



The Science Explorer

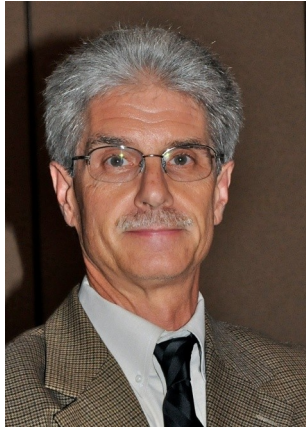
Suffolk Section: Science Teachers Association of New York State

Volume 41

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Fall 2012

The Chairperson's Corner



Glen Cochrane

Welcome back to the start of another year. I hope you have had a great summer and are ready for the challenges of a new school year. Changes are on the horizon for many aspects of teaching including certification requirements, teacher evaluation, pensions, and course curricula. For the moment, the NYS Science Cores are still our standards and I know we are offering our Suffolk students the best quality of science education. Budgetary issues may have you facing larger classes,

different courses, and fewer resources. Schools have been confronted with similar problems in the past and it is all part of the ebb and flow of economic times. However, there are many new challenges and I encourage you to get involved and learn about the new trends to ensure we continue to teach excellent science.

Who hasn't heard of APPR (Annual Professional Performance Review)? Some of you were probably working on the pre-assessment for your SLO's (Student Learning Objectives) this summer. Along with the regents results and possibly other components, this will be a factor in determining your HEDI score (Highly Effective, Effective, Developing and Ineffective). Classroom observations are most significant but in the end, teachers will be "graded" and there are presently issues regarding the availability of those

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Special points of interest:

- **MATEX - Islandia Marriott: October 18, 2012**
- **NYS Science Olympiad Coaches Clinic: October 26-27, 2012**
- **STANYS 117th Annual Conference - Rochester Convention Center: November 3 - 6, 2012.**
- **Eastern LI Regional Science Olympiad Tournaments C Division February 2 B Division—March 16**
- **LISC— St. Joseph's College April 2-3, 2013**
- **Suffolk STANYS Annual Conference: April 20, 2013**
- **Annual Awards Dinner: May 2013**

Science Materials and Textbook Exhibit (MATEX)

Thursday, October 18, 2012 3:00—6:00 p.m.

Islandia Marriott

3635 Expressway Drive North, Islandia, NY 631-232-3000

All are welcome. The exhibit is FREE!

Consultants from NYSUT will be available to answer your questions about APPR!

Join us for our annual Materials and Textbook Exhibit. We expect about 40 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. 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 for the science classroom.

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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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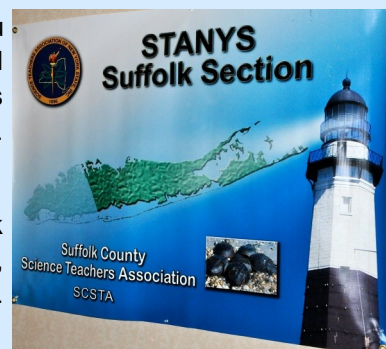
Website & Facebook

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 some of our newsletters online!

Join the 437 people who liked Science Teachers Association of New York State (STANYS) on [facebook.com](https://www.facebook.com). Keep up with the President of STANYS, Brian Vorwald, 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/>



Chairperson's Corner (continued from page 1)

"There are many new challenges and I encourage you to get involved and learn about the new trends to ensure we continue to teach excellent science."

scores to the parents. In concept, this is a "value added" scoring system and the teachers are considered to be the source of the added value to student success. Granted, I would love to take the credit for all of my students' success (lol) but there are an infinite number of factors that contribute to student results. "It takes a village" to develop student preparedness, background, skills, motivation. Then the many social aspects that impact each of them everyday can impact the results in their final assessments. APPR is certainly one of the biggest challenges schools are facing this year. There are many untested and unverified assumptions being made regarding student achievement. I hope that in conjunction with the unions, administrators, school boards, and community, this model for evaluation will result in improved education of students and better staff development opportunities for teachers.

When can we expect our courses to change? AP Course revisions are underway. AP Biology was revised for the 2012-2013 school year. New labs, big ideas,

reduced content, greater understanding, mathematical applications, increased literacy, and new teacher audits are all part of the discussions we face in this new and I believe improved course. AP Chemistry is up for revision for 2013-14 and the new Chemistry Frameworks with revisions is available online:

<http://advancesinap.collegeboard.org/science/chemistry>

For our K-12 program, the *Next Generation Science Standards* (NGSS) may be the basis of the changes for our future science courses. Still in development, the second public draft NGSS is due fall 2012. Additional reviews are in the pipeline before the final version is scheduled by the end of 2012. Then it is up to the individual states to adopt NGSS and use it to develop their science program. Many states have committed to NGSS but NY hasn't adopted it at this point. NGSS is being developed by Achieve based on *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* from the National Research Council (2011) and collaborative efforts of state teams. I am looking forward to hearing from Stephen L. Pruitt, PhD, Vice President for *Achieve*, who will be a speaker at the Annual STANYS

conference in Rochester this November.

The following two websites are good resources to review the standards: **Engage NY** claims to be an evolving, collaborative platform for educators. As the Regents Reform Agenda moves forward across the state, we want you to be able to access and share resources that work for you. Currently it is heavy on Common Core (ELA/Mathematics) but it does have a few science examples of SLO's that are now required for most science teachers: <http://engageny.org/> **Achieve**, the company developing the standards: <http://www.achieve.org/>

I encourage you to get involved with your professional organizations. Stay up on the challenges we face in education and take your opportunity to have input. The Suffolk Section of STANYS is here to help you implement these skills. We have a variety of great programs planned, including field trips, our science materials fair (MATEX), and our Spring Conference. Please try to take advantage of the many opportunities that STANYS and our Suffolk Section offer. I look forward to working with you and wish you all a successful year.



