

Connecticut Science Supervisors Association

Newsletter



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President's Message

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How about that weather? Wow, if ever there was a series of “teachable moments” on Earth Science and meteorology, we’ve had them in the past twelve months! Japan recently marked the six-month anniversary of their earthquake that caused catastrophic loss of lives and massive property destruction. The subsequent leaks at the nuclear reactors have brought up all sorts of energy debates and discussions about safety, costs, and risks. I’m sure that many of you have found ways to weave these into your science lessons.

Friends of mine, who are not educators, have enjoyed teasing me about adding days on to the end of our school year before we have officially begun the school year! I think we got even more rain with the remnants of Lee than we did from Hurricane Irene. It was an unusual set of circumstances that conspired to have our students start after Labor Day this year. Now that we have really started, we are off to another great year. Let’s say that this will be the best year ever.

Why will this be the best year ever for us? For starters, we have the NSTA Regional Conference in Hartford next month (October 27-29). The last time NSTA was in town was 2005 and that was a wonderful conference. This one will be better. We have great keynote speakers. There are terrific field trips and workshops lined up. The vendors are preparing to share their latest and greatest text and technology with us. Many of us are involved in committees to organize and prepare logistics for the conference. Many of our members had their applications to present a workshop accepted. Many of us reviewed those applications. Many hands make light work, and there has been no shortage of opportunities to volunteer our time and talents to make this NSTA Regional Conference the best. If you have not yet

sought out an opportunity to volunteer, please contact Eloise Farmer right away.

We recently commemorated the tenth anniversary of September 11th and the tragedies at the World Trade Center, the Pentagon, and in Shanksville, PA. It seems that television programming on every network was devoted to a retrospective on the terrorist attacks and the passage of time. They interviewed the victims’ children, who never got to meet their parents. They noted that our present high school students were only starting elementary school ten years ago and may have dim memories of the events. We had discussions at my house about, “Do you remember where you were that day?” This was a historical day, similar to other historical days in our nation’s history (e.g., Pearl Harbor, the day that JFK was assassinated, the day that the Space Shuttle Challenger exploded, etc.). Skype and Facebook, both ubiquitous now, were not around ten years ago. What will the next ten years bring?

The start of the school year is our time for looking back and looking forward. We look back on what worked

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well for us in the past school year. We look back on former students and wonder what they're doing now, or if we prepared them well enough.

We look back on the curriculum and the lessons and the activities and the labs that we used in the past, and we wonder how we need to modify them to meet the needs of our new students. We look forward to the lives our new students will live. What will their career choices look like in ten years? What technology will propel them forward? How do we prepare them for the next fifty years? Fifty years is significant. The year will be 2061. Does that number ring a bell? Project 2061 is nearly a twenty-year old initiative now, but it did launch us to a more standardized set of expectations for science and STEM.

The National Science Education Standards are on the cusp of being replaced by the National Science Frameworks. A draft of the standards was released in July, and you are strongly encouraged to review these. Assessments are being developed based on the framework. Here is a link to the draft: http://www7.nationalacademies.org/bose/Standards_Framework_Homepage.html

We need to be informed about so many other areas now that integrate with science. We need to know about Information & Communication Technologies, Educational Technology, and the Information and Educational

Technology Literacy Framework. Our September pre-dinner workshop facilitator, Dr. Dori Haggerty of PASCO, will provide more information about that. If you're not familiar with those standards yet, you should probably navigate through the State Dept of Education's website to get that information for yourself. Here is the quick link to that page: http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=321166&sdenav_gid=1757

What about literacy? Hey, we teach science, not literacy, right?! Well, this is something else that we need to know about. Go to the website for the Common Core State Standards, <http://www.corestandards.org/the-standards>, and click on the fourth icon, "Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, & Technical Subjects" which will bring you to a pdf (portable document file) of the Literacy Standards. You'll want to hone in on the reading and writing standards on pages 62 and 64-66.

Please encourage your teachers to attend the NSTA Regional Conference in Hartford next month (even if just for one day). There is a world of information that they need to know about, and this is one great way to access successful instructional strategies and trends in science education. Your organization (CSSA) is here to help!

I wish you the best school year ever!

