

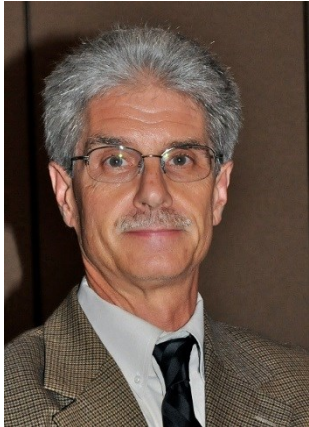


The Science Explorer

Suffolk Section: Science Teachers Association of New York State

Volume 43	Number 1	Fall 2014
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The Chairperson's Corner



Glen Cochrane lab. It is rewarding when we guide them through complex concepts and see them make the connections that lead to greater understanding. In sci-

Welcome to another school year and along with it the optimism and enthusiasm we share about teaching science. I'm still feeling new to retirement so I miss the interactions with my students in the classroom and

ence, we encourage hands on activities which allow for experimentation and discovery. I can't think of another subject I would have rather taught.

Every year we hear of some new trend or system that may impact our world as science educators. July 2011, the National Research Council released a prepublication copy of *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* which pointed out that we need to do much more to prepare our students. That document served as the

(Continued on page 3)

- ### Dates of Interest:
- **MATEX –Villa Lombardi's, Holbrook:**
Tuesday, Oct. 21, 2014
 - **NYS Science Olympiad Coach's Clinic:**
October 25-26, 2014
 - **STANYS 119th Annual Conference - Rochester:**
November 1 - 4, 2014
 - **Eastern LI Regional Science Olympiad Tournaments:** C Division Jan 31, 2015
B Division—March TBA
 - **LISC— April 22-23, 2015**
 - **Spring Conference, Brookhaven Lab: March 27, 2015**
 - **Annual Awards Dinner: May 20, 2015**

Science Materials and Textbook Exhibit (MATEX)

Tuesday, October 21, 2014 3:00 - 6:00 p.m.

***** NEW LOCATION*****

Villa Lombardi's
877 Main Street
Holbrook, NY 11741

All are welcome. The exhibit is FREE!

As in the past, we expect about 25 vendors to present the most recent textbooks, review books, lab equipment, and computer programs for science educators at the elementary, middle school and high school levels. We will also have 2 vendors who will be **selling rocks, mineral, & fossils!** The Suffolk STANYS SARS (Subject Area Representatives) will have table top demonstrations & be available. The vendors are always generous with giveaways and we have many door prizes to be won!! Don't miss this opportunity to find out the latest innovations to be used in the science classroom. **You will also get a certificate for 2 hours of professional development.**

****First 25 new teachers will receive a special New Teacher Gift****

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WHO'S WHO IN STANYS SUFFOLK SECTION LEADERSHIP

The following people can provide information on membership, teacher workshops and other activities. The Subject Area Representatives (SARs) can provide current information on NY State Education Department Core Curricula and testing programs.

◆ Indicates individuals who serve in more than one capacity and for whom contact information is listed only once.

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Suffolk STANYS
Board members
Brian Vorwald,
Glen Cochrane,
and Maria Brown

Chairperson's Corner (continued from page 1)

"The exciting news is that we may actually be moving toward a revision in the New York science standards."

guide for **Next Generation Science Standards (NGSS)** with a final draft released April, 2013. Now it is up to the individual states to make a decision to adopt NGSS as their science standards, adopt their state version of NGSS, or reject them and stay with their current program. Unfortunately, a couple of states have rejected NGSS because of an included component on climate change which some people believe is debatable. The good news for us is in the message from the New York State Science Education Consortium Summit held this past July. After listening to the presentation at the summit which called for action and the need for science education reform, Ken Wagner, New York State Education Department Deputy Commissioner for Curriculum, Assessment, and Educational Technology told members of the New York State Science Education Consortium, "I agree with you. I think we can make this happen." As reported on page 8 in the STANYS Newsletter, a Statewide Strategic Plan for Science Education has been developed.

"The plan provides objectives and activities for reform in NYS science standards, curriculum, assessment, professional development, materials support, and administrative and community support. Consortium recommended that in early 2015 the Regents adopt the Strategic Plan

and authorize the development of a New York State Version of the NGSS, which could be considered for adoption by the Regents in early 2016. Such a timeline would enable the NYSED, the science education community, and other stakeholders to begin the activities in the Strategic Plan, including the development of the state version of NGSS."

<http://www.stanys.org/images/pdfs/Newsletter/2014-501%20SeptOct.pdf>

The exciting news is that we may actually be moving toward a revision in the NY science standards. The plan would be to create a NY version of NGSS that would complement what we currently offer. It would involve a six step program including the very important components of community support and professional development. This is our opportunity to update our standards K-12 and consider changes to our assessments. Science organizations and science teachers will be needed to make these new standards "come to life." It will take time and patience but if done with support, we will develop a program that will better prepare our students for the challenges of their future.

I wish you all a wonderful start to the school year and we at Suffolk STANYS look forward to offering programs that may be of interest to science educators.

NGSS is in its final form and available on online at:

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



2014 Outstanding Senior Science Awards

Brian Vorwald, Awards Co-Chair

Each year the STANYS Suffolk Section invites high schools that are patrons of the *STANYS Suffolk Section District Member Services Program* to select an outstanding science student in their graduating class to be recognized at our Annual Awards dinner in May. The students are introduced and presented with their award by a science teacher of their choice and both are guests of the Suffolk section. Last year 31 high schools recognized their outstanding seniors at the dinner which was held on May 21st at the Hyatt Regency Long Island at Wind Watch Golf Club in Hauppauge. It's always the highlight of our year to hear their proud teachers describe the outstanding achievements of these talented young people. Each student was presented with a plaque from the STANYS Suffolk Section commemorating their award.

The list of these students and the teachers invited to present them is shown below. The STANYS Suffolk Section applauds these amazing students and wishes them well as they embark on their next adventure, their higher education.

High School	Student Awardee	Teacher Presenter
Bayport-Blue Point High School	Natalie Mottl	Christopher Holgerson
Bay Shore High School	Paul Mangels	Joe Hanley
Brentwood Ross Center	Kevin Marino	Gary Repetto
Brentwood Sonderling Center	Sumaiya Chowdhury	Dr. Rebecca Grella
Cold Spring Harbor High School	Michael Terracciano	Matthew Sneider
Commack High School	Justin Cheung	Kimberly Stiso
Deer Park High School	Kyle Devine	David Knuffke
Eastport-South Manor High School	Cal Wilkens	James Lever
East Islip High School	William Meehan	Kathleen Dinota
Half Hollow Hills High School East	Christopher Lastihenos	Dr. Michael Lake
Half Hollow Hills High School West	Bailey Liao	Dr. Michael Lake
Islip High School	Andrew Lithen	John Quackenbush
North Babylon High School	Anthony Covelli	Annette Kuroc
Mount Sinai High School	Julia Ebhard	Gina Sing
Patchogue-Medford High School	Brandon Ali	Michelle Thoden
Earl L. Vandermeulen High School	Kent Ueno	Michele Krivosta
Sachem High School East	Anmol Gupta	Dr. Michael Vaccariello
Sayville High School	Aneri Kinariwalla	Maria Brown
Shoreham-Wading River HS	Tyler Anderson	Dr. Sherry Neff
Smithtown High School East	Yongpeng Tang	Maria Zeitlin
Smithtown High School West	Eda Algur	Maria Zeitlin
West Islip High School	Alexander Ladinsky	Mary Kroll
Westhampton Beach High School	Aiden Kravitz	Ben Grodski
William Floyd High School	Kwasi Enin	Cristina Brazzelli

School	Student
Connetquot High School	Marina Fandarose
Harborfields High School	Keith Mills
Hauppauge High School	Christopher Giuliano
Huntington High School	Aron Coraor
Longwood High School	Amy Bredes
Wyandanch High School	Sierra Gardner

The adjacent table lists the Outstanding Senior Science Students who were unable to attend the Awards Dinner. / The STANYS Suffolk Section congratulates them on their outstanding achievements.



Clockwise from top left: Glen Cochrane welcomes Outstanding Senior Award winners, their teachers, and families. Teachers presented the accomplishments of their students. Maria Brown, Co-Chair of Awards Program and research program coordinator at Sayville High School, always has a smile on her face. Research teacher Maria Zeitin with her student, Yongpain Tang, from Smithtown East High School.

SCSTA Teacher Recognition Awards Program



Each year at the dinner, teachers are recognized for their dedication and service as science educators. Awards in 2014 were given for Elementary School Level Science Teacher of the Year, Middle School Level Science Teacher of the Year, and High School Level Science Teacher of the Year. Additionally, STANYS Suffolk Section's Executive Committee presented an award for service to the section. Each of these most deserving individuals has performed meritorious service to science education. They've been recognized as outstanding teachers who help students and other teachers both inside and outside the classroom. The award recipients received their awards before family, friends and colleagues and their principals and superintendents were invited to the dinner as the guests of STANYS Suffolk Section. We once again congratulate each of these awardees and sincerely thank them for their contributions to science education. Each has been highlighted below and on the following pages.

Elementary School Level Science Teacher of the Year

Nina Smith

Dayton Avenue School, Eastport-South Manor Central School District



Mrs. Nina Smith is a 5th grade classroom teacher at the Dayton Avenue School who teaches sections of science and previously had a similar assignment, teaching 6th grade. She has several areas of certification which provide her with a comprehensive background from which to deliver her curricula. These include

Elementary K-6, Social Studies 7-12, English 7-12, and pending certification in her Earth Science 7-12.

Nina's hands-on curriculum engages all of her students and integrates into her curriculum a year-long project which facilitates her students' exploration of science topics. She specifically works with students in Life Science and Earth Science topics. She often hosts guest speakers who are professionals in geology, meteorology, and genetics.

Her work with students goes beyond the classroom. She has been the Photography Club Advisor, Science Club Advisor, and Science Fair coordinator and judge. Each year Mrs. Smith adopts a theme which is integrated throughout her curriculum. Her theme for the

2013-14 school year was space exploration. During the summer, before the start of school, her students, AKA "trainees," were assigned to a mission which, as she stated, would "take them through a year-long odyssey of learning." She met her class, AKA her "crew," on the first day of school wearing an astronaut suit and started their adventure. This strategy most certainly must have excited her students and set the stage for year-long fun in learning science.

In her letter of support, Nina's colleague, special education teacher Heather Cowden, wrote that "Nina has enriched us as educators..." and "...has taken students that others are not able to reach and afforded them the opportunity to shine..." Kelley Nassief, a professor at Adelphi University whose daughter was in Nina's class, stated that "Mrs. Smith is a model of a passionate teacher... and is an example of what a teacher should be."



Middle School Level Science Teacher of the Year

Elicia Selvaggio-Katsapis

Rocky Point Middle School, Rocky Point Public Schools



Mrs. Elicia Selvaggio-Katsapis teaches Honors 8th Grade Living Environment, intermediate science, and science research. She earned her Bachelor of Arts in Biology with a minor in Secondary Education from Dowling College in Oakdale and was awarded a Master of Arts in Liberal Studies from Stony Brook University.