Long Island Science Congress Provides Forum for Student Research Projects

The Long Island Science Congress (LISC) is an adjudicated exhibit of science projects by students of Nassau County and Suffolk County middle, junior high and senior high schools, sponsored by the Long Island Sections of the Science Teachers Association of New York State (STANYS). Each year, hundreds of students from nearly 100 schools participate in this science competition. There are two divisions: Junior Division for students in grades 7-8 (including 9th graders taking their first

regents science course), and Senior Division for high school students in grades 9-12. Students are allowed to work in groups. The LISC will be held on April 3-4, 2013 at a new location, St. Joseph's College in Patchogue. Each school may enter up to 10 projects. A teacher liaison may start filing on December 1, 2012. Final deadline for registration is January 31, 2013. For more information go to the LISC website at:

<http://www.liscicong.org/> ■



Eric Wang, a 9th grade student from Paul J. Gelinus JHS, Setauket, presented at the Long Island Science Congress last April.

2012 Outstanding Senior Science Awards

Brian Vorwald, Awards Co-Chair

Each year the STANYS Suffolk Section (SCSTA) invites high schools that are patrons of the *SCSTA 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 presented at the dinner by a science teacher of their choice and both are guests of the SCSTA. Last year 29 students were invited to the dinner which was held on May 21st. It's always the highlight of our year to hear the outstanding achievements of these talented young people. Each student was presented with a plaque commemorating their award. This year, each high school new to our program was presented with a perpetual plaque on which the student's name was inscribed and on which future awardees can be listed. All returning high schools received these plaques at last year's event.

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

High School	Student Awardee	Teacher Presenter
Bay Shore	Theresa Chu	Joseph Hanley
Bayport-Bluepoint	Sarah Mardovich	Donna Edgar
Brentwood (Ross)	Nayram Gasu	Conrad Schnakenberg
Brentwood (Sonderling)	Vivian Vuong	Rebecca Grella
Centereach	Eric Nguyen	Al Levik
Connetquot	Scott Grimmell	Lori Forgione
Deer Park	Kevin Tresselt	David Knuffke
Eastport-South Manor	Briana Hayes	James Lever
Elwood-John H. Glenn	Young Joon Suh	Therese Regan
Half Hollow Hills East	Hannah Kenagy	Thomas Page
Half Hollow Hills West	Malini Desai	Linda Davidson
Hauppauge	Jonah Belser	Jocelyn Pendleton
Longwood	Brendan Plotke	Ivan Suarez
Mount Sinai	Timothy Miller	James DiNapoli
Patchogue-Medford	Saad Amer	Lynn Erickson
Sachem East	Samantha Meadows	Dr. Michael Vaccariello
Sachem North	Ruchi Shah	Jaimee Bhalla
Sayville	Alexis Brown	Sonja Anderson
Ward Melville	Lindsay McCulloch	Claudine Weiner
Westhampton Beach	Christi Dawydiak	Frank Diehl
West Islip	Eric Metodiev	Robert Purdy
William Floyd	Mitchell Beattie	Patrick Flynn

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



High School	Student Awardee
Bellport	Mark Maranan
Cold Spring Harbor	Angad Anand
Harborfields	Cyril Danielkutty
Huntington	Juliana Coraro
Islip	James Cassin
North Babylon	Francesca Giammona
Walt Whitman	Brian Krainer

SCSTA Teacher Recognition Awards Program

At the dinner teachers are recognized for their dedication and service as science educators. Awards in 2012 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. 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. Each of these individuals received their awards before family, friends and colleagues. Their principals and superintendents were invited to the dinner as the guests of SCSTA. We once again congratulate each of these awardees and sincerely thank them for their contributions to science education. A short biography of each Teacher of the Year is presented on pages 6-7.



Outstanding Senior Science Students at 2012 STANYS Suffolk Section Awards Dinner

2012 Elementary School Teacher of the Year

Robyn Weber - Thomas J. Lahey Elementary School



Robyn Weber (left) with principal Florence Tuzzi

Robyn Weber has taught fifth grade science at the Thomas J. Lahey Elementary School in the Harborfields Central School District for the last 17

years. Mrs. Weber earned her B.A. in Elementary Education, N-6, from Adelphi University and was awarded her M.S. in Reading Education from Queens College. She began her career teaching kindergarten in the New York City School System where she ignited her students' excitement for learning with exploratory hands-on learning. As a member of a two person team, Robyn has used hands-on instruction with laboratory activities that integrate technology to develop in her students higher order thinking skills.

Her students work in collaborative groups that foster meaningful growth experiences.

Mrs. Weber is involved in a variety of other activities, including memberships in the district-wide Industry Advisory Board and the Balanced Literacy and Differentiated Instruction Team. She serves as coordinator for two programs, the Commerce Plaza Business

Program and the school-wide recycling program. Robyn mentors many student teachers and is a buddy to new teachers. Colleague Andrea Horowitz commented that, "Robyn is generous with her time and is always willing to share her knowledge and materials." Another colleague, Susan Turrini (our 2011 Elementary School Level Science Teacher of the Year) related that, "her love for science and her love of teaching make her an extremely outstanding science teacher." In her letter of support, Principal Florence Tuzzi stated that, "Mrs. Weber is the 'complete teacher.' She continues to demonstrate her passion for teaching children." She further concluded that, Robyn's "...contributions to Thomas J. Lahey Elementary School are immeasurable and it is a pleasure to watch her work with the students." ■

2012 Middle Level Teacher of the Year

Christopher Merket- East Hampton Middle School



Christopher Merket (left) with Principal Keith Malsy

Christopher Merket has taught eighth grade Earth Science at East Hampton Middle School for seventeen years. He earned a degree in secondary science at the State University of New York College at Oneonta and masters degrees in secondary science (Dowling College) and educational technology (Long Island University). Mr. Merket has been at the forefront of utilizing technology in the delivery of his curricula. He was the first teacher in the district to use an interactive whiteboard in the classroom and he provided guidance for implementing the use of this tool

district-wide. He is leading a pilot of Google Apps for Education and Google chrome-books which will allow instant access to the Internet within his classroom. As the "Turn Key" trainer for staff development in technology, Chris works with the staff in assisting them with incorporating technology into their classrooms. Currently Mr. Merket is introducing the "Flip Classroom" into the Middle School. This innovative strategy of instruction utilizes the teacher as a facilitator and promotes expanded class time for students to engage in projects, practice, and cooperative learning.