Pre-dinner professional development speaker:

Pre-Dinner Professional Development Session on Supervision Dr. Dora Haggerty of PASCO

Keynote speaker:



Dr. Jenny Edwards from the Center for Cognitive Coaching. She is presently serving on the faculty at Fielding Graduate University for the doctoral program in Educational Leadership and Change. She has written *Cognitive Coaching: A Synthesis of the Research*, which is available at

<http://www.cognitivecoaching.com/products.htm> She has also written *Inviting Students to Learn: 100*

Tips for Talking with Students, which is being published by the Association for Supervision and

Curriculum Development. For more information, please click on:

<http://www.cognitivecoaching.com/jedwards.htm>

A Message from the Membership Chair

Lauren Amaturio

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Hello new and returning CSSA members! I currently teach biology at Hall Elton School in Wallingford and am the new CSSA Membership Chair. I would like to share a story with you that highlights exactly what membership in CSSA means to me. For several years, I had been a CSSA member on paper but had never attended a dinner. To be honest, I didn't know what to expect because I was not a science supervisor yet but I aspired to be one. One day last fall, I decided to send my money to Tammy Mockus for my first CSSA dinner. Eloise Farmer, Harry Rosvally and Melinda Meyer were some of the first people to introduce themselves to me and I quickly felt at ease.

That evening I had the privilege of hearing, for the first time, Dr. Arthur Eisenkraft's presentation on Physics for All. I also participated in a lively discussion about the Next Generation Science Standards (Melinda even downloaded a copy for me). I was so inspired and so proud to be a science teacher, I went home that night knowing that I had found an avenue for professional growth that had previously been unavailable to me. Woody Allen famously said "80 percent of success is just showing up". I had shown up that night and several months later I was offered a position in charge of K-12 STEM curriculum for Wallingford public schools.

Over the past year, I have gotten to know quite a few CSSA members personally and have come to consider them my friends. The relationships I have established provide a resource for me as I continue to develop the skills needed to be a leader in science education. I was honored when Dr. Rosvally asked me to be the membership chair. I take great pride in being charged with getting the word out about all the amazing opportunities membership in CSSA provides. As a member, you are the most valuable supporter of the organization and I encourage you to get the word out too. Please consider inviting a colleague to join CSSA, maybe someone like me who is "just a teacher" but aspiring to be a leader in science education.

I wish you the best in your upcoming school year and hope to see you at our next dinner meeting!

Editor's Corner: Who are your partners?

Frank LaBanca

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Note: This article is cross-posted on my blog: <http://problemfinding.labanca.net>. Be a part of the discussion, join my personal learning network, and leave a comment on its contents there.

My network of colleagues working in Science Education in Connecticut has always amazed me. The diverse expertise has always made it possible for me to find the resources necessary for improving the quality of programs by increasing student engagement and achievement. In my (fairly) new role as the Director of the Center for 21st Century Skills at EDUCATION CONNECTION, I have found the network is more important than ever. Partnering with schools and districts, other science education organizations (both nationally and in-state) are a regular part of my daily activities. If I want to create the highest quality STEM programs possible, I recognize that I can't do it alone - I need my partners. And those partners come from a wide swath - business partners, industry partners, higher education partners, State department partners, foundation partners, and federal partners, to name a few.

I think it is so important that I don't operate in isolation. It would be a waste of resources and time if I "siloed." I don't want to operate in isolation doing the exact same thing my peers are doing, creating the same product. Yet I find that siloing effect happening too often. Although we absolutely do need to customize for our own program needs, we really should try to utilize each other's expertise. That might be the best use of our time. Anyone looking for a partner?



Call for High School Teachers and Their Student Teams to Compete in the Real World Design Challenge

Connecticut High School STEM teachers may be interested in engaging their students in the 2011-12 Real World Design Challenge. This is an opportunity for students to apply classroom lessons to real-life technical problems. In support of science, technology, engineering, and mathematics (STEM), the Challenge asks student teams to develop solutions to address a leading industry problem. This year, the 2011-2012 Challenge focuses on fuel efficiency in aviation. Student teams compete on a state level and winning state teams will advance to compete nationally.

Teacher/coaches who lead their teams along with professional scientists, engineers, and mathematicians who volunteer as mentors are an integral part of the Challenge. Sponsors will donate \$1 million in professional engineering software to teacher/coaches and provide training so they can better utilize and apply the tools to teach design and global engineering. Mentors provide guidance to students and support teachers with content knowledge and experiences that can supplement the teacher's expertise. Top state winners will receive an all expense paid trip to Washington, DC for Nationals, outstanding prizes, awards, and recognition from leaders in government, industry, and higher education. Registration for the free competition is open. Visit <http://www.realworlddesignchallenge.org/overview.html> for details.



2011 Connecticut State and RWDC National Champions
Xavier High School- Middletown, CT

Register for a Teacher Training
Teacher Training:

To schedule an in-person training please contact:

Christine Gemelli
CT SBIR Office

Connecticut Innovations

Phone: 860-257-2895

Email: christine.gemelli@ctinnovations.com

Safe Science: Be Protected!

