

CONNECTICUT SCIENCE CONNECTION

July/August 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 the CSTA website and click on Opportunities. You will not be disappointed. Contact us if you have questions.



click to Join the CSSA All Teacher leaders welcome! You do not have to be in a

formal Supervisor Position, but be interested in helping keep your colleagues informed on the latest in science education.

A FREE workshop designed exclusively for Green LEAF schools • Meet other Green LEAF schools • Learn what is NEW in Green LEAF • Develop and support your school's Green Team • Evaluate your school's progress & set goals using the Green LEAF Self-Assessment tool • Share success stories and challenges • Build resources for school implementation Wednesday, August 21, 2019* 9:00 am – 3:00 pm Kellogg Environmental Center 500 Hawthorne Ave., Derby, CT

OR

Tuesday, November 5, 2019 (Election Day) 9:00 am- 3:00 pm Connecticut Forest & Park Association 16 Meriden Rd., Rockfall, CT



SAVE THE DATE for (SENEME) Fall Conference & Annual Meeting Saturday, October 19, 2019 at University of Rhode Island, Narragansett Bay Campus

Mark your calendar! The Southeastern New England Marine Educators (SENEME) will be hosting its 2019 Annual Conference on Saturday, October 19th from 8:00 am – 4:00 pm at the University of Rhode Island Narragansett Bay Campus. This event will include: a panel discussion on ocean exploration, networking opportunities, skill-building workshops, field trips, and a silent auction. All are welcome, come join us!

CALL FOR PRESENTERS! We are also announcing the call for presenters! We welcome a broad range of sessions addressing any and all ocean topics and ocean literacy . All concurrent workshops will run for 60 minutes. Come share your best practices, lessons, tips, or strategies for making oceans come alive and relevant for your students.

Please complete the following form: <https://tinyurl.com/SENEME2019> no later than July 15, 2019. The conference committee will make its selections and notify you by August 15, 2019. Panel Presenters, Workshops, Field Trips, Silent Auction and More! For more information about SENEME, visit our website at: <https://senemea.wildapricot.org/> Please contact Amy O'Neal with questions at 860.885.4688 or email senemeinfo@gmail.com.

******* Professional Development resource for educators: [11 Teacher Tips for Top PD Programs](https://www.ecologyproject.org/about/blog/11-teacher-tips-for-getting-into-professional-development-programs), <https://www.ecologyproject.org/about/blog/11-teacher-tips-for-getting-into-professional-development-programs>**

Broadening Perspectives on Broadening Participation in STEM: Tools for Professional DevelopmentA new [toolkit](https://www.informalscience.org/broadening-perspectives) from the Center for Advancement of Informal Science Education's (CAISE's) <https://www.informalscience.org/broadening-perspectives>

Broadening Participation in STEM Task Force can help informal STEM education and science communication professionals reflect on and strengthen their organizations' efforts to broaden participation in STEM. You can use the resources to plan and lead reflective discussions about current practices, with an eye to developing goals, strategies, and priorities that can make your work more inclusive



Advance your career, earn graduate credit, and connect with a global network of educators with our six-week online courses in the life, Earth, and physical sciences. Participants gain access to Museum scientists, valuable classroom resources, and new science content from the comfort of home.

Summer Session 2

July 8–August 18

Registration deadline: July 1

[Learn more](#)

To see some great pictures and learn more about courses, you can click on the following links:

Explore our upcoming session's exciting courses

[Learn more](#)

[Learn more](#)

[Learn more](#)

[Learn more](#)

[Learn more](#)

[Learn more](#)

[Learn more](#)

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[Learn more](#)

[Learn more](#)

If you are a current student at one of our partner institutions, promotions and discounts do not apply. Please check your school's academic calendar to enroll in the course through your registrar as registration deadlines may vary.



eesmarts Summer Institute Giveaway

2019 eesmarts Summer Institute is [here!](#) Register now and have the chance to win one or more of the \$1,050 in gift cards for school supplies!

Attendees will be entered in a random drawing at the end of each workshop. Gift cards are \$100 and \$50 in value. eesmarts offers Professional Development workshops, led by CREC, free of charge to K-12 formal and informal educators across the State of Connecticut. Workshops are interactive and cross disciplinary, featuring inquiry-based, hands-on activities.