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In his letter of support, Principal Keith Malsy commented that, "Chris has energized the staff, me and his students. We all are learning new ways to

deliver instruction." District Superintendent, Richard Burns wrote that, "Mr. Merket is a school leader who always participates in a positive manner among his colleagues..." and "...consistently takes it upon himself to always go above and beyond the call of duty." ■

High School Level Science Teacher of the Year

David Knuffke, Deer Park High School



David Knuffke currently teaches Advanced Placement Biology and chemistry (regents and honors levels) at Deer Park High School. During his seven years at Deer Park, Mr. Knuffke has taught Living Environment, Science Research, and computer science. He attended Stony Brook University where he earned a B.S. in Biology, an M.A. in Teaching and an M.A. in Technological Systems Management. Mr. Knuffke incorporates technology into his coursework, including Wiki spaces, iPods, Smart phones, and Internet-based applications. David has worked to expand programs offered to students, recently starting a Computer Coding Club. He organized and advised Deer Park High School's first Science

Olympiad team while also coaching the Robotics Team.

David has developed innovative strategies for delivering AP Biology that he freely shares with his colleagues and the educational community at large. His course website and wiki archives receive tens of thousands of visitors each year from more than 50 countries. Students and teachers benefit from this resource. As a leader within the AP Biology community, David is now the moderator of the College Board's AP Biology listserv. He has assisted other instructors with their questions and has piloted new labs for the revised

AP Biology curriculum, co-authored an evolution module for the summer institutes, and serves on the working group for the AP Biology exam.

Ed Libretto, a colleague in the science department wrote in his letter of support that David as, "...a master of leadership and diplomacy, instills in those around him a desire to improve and excel at whatever they do." Deer Park H.S. Curriculum Associate for Science and Technology Sam Biswas, commented that, "David is an exceptional educator...an innovator who seamlessly incorporates new technology into the classroom." ■



Brian Vorwald and Maria Brown, Awards Committee Co-Chairs, present David Knuffke with his award.

Opportunities for Teachers & Students



Geoscience Enrichment Opportunities for Students and Science Teachers at Stony Brook University

The *Center for the Advancement of Earth and Space Science Education* is offering workshops this fall which meet in room 137 of the Earth and Space Science Building at Stony Brook. We will be providing a free lunch and an opportunity for networking with your fellow teachers. Teachers can receive hours toward in-service credit or professional development for attending. Enrollment is limited. If you wish to participate, please contact Gil Hanson gilbert.hanson@stonybrook.edu to let him know which workshops you would like to attend. More information is available at www.geo.sunysb.edu/ess-workshops/

Saturday October 13, 2012 "Hands-on, Engaging Earth Science Labs and Demonstrations"

Presenter: Gil Hanson

9 AM to 4 PM (6 hours toward in-service credit)

We need to be using more laboratory exercises and demonstrations aligned with the earth science curriculum that are hands-on, engaging, memorable and have a real WOW factor. In this workshop we will:

- ◆ consider the recommendations of the *America's Lab Report: Investigations in High School Science* issued by the US National Research Council in 2005, http://www.nap.edu/openbook.php?record_id=11311&page=75
- ◆ develop a rubric for evaluating laboratory and demonstration exercises
- ◆ present hands-on laboratory exercises and demonstrations describing the seasons, moon phases, and eclipses of the sun and moon.
- ◆ evaluate each of them based on our rubric
- ◆ discuss their scientific and educational validity and how they may be improved.
- ◆ Teachers may wish to present one of their favorite laboratory exercises on the sun-earth-moon system.

Saturday November 3, 2012 "Google Earth in Geology and Earth Science Teaching"

Presenter: Dan Davis

9 AM to 4 PM (3 or 6 hours toward in-service credit)

In the morning we will become proficient in using many of the core aspects of Google Earth, including navigation, placemarks, layers, gallery tools, and the key preferences options. In the afternoon we will learn to create and use tours and overlay maps and we will explore a range of powerful resources available for using Google Earth in earth science teaching.

Those who are not yet proficient in Google Earth can register for the morning and afternoon or only the morning. Those who are already proficient in Google Earth can register for just the afternoon.

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Saturday, October 27, 2012 “Long Island Geologists Field Trip”



“Long Island Solar Farm & National Synchrotron Light Source at Brookhaven National Lab”

Long Island Geologists will host a field trip at Brookhaven National Laboratory to the Long Island Solar Farm and the National Synchrotron Light Source (NSLS) from 9 AM to 12 noon on Saturday October 27, 2012. The 32 megawatt Solar Farm on 190 acres is the largest solar project in New York State. The high intensity infrared, ultraviolet and x-ray beams from the NSLS are used by scientists to gain information about the electronic and atomic structures of materials, analyze very small samples, or study surfaces at the atomic level.

Teachers can receive 3 hours toward in-service credit or professional development for attending.



For more about the Solar Farm:

http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1349&template=Today

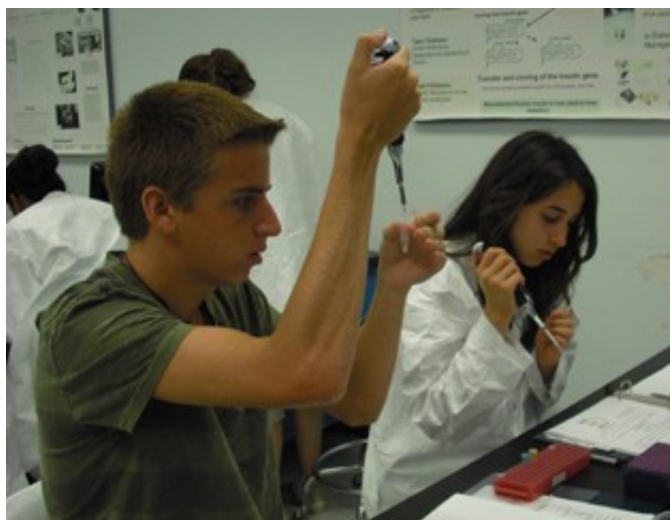
For more about the National Synchrotron Light Source:

http://www.bnl.gov/bnlweb/pubaf/fact_sheet/pdf/FS_NSLS.pdf

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.



