reduce/prevent corrosion and the public should be educated on the need to wash vehicles, including the undercarriage.

The study concluded that ensuring the safety and mobility of the traveling public requires the most effective winter highway maintenance practices possible. Accomplishing this is a shared responsibility among stakeholders. To achieve comprehensive and sustainable success competing factors must be considered including: safety, cost, corrosion, operating practices, materials and equipment, environmental and economic impacts, and communication with the general public, stakeholders, and government leaders. Balancing these factors presents a challenge that can be met through ongoing monitoring and continuous improvement based on evolving best practices. Also, it was noted that CTDOT engages in an ongoing process of monitoring current practices, identifying areas for improvement, and instituting improvements based on best practices. Further, analysis of winter season injury crash data showed that CTDOT's anti-icing strategy the reduced number of injury crashes during winter weather events.

The report includes recommendations for consideration by CTDOT and Connecticut's municipalities related to deicing chemicals and application techniques, infrastructure, vehicles, the environment, and outreach and education.

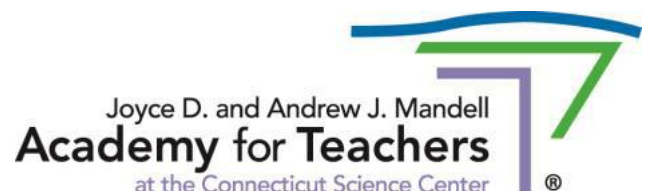
The Full Report, Executive Summary, and Briefing PowerPoint are available on the CASE website (www.ctcase.org). Scroll down to Reports and Studies.

The Connecticut Academy of Science and Engineering was chartered by the Connecticut General Assembly in 1976 to provide expert guidance on science and technology to the people and to the state of Connecticut, and to promote the application of science and technology to human welfare and economic well-being. For more information about the Academy, please see www.ctcase.org

ARE YOU FAMILIAR WITH UCAR? One of the best resources having to do with Atmospheric Research. They provide K-12 educational resources and teacher professional development around atmospheric sciences. Web content, videos, games, simulations, and lessons on weather and climate. Visit <http://bit.ly/1JvhpDC>

Another great site is the GeoMentors Program. It offers a digital mapping and data analysis program call ArcGIS Online, and can be incorporated into any grade level. Investigate by going to: <http://edcommunity.esri.com/Resources/Collections/geoinquiries>

The Connecticut State Department of Education and the Connecticut Science Center Partner to Launch First Offerings in a Next Generation Science Professional Learning System
A Web-Based Introduction to Next Generation Science
Made with CT educators, for CT educators



Next-Gen Science CT is a free, online, self-paced short course that provides K-12 educators with a comprehensive starting point for understanding A Framework for K-12 Science Education and the Next Generation Science Standards. This modular overview course will eventually consist of 15 modules, a total of 20 to 60 hours of professional learning, depending on how deeply PLCs engage with the "Think & Discuss" prompts.

Each module focuses on a specific aspect of Next Generation Science teaching and learning, engaging educators in guided reflection, classroom application, and transition planning. The Moodle-based platform provides opportunities for course takers from across the state to engage in discussion and share ideas and resources.

For the best results, schools and districts are encouraged to form Professional Learning Communities (PLCs) and identify individuals who can be effective facilitators (NGSS expertise is not required). An online matchmaking forum is available for educators seeking to join a "virtual" PLC. Successfully completing all modules will confer an emailed certificate of completion and an electronic badge.

Best for: Teachers of science, teachers of other subjects, school administrators, families, paraprofessionals, special educators and others with an interest in Next Generation science.

Cost: None

Learning hours: 20 to 60

Format: In-person and virtual study groups using web-based professional learning modules

Facilitation: District-selected facilitator(s)

For details and registration, visit the course website at <http://ngss.ccat.us> .

Questions? Contact Nick Balisciano at nbalisciano@ccat.us

**NEW MATERIALS AND PROJECTS
FROM NASA!**

https://www.nasa.gov/audience/for_educators/index.html

HOW TO RECEIVE THIS NEWSLETTER BY BECOMING A POINT OF CONTACT.

We welcome new recipients to NSTA's Science Matters network! Please click on: <http://bap.nsta.org/> and sign up! You will receive information from NSTA and get this State newsletter each month. You can also email me at eloisef302@gmail.com so that I make sure you are on our mailing list. NSTA sends our newsletter to all the recipients on our State list of Points of Contact. Please join us!



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.