Elicia wrote the curriculum for her district's Living Environment Honors course. When delivering her instruction, she integrates technology and games into her lessons, differentiates instruction and engages her students in unique projects. In her personal statement, she wrote "I teach with a passion to motivate my students to pursue science and to love the subject as much as I do." Rocky Point's Executive Director for Education Services, Susan Wilson, wrote in her letter of support that, "Mrs. Selvaggio-Katsapis motivates her students to think critically and solve complex problems."

Mrs. Selvaggio-Katsapis has served in a number of extra curricular capacities working with students and teachers beyond her classroom. These include being the Science Club Advisor, Science Bowl Coach, Journalism Club Advi-



Elicia Selvaggio-Katsapis, with Rocky Point Science Coordinator Terry Renna and Glen Cochrane

sor, Eighth Grade Class Advisor, and GATES Program Advisory with Brookhaven National Lab. She has served as a judge at both the Long Island Science Congress and the Long Island Science and Engineering Fair where she also served as a Scientific Review Committee member.

Terry Renna, Rocky Point's Instructional Coordinator of Science K-12, wrote that Elicia "...is always willing to do whatever is thrown at her and goes above and beyond when her help is needed." A parent of one of her students further stated that, "...her style of teaching, her positive and fun attitude, and review games allow her students to succeed."



High School Level Science Teacher of the Year

Mary Kroll

West Islip High School, West Islip Public Schools



Mrs. Mary Kroll currently teaches research courses at West Islip High School. These include Introduction to Research - Grade 9, Biotechnology Research - Grade 10, and Research - grades 11 and 12. Her previous teaching assignments included teaching biology (inclusion, regents, honors), chemistry (regents and honors), and marine science. Mrs. Kroll received her B.S. in Biology from St. Joseph's College in Patchogue and earned a Master of Arts in Liberal Studies from Stony

Brook University. Mrs. Kroll's excellence as a science teacher has previously been recognized by the NOYCE Symposium at Dowling College. In 2013 she received their *Outstanding Educator Award*.

In her personal response, Mary wrote that her philosophy of education is to, "...allow my students to explore science through their own eyes, using their own minds..." and that she encourages students, "...to learn through their own exploration and interests." Her own research experiences have included working with the Coastal Research and Education Society of Long Island, Penn State University, and the Hofstra University Field Lab. These experiences, along with her ongoing participation in a variety of professional development courses, have given her an extensive background for developing her courses. Testimonials from former students demonstrated that they attributed their lifelong passion for learning and research to Mrs. Kroll's program and her undivided commitment and dedication to her students.

Mary is the author of the district's Introduction to Research and Marine Science curricula and was a member of the grant writing team for a new biotechnology lab. She served students beyond her work in the classroom as advisor to the Science Research club and in her former posi-

tion coaching cheerleading at West Islip's Beach Street Middle School. She promotes science and research and exploration not only in her classroom, but across Long Island through her work with the Long Island Science Congress. She's an active LISC committee member, former Awards Chairperson, and is currently the Judge's Chairperson.

Mrs. Kroll has lent her talents to helping new teachers by serving as the cooperating teacher for student teachers and as a mentor to a new teacher in her department. Alexandra Dolce, Mary's former student teacher and mentee, wrote in her letter of support that "when you think of the word perfect, Mary Kroll comes to mind. She has the upmost respect from every member of our teaching staff as well as our students and administrators."



Mary Kroll with Glen Cochrane and her supervisor from West Islip High School.

STANYS Suffolk Section Service Award

Ashley Bloch

Islip Middle School



The STANYS Suffolk Section's Executive Committee presented its 2013-14 Service Award to Ashley Bloch, who teaches accelerated 8th grade Earth Science and inclusion General Science at Islip Middle School. This award is presented to a member of the association who has served in roles that are instrumental to the STANYS Mission Statement and the Suffolk Section's delivery of programs for teachers and students. Ashley is a past *STANYS Suffolk Section Middle School Teacher of the Year* (2011) and she has brought the same enthusiasm and dedication to serving students and teachers in her school community to the service of STANYS.

Ashley is currently the Suffolk Section's Intermediate Level Subject Area Representative (SAR) and Vice President for Programs. Her enthusiastic support, hard work, and dedication are integral to the section's delivering services to the Suffolk science teaching community at large. In his presentation to Ashley at the Awards Dinner, Suffolk STANYS Chairperson Glen Cochrane stated that, "She is always there when needed, develops new ideas, and is an important asset to our organization. We are fortunate to have her active participation in STANYS."



Ashley Bloch with Mel Morris of Brookhaven National Lab (above) and with Glen Cochrane (left).

STANYS State Science Congress 2014

Glen Cochrane



Scott Bronson of BNL welcomes students.

The New York State Science Congress, hosted by the STANYS Suffolk Section and Brookhaven National Lab (BNL), was held on Saturday, May 31, 2014. Seventy eight students from various parts of New York presented 59 projects to more than 25 judges in a poster format. Both Junior Division (grades 7-8) and Senior Division (grade 9-12) students began the day with a welcome address from Brian Vorwald, Past President of STANYS, and an overview of BNL by Scott Bronson, Program Administrator of Educational Services. During the morning session, students presented their research several times to different judges. After lunch, students and teachers listened to a presentation from Arthur J. Sedlacek, an atmospheric chemist with the BNL Environmental and Climate Sciences Department, and then toured some BNL facilities. After all returned from the tours, an Awards Ceremony was held in the auditorium at Berkner Hall. Approximately 35% of the projects received plaques and monetary awards and 25% received Honorable Mention medals.

This was the second year the state-wide Science Congress was hosted by Suffolk Section and BNL. Due to a recent policy change, the number of projects nominated to attend the State Congress resulted in a 25% increase in student participation in 2014. I am very pleased that we had students representing regional fairs from Westchester, Central, Western, Greater Capital (STANYS Eastern Section), the Southern Tier region as well as the Nassau and Suffolk Sections.

The STANYS State Science Congress provides a forum at which the best projects from the regional science congresses can compete. It brings students from grades 7 to 12 together from around the state to share in an educational opportunity. The students interact with each other, present their projects to professional scientists, and have the unique opportunity to experience the setting of Brookhaven National Laboratory. The 2014 State Science Congress achieved these goals and was a great success. We hope we can continue to encourage and recognize student science research in New York State. The STANYS Suffolk Section and Brookhaven National Lab are prepared to host the event again this school year, and we hope that the regional science congresses will support this valuable program.

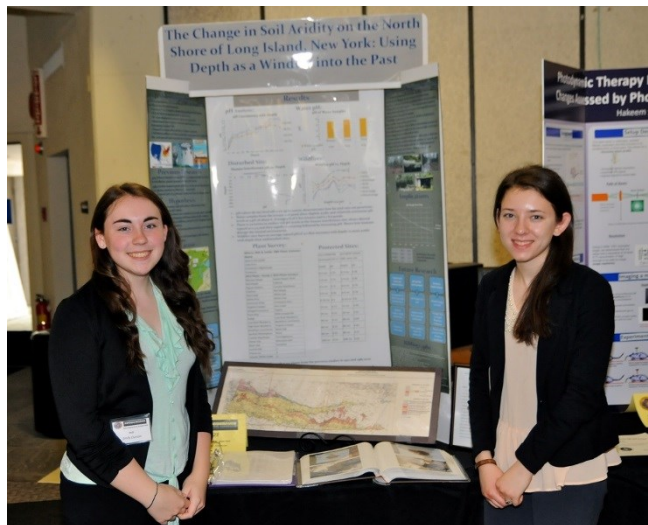
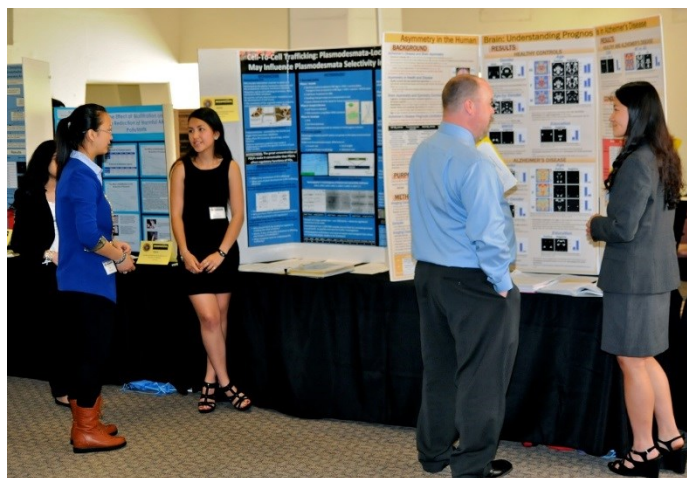
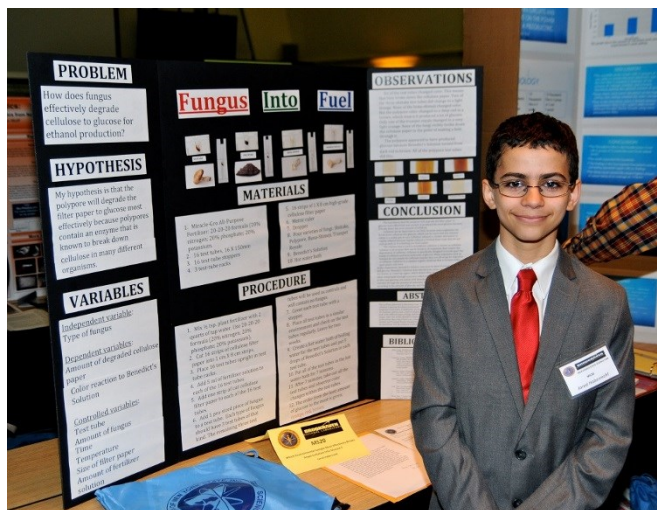


Glenn Cochrane, State Director and Mel Morris, BNL Office of Educational Programs.



New Elementary SAR Joe Malava judges a middle school project.

BROOKHAVEN NATIONAL LABORATORY



Nearly 60 projects, including both middle school and high school student researchers, were presented and recognized for their high achievement. Top left: Highest Honors winners in the Behavioral Science category from Paul J. Gelinis JHS. Top right: Thomas Paige, Half Hollow Hills East High School judges a high school level

In Search of Buried Treasures: The Fossils of New York State and Canada

Gary Vorwald
Paul J. Gelinas JHS



The Suffolk and Westchester Sections of STANYS along with the NYS Earth Science Teachers Association sponsored a fossil collecting trip to western New York and Ontario this past August. Twenty five participants, including teachers, students, and family members spent 2-3 days exploring in Paleozoic rocks for “buried treasures.” Participants came from Long Island, NYC, Massachusetts, and upstate New York and met at the sites. The trip was jointly led by Gary Vorwald, Paul J. Gelinas JHS in Setauket and Christopher Marotta, Stony Brook University.