Benefits of Attending the eesmarts Summer Institute Workshop

- Receive free program lessons and materials for your classroom. All eesmarts lessons are fully aligned to Next Generation Science Standards, and Common Core Standards for Math & English Language Arts.
- Gain knowledge, confidence, and skills for teaching your students about energy, energy conservation, renewable energy sources, and efficient technologies.

eesmarts Summer Institute Workshop Schedule

All workshops will be conducted from 9 a.m. to 1 p.m. To view each workshop agenda, topics covered and to register, please visit: EnergizeCT.com/eesmarts-summer-institute

There are a limited number of seats available for each workshop, so register today!

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.

Sam Rhine's 2019-20 Genetic Update Conferences for High School Students and their Teachers

Plainville High School - Oct 10th

Program runs from 9:00 am to 12:30 pm / Lunch on your own
Pre-registration begins Sept 1, 2019: at www.samrhine.com

- **Developing Viruses as Antibiotics**
- **CRISPR/Cas3 - the 'DNA Shredder'**
- **Chromosome Tips & Life Expectancy**
- **Producing Human Organs in the Lab**
- **3-D Printng of Human Body Parts / Human-Animal Chimeras**
- **CRISPR Modified Pigs produce Organs for Humans Transplants**
- **Human Brain 'Organoids' / Decellularization & Recellularization**

If you teach an AP or Honors Biology class and have not experienced a visit to Sam Rhine's presentation, I highly recommend planning attendance to this event next fall. It is well worth the trip to centrally located Plainville High School!

NSTA NEWS! A members-only community forum is now available for NSTA members! An opportunity to share ideas, express opinions, ask questions about the proposed name change. Click here to sign in and join the conversation. Not a member? [join here!](#)



**Evidence of Environmental Change in the Long Island Sound:
A Workshop for Secondary Life and Earth Science Teachers**

Water- and land-based workshop

Relevant to NGSS HS-LS2-6; MS-LS2.2; HS-ESS3-5; MS-ESS3-3

Explore scientific data collection and analysis methods (NGSS SEP and CCC) as we traverse the Long Island Sound on a SoundWaters schooner

Introduction to Tuva – a free data visualization resource that may be leveraged in future state science assessments

Receive complimentary instructional resources from sponsor -- NOAA SeaGrant



Saturday, September 7th
10 AM – 4 PM
Harbor Center at
Boccuzzi Park
200 Southfield Avenue
Stamford, CT

Registration:
<https://tinyurl.com/StamfordLIS>

Contact: tspSTEM@gmail.com

Secondary life and Earth science teachers... please register for a water- and land-based NOAA-funded NGSS workshop on Saturday, September 7th More information: tinyurl.com/StamfordLIS

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Present at this year's Science Educators Conference [Proposals](#) for



presentations are now being accepted for our 2019 Connecticut Science Educators Conference on November 8-9. Can you share your ideas for embedding more science instruction into the elementary classroom? Submit your [proposal](#) to us by **JULY 1.**



Connecticut Science Center

NGSX: Introduction to 3D

Learning - Part 1

August 12-16

8AM-4:30PM Days 1-4 |

8AM-12PM Day 5 | \$1500pp

Connecticut Science Center

[Learn More & Register](#)

Practices of NGSS K-5

August 13-15

8:30AM-3:30PM | \$525pp

Connecticut Science Center

[Learn More & Register](#)

NGSX: Introduction to 3D

Learning - Part 2

August 19-21

8AM-4:30PM | \$900pp

Connecticut Science Center

[Learn More & Register](#)

NGSS Assessment

Workshop

August 20

8:30AM-3:30PM | \$200pp

Connecticut Science Center

[Learn More & Register](#)

Providing Evidence-Based

Feedback

August 22

8:30AM-12PM | \$75pp

Connecticut Science Center

[Learn More & Register](#)

NGSX: PLANS

September 24-25

8AM-4PM Day 1 | 8AM-12PM

Day 2 | \$400pp

Norwalk Public Schools

Central Office

[Learn More & Register](#)

Making Sense of NGSS

September 24

8:30AM-3:30PM | \$150pp

Connecticut Science Center

[Learn More & Register](#)

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Partner with a chemist who can help provide support inside and outside the classroom through the AACT Science Coaches program. This is a unique opportunity for teachers to work closely with a chemist who can:

provide advice on real-world applications of lessons, demos, or experiments; help develop and enhance lesson plans; promote inquiry-based learning; serve as a science mentor; support classroom-based experiments; and more. Applications are open now through September 1. Learn more and apply 8. AACT webinar, May 9, 6:00 pm CT Science Coaches. Join Adam Boyd, AACT Program Director, as he outlines the advantages for teachers and chemists who participate in the Science Coaches program. [REGISTER](#) Many online climate change lessons are actually junk and propoganda. Michael Melia reports about misinformation that is provided for educators regarding climate change. There are materials produced by climate change doubters, lesson plans developed by the oil industry, and countless other sites with misleading or outdated information.