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 ■

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 2nd Fall Session. The courses can be taken for up to 4 graduate credits each and run Oct 29—Dec 9. Courses will also be offered in the Spring and Summer (whichever works best for you). 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 October 15, 2012. Early registration discount ends October 1, 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/>



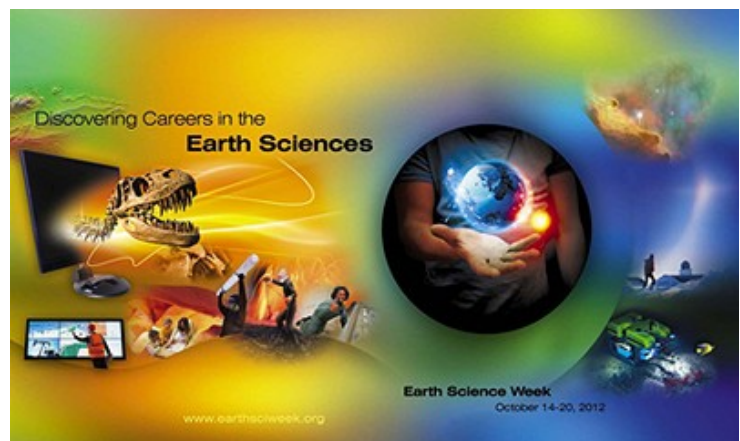
"Discovering Careers in the Earth Sciences," the theme of ESW 2012, engages young people and the public in learning how geoscientists gather and interpret data about the Earth and other planets.

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

<http://www.earthsciweek.org/whatisesw/index.html>

October 14-20, 2012

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. This year's Earth Science Week will be held from October 14-20. Take part in Earth Science Week 2012! ESW 2012 encourages people everywhere to explore the natural world and learn about the geosciences.





The Institute for the Development of Education in the Advanced Sciences (IDEAS) Has Opportunities for You!



IDEAS offers a number of workshops for teachers. Professional Development Credit or Hofstra University graduate credit is available. More information and registration information is available on the website. Enrollment may be limited. These workshops require registration and have fees. Please go to the IDEAS website to download a registration form: www.hofstra.edu/IDEAS

Trout in the Classroom Workshops: For Teachers of Grades 4 and Above

Instructor: Dr. Peter Daniels, Biology Department, Hofstra University

Trout in the Classroom (TITC) is a conservation-oriented environmental education program for students promoted by Trout Unlimited (TU). Students raise brook trout, a Long Island native, and release them into streams and lakes. The Adopt-a-Trout program will extend student involvement with the trout life cycle by allowing them to use telemetry to monitor movements of 1) newly released fingerlings within the Preserve to determine microhabitat preferences and 2) mature brook trout to determine whether they migrate to brackish waters.

Workshop #1: TITC Introduction

Wednesday, October 24 from 4-8 p.m. at Hofstra

This workshop is a general introduction to the Trout in the Classroom concept, and the related classroom modules that are available. Participants will learn about the research objectives and procedures of the Adopt-A-Trout study in which teachers and their students can participate. The program website and teaching modules developed for classroom use will be demonstrated, and will be available for use by attendees.

Workshop #2: TITC Field Experience

Saturday, Oct. 27 from 9 -1 p.m. at Shu Swamp.

This workshop will present the “hands-on” portion of the program, including a live demonstration of the telemetry techniques that will be used to track the trout. Workshop #1 is a prerequisite.

Cost: \$50 per workshop for 4 hours toward professional development credit.

Problem Based STEM Education Workshops for Teachers of Grades 3-7

Instructors: Kathy Chapman and Donna Migdol, Oceanside School District

Integrated STEM learning brings out the mathematician, scientist and engineer in students. With both the process and skills practiced and applied within math, science, engineering design and technology, students see themselves as problem solvers who eagerly take on challenges as they tackle big ideas. In this series of interdisciplinary STEM workshops, teachers will connect the disciplines through real world applications that address 21st century skills.

All workshops will be held on **Saturdays from 9 – 11 a.m.** in the Hofstra STEM Studio, Hagedorn Hall, Hofstra South Campus. Register for each workshop separately, there are no prerequisites.

**#1 Roller Coaster Physics
October 27, 2012**

**#2 Journey North: Mystery Class
December 1, 2012**

**#3 Parachute Pressure
January 12, 2013**

**#4 Simple Machines: Part 1
March 9, 2013**

**#5 Simple Machines: Part 2
May 4, 2013**

**#6 Taking the Plunge: Designing Submersibles
June 1, 2013**

Cost: \$50 per workshop for 2 hours toward professional development credit.



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STEM Studio Lesson Workshops for Teachers of Grades 3-7

Instructors: Kathy Chapman and Donna Migdol, Oceanside School District

The STEM Studio launches the 2012-13 season with a year-long focus on STEM unifying concepts. Through a problem-based, hands-on, minds-on format, students in grades 3-8 explore the following ideas and questions.

Stability & Change: Is there a balance?
Patterns: Where do they start?

Scale, Proportion, Quantity: What's the big deal?

Systems: How do they work?

Cause and Effect: Does one thing always lead to another?

Matter and Energy: Is there a difference?

These workshops are designed especially for teachers interested in learning how to offer problem-based challenges to students.

All workshops will be held on **Wednesdays from 4-6 p.m.** in the Hofstra STEM Studio, Hagedorn Hall, Hofstra South Campus. Register for each workshop separately, there are no prerequisites.

#1 **Growing and Changing: The Living Environment** September 19, 2012

#2 **Forces and Motion: The Physical Setting** November 7, 2012

#3 **Pushes and Pulls: The Physical Setting** February 6, 2013

#4 **Classifying and Modeling: The Living Environment** April 3, 2013

Cost: \$50 per workshop for 2 hours toward professional development credit. ■

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 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.



Students from Paul J. Gelinus JHS with Mel Morris (left) and their teacher Gary Vorwald (right). The students presented their study of the Setauket Mill Pond water quality at the OSSP Evening Celebration held at Brookhaven National Lab last June.



Institute for the **D**evelopment of **E**ducation in the **A**dvanced **S**ciences
School of Education at Hofstra University
Creating public visibility for advances in science and technology

Join us for the fall 2012
Science Evenings with IDEAS

These events are free and open to the public. No reservations are necessary.

All events will take place from 7:30 to 9 p.m. at
The Helene Fortunoff Theater, Monroe Lecture Center, California Avenue, South Campus.