The program started out with a rendezvous at the Museum of the Earth in Ithaca on Thursday, August 21. Three families joined us for a tour of the museum. The Museum of the Earth has excellent fossil exhibits which include well displayed invertebrate and plant fossils from the Paleozoic through Cenozoic. Featured are Paleozoic fossils from New York State, but exhibits also include Mesozoic and Cenozoic specimens from the age of dinosaurs and the

age of mammals. One of the highlights is the display of one of the most complete Mastodon skeletons discovered in a farmer’s pond in upstate New York. For those of us traveling from Long Island, this was a nice way to break up the long drive to Fort Erie, Canada.

On Friday morning we visited the Ridgemount Quarry in Fort Erie, Ontario in search of the elusive Eurypterid. Eurypterids, also known as “sea scorpions,” lived in shallow marine lagoons during the Silurian Period (about 420 million years ago). The collecting site is the floor of a working limestone/dolostone quarry and protective gear is required. About 15 of us donned hard hats, metal toed boots, and reflective safety vests to search for these rare fossils. Collecting was hard work and the rocks had to be split into layers to reveal the fossils. We spent about 7 hours cracking rock and found only various body parts, including two

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(Continued from page 12)

heads, a couple of tail sections, parts of limbs, and thoracic segments. We gained a real appreciation for why the New York State fossil is so valuable. Complete specimens sell for hundreds of dollars, so we were thrilled to find anything.

That evening some of us traveled to Niagara Falls to see one of the natural wonders of the world. We were so exhausted that we didn't spend too much time there and traveled to our hotel in Hamburg, NY, south of Buffalo.

On Saturday, we met at the gate to the Penn Dixie Paleontological Outdoor Education Center. Since this site is more accessible, we had a large group of 25 people join us. This included two college students who are geology majors. This site is now a nature center dedicated to educating the public about ancient life, earth science, and other natural history. The site is run by the Hamburg Natural History Society, who are very gracious hosts. There is a small collecting fee. The rocks are Devonian (370 million years old) age shale and limestone which are famous for well preserved and abundant marine invertebrate fossils. The most treasured fossils found at the site are the trilobites, one inch long marine arthropods that look superficially like horseshoe crabs. Trilobites became extinct 240 million years ago, before the dinosaurs ever walked on earth. The shale is so soft that it easily disintegrates and releases its "buried treas-

ures." These include brachiopods, horn corals, crinoids, and sometimes trilobites. The best place to search for trilobites is in the harder limestone, which must be split. Hard work paid off and everyone came home with many specimens of ancient fossils. While most of the trilobites found were

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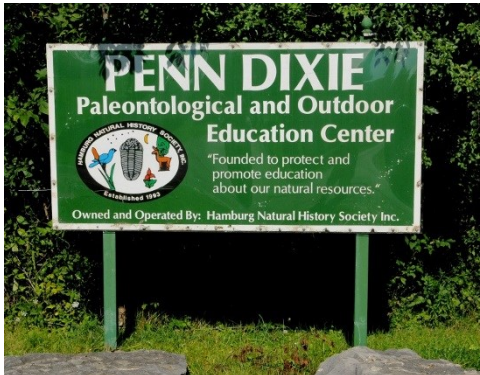


Above: A head (cephalon) of a eurypterid, with both cast and mold.

Below: Collecting eurypterids at Ridgemount Quarry in Fort Erie, Ontario, Canada.



(Continued from page 13)



body parts, they were very recognizable as heads and tails. A number of complete or enrolled trilobites of the species *Phacops rana* were discovered.

If you want to be successful in finding Devonian fossils in NYS, visit this site. If possible,

take your students. They will have an experience they will never forget. It is hard to describe the feeling of excitement and awe one feels when you split open a rock and discover the remains of an ancient creature that no one else has ever seen, which was entombed for hundreds of millions of years.

For more information about these sites visit the following websites:

Museum of the Earth

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

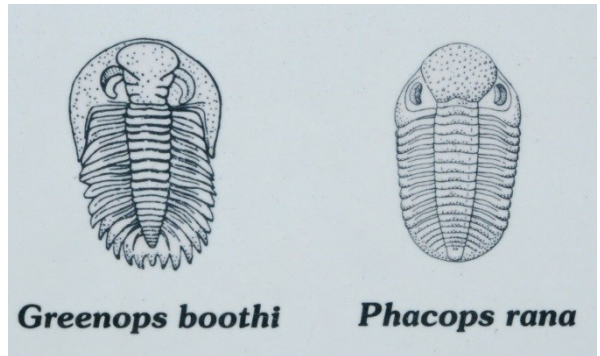
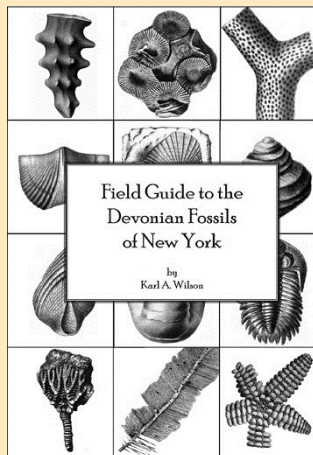
Penn Dixie Paleontological Education Center

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

I hope to coordinate another trip next year at around the same time, late August. If you are interested, contact me at gvorwald@3villagecsd.org to get on my mailing list.

The Paleontological Research Institute, which runs the Museum of the Earth has just released a new publication: "Field Guide to the Devonian Fossils of New York."

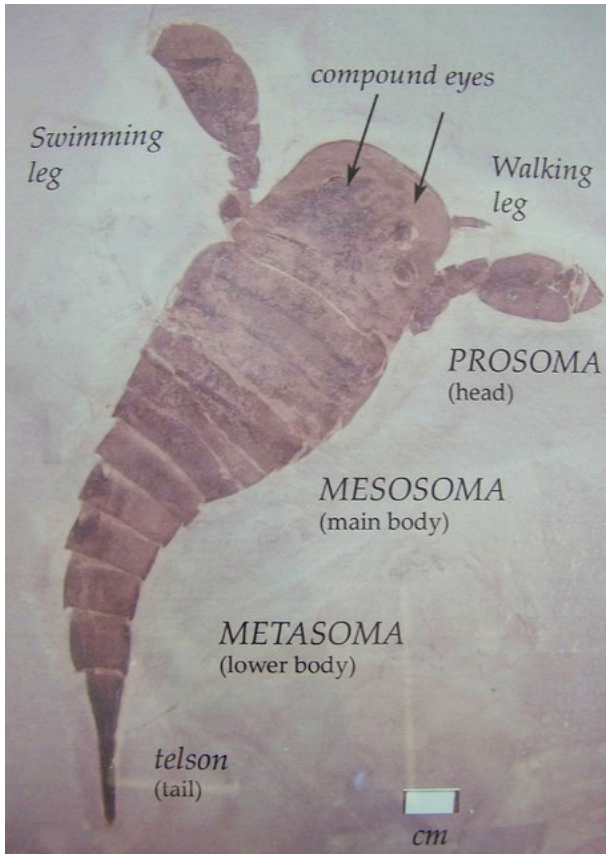
This volume, by Karly Wilson, contains over 400 taxa with excellent quality line drawings that help for easy identification. The book is available from the Museum of the Earth's website for \$18.00.



Top: Gary Vorwald collecting brachiopods, coral, and crinoid stems in the Windham Shale at Penn Dixie.

Center: Trilobites found at this locality.

Bottom: *Phacops rana*, cast and mold, found by Debbie Lai at the end of the day.



Clockwise from top right: Trip leaders Chris Marotta and Gary Vorwald. Middle: Elementary teacher David Linden-Darrow collected fossils for his 5th grade class. Bottom right: Chris Marotta splitting the bedrock. Above: Geology student Katherine Sorrows with her dad Bryan. Not pictured is her mom Molly Sorrows, who teaches Earth Science in Massachusetts.

Top left: *Eurypterus remipes*, the New York State fossil. A specimen like this would sell for several hundred dollars.

Opportunities for Teachers & Students

American Association of Chemistry Teachers (AACT) Supports K-12 Science Education

Catherine T. Hunt, Ph.D.

Past President, American Chemical Society (ACS)

Supporting the teaching and learning of chemistry has been a critical aim of the American Chemical Society (ACS) since its inception over 138 years ago. Continuing that tradition, the **American Association of Chemistry Teachers** will support K–12 teachers of chemistry by providing a professional home that offers specialized resources, opportunities for networking and interaction, and a means of interfacing with the broader ACS community. Membership is inclusive and open to anyone with an interest in chemistry education, primarily K–12 teachers.

AACT's Goals

- ◆ Serve as a trusted source of chemistry teaching resources
- ◆ Provide networking opportunities
- ◆ Disseminate effective teaching and learning practices at the K–12 level

**** The blue text are hyperlinks to websites that provide resources and more information on ACS resources.

AACT will officially launch this September. You can [sign up to receive updates](#) on the latest AACT news, or email us at aact@acs.org.

History

In 2009, an ACS task force on education was charged with this question: What can the world's largest scientific society do to transform science education in the United States? Among its recommendations was to explore the formation of a K–12 association of chemistry teachers. After extensive discussion, market research, and planning, AACT was approved by the ACS Board of Directors and will officially launch in September.

Other ACS Resources

- ◆ [ChemMatters Magazine](#)
An award-winning magazine for high school chemistry, ChemMatters demystifies chemistry at work in our everyday lives. Each issue includes a teacher's guide containing background information, follow-up hands-on activities, classroom demonstrations, and other resources to facilitate student comprehension.
- ◆ [Byte-size Podcasts](#)
Learn about the latest discoveries in chemistry with these entertaining podcasts specially produced for late elementary and middle school students.
- ◆ [Energy Foundations for High School Chemistry](#)
Teach big ideas about energy in your high school chemistry classroom using free lab investigations, demos, student readings, and multimedia. Best for grades 9–12.
- ◆ [Inquiry in Action](#)
Incorporate inquiry into your science curriculum with these standards-based inquiry driven investigations. Best for grades 3–6.
- ◆ [Middle School Chemistry](#)
View fully developed lesson plans that you can use to teach an entire middle school chemistry unit. Each activity, as well as the entire 691 page book, is available for free download in PDF format. The website also has a multimedia section, complete with molecular model animations and videos. Best for grades 6-8.
- ◆ [International Year of Chemistry \(IYC\) Kit](#)
Meet scientists around the world, learn about clues of chemical change, and discover real-life applications for chemistry



CESAME Programs for Students

The *Center for Science and Mathematics Education (CESAME)* at Stony Brook University invites middle and high school science teachers to bring their students to work in our state-of-the-art laboratory facilities to do inquiry experiments that are rooted in real world science.

CESAME has programs for middle school students as well as programs designed for each of the sciences: chemistry, earth science, environmental science, living environment, and physics. The lab activities have been designed to meet the needs of students in Regents, Honors, and AP/IB level classes. Visit our website for more details about these programs.