Dr. Ken Roy

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NSTA, NSELA, ICASE
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ALLERGENS IN THE LAB!

I. Does It Come Down To Playing in Dirt?

Allergies and asthma statistics seem to be indicating a rise in school age child having these types of health issues. Why is this happening? There are a number of theories that are being entertained. One intriguing theory is well noted by Jane Thurnell-Read who writes popular articles about health and well-being. At her U.K. website [Healthandgoodness.com](http://www.healthandgoodness.com) she wrote an article titled "Why Are Allergies On The Increase." Amongst several candidates for the increase in allergies, she notes the following:

Excessive Cleanliness

The obsession with the danger of 'germs' is thought to have led to an increase in allergies. Much of this obsession with cleanliness seems to be driven by the media and advertising. Headlines about 'killer bugs', and advertisements that claim a product kills even more germs have led many people to buy more and more products to wipe out these dangerous enemies. A view now gaining ground among many researchers and some doctors is that a certain level of dirt is good for us, particularly during infancy and early childhood when the immune system is maturing. (<http://www.healthandgoodness.com/article/are-allergies-on-the-increase.html>).

Whichever that cause or causes allergies and asthma, science teachers need to be aware and be proactive in addressing allergens in the lab.

II. Allergens In The Lab!

There are several sources of potential allergens in the lab environment. For example, given that allergic reactions result from exposure to chemicals, the science laboratory is an especially likely place for allergens to be found. From the get go - latex burner tubing, gloves and goggle straps may be an issue. Latex gloves present the risk of latex allergies sensitivities. Especially of concern are powered gloves where the use of cornstarch tends to absorb the latex protein and disperse it when the gloves are removed. Alternatives to all of these sources can be successfully adopted and help reduce the exposure to this known allergen.

Some chemicals used in the lab also may provide allergen effecting sensitization issues for students and employees. For example, some individuals are sensitive to nickel products such as nickel metal, nickel chloride and nickel sulfate. Sensitivity to cobalt is another source including cobalt metal, cobalt chloride and more. Other more severe reactions including asthmatic attacks can be triggered by chemicals such as ammonia, chlorine, hydrogen chloride gases, isocyanates, and sulfur dioxide, to name a few candidates.

Biological material based allergies can also be a problem. Most common are allergies to plants and animals. In the plant arena, hay, peanuts, pollen, fungi/mold, poisonous plants like poison ivy and sumac, are a few which can be readily found. Animal allergies from rabbits, gerbils and others can also be a problem. Some allergies to peanuts may not just be limited to the solid food eaten. Peanut vapors can also be a problem! Use of hay, pollens, or other plant allergens in the lab may initiate "hay fever" type symptoms.

III. Ideas to Address Allergens!

In efforts to address potential allergen issues, science teachers might consider the following actions for a start:

1. Secure information from the school health office, parents and students relative to allergies and asthma issues at the beginning of the academic year. Treat this medical information as confidential but necessary to your planning in order to make it a safer working environment for all.
2. In addition to input from the school health office, search the Internet for sites on how strategies to better address environmental issues in dealing with allergies! One such resource is AIR or the Allergy Internet Resource (see "Resources" at the end of this column for the Internet address) which has numerous sources of information on a spectrum of allergies!
3. Use the medical and other information to assess the learning environment - science laboratory.
4. Use the medical information to assess the learning activities.
5. Once assessed, plan and take action to help make the working/learning environment more in concert with allergen reduced or allergen free approaches.
6. Learn how to be aware of allergen symptoms/sensitivities of students and how to deal with them. In some cases - these can be life threatening!
7. Remember also that the field laboratory may have to entertain even more intense allergen level challenges. Always inform parents ahead of time relative to field activities and again ask for input should there be allergy issues or histories the teacher of which the teacher should be aware.

IV. In The End!

The noted suggestion list is a start to help raise the level of awareness on the part of science teachers relative to working with biological and chemical allergen hazards in the academic laboratory. Science is to be fun - but also safer by a well informed school administrators, science faculty and student body.

References:

AIR - Allergy Internet Resources - AIR; <http://www.immune.com/allergy/allabc.html>

Australian Government Department of Health and Ageing:

http://agencysearch.australia.gov.au/search/search.cgi?collection=agencies&client=445556fb&cool0=41&cool1=15&cool2=5&cool3=0&stem=2&scope_disable=off&num_ranks=20&profile=health&query=allergies&Submit=go

National Institute of Allergy and Infectious Diseases: <http://www.niaid.nih.gov/Pages/default.aspx>

“Live Long and Prosper, Using Safety!”



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