Thursday, October 4, 2012
**Regenerating Spines and Joints:
Research on Cell and Biological Repair Systems**

Dr. Nadeen Chahine, Director, Biomechanics and Bioengineering Research Laboratory,
Assistant Investigator, Feinstein Institute for Medical Research, North Shore-LIJ Health System

Thursday, November 1, 2012
Deep Science of Subterranean New York City

Dr. Charles Merguerian, Professor, Department of Geology, Hofstra University

Thursday, December 6, 2012
**Caught in the Same Net:
The Ocean and Us**

Dr. Carl Safina, President, Blue Ocean Institute, Stony Brook University

For more information visit Hofstra.edu/IDEAS

Find us on Facebook: "IDEAS Institute at Hofstra University."

Or contact: Eloise Gmur, Project Coordinator, IDEAS Phone: 516-463-5792 Fax: 516-463-6196
Email: Eloise.K.Gmur@hofstra.edu



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STUDENT FIELD TRIP AND TEACHER PROFESSIONAL DEVELOPMENT PROGRAM

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To
Scaled up academics Transformed curiosity Elegant thinking
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The *Maritime Explorium* provides cutting edge exhibits and curriculum built on the newly released *Next Generation Science Standards* and aligned with the Common Core Standards in ELA and Mathematics. We help students and teachers become partners in exploring academic concepts that meet state objectives, go beyond state tests, and foster deep understandings of the ways in which our world works.

Our distinctive curriculum is problem-based -- **while students learn concepts at deeper levels with transferable skills, teachers can take back to school new teaching ideas and resources.**

The *Maritime Explorium* offers 2-hour workshops: a middle school strand for grades 7-8 and an elementary school strand for grades 1-6. Teachers reserve a date, pre-select one featured construction, and collaborate with museum staff to customize the workshop to suit their curriculum and grade level. Under the guidance of the *Explorium's* NYS certified teacher, students engage in the selected construction challenge and explore the museum exhibits. The closure of all workshops includes a summation of embedded science, math and language concepts. Students leave the workshop with individual notes that document their investigations and the designs they engineered.

The Explorium is located at 101 East Main Street, Port Jefferson, NY. The cost is \$250 per workshop for up to 25 students, \$10 per each additional student. ■

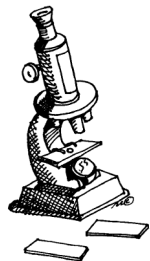
Website: <http://maritimeexplorium.org/>

Phone: 631-331-3277 Email: Info@MaritimeExplorium.Org

Subject Area Representative (SAR) Reports

Biology

Glen Cochrane, Biology SAR



Welcome back to the start of another year. For most of us, our job in education renews every September, winds through the seasons and is brought to a conclusion in June. So as you jump into another year with your students, look to do something new, teach for depth, and include 21st century skills.

I'm overwhelmed and somewhat discouraged with all the issues and changes we are facing in our public schools. We seem to be expected to make changes in what and how we teach based on Common Core Standards, Next Generation Science Standards (NGSS), and Annual Professional Performance Reviews (APPR), to name a few. Unfortunately, very few educators seem to know what actually has to be done to achieve these new objectives. Particularly discouraging is that these changes seem to be coming at a blistering pace and without an apparent plan for professional development. The NGSS draft has been released with only a three week window to review and make comments before the final draft. I suspect this document will serve as the foundation for the curriculum development

of our next generation of science courses K – 12. It is my hope that local teachers will have a chance to work closely with this document to develop materials and a syllabus.

Although I've felt discouraged by the negative press, I was inspired by an opportunity to spend a week at the International Science and Engineering Fair 2012 (ISEF) in Pittsburgh this past May. As a first time attendee, I was awed by the students and dedication of the teachers. Both teams of Long Island projects (LISEF and NYSSEF), worked with students and teachers to refine presentations and clarify the science to best prepare for judging. At the fair, I saw the very best science projects produced by over 1500 students from around 70 countries. These projects represent the very best science done by our brightest students from every region of the world. On judging day, our students presented their work and answered questions for as many as 30 judges, mostly university or business professionals qualified in the topics. It didn't take much to realize that these are the kids that will shape the future, make the discoveries, and develop the tools of tomorrow. I saw

"I'm overwhelmed and somewhat discouraged with all the issues and changes we are facing in our public schools."

kids that built electric vehicles, fuel cells, and desalination membranes, designed computer programs to better regulate traffic flow and designed drugs based on protein structure. All of them were thinking of applications that could improve society and the human condition.

I know that day in and day out most teachers don't have the opportunity to spend time with these kids. The majority of these very bright students have had a rich K-12 experience, the support of excellent research teachers, experience at science fairs, laboratory experiences, and very supportive and encouraging families. I believe all kids deserve the opportunity to excel to their capabilities and that is what we do. I can tell you that it was inspiring to spend a week with the students that produced projects recognized as the best in the world.



STANYS 117th Annual Conference

November 3-6, 2012

Rochester Riverside Convention Center

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



Chemistry: “Danger of Inhaling Gases”

James Ripka, Chemistry SAR



Is it safe to inhale Helium? 14-year-old Ashley Long of Eagle Point, Oregon recently died from inhaling helium. Ashley was underage drinking when she attended a party where people passed around a mask attached to a tank of helium. The goal was to have a high squeaky voice like a cartoon character. The helium is commonly available at party stores as standalone tanks used to blow up balloons. Everyone at the party had a great time until Ashley passed out and later died.

Helium gas is also commonly seen in suicide kits. These mail-order masks, which happen to be sold out of Oregon, are attached to helium tanks by people who want to kill themselves. The helium displaces oxygen, asphyxiating a person by “drowning.”

In the case of Ashley Long, it is thought that a bubble of helium gas occluded a vessel in her bloodstream causing a stroke. This is similar to a scuba diver surfacing too fast and having nitrogen

expand in the bloodstream.

Another gas inhaled is krypton. The gas deepens the voice but does not give one the powers of Superman. Krypton being almost 3 times heavier than oxygen displaces the O_2 in the lungs. If someone has been drinking or using drugs, they may be in a state where they cannot expel the krypton, and thus “drown”. Krypton is much more difficult to obtain. Fortunately, there are no known deaths due to krypton inhalation.