<http://www.stonybrook.edu/cesame/students/ScienceTeachingCenter/scienceteachingcenter.shtml>

Earth Science Laboratories For Your Students at Stony Brook University

Geoscience Teaching Laboratories for middle and high school students are also available. Earth Science teachers Steve Dickson and Chris Marotta offer programs that give students hands-on learning experience in surveying topography, measuring weather variables and determining microclimates, measuring porosity and permeability, and modeling real world processes on a



stream table. They also offer a Long Island geology field trip to Caumsett State Park in Huntington. Some of these programs can be performed at your school. Through the NSF sponsored GeoPREP program at Stony Brook University, these programs can be provided free to students at high-needs schools.

More information is available at:

www.stonybrook.edu/cesame/students/ScienceTeachingCenter/geoscienceteachingcenter.shtml

More information about all of the programs can be found on the CESAME website:

www.stonybrook.edu/cesame

If you should have questions about any aspect of the program, please contact Judy Nimmo or Debra Pelio cesame@stonybrook.edu or 631-632-9750.



CESAME provides opportunities for students to work in state-of-the-art labs at Stony Brook University, or experience natural history in the field. Pictured are students conducting labs (left and top picture) and the cliffs at Caumsett State Park (above) where students learn the geology of Long Island.

Professional Development Opportunities

Experience Seminars on Science

Online Courses for Educators



Since 2000, *Seminars on Science*, an online professional development program at the **American Museum of Natural History**, has engaged thousands of educators around the world in

cutting-edge research and provided them with powerful classroom resources. The program offers twelve online graduate courses in the life, earth, and physical sciences. Each course is rich in essays, images, videos, interactive simulations and vibrant discussions that connect learners to the Museum's scientists, laboratories, expeditions and specimens. Graduate credit is available for all courses through partnerships with eight colleges and universities.

Registration is now open for the Fall Session 2. The courses can be taken for up to 4 graduate credits each and run from Oct 27- Dec 7. Courses will also be offered in the Spring and Summer. You can sign up now at learn.amnh.org. Since the courses are fully web-based, there is no need to come to the museum at any time and all courses are led by both an experienced classroom teacher and a PhD scientist in the field.

Registration for Session 2 closes in mid-October. Early registration discount (Session 2) ends Sept. 30th, so sign up now!

<http://www.amnh.org/learn/Courses>

Let us know if you have any questions—we're happy to talk about the program or the courses. Email or call for more information:

Phone: 800-649-6715

Email: seminfo@amnh.org

Web: <http://www.amnh.org/learn/>



October 12-18, 2014

“Earth's Connected Systems”

Since October 1998, the American Geosciences Institute has organized this national and international event to help the public gain a better understanding and appreciation for the Earth Sciences and to encourage stewardship of the Earth. Take part in Earth Science Week 2014! Held October 12-18, ESW 2014 will promote awareness of the dynamic interactions of the

planet's natural and human systems. “Earth's Connected Systems,” the theme of ESW 2014, engages young people and others in exploring the ways that geoscience illuminates natural change processes. By deepening our understanding of interactions of Earth systems - - geosphere, hydrosphere, atmosphere, and biosphere -- Earth science helps us manage our greatest challenges and make the most of vital opportunities.

Go to the Earth Science Week website for more information and free resources:

<http://www.earthsciweek.org>

Earth Science Week...
promotes understanding and
appreciation of the value
of Earth Science research
and its applications and
relevance to our daily lives.



Informed by Nature is non-profit organization working to advance the public understanding of science. We are dedicated to encouraging lifelong learning, promoting critical thinking, and celebrating

science, technology, engineering, and mathematics (STEM) disciplines. Our efforts expand from online learning and networking to physical outreach in the classroom and other educational venues.

We are excited to launch our Online Science Fair <http://www.informedbynature.org/science-fair-projects/>. Unlike most other such endeavors, our platform offers students the ability to upload, share, and store their projects for years to come. We are also working with educators to help them develop programs around the platform that encourage hands-on, self-guided learning among their students. The integrated social media functionality encourages students to share their work with peers, family, and even future college admissions boards, highlight-

ing their scientific prowess and building pride in their work. This is available for **free** to anyone with an Internet connection, though we are limiting this phase to students age 13 and over because of COPPA guidelines.

Online Science Fair helps you:

- Engage your students in science learning and discovery
- Organize, review, and present student projects
- Enable students to share their work with friends and family
- Encourage students to promote themselves and their work through social media
- Provide opportunities for networking with and learning from their peers
- Support the future! Projects remain live for years to promote the achievements of the present and inspire the projects of the future
- Help students have fun with science!

Brookhaven Lab Open Space Stewardship Program

The Open Space Stewardship Program (OSSP), sponsored by Brookhaven National Laboratory Office of Educational Programs, fosters partnerships between schools and land stewards in their local communities. Students in grades K through 12 directly interact with nature as they collect data within their community.

This program is designed to:

- * benefit land stewards in the management of their property
- * help students to learn about the scientific process through working with real-life data in the field
- * promote scientific literacy
- * encourage students to consider careers in science and technology
- * foster a sense of civic responsibility and respect for the environment

Students in grades K through 12 are involved in authentic environmental research on properties in their own communities, fostering a sense of ownership and responsibility for open space within their neighborhoods. Each June students and teachers who



The Open Space Stewardship Program (OSSP) fosters partnerships between schools and land stewards in local communities. Students directly interact with nature as they collect data on properties within their school district.

participated in OSSP are invited to BNL for an OSSP evening celebration at which students display and present their work to teachers, parents, scientists and others in the environmental community. For more information, contact Mel Morris, mmorris@bnl.gov or call 631-344-5963.

<http://www.greenossp.org/index.php>

The ENPOWR PROJECT:

Endometriosis Nation Promoting Outreach and Wide Recognition

The EFA's School- and Community-Based Education and Awareness Program

The Endometriosis Nation Promoting Outreach and Wide Recognition (ENPOWR) Project is a NYS school- and community-based education and outreach program, consisting of a 45-minute interactive discussion differentiated for specific audiences. The presentation highlights the basics about endometriosis and the disease's most common symptoms. The goal is to familiarize younger women (and men) about this disease in order to help young women who may have symptoms seek the guidance of a specialist and receive early diagnosis and treatment. Now in its second year and supported by significant grants from the NYS Senate, ENPOWR is expanding its geographic footprint beyond NYC and Long Island to six additional areas in the state: Western NY, Southern Tier, Rochester, Syracuse, Capital District/Hudson Valley, and Westchester/Rockland.

The ENPOWR presentation consists of a 45-minute interactive discussion that is tailored to each specific audience. Audience members receive information regarding endometriosis prevalence, symptoms, treatments and actions to take. To assess level of understanding, teens are asked to complete a pre- and post-test highlighting the presentation content. Students score an average of 29.4% on the pre-tests and an average of 92.6% on the post-test, confirming the effectiveness of the ENPOWR presentation.



The ENPOWR Project's content aligns with Health Living Standards (HLS) as reproductive health is included in the NYS HLS. Additionally, the Living Environment (LE) curriculum includes information about the female reproductive system including organ structures and functions, hormones, menstruation, and fertility and reproduction. The June 2013 LE Regents Exam included an open-ended, two-part question about endometriosis. The EFA would love to bring The ENPOWR Project to your school or community, so please contact Jennifer Hancher, our Education and Outreach Coordinator, at Jennifer@endofound.org or 212-430-0372 for more information.

Website & Facebook

Melissa Torre

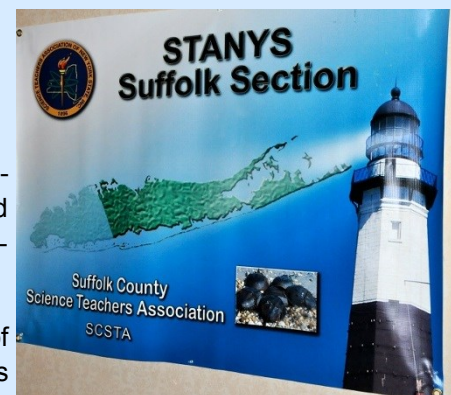
Suffolk STANYS has its own website at www.SuffolkSTANYS.org.

If you visit the website you will get up-to-date information about scheduled meetings, trips, and events. You will also get access to suggested links separated by subject area & contests your students might be interested in. You can even find many of our newsletters online!

Join the hundreds of people who liked Science Teachers Association of New York State (STANYS) on [facebook.com](https://www.facebook.com). Keep up with colleagues from Suffolk County as well as other STANYS sections around the state.

Connect with science teachers from around New York State.

Don't forget to utilize our state website as a resource: <http://www.stanys.org/>



ELEMENTARY SCIENCE PROGRAM

a division of Monroe 2-Orleans BOCES



800-832-8011

<http://www.espsciencetime.org>

Your 21st Century Solution

Celebrating 45 years of service to school districts, teachers and students throughout New York State- Hands on/minds on, interdisciplinary curriculum that converts the elementary and intermediate classroom into a science laboratory.

Extensive literacy support- fully aligned to the Common Core State Standards in ELA and Mathematics.



Kathy Arminio, *Director*
karminio@monroe2boces.org

NYS Science, Technology, Engineering and Mathematics (STEM) Incentive Program

[The NYS STEM Incentive Program](#): This program will pay for four years of tuition at any SUNY or CUNY school for any student graduating in the top 10% of their class who goes in to one of the STEM fields and agrees to live and work in the state for 5 years after graduation.

Eligibility

- Be a NYS resident
- Be a U.S. citizen or eligible non-citizen
- Be enrolled full time at a SUNY or CUNY college, including the statutory or contract colleges at Cornell University and Alfred University, beginning with the fall term following his or her high school graduation
- Be ranked in the top 10% of his/her high school graduating class of a NYS high school
- Be matriculated in an undergraduate program leading to a degree in Science, Technology, Engineering or Mathematics at a SUNY or CUNY college
- Earn a cumulative grade point average (GPA) of 2.5 or higher each term after the first semester
- Execute a service contract agreeing to reside and work in NYS for five years in the field of Science, Technology, Engineering or Mathematics.
- Not be in default on a student loan made under any NYS or federal education loan program or repayment of a NY state award
- Be in compliance with the terms of any service condition imposed by a state award.

Award Amounts

Recipients shall receive an annual award for full-time study equal to the annual tuition charged to NYS resident students attending an undergraduate program at the State University of New York, or actual tuition charged, whichever is less. The STEM award will be reduced by the amount of any other tuition-only assistance award received.

Duration

Recipients shall be entitled to an annual award for not more than four academic years of full-time undergraduate study while matriculated in an approved program leading to a degree in Science, Technology, Engineering or Mathematics or five years if the program of study requires five years.

How to Apply

The deadline for the STEM application for the 2014-15 academic year has passed. Applications for the 2015-16 academic year will be available January 1, 2015. Recipients are not required to submit another New York State Science, Technology, Engineering and Mathematics Incentive Program Web Supplement once they have been awarded this scholarship, but must complete the Free Application for Federal Student Aid (FAFSA) and the NYS Scholarship and Grant Payment Application each year.