<https://cleanet.org/index.html> Literacy and Energy Awareness Network funded by federal grants, reviewed more than 30,000 free online resources and found only 700 acceptable for use in schools. "There's a lot of information that's out there that is broken, old, misleading, not scientifically sound, not sound technically," said Frank Niepold, a climate education coordinator at the National Oceanic and Atmospheric Administration. Leigh Foy, a science teacher at York Suburban High School in Pennsylvania, said a social studies teacher at her school has told students for years that climate

change is a hoax and he could prove it with an experiment. He would fill a cup in the classroom with ice and water, mark the water level, and show students it didn't rise as the ice melted. The problem, Foy said, is his lack of accounting for the difference between sea ice and land ice or the expansion of water as it gets warmer. "This is just an example of what we're up against,"



Orion's Quest was founded in 2004 following founder and current Executive Director Peter Lawrie's service as an educational consultant to NASA when the Space Shuttle Columbia carried the *Ladybugs in Space* experiment into orbit on July 23, 1999.

The mission was a project within NASA's Educational Program that allowed students to observe science experiments being conducted in space and to replicate the experiment in their classroom as controls. Lawrie saw a unique opportunity to put NASA directly into classrooms across the nation. Since inception, our program has empowered over 24,000 students to participate in research experiments being conducted by NASA or a NASA supported scientist. To date we have

averaged 25 participating teachers and 70 students per teacher per year. In 2016 our count of 41 teachers equated to almost 3000 students in the program.

Our goal for the 2017-18 school year is to serve 50 teachers each semester equating to approximately 7,300 students.

<https://orionsquest.org/about/>
<https://orionsquest.org/enroll/>

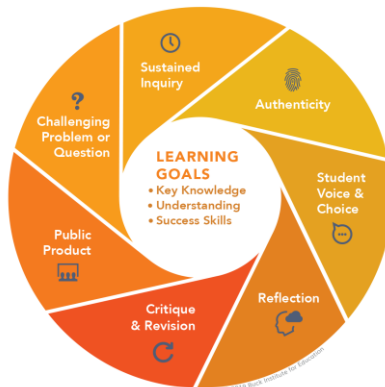
Project-Based Learning (PBL) Skill Institute
Sponsored by the CT State Department of Education
Career and Technical Education (CTE) Unit

July 22-24, 2019

CREC Central, 111 Charter Oak Avenue, Hartford

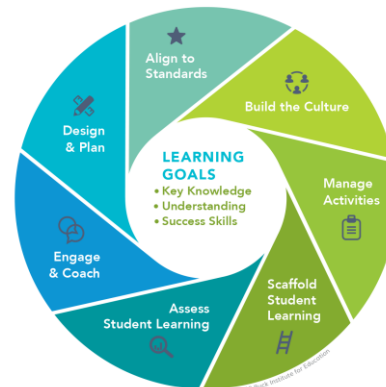
Gold Standard PBL

Seven Essential Project Design Elements



Gold Standard PBL

Seven Project Based Teaching Practices



The PBL Skill Institute provides teachers with a research-informed model for measuring, calibrating, and improving instructional practice. This model includes student-driven projects focused on acquiring key knowledge, understanding, and success skills.

The CTE Unit of the Connecticut State Department of Education is offering this innovative institute to CTE educators new to PBL and looking to successfully and sustainably implement PBL. This immersive experience actively engages all participants in deep, focused, collaborative work.

The Institute spans three (3) consecutive days, July 22-24, 2019, and a follow-up session will be held for all participants in December 2019 or January 2020. CTE teachers must commit to attend all 3 days as well as the follow-up workshop. Building level administrator support is required.

Content Information:

<https://www.pblworks.org/what-is-pbl>

Registration:

Send an email to Mary Lou Molloy (mmolloy@crec.org) if you wish to participate. Please include the name and email of your building level administrator. You will receive an email with complete registration instructions.