Over the last few years, students have found other stupid ways to challenge their breathing. The latest craze is the *Cinnamon Challenge*. This is a contest to see who can swallow powdered cinnamon. The challenge is extremely difficult because the cinnamon quickly dries out the mouth making swallowing difficult. The Cinnamon causes the students to choke and cough out large clouds of powdered cinnamon resulting in everyone having a good laugh. The problem is that the cinnamon can get into the lungs and block

airways, causing inflammation

and infection. A high school freshman in Michigan spent four days in a hospital with an infection and a collapsed right lung from this activity. The *Cinnamon Challenge* is similar to the *Saltine Cracker Challenge*, which involves eating Saltine crackers (also known as soda crackers) without drinking anything.

Another “fun” choking game that has led to deaths across the nation is the self choking, strangulation activity, known as the *Fainting Game*. The *Fainting Game* is done by teens to cause an induced euphoric high without using drugs. A belt or other object is placed around the neck or an assistant does the choking to cut off the blood supply to the brain. To date, more than 80 teens, for which the mean age is 13, have died from this.

Please guide your students to recognize that any kind of choking game is dangerous and just plain stupid! ■

Plan Ahead! April 20, 2013

SCSTA Spring Conference

The Suffolk STANYS Spring Conference will be held on Saturday, April 20, 2013 at Stony Brook University. 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.

Register online at <http://scsta2011.eventbrite.com/>

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



Earth Science

Easy Demo's to Help Your Students Have That Aha Moment!

Melissa (Montauk) Torre, Earth Science SAR

Welcome back Earth Science Teachers! I hope you had a great summer, but now it is time to get back to work. Here are some easy demo's to help make connections with students who just might not have gotten it yet or help to refresh a topic in your students' minds during review.

Igneous Rock Texture: Use sugar to represent the different textures. Sugar cubes are very coarse, granulated sugar is coarse, confectioners' sugar is fine, melt sugar in a test tube to show glassy, and then pour the melted sugar into a cup of water and it makes gas pockets (vesicular).

Rock Sizes: Use baking flour to simulate the feel and size of silt and for cobbles you can try to measure student's heads.

Shadows: Use the flashlight app on a cell phone. I stand a pencil up on the desk & show the sun rising, at noon, & than setting. A quick easy way to show shadow direction & length.

Evaporation: Give each lab table a $\frac{1}{4}$ cup of water each. They can use things in the classroom to make the water disappear the fastest. They cannot drink it, pour it down the drain, or pour it on another student. Usually it starts out with them holding the cup near the lights or by the window for heat. Eventually they figure out to spread it out on the table and use folders to make wind.

Convection & Density: Get four regular Gatorade size bottles. Fill two with ice cold water and use food coloring to dye them blue. Then fill the other two with warm water and dye them yellow. Use an old playing card to cover the top of a cold bottle, put it on top of a warm bottle and remove the card. Do it again with the other two bottles but put the warm bottle on top. One set up will mix while the other does not.

Heat Transfer: Use popcorn to show the three different heat transfers. Make microwave popcorn to show radiation, jiffy-pop to show conduction, and use a hot air popper to show convection. Easy demo and many of the students have never had or seen Jiffy-Pop or hot air popcorn.

Earthquake Waves: Split the class into two rows. Have the students stand shoulder to shoulder. One group will represent the P-waves and the other will be the S-waves. The P-waves have to tap shoulders and pass the energy down to the end & then back again. The S-waves have to bend up and down (like the wave) and go to the end and then back again. The S-wave group will not be able to go quicker than the P-wave group.

Weathering & Heat: The materials you will need are safety goggles, water, large beaker, hot plate, turkey baster, thermometer, timers, Alka-Seltzer and an empty film canister. Place the large beaker filled with water on the hot plate. Use the turkey baster to fill the film canister half way with water, drop an Alka-Seltzer in and quickly put the cover on. Have two students time how long it takes for the top to pop off. As the water heats up continue to test the temperature of the water & re-do the experiment. You will see that the hotter the water gets, the quicker the container pops its top.

Oobleck: Mix 1 part water with 1.5 to 2 parts cornstarch and some food coloring if you want a colored oobleck. It is not a liquid or a solid and represents the consistency of the Asthenosphere.

If you have any helpful easy demos you wouldn't mind sharing please go to the STANYS Facebook page and share away! ■

College: Important Changes in Certification Requirements

Linda Padwa, Stony Brook University

As you well know, the manner in which our students are being evaluated is undergoing a dramatic change. Similarly, teacher candidates will soon be evaluated with a new battery of exams as described below.

Our colleagues who earned their certification pre-2002 received Permanent certification and no state certification exams were required to earn certification. Those who earned their teaching certifications after that date are familiar with the New York State Teacher Certification Examinations that are administered by the NYSTCE. With changing professional frameworks comes a new set of examinations for both classroom teachers and school building leaders. Full details about these upcoming changes can be found at the NYSTCE website:

http://www.nystce.nesinc.com/NY_annProgramUpdate.asp

The changes are shown in the table below:

Certificate	Requirements on/before April 30, 2014	Requirements on/after May 1, 2014
Initial Teaching	Assessment of Teaching Skills – Written (ATS-W) Liberal Arts and Science Test (LAST) Content Specialty Test (CST)	Teacher Performance Assessment (TPA) Educating All Students (EAS) Academic Literacy Skills Test (ALST) Content Specialty Test (CST)
Initial School Building Leader	Current School Building Leader Assessment (SBL)	Revised School Building Leader Assessment (SBL) Educating All Students Test (EAS)

According to the NYSTCE, “*preliminary drafts of the assessment frameworks and test designs for the first group of new and redesigned certification assessments are available on the New York State Teacher Certification Examinations (NYSTCE) website (see link cited above). The performance expectations for New York’s next generation of teachers and school leaders will reflect the new, higher college- and career-readiness standards for students. The new exams are designed to reflect the Common Core ‘shifts’ with more constructed-response items and a mix of informational and literary text-based prompts.*”

It has been proposed that the Teacher Performance Assessment (TPA) include a video component – the candidate will submit a video of a lesson for evaluation. This is similar in design to the ATS-V that some of our colleagues had to complete a few years ago.

It is common for science teachers to hold certifications in more than one science. Once a teacher has been certified in his/her primary area, additional certifications require the successful completion of the Content Specialty Test.