Additional Information

Please contact the Scholarship Unit at 1-888-697-4372 with questions about this scholarship.

<http://www.hesc.ny.gov/pay-for-college/financial-aid/types-of-financial-aid/nys-grants-scholarships-awards/nys-science-technology-engineering-and-mathematics-stem-incentive-program.html>



High School Applied Mathematics Program – Fall 2014

The Center for Science and Mathematics Education (CESAME) is pleased to announce an exciting *new* program in Applied Mathematics for high school students, grades 10-12. The program will be conducted in two sessions, Fall 2014 (starting late September) and Spring 2015.

During a typical semester students will explore several branches of applied mathematics, such as:

- Game Theory
- Optimization
- The mathematics of puzzles and games
- Computer modeling
- An introduction to the mathematics of finance

Please pass along information about this program to your colleagues who teach mathematics, and to students who may be interested in attending. Further details can be found on the CESAME website:

<http://www.stonybrook.edu/cesame/students/MathChampCamp/mathchampcamp.html>

Attention Long Island Chemistry Teachers!

Are you interested in sharing your ideas with other chemistry teachers on Long Island? Do you want to be a part of a new chemistry community? The mission of the Chemistry Master Teachers of Long Island is to unite chemistry teachers and share best practices in order to build a stronger chemistry teacher community. We are inviting you to join a new group: Long Island Association of Chemistry Teachers Support (LIACTS).

Our first meeting will be held on Tuesday, September 16th at 4:30 p.m. at East Islip High School. We will be discussing how to bridge the gap in Chemistry Regents Exam free response grading policies across Long Island's school districts. We feel Long Island chemistry teachers should agree to grade the regents exam similarly. Don't you? This will be your opportunity as a professional to discuss your opinion on uniform grading policies and many other issues that are important in the field of chemistry education on Long Island today.

East Islip High School is located at 1 Redmen Street, Islip Terrace. Take the Southern State Parkway to Sunrise Highway (exit 44 W). Make the first right onto Craig B. Gariepy Street (Out of the Box Furniture is on the corner). Follow Craig B. Gariepy Street to the end and make the right turn into the EIHS parking lot. The gymnasium entrance will be straight ahead. After entering the gym lobby, continue straight down the hallway to the end. Make a left and Room 133 will be the 3rd door on the right.

Check out our website at <http://www.liacts.com/> for future meeting dates.

Light refreshments will be served. We look forward to meeting you! Tell your chemistry teacher friends.



The Science of Dinosaurs and Helping Children

By Paul Sypien



Dr. David Krause, founder of the Madagascar Ankizy Fund

The Madagascar Ankizy Fund (MAF) is the birth child of paleontology and humanitarianism. What may seem like an odd couple at first, results in major scientific breakthroughs and compassionate acts of outreach. Since 1998, MAF has provided health care and education to impoverished children living in villages near the port city of Mahajanga, Madagascar.

It started when Stony Brook University Professor Dr. David Krause went to Madagascar on paleontological digs in the 1990's. Dr. Krause researches the evolutionary history and paleobiology of mammals and other ancient vertebrates. He has discovered dinosaurs such as *Majungasaurus*, a large t-rex like theropod that is currently on display in Stony Brook University's Administration building. Other remarkable discoveries include *Masiakasaurus*, a dinosaur with large protruding teeth whose name means 'vicious lizard'; *Beelzebufo*, the largest frog ever discovered and many other archaic animals, including plant eating crocodiles and birds.

During his expeditions, Dr. Krause was followed by many children living around the paleontological sites in Berivotra. Dr. Krause soon learned that these children, curious and inquisitive as they were, had no school to go to. Nor had their parents. When he found out that the cost of hiring a teacher for a year at the time was around \$500, he felt he had to do something to help these very deserving children. 'Ankizy' is the Malagasy word for "children," and so the Madagascar Ankizy Fund (MAF) was born.

Since that time, MAF has expanded tremendously. In total, six schools have now been built by MAF. The most recent is being built in the commune of Antanambao. It is the largest school MAF has built to date and will be ready in time for the start of the 2014 school year. Mayor Foudine of Antanambao said that the construction of the school is "the absolute best gift anybody could ever give to the community." MAF has also built an enclosed water well and set of latrines for the school.

MAF runs a number of other projects in addition to its education program. In collaboration with the School of Dental Medicine at Stony Brook University, MAF now runs four-week long dental outreach clinics every year. In the summer of 2014, ten third-year dental students and three dentists saw 733 patients, many of whom were seen multiple times. They extracted 2,262 teeth and restored 24 teeth with fillings. Each patient seen had an average of three teeth pulled due to serious decay and/or infection. Medicine and gauze was provided to all patients, as well as their first-ever toothbrushes and toothpaste.

MAF is also expanding into other areas of public health. In collaboration with Rotary International, MAF has also established the first-ever SODIS solar water purification system in Madagascar. This water purification system has been shown to kill 99.9 percent of



Majungasaurus on display at Stony Brook University

(Continued on page 25)

(Continued from page 24)

the coliform bacteria that cause diarrheal diseases, and thereby cut in half the number of deaths for children five years of age and under. This project included the distribution of 2,100 water filtration systems among five villages around Mahajanga. The beauty of this purification is the simplicity of the design. All that is required is a piece of sheet metal and an empty (clean) bottle of water. Fill the bottle with infected water, leave it lay out on the piece of metal in the sun for a few hours, and it is safe to drink.

MAF raises funds to do this work through collaboration with schools on Long Island. The “Joseph Edgar School” in Rocky Point runs an annual Read-a-thon in support of our causes. In 2008, after several successful such drives, the students at the Joseph Edgar School had raised enough money to pay for the construction of an entire primary school in Madagascar. The Rocky Point School in Manombo is named in their honor.

If you want to learn more about the Madagascar Ankizy Fund or want to collaborate with us, please check out our website: www.ankizy.org

Email: Paul.Sypien@ankizy.org



Subject Area Representative (SAR) Reports

Biology: A Brief Tour of Some Useful Digital Resources

David Knuffke, Biology SAR

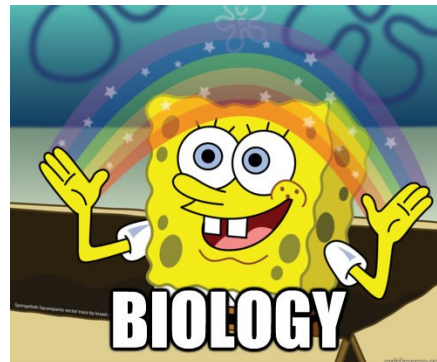
In the modern age, teachers can often have a difficult time finding high-quality, low-cost, useful materials to integrate into their practice. Fortunately, over the past few years several interesting “free-use” materials have come online. These materials are available to any teacher to use, for free, as they see fit. Biology, in particular, is well served by the materials that are offered.

The CK12 Foundation has developed a variety of modules that cover major STEM courses (<http://www.ck12.org/>). Teachers can use the modules to create online, interactive, resources to help students learn the various material that comprise their courses of study. Along with the modules, CK12 offers a series of “flexbook” electronic textbooks. Teachers can curate, edit, and present these electronic textbooks as both online and offline versions in a variety of formats. Using the website, teachers can enroll their students in course cohorts and assign a variety of resources from the modules for students to interact with. Teachers are encouraged to adapt and remix the materials on offer (with understanding of the Creative Commons license that they are made available under). Teachers may consider using the CK12 materials as supplementary activities and

resources to complement their courses, for example providing students with an optional electronic textbook to use in place of the traditional (and traditionally underutilized) physical version.

At the college level, the OpenStax project (<http://openstaxcollege.org/>) seeks to provide students with high-quality, free-use, textbooks to take the place of the traditional, high-cost, versions. Texts for both majors- and nonmajors-level biology and anatomy are available, along with PowerPoint presentations that include the images and materials that have been utilized in the works. Like the CK12 project, the textbooks can be modified by instructors, and are provided in a variety of online and offline electronic versions. Biology teachers may find the PowerPoints to be particularly useful as a means to “refresh” their slideshows and update their images in the variety of contexts in which they use them. The OpenStax materials are also made available to teachers for reuse and modification under the terms of a Creative Commons license.

Of course, the variety of Free Use digital materials that are available to teachers is not just limited to textbooks and textbook supplements. Initiatives like HHMI's Bioin-



teractive (<http://www.hhmi.org/biointeractive>), the University of Utah's Learn Genetics (<http://learn.genetics.utah.edu/>), and the University of Colorado's PHET simulations (<https://phet.colorado.edu>) provide Biology teachers with high-quality videos, labs and activities that can all be incorporated into any level of biology and associated electives.

Teachers will be well-served to take some time to explore all of these wonderful resources and see the quality of the materials on offer for themselves.

In this time of budgetary constraints and expanding access to technology, it is nice to know that there is such a wealth of materials that are freely available to Biology teachers everywhere. Do yourself a favor and take a few moments to explore the resources mentioned in this article. I think you'll be glad that you did.



STANYS 118th Annual Conference

November 1-4, 2014

Rochester Riverside Convention Center

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

Special Education : Science and Special Education

Jean Ann Kohn, Special Education Science Specialist

Hello, My name is Jean Ann Kohn and I am a Special Education Science teacher. What exactly does that mean? I am dually certified to teach science (Chemistry) and Special Education. These certifications have landed me in a self-contained setting teaching regents science courses. Is this a difficult task? Yes. Is it an impossible task? No! However, many general education teachers and new science teachers are being forced to teach this population of students without support. This is why I am here, to support those given the not impossible, but difficult task of teaching this diverse population the subject we all love.

As a Science teacher it is difficult to be on familiar terms with and understand which parts of the IEP are most important. An IEP can be a very overwhelming document to read and dissect. An IEP is an Individualized Education Plan that each special education student has; no two documents are the same as no two students are the same. As recently as 2 years ago, the IEP became uniform in New York State. This has made it much easier for students to go from school to school and the document is readily available. Each part of the IEP is important. Nevertheless, I have found some parts to be more important in the teaching of science.

The first part of the IEP to give special attention to is the *Academic Achievement, Functional Performance and Learning Characteristics* often known as the (PLEPS). This part of the IEP informs the teacher of the student's academic strengths and weaknesses. This part of the document will inform the teacher if the student has reading, vocabulary, mathematic or any other academic difficulties. This is often where I find if the student can read independently or needs to be read to.

The next section to take a glance at

is the *Social Development* section. Due to the lab environment in many of our science classrooms it is important to discern how these students behave in social settings. Many times, this section will let you know if the student is able or unable to work in cooperative learning groups. Below this section is the *Physical Development* section. This needs to be read carefully to determine if the student requires any modifications in the lab setting. Next is the *Management Needs* section. Although this section is important, the general education teacher can find these needs addressed in the *Program Modifications* that are located further in the IEP.