Residential Summer Workshops at the
University of Connecticut's
School of Engineering

The daVinci Project

July 15-19, 2019

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 15-19. Teachers live on campus and participate in one of 8 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 33 fellowships available. Please share this professional development opportunity with the other STEM teachers in your school or district. Workshop links below.

1. [Innovative Underwater Robotics for STEM projects](#) – 8 Fellowships available
2. [Mathematical Optimization with Applications to Smart Grid and Intelligent Buildings](#) – 10 Fellowships available
3. [Understanding Pain: Sensory and emotional stimulus to your brain](#) – 2 Fellowships available
4. [Bioinformatics: Using Computer Science to Understand Life](#) – 3 Fellowships available
5. [Monitoring and Maintaining Stream Health in a Developed Watershed](#) - 2 Fellowships available
6. [Air Quality and Health: Building an Air Pollution Measurement Device with an Arduino®](#) – 2 Fellowships available
7. [From Geometry to Algorithms](#) – 4 Fellowships available
8. [Robots: Use in Industry and Elderly Assistance](#) – 2 Fellowships available

An on-line 2019 application and more information can be accessed at <http://edoc.engr.uconn.edu/davinci/>. **Registration deadline: June 15, 2019.**

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.

AN INVITATION FROM NEW YORK SUNY EDUCATORS!

Registration is now open for our Fall Case Study Teaching in Science Conference, September 27-28, 2019, in Buffalo, NY, sponsored by the National Center for Case Study Teaching in Science, at the Buffalo Marriott Niagara.

Our conference offers sessions for both the beginner and advanced case study teacher and is formatted for college and high school teachers. In addition to our distinguished group of session teachers, we have brought in a noted scholar to address the general conference, Joseph Kim, Associate Professor in Psychology, Neuroscience and Behavior, McMaster University, Hamilton, Ontario, Canada to present on "Motivating Durable Learning: Focused Attention Through Instructional Design."

Workshop sessions this year will cover teaching cases using backward design, multimedia learning principles, developing cases using biointeractive videos, high school methods of engaging students, and more! See below for a full listing of workshop sessions and other information.

Our conference is led by Dr. Clyde (Kipp) Herreid, SUNY Distinguished Teaching Professor and Director of the National Center for Case Study Teaching in Science. The conference is open to anyone interested in case study education, including high school teachers and international teachers. It also includes a poster session and we would be pleased if you submitted a proposal by September 10, 2019.

Register now <http://www.nccsts.org/conference.php> for this rewarding two-day Case Study Teaching in Science Conference, September 27-28, 2019.

AntU Summer Workshop 2019-2020

AntU Summer Teacher Professional Development Workshop

During this workshop, teachers will participate in both 'learner-hat' and 'teacher-hat' experiences to better understand and prepare to implement an NGSS designed unit (e.g., anchored in phenomena, models incrementally developed over time). This unit focuses on an army ant society's group behavior and the natural selection of army ant guests (MS-LS1-4,6). Teachers will leave the workshop with a comprehensive unit consisting of daily lesson plans (e.g., discussions, modeling, readings, videos, hands-on investigations, simulations), teacher slides, student handouts, and NGSS-designed assessments.



Dates:

August 19, 2019 9am-3pm
August 20, 2019 9am-3pm
August 21, 2019 9am-3pm

Location:

UConn, Storrs Campus.

Register:

<https://forms.gle/AsdfcMaigTF8R3UX9>

Learn More:

<http://web.uconn.edu/mnh/antu/>



KEYS TO SCIENTIFIC ACHIEVEMENT CONNECTICUT SCIENCE EDUCATORS ANNUAL CONFERENCE 2019

SAVE THE DATES FOR OUR ANNUAL CONFERENCE!

November 8th and 9th, 2019
Heritage Hotel & Conference Center

Friday, November 8th: Special Session with Entertainment & Refreshments

Saturday, November 9th from 8:00 - 3:30 featuring:

Workshops

Exhibitors

Networking

Giveaways

Light breakfast

Lunch Buffet

Beautiful Venue

Modern Meeting Rooms

President's Reception with Desserts & Door Prizes



Keynote Speaker: Okhee Lee

Okhee Lee is a professor in the Steinhardt School of Culture, Education, and Human Development at New York University. She is currently leading collaborative research between New York University and Stanford University to develop instructional materials aligned with 3-Dimensional Learning to promote effective science education for all grades, K-12.





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.