If you know someone who is considering becoming a science teacher in the coming years, please pass along this information. More information about the new exam structure can be found on the NYSTCE website as it becomes available. ■

Contact me if you have any questions:

Linda.Padwa@stonybrook.edu



**Excellence in
Science Teaching**

Intermediate: How To Motivate Students During Review

Ashley Bloch, Intermediate Level SAR

With the increase in the amount of testing on our students, the need for constant review is more essential. With my own students, some of them have a hard time remembering what they ate for breakfast – how can I expect them to recall information they learned 5 months earlier? While I try to build upon concepts and have them realize that many of the concepts are connected to each other, I have found nothing has really motivated them more than a great review game. However, I am always on the lookout for something different and will try to get as many of my students involved as possible. Here are a few of my favorite games:

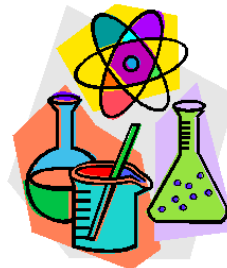
Flyswatter: A great game with minimal materials and minimal set-up – all you need are two flyswatters. Using 25 – 50 terms/concepts that you would like the students to know, write them in any form or fashion on your whiteboard. Divide the class into two teams and have the students come up two at a time. Give each one of the students a flyswatter and you give the definition of one of the words on the board. The first one to find the term

on the board and “swat” it gets the point for the team! A great way to utilize word walls up in the classroom.

I Have, Who Has...?: Requires some preparation, but can be used over and over again. Again, using the terms and concepts that you want to emphasize with your students and a pack of index cards, write at the top of each card a term that the student has (the “I have”) and a description of what they are looking for (the “who has”). I have found that this game works great when you have enough cards so that each student has a card – it is okay if some students end up having more than one. Before the game starts, the students will review what their cards say and make sure that they know what they are going to be listening for. The teacher will start off by saying reading aloud the “who has” statement, such as “Who has the process that converts glucose and oxygen into water, carbon dioxide, and ATP?.” The students would look over their cards, and the person who has “respiration” would answer and then

they would read off what they are looking for. It would continue in round robin style until we end up at the original card, the card the teacher had. I sometimes play this for time (to see how fast we can go) or we constantly shuffle cards after each round.

Paper Chase: A great game to play when you only have a couple of minutes left at the end of class. Divide students up into groups of 4 (I usually just put them into their lab groups) and give each group 8 problems. Then, it is the object of the game to see which group can finish the problems the fastest, but there is a twist! Each person has to do 2 problems, without help from anybody else in the group! Sometimes I let them strategize before the “chase” starts, sometimes I just have them go! The first group to finish wins! ■



Retiree: Why I Still Care

Ed McDaniels, Retiree SAR

Three years ago, I retired and moved from Physics SAR to Retiree SAR. In those three years I have written why being retired from teaching has been great and the opportunities retirement has presented. While I don't miss the day to day pressures that come with teaching and ever increasing accountability from politicians, there are still things about teaching that I miss and that I care about. I care about my colleagues who are still toiling in the trenches while greater and greater pressure is put on them to achieve better results while students have little or no added accountability. Most of my physics students were seniors who did not need to pass the course in order to graduate. After they were accepted to college from March through May, their dedication to their studies generally declined. By June, their most pressing concern was the prom, certainly not how they did on one of their only final exams. Does the new teacher

accountability take that into account?

Every year a new exam is created and cut scores decide how students have done. If every student taking the Regents physics exam achieved a score of 90% or better, the result would be, not that their teachers would be praised for doing an excellent job but rather a cry that the cut scores were too low. If the converse were to happen, and most students did not score above a 70%, the teachers would be castigated for not preparing their students properly as we saw when the new exams were first implemented. The norms are created to have a passing rate of around 85%. It's a rigged game. If teachers do a better job and students study harder the result will still be the same. I don't miss that.

Besides the effects on my colleagues, I still care about education because it affects the future of our

nation. In Florida, politicians keep trying to balance the state budget on the backs of the poor, the young and the old. Education does not fare well when these cuts are implemented. Since everybody went to school, everybody knows what's wrong with school and how to fix it. Unfortunately, like in New York, teachers are not well respected, since everyone believes that anyone could teach. In both states, the results may be that we discourage our best, our brightest and our most devoted students who may want to be teachers from following the path of their heart. The results of this demeaning teacher bashing will have an impact on the generation that follows our present teachers. It is a legacy of shame that today's politicians will be charged with by the judgment of tomorrow's consequences. ■



Science Olympiad Tournaments a Huge Success

Glen Cochrane and Keri Lukin Page

The Eastern LI Regional C Division was held on February 4th at Half Hollow Hills HS East. As registration deadlines approached, we were concerned that the continual talk of budgetary issues would impact the event. I was very pleased budget didn't appear to significantly impact the Science Olympiad. I know a few schools had to stop competing and others lost buses but most of the regulars came and we even had a new school, Deer Park. Fifty teams representing thirty schools from Suffolk County gave their best efforts competing in 22 events.

Teams of up to 15 students competed in a wide range of science and technology events. Sounds of music could be heard from instruments designed and constructed by students. Teams worked solving problem on disease, forensics, optics, wind, thermodynamics, astronomy, dynamic planet, rocks and minerals, forestry, and microbe mission. Our engineers constructed and tested musical instruments, gravity vehicles, magnetic vehicles, wood towers, 3-D proteins, helicopters, and robot arm. Unfortunately, the crowd favorite, sumo robots was dropped from the 2012 events. Each year the Board of Directors at the National and State level propose and decide which events are kept and what new events will be offered. Thanks to the over 100 coaches and volunteers all events were well supervised and scored. The Hills East PTA supplied teams with pizza and other snacks. A contingent of pre-service science teachers from Stony Brook University joined us and was treated to a day of science excitement.

The top 6 teams in the Eastern Region advanced to the state competition held on March 30-31 at Canisius College in Buffalo. The State Competition involved twenty-five events with the top 54 teams all regions of the state. The top two teams from that continued on to the

Nationals at the University of Central Florida in Orlando. The perennial powerhouse team of Fayetteville-Manlius once again took first place and Ward Melville second. Another Suffolk School, Half Hollow Hills East, did extremely well by placing 5th.