For the science classroom teacher, the most important section to read and understand is the *Supplementary Aids/Services and Program Modifications* section of the IEP. This section informs the educator what modifications the student needs on a daily, weekly or as needed basis. Often this section explains if the student needs preferential seating, books on tape, copies of notes, refocusing and redirection, information broken into smaller parts, breaks, etc. These modifications are imperative to the success of the student in the science classroom and they must receive these modifications. When on IEP Direct, click the "Show details" and then the exact reason for the modification or how the modification needs to be given is shown. This is a huge help in meeting the needs of students with disabilities because each one has their own set of needs and modifications. What "special seating arrangements" means for one student may be different for another.

Lastly, the section most general education teachers are familiar with is the *Testing Accommodations* section of the IEP. This section explains what accommodations the student is entitled to for quizzes, tests and state

assessments. The IEP will explain how the accommodations should be given. For the example of "Extended time", in the column "implementation recommendations" it will say 1.5X or 2.0X or Double time. As the school year gets underway, if you feel that a student is in need of another accommodation, do not hesitate to discuss it with the special education teacher, guidance counselor or school psychologist. The input of the general education teacher is necessary for the success of the child and the coherent writing of an IEP.

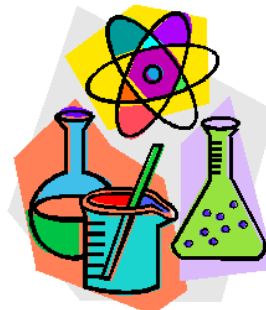
All parts of the IEP are important to the success of each student and should be read and followed through. However, I have found that the highlighted parts of the IEP discussed in this article are the most important aspects for the science teacher to meet the needs of the diverse population. These will help make the job a little easier and will enable the teacher to assist the students who already struggle. If there is a part of the IEP that you do not understand, ask questions and inquire about the student. As a special education science teacher it is always refreshing to have the general education teachers ask questions about their students. It shows you care and want to help them in any way that is possible. Good Luck with the new school year! If you have any questions please don't hesitate to contact me at jkohn@copiague.net.



A Special Kind of Class

Intermediate Level: Tips for New Science Teachers

Ashley Bloch, Intermediate Level SAR



In the past couple of months, I seem to be coming in contact with more and more new science teachers. They are fairly easy to spot; they often look frazzled and slightly tired, but exude enthusiasm and are eager to become an integral part of the science education community. I'm often asked for advice and tips on how to be successful, so I thought that I would share a few of my most useful tips.

Do come early and stay late. I'm not suggesting that you stay until 8pm every night, nor am I suggesting that you arrive at 5am. However, staying after school for 15 minutes can make a world of difference. It will give you time to clean up, prep for the next day, and take care of any housekeeping items on your agenda. Your mornings will thank you too – you won't feel as rushed knowing that you don't need to hurry in and take care of the things that you left behind the night before. (I also recommend that you get to school at least 15 minutes early too!)

Don't eat alone. It is often tempting to stay in your classroom and work through lunch – that pile of papers seems like it will never get graded. I've also heard that the faculty lounge is a haven for complaints – so new teachers should avoid it at all costs. However, going out and connecting with the people that you work with is one of the most valuable things you can do for your career. Talking to other teachers will allow you to collaborate and pick up various teaching tips, ranging from time management to classroom management. It can be especially useful to talk to teachers outside of your discipline – some of the best advice I have received has come from non-science teachers.

Do have a presence outside of your classroom. As a teacher, you are now part of the community that your school is located in. Be sure to get involved – attend the school play, attend sporting events, and if you are brave enough, be part of the school talent show. It allows students (and their parents) to see another side of you. In turn, you are sending a signal that you truly care about the kids that you work with and it's not all about the assessments.

Don't fail to plan. It is often said that a new teacher is only a day or two ahead of the students. While you might feel like you are treading water by trying to keep on top of many different tasks, I have found that by planning with the end in mind, I have been able to relax somewhat. If I know that I need to give a test on a certain day or be done with a particular topic before a break, I will plan backwards from that spot. I have found that determining the amount of time needed to cover certain materials, I have been able to break the content down into chunks and not feel as overwhelmed.

Do join professional organizations. Joining STANYS is a great way to connect with other science teachers and see how things are done in other schools and districts. They have several professional development opportunities to enrich your teaching, and in turn, your student's knowledge of science. I know that since I have joined the organization, I have been able to learn so much more about what is going on with science education, not just in my school, but in New York State!

These are just a few suggestions to help those of you starting out. If you have any suggestions that I have not mentioned here and would like to share, feel free to email me at abloch01@gmail.com.

Earth Science: Using Pinterest in Your Earth Science Classroom

Melissa Torre, Earth Science SAR



Do you love to pin? Are you addicted to Pinterest? It's okay if you are. You're not alone. In fact, there are plenty of professors out there pinning right along with you.

As a teacher, it's easy to become overwhelmed trying to create motivating lessons while managing the responsibilities within the classroom. Pinterest can be a great tool for use in education. It is great for organizing information and brainstorming ideas. Pinterest is a social network which allows you to share and comment on visual material, which could be photographs, sketches, videos or web pages. We all find really interesting articles, images or videos which would be useful for another day. The visual nature of Pinterest makes it easy to rediscover resources you have saved previously and store them under a relevant topic title. When the "Pin It" button is used to select pins from a web page, the pin automatically includes a link to the source web page, so you can remember where you found it. You can even write a note to yourself as a reminder of why you chose this particular resource.

Getting Started

Pinterest is straight forward and doesn't require a lot of technological experience to get started. If you don't have an account there then you need to request an invitation which takes only 45 seconds! Once registered then look for Pinterest Bookmarklet and drag it to your tool bar (<http://about.pinterest.com/en/goodies>). Now when you surf the web and see an image or video you like, click on the "Pin It" bookmarklet and pin that image/video to one of your Pinterest boards. You can create as many boards as you like and you can even share your boards with your colleagues, friends & even students.

Tips:

When you pin web content make sure you add your own brief summary of what that content is all about.

You can tag people in your pins using the sign "@." This will let others know you are quoting or talking about them.

Make your board titles clear and specific and organize your pinned content in a neat way so it is easy to find your information again.

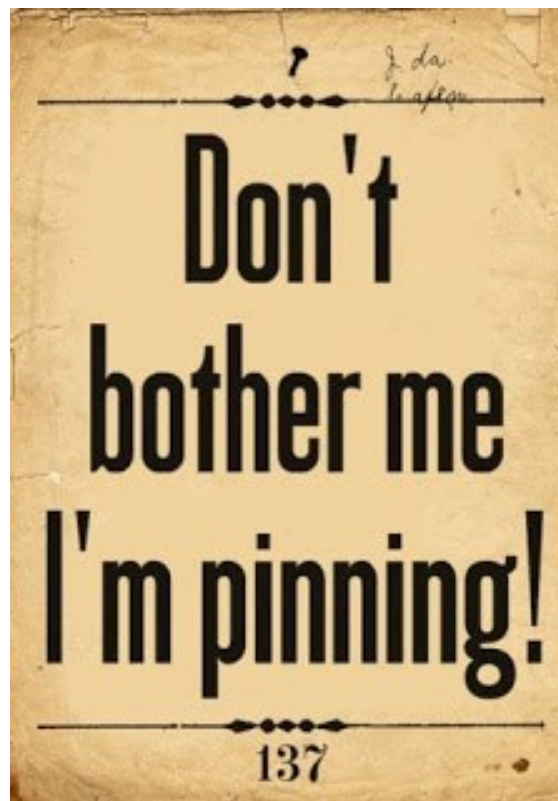
Some Pinners to Follow:

[Melissa Montauk Torre](#) - I have created 16 different boards from bulletin board ideas to information on the specific topics that I cover.

[Science Science Science](#) - This educator has 122 boards on all of the different science disciplines. The site also has good general teaching tips.

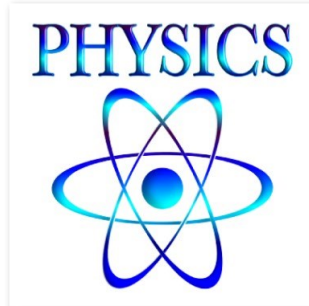
[Brooke Edwards](#) - She has lots of great ideas about the beginning of the school year & boards on different Earth Science topics.

[EarthWise](#) - This page is for Earth and Environmental Scientists with journals, books, articles & links to Earth Science in the News.



Physics: Why Do We Do Labs?

Ed McDaniels, Retiree SAR
(former DAL Physics)



If it were not for the New York State requirement that students must have successfully completed 1,200 minutes of laboratory work before sitting for the Regents exam, about one-third of you would not have a job. Probably no other department has as low a student to teacher ratio as science due to that lab requirement. Why does NY State have that lab requirement? Let's look at the **Physics Core Curriculum** :

"This core curriculum has specifically been constructed to permit the exploration of the richness of physics. Time has deliberately been built into the year to permit students to examine these topics in greater depth or investigate new areas of physics. This time facilitates the inclusion of experiences supporting analysis, inquiry, interconnectedness, and problem solving. Educational research has shown that students typically learn best by moving from the concrete to the abstract; learning is enhanced through the use of manipulatives and hands-on activities. Teachers can dramatically influence learning by providing constructive feedback and by maintaining appropriately rigorous expectations."

The Core also says:

"Prior to the written portion of the Regents examination, students will be required to complete laboratory performance tasks during which concepts and skills from Standards 1, 2, 4, 6, and 7 will be assessed." That was intended to describe the defunct Part D and it is also why the exam is geared to 85 points and not 100 points.

Standard 4 is the content, the facts they must know: Newton's laws, transverse wave, the speed of light and all the other details we fill their heads with. What about the other Standards? They are the process skills students should carry away with them once they have forgotten the facts we have drilled them on.

Again from the Core:

"Science process skills should be based on a series of discoveries. Students learn most effectively when they have a central role in the discovery process. To that end, Standards 1, 2, 6, and 7 incorporate in the Physical Setting/ Physics Core Curriculum a student-centered, problem-solving approach to physics. It should be a goal of the instructor to encourage science process skills that will provide students with the background and curiosity to investigate important issues in the world around them. This section denotes the types and depth of the process skills the students should practice throughout the school year. These process skills are an integral part of all core-based curricula. This implies that students should al-

ready have a foundation in these skills. The physics teacher reinforces these process skills by creating new situations for the student to investigate in the context of physics. During assessments, students will be presented with new situations to analyze and new problems to solve using these process skills."

I have to admit that it had been a number of years since I looked at the Core Curriculum. I had taught it for so many years that I knew the content of what I had to teach pretty well, so why go back? The content is Standard 4 only. The writers of the Core knew that knowledge alone was not the goal of taking a year of physics. The other Standards would give students process skills they could use for the rest of their lives. I confess I had to look them up and they are too extensive and explicit to enumerate all of them in this article. Please go back and read them in their entirety in the Core document. It will help you realize the educational richness that was intended and sadly probably not being achieved by the vast majority of our science classrooms. (<http://www.p12.nysed.gov/ciai/mst/pub/phycoresci.pdf>)

Standard 1 – Mathematical Analysis, Scientific Inquiry and Engineering Design

Students will use mathematical analysis, scientific inquiry, and engineering designs, as appropriate, to pose questions, seek answers, and develop solutions.

Standard 2 – Information Systems

Students will access, generate, process, and transfer information, using appropriate technologies.

Standard 6 – Interconnectedness: Common Themes

Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

Standard 7 – Interdisciplinary Problem Solving

Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

(Continued on page 31)

College: Important Changes in Certification Requirements

Linda Padwa, Stony Brook University



Just as September marks the start of the academic year for schools all over Long Island, it also marks the start of the academic year at colleges in our area. This year, like last year, promises to be full of interesting challenges for all.

While K-12 teachers paid considerable attention to the new vocabulary associated with SLO's and APPR's last year, this coming year will be the time when teacher candidates are going to learn a new vocabulary of their own: ALST, CST, EAS, and edTPA. These acronyms name the new certification exams that will go into effect for those qualifying to be teachers starting last May 2014.

- The ALST (Academic Literacy Skills Test) replaces the former LAST (Liberal Arts and Sciences Test), but is similar in format and scope.
- The CST (Content Specialty Test) has been around for over ten years, but all forms of the test are undergoing revision and the revised tests will be phased in as they become available.
- The EAS (Educating All Students) is a new exam that focuses on the education of students with special needs. Since a course addressing these issues is now required by the state in order to qualify for certification, teacher candidates will be asked to demonstrate an awareness of how to address the needs of all students in their classes.
- The ed TPA (Teacher Performance Assessment) is a portfolio-based exam that is to be completed during the student teaching semester. The ed TPA is composed of three tasks that address all aspects of instruction – from lesson preparation to assessment and everything in between, with the primary focus being on evidence that demonstrates the teacher candidate's ability to enhance student learning.

More detailed information about the new exams can be found on the state web site: <www.nystce.nesinc.com>

A special thank you, in advance, to those who will serve as cooperating teachers for science student teachers from all of Long Island's teacher preparation programs in the coming year. Your willingness to be part of the process as we prepare the next generation of teachers speaks volumes regarding your professionalism. Thank you very much.

(Continued from page 30) Why Do we Do Labs?

Those are the bare bones description of the Standards that the course is designed to help students experience. The details contained in the Core helps teachers by breaking them into Key Ideas with their corresponding math, science and technology applications. Remember, it was a part of the MST initiative, now enhanced to STEM.

How well do your labs embrace the intent of ALL the standards? Maybe it's time to look at the tasks we ask our students to do. When they drop that ball, are they really just trying to prove gravity? Is that all we want from them? If so, we are not fulfilling the true nature of the richness of the Core. Shame on us.

Retiree: Hip, Hip Hooray (?)

Ed McDaniels, Retiree SAR

The good part about getting old is that you are still alive; the bad part is that the parts warranty starts to wear out. For the last year and a half I had increasing pain in my right hip. At first, I tried to convince myself it was from sitting funny or just some muscular thing that would get better on its own. I can be very convincing to myself when I don't want to deal with reality. This past November I was in Florida moving things from one condo to another and the pain in my hip became so bad that reality trumped illusion and I went to see my doctor. He looked at an x-ray and said that I had severe arthritis and should see a specialist. I did and he concurred that the amount of deterioration in the hip meant that a total replacement was the best course of action. The holidays were coming up and my usual winter trip to Florida so I did not want to disrupt my life with the surgery. Instead I got a shot in my hip that within days stopped the pain. Oh, the miracle of modern medicine. I knew it was only temporary but the pain was gone, at least for now. By March the effects of the shot had worn off and I was back to excruciating pain. I had two options, have the surgery in Florida or return to New York and have the surgery back home. I chose Florida for two reasons: (1) they get a lot of practice and experience doing joint replacements in Florida and (2) the weather in Florida was a lot nicer than it had been in New York so recovery could be more pleasant if I could go outside. I was able to get recommendations from people in Florida who had had hip replacement and met with a doctor that had lots of experience in the type of surgery I was having. In fact, since my surgery was scheduled for 7 pm I would be his fifth hip replacement of the day. As I said, lots of experience in Florida. All went well and they have you up and walking within hours after surgery.

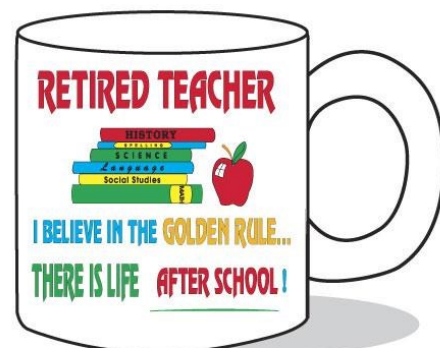
My wife had come down to Florida for my surgery but was going to be returning to work a couple of days later. Instead of being by myself I chose to go into a rehab so my meds and physical rehab could be better managed. At the rehab center, besides my meds for pain, infection, blood thinners, constipation and other infirmities, I got physical therapy twice a day. If I had chosen to go home a nurse would have visited a couple of times a week and physical therapy would have come in three times a week. It was a good decision to go to rehab. I was a good patient and worked very hard at strengthening both my upper body and returning the strength to the hip and leg muscles affected by surgery. I was one of the younger people there and I would say that if you need surgery, get it done while you are strong and healthy. It will make your recovery a lot easier.



LYNCH

The other reality check came when my surgeon opened up my hip. Remember the miraculous shot I got that made the pain go away? Well, pain is our friend. It tells us when there are problems. Since the shot had masked the pain, I continued using my hip and it degenerated even more. I had worn a hole the size of a walnut in my joint so surgery took a little bit longer as he had to make adjustments to the original plan on the fly. Thank goodness for his experience and expertise.

By about eight weeks, I was 95% my old self and planned a trip to Bermuda with my wife. That's when I found out the painful reality of gout, but that is a story for another time. Keep your body's warranty card handy.



2013 Sierra Club Environmentalist of the Year Award

Maria Brown & Eileen Gerle

Recognized for their great contributions to environmental education, the two distinguished recipients of the Sierra Club Long Island 2013 "Environmentalist of the Year Award" were Maria Brown, Sayville High School's Science Research teacher and Eileen Gerle, a Marine Educator for Brookhaven Township. In addition, both had the day of March 22, 2014 declared in their honor by Edward Romaine, Brookhaven Town Supervisor.

Maria Brown is a Science Research teacher in Sayville High School and she has developed a reputation for dedication and innovation. Brown is being recognized for her reputation as a passionate educator whose hands-on, creative methods captivate students and inspire them to enter the fields of science and technology. In addition, Ms. Brown developed a Research in Science and Education (RISE) program that encourages high school students to explore science as a process as they work on independent research projects and collaborate with professionals at Stony Brook University and Brookhaven National Laboratory. Under her tutelage, some of her students have been named finalists and semifinalists in prestigious competitions, including the Siemens Competition in Math, Science & Technology and the Intel Science Talent Search. Her expertise and energy isn't limited to working with students in the high school. She works with younger students in the district through SOAR, an elementary aeronautical engineering program, where gifted and talented fourth- and fifth-grade science and math students team up with mentors in the fields of aerospace and flight, including pilots as well as engineers from NASA, to build complex, high-performance paper airplanes. The program culminates in a competition, widely attended by members of the community. As the adviser to the Explorer's Club, she mentors middle school students as they research many different branches of science, through the exploration of local resources. In the words of Sayville High School principal Ronald Hoffer, "All students who come into contact with Ms. Brown respond to her caring, enthusiastic approach. She is the epitome of a dedicated, caring master teacher."

Eileen Gerle is the Brookhaven Town Park Ranger and Environmental Educator for West Meadow Beach in Stony Brook. Ms. Gerle has conducted various programs at the beach for children and families throughout the year, such as bird walks and bird



Eileen Gerle & Maria Brown with Brookhaven Town Supervisor Ed Romaine

demonstrations, scavenger hunts for eggs of wildlife and moonlight hikes. She also organized town beach cleanups where more than 1000 pounds of trash have been collected along the shoreline of West Meadow Beach. She has raised awareness of the delicate ecology of the salt marsh and LI Sound Estuary by conducting Horseshoe Crab walks, monitoring Terrapin turtle populations, and protecting piping plover nesting grounds. She regularly collaborates with community groups and the local schools. Ms. Gerle will be retiring to Florida in October and will be greatly missed. As a lasting legacy, the town of Brookhaven just announced that they will continue her position with the hiring of another full time park ranger. The people of Brookhaven are very fortunate that the town places such a priority on environmental stewardship.

This article was compiled and excerpted from the following sources:

"Sayville H.S. Teacher to be Honored at LIU Post Commencement." *LIU Post Press Release*. Long Island University. 5/8/2013.

Mittiga, Linda. "Maria Brown Day." *The Sayville News*. Starweb Enterprises. 2013.



Grant Opportunities

Funder: **Amgen Foundation [CA]**

Program: Science Education

Summary: The Foundation is committed to raising the value of science literacy for both students and teachers. In this area, the Foundation seeks to identify programs that provide pivotal hands-on science experiences for students, as well as those that seek to support teacher quality and provide professional development. The Foundation is committed to raising the value of science literacy on a national and local level. The areas given priority consideration within science education are: (1) Teacher quality and professional development in math and science: Comprehensive programs that enhance the quality of math and science teachers entering the classroom, and support teachers with meaningful professional development opportunities that have a positive impact on student achievement. (2) Pivotal hands-on science experience: Support programs that provide students and teachers with opportunities for hands-on, inquiry-based learning experiences that significantly impact students' excitement about science and scientific careers.

Awards: From \$10,000 to multi-million dollar commitments.

Deadline: Open

URL: <http://www.amgen.com/citizenship/foundation.html>



Funder: **Target Department Stores**

Program: Field Trip Grants

Summary: Each Target store will award three Field Trip Grants to K-12 schools nationwide—enabling one in 25 schools throughout the U.S. to send a classroom on a field trip. Each grant is valued up to \$700. Field Trip Grant funds are best used for visits to art, science and cultural museums, community service or civic projects, career enrichment opportunities and other events or activities away from the school facility. Funds may be used to cover field trip-related costs such as transportation, ticket fees, food, resource materials and supplies. Field Trip Grant funds are best used for visits to art, science and cultural museums, community service or civic projects, career enrichment opportunities and other events or activities away from the school facility. Funds may be used to cover field trip-related costs such as transportation, ticket fees, food, resource materials and supplies.

Award max.: \$700

Eligibility: Education professionals who are at least 18 years old and employed by an accredited K-12 public, private or charter school in the United States that maintains a 501(c)(3) or 509(a)(1) tax-exempt status are eligible to apply. Educators, teachers, principals, paraprofessionals or classified staff of these institutions must be willing to plan and execute a field trip that will provide a demonstrable learning experience for students. Field Trip Grant funds are best used for visits to art, science and cultural museums, community service or civic projects, career enrichment opportunities and other events or activities away from the school facility. Funds may be used to cover field trip-related costs such as transportation, ticket fees, food, resource materials and supplies.

Deadline: 30 September 2014

Contact: 1-800-537-4180. Ask to speak with the Field Trip Grants program manager

URL: <https://corporate.target.com/corporate-responsibility/grants/field-trip-grants>

Funder: Toshiba America Foundation

Program: Classroom teaching of science and mathematics

Summary: Our grants fund the projects ideas and materials teachers need to innovate in their math and science classrooms. TAF is interested in funding projects designed by teachers or small teams of teachers for use in their own schools. Our grants support public and nonprofit private schools throughout the United States. Grade K-5 applications are accepted once a year on October 1st. Grade 6-12 applications for \$5,000 or less are accepted on a rolling basis throughout the calendar year. Grant requests of more than \$5,000 are reviewed twice a year. Applications for grants of more than \$5,000 are due February 1st and August 1st each year.

Deadline: Open

Contact: 212-596-0620

URL: <http://www.toshiba.com/taf/>

Funder: Time Warner Cable

Program: Connect a Million Minds

Summary: Non-profit organizations and the hands-on learning opportunities they provide are often the catalyst that sparks a young person's lifelong exploration of science, technology, engineering and math. Time Warner Cable's Connect a Million Minds is always looking for exciting, new organizations we can engage in our efforts. We invite you to apply for support which includes cash grants and in-kind donations. Organizations may apply for cash support, which includes grants, project support, scholarships, etc., or in-kind support. To be eligible, your organization must provide youth (ages 11-18) access to hands-on STEM learning opportunities in after-school settings. Applications will be considered on a rolling basis.

Deadline: Open

URL: [http://](http://www.connectamillionminds.com/request_support.php)

www.connectamillionminds.com/request_support.php

Funder: American Honda Foundation

Program: Youth education

Summary: Funding priorities are youth education, specifically in the areas of science, technology, engineering, mathematics, the environment, job training and literacy. Eligible organizations are nonprofit charitable organizations classified as a 501(c)(3) public charity by the Internal Revenue Service, or a public school district, private/public elementary and secondary schools as listed by the U.S. Department of Education's National Center for Education Statistics (NCES). In addition, qualifying organizations must have a minimum of two years of audited financial statements. Awards range from \$20,000 to \$60,000 over a one-year period.

Deadline: Open

Contact: (310) 781-4090

URL: <http://>

corporate.honda.com/america/philanthropy.aspx?id=ahf

SAVE THE DATE! March 27, 2015**STANYS Suffolk Section Spring Conference**

The Suffolk STANYS Spring Conference will be held on Friday, March 27, 2015 at Brookhaven National Laboratory in Upton. The program will include a keynote speaker, a Share-A-Thon and two sessions of a wide variety of workshops. Registration will be online. Look for upcoming details on the Suffolk Section website and on the online teacher discussion groups.

If you would like to offer a workshop, share at our morning Share-A-Thon, or have suggestions for a workshop, contact me at gblink735@gmail.com



Science Matters, formerly *Building a Presence* (BaP), is an electronic network initiated by the National Science Teachers Association (NSTA). STANYS is the lead organization in NYS. The purpose of Science Matters/BaP is to reduce isolation of teachers of science, K-16, and to keep them informed about professional development in their region, the state, and nationally. Points of Contact can sign themselves up as PoC's. The Point of Contact for his/her school receives digital information that will then be shared with colleagues. At present, there can be more than one PoC per school. It is important that you be a part of this network to receive

Science Matters to all Teachers and Students!

Nancy Ridenour

information about grant opportunities and professional development.

Please consider being a Point of Contact (PoC) for your school. The success of this network requires all buildings to be represented. Easy step by step directions can be found at:

<http://www.stanys.org/progbap.htm>

The **Science Matters** website is:

<http://bap.nsta.org/Content/Home/BecomeAContact/Default.aspx>

There are three options as a Point of Contact:

a. If you are representing all the teachers of science in your building, be sure to include all the grades, and all science subjects for teachers whom you are representing, not just what you teach.

b. If you are representing a subset of teachers in your building, be sure to include just those grades and subjects of teachers you represent, not just what you teach.

c. If you are representing just yourself, include just the grade(s) and subject(s) that you teach.

Please consider volunteering as a PoC. You will be a great resource for your colleagues and students.

If you have any questions, contact Nancy Ridenour at:

nridenour@twcny.rr.com



Register Now for 2015 Science Olympiad Competitions

Register your school now for the 2015 NYS Science Olympiad tournaments, which will be held this Winter and Spring. There are two divisions, B for middle level and C for High Schools. Teams of 15 students from each school compete in 16-20 events at regional tournaments. The goal of Science Olympiad is to nurture and encourage excitement about science and engineering. The **2015 Eastern Long Island C Division Regional Tournament** will take place on January 31, 2015 at Brentwood High School. The **B Division Tournament** will be held in late February or March at a school to be determined. We are looking for a school district to host the event.

For a complete list of events and the registration form, see the New York State Science Olympiad webpage: <http://newyorkscioly.org>

The annual Coach's Workshop is an exciting opportunity for new coaches and seasoned coaches to learn about the competition and events. This year the workshop will be held on **October 24 and 25** at the Ramada Conference Center in Fishkill. Visit the NYS website for a schedule of activities and registration information: <http://newyorkscioly.org/SOPages/Coaches13.html>

We Need STANYS and You Need To Be a Part of STANYS

Glen Cochrane, STANYS Vice President

Science Teachers Association of New York State (STANYS) is the professional organization for teachers of science and is significantly involved with the current and future state of science education in New York. STANYS leaders have networked with the leadership of other science organizations in reviewing the Next Generation Science Standards (NGSS) and have taken a position for the implementation of a New York version of NGSS. STANYS advocates for the science teachers across the state. Its goal is to help provide the students of New York the best opportunity to learn science from teachers best prepared to teach science. Our mission statement defines our focus: ... *promote excellence in science education and to work with educators and communities to provide opportunities for ALL students to participate in and learn science.* When you belong to STANYS, you are a part of a diverse community of science educators, pre-service to retired, elementary through college, representing every science discipline including teacher training programs. You are also a member of a local STANYS section of fellow science teachers that can help you network, share ideas, and learn more about local resources.

What does STANYS do to directly help science teachers? How can members of STANYS help make science learning dynamic, effective and relevant for the students in your classrooms? STANYS supports teachers in the classroom so that they will have the tools to engage student learning resulting in successful student outcomes. STANYS supports its membership by:

- ⇒ Providing opportunities to attend workshops, conferences, and seminars at which you can learn best practices in science education, receive content updates, network with teachers who share a passion for science teaching, and receive professional development credits that can be applied to the 5-year 175 hour requirement;
- ⇒ Representing all constituencies interested in promoting science education in NY State including networking with the NY State Education Department;
- ⇒ Informing membership about important issues and current topics through email E-Blasts;
- ⇒ Providing the opportunity to connect with other STANYS members via Facebook – available on the STANYS homepage (at STANYS.org);
- ⇒ Publishing statewide and local newsletters that keep you informed on state-wide and local Section activities, important issues in science education, articles pertaining to the science disciplines, legislative updates at the state and national level, notices of grants, awards, and educational opportunities for teachers and students, and much more;
- ⇒ Publishing issues of the *Science Teachers Bulletin* with articles on educational methodologies, philosophical issues, and information about STANYS members
- ⇒ Offering access to the STANYS subject area Directors at Large (DALs) and the local Section Subject Area Representatives (SARs) who provide support to members and provide a vehicle for communication between classroom teachers and the NY State Education Department
- ⇒ Providing retirees with the means to maintain their connection to science education, share their expertise after careers teaching students, and with professional and recreational opportunities
- ⇒ Facilitating recognition of teachers and students through its state-wide and Section awards
- ⇒ Provide STANYS Foundation Awards of up to \$500 for PreK-16 classroom teachers for science enrichment within and beyond the classroom
- ⇒ Organizing a statewide annual conference with outstanding keynote and invited speakers, more than 200

(Continued on page 38)

(Continued from page 37) Membership

workshops that provide support for all levels and disciplines, and an exhibit area with vendors of science supplies, equipment, and textbooks

So why do you need to support and be a part of STANYS? You need a science proponent and someone in your corner that understands the unique aspect of science education. Face it, the teaching profession is going through significant changes that have created many challenges for teachers, administrators and students. Accountability, tax cap, common core learning standards, standardized exams, college and career readiness, and achievement gaps are now part of our lexicon. The 29th annual Met-Life Survey showed that teacher job satisfaction is at the lowest recorded in 25 years and teachers are more stressed. STANYS certainly can't deal with all the broad political and social issues impacting the educational community but STANYS will be there as an advocate for the best science education for our students and support teachers in delivering those opportunities to their students.

The Suffolk Section of STANYS is your professional organization - JOIN US TODAY!

STANYS website: <http://www.stanys.org>

For more information, email Sheilah Schumann, Vice-Chairperson, Membership at:
sheilah_s@yahoo.com

Suffolk STANYS Meetings

Join us for our monthly meetings. They alternate between the first Wednesday or Thursday of each month.

2014-15 Dates:

Thursday, October 2

Wednesday, November 13

Thursday, December 4

Wednesday, February 4

Thursday, March 5

Wednesday, , April 1

Thursday, May 7

Wednesday, June 3

*Meetings are at 7:00 p.m. at
BOCES II on Deer Park Ave.,
Dix Hills*





STANYS SCIENCE TEACHERS
ASSOCIATION OF
NEW YORK STATE

**MEMBERSHIP FORM
(PLEASE PRINT)**

Date _____

New _____ Renewal _____ STANYS ID (If known) _____

Name _____

Street Address _____

City _____ State _____ Zip _____

Home Phone (_____) _____

School/Organization _____

Street Address _____

City _____ State _____ Zip _____

School/Organization Phone (_____) _____

Preferred Email _____

Subjects taught or position _____

Last year of membership _____

Section to which you wish to belong : **SUFFOLK**

Dues*	Check One	
	1-YEAR	2-YEAR
Elementary	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Intermediate/Jr. HS	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
High School	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
College	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Associate	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Retired	<input type="radio"/> \$23.00	<input type="radio"/> \$42.00

Free Student Membership

Enrollment in a teacher preparation program is required. A letter on institutional letterhead by a college faculty member or a cooperating teacher verifying the student's eligibility must accompany this application annually.

**Enclosed is my tax-deductible contribution of \$ _____

to: STANYS Foundation

Fellows Conference Award

*Membership dues are not refundable.

**STANYS DOES NOT ACCEPT
PURCHASE ORDERS**

PAYMENT OPTIONS

- CHECK - Payable to **STANYS**
- VISA MasterCard

Print Cardholder's Name _____

Card Number _____ Exp. Date _____ CW2 Code _____

Membership \$ _____

Contribution \$ _____

Total \$ _____

Cardholder's Signature _____

STANYS:
PO Box 2121
Liverpool, NY 13089-2121
Phone: (516) 783-5432
Email: info@stanys.org