Any school that isn't currently competing should consider joining the fun. The Science Olympiad is a program that offers our science students an opportunity to apply the skills we dream we could do in our classrooms. Students problem solve, organize, evaluate their skills, interact with the online communities, study content, build devices and test them. All areas of science are addressed as team leaders recruit interested and talented science students. Most significantly, competitors have fun and walk away with the confirmation that science is cool.

Anyone interested in starting a team can contact me for information and advice (gblink@aol.com). Thanks to the support of the district, the Eastern Regional C Division will be held once again at HHH Hills East on February 2, 2013. Teams begin organizing in the early fall. When schools register, coaches receive a coach's manual with a description of the events. Students split up the events and the preparations begin. Many coaches attend regional coach's clinics to get insight and tips from experienced coaches and event writers. For more information, go the New York and National Science Olympiad web sites:

<http://newyorkscioly.org/>
<http://www.soinc.org/>

The B Division (grades 6-9) Eastern Long Island Science Olympiad tournament was a tremendous success again this year. Thirty three teams from 21 different schools throughout Suffolk County participated. The tournament was held at Candlewood

Middle School on March 17. Teams competed in 20 different events. Some events were subject specific tests on topics such as Rocks and Minerals and Anatomy. Some events were technology and engineering events in which students built devices in advance, such as Mousetrap Vehicle and Helicopter Egg Drop. Other events tested scientific inquiry skills such as Experimental Design.

The top five teams advanced on to the state finals, held at SUNY Ulster on April 20 and 21. The state competitors were West Hollow Middle School (fifth place), Accomsett Middle School (fourth place), Port Jefferson Middle School (third place), R. C. Murphy Junior High School (second place), and Paul J. Gelinus Junior High School (first place). At the state tournament, Gelinus went on to a second place finish which qualified them to represent New York State at the national tournament in Orlando, Florida. (See related article on page 21.)

Plans are already underway for this year's competition. The B Division Tournament will be held at Candlewood Middle School on March 16, 2012. If you would like to form a new team or get more information about the middle school Science Olympiad, contact Keri Page at: kpape@hhh.k12.ny.us



Coaches Tom Page and Glen Cochrane, Half Hollow Hills East HS, celebrate their team's 5th place finish at the NYS Tournament.



Suffolk Science Olympiad Teams Score at National Tournament

Two Science Olympiad teams from Suffolk County represented New York State at the National Tournament held at the University of Central Florida on May 18-19, 2012. New York State is one of the most competitive states with the greatest number of high school teams (over 300) and over 220 middle school teams. In order to qualify for the national tournament, the teams had to place 1st or 2nd in the NYS tournament. Paul J. Gelinias JHS and Ward Melville HS, both from the Three Village CSD in Setauket joined the NYS 1st place teams Eagle Hill MS and Fayetteville-Manlius HS from the Syracuse region and traveled to Orlando, Florida to compete against teams from 46 other states.

An after-school team activity, Science Olympiad is one of the nation's most distinguished and rigorous competitions of science, technology, engineering and math. The national tournament in Florida drew 3,000 students on 120 winning

middle and high school teams from 47 U.S. states. Gelinias and Ward Melville advanced to the national tournament after placing 2nd in the New York State Tournament last spring. Awards are given for the best overall team score and individual scores in each event. The young scientists competed in a variety of events based on principles of physics, chemistry, biology and geology, among other fields of study. Engineering skills were employed in the building events, which included designing and constructing model towers, "Rube Goldberg" machines, robots, and catapults.

The New York teams performed exceptionally well at the tournament and placed in the top 20 in the nation. The Gelinias Science Olympiad team placed 14th and Ward Melville High School finished 16th in the high school division at this prestigious tournament. Eagle Hill was 16th and Fayetteville-Manlius was 7th.

Science Olympiad is more than just an after school activity. Not only

does it provide enrichment and opportunities for students to explore science and technology topics of interest, it has become a place where kids can make new friends and socialize with peers with similar interests. Gary Vorwald, who has served as Gelinias head coach since 2000, is very proud of both teams for their hard work, dedication, and achievements. More than just winning medals and trophies, Science Olympiad motivates students to reach their potential and work as a team. He stated "Coaching Science Olympiad is one of the most rewarding activities that I have done as a teacher. I am proud of these kids, not only for their academic successes, but also for their perseverance, determination, and compassion for each other. I am also thrilled that the high school team accompanied us to nationals. It is so rewarding to see the Ward Melville kids continue their journey in SciO, and I appreciate the help that many have given to their younger peers through the year."



Two Science Olympiad teams from Suffolk County, Ward Melville High School (left) and Paul J. Gelinias JHS (right), both of the Three Village Central School District in Setauket, represented New York State at the National Tournament held at the University of Central Florida in Orlando.

Suffolk STANYS Board at Awards Dinner



Clockwise from top left: Glen Cochrane with James Ripka, Sheilah Schumann, Glen Cochrane with Gary Vorwald, Ashley Bloch with Melissa Torre, and Angela Lukaszewski with June Dawson.

Brian Vorwald, our 2012-13 STANYS President

The Suffolk Section would like to congratulate our own Brian Vorwald for being elected President of STANYS. Brian has been a member of the Suffolk Section since 1975 and has held several positions on our executive board, including Chairperson, Treasurer, Earth Science SAR, Awards Committee Co-Chairperson, and Conference Chairperson. He has served the state organization as a member of the Board of Directors for most of his career. He served as Earth Science DAL for two terms, and on a number of committees including Fellows, Finance, and Conference. Brian most recently served as Vice President and President-Elect.

Brian worked as an Earth Science Teacher and Science Chair at Sayville Middle School and High School for his entire 35 year career. He has always been active in science education, and worked as a consultant for the State Education Department on exam committees and in developing the ES Core Curriculum, and was a founding member of the Earth Science Mentors Network (ESPRIT). He has presented over 100 workshops for BOCES, STANYS, and school districts. He also is one of the primary authors of an Earth Science lab manual used throughout NYS.

We are fortunate to have one of our own serving the science teachers of New York State as President of our state organization. We know he will continue to serve with enthusiasm and dedication as we face new challenges in science education.



STANYS President Brian Vorwald



The Suffolk Section Awards Dinner was held last May. Outstanding seniors were recognized from member High Schools. Left: Outstanding Senior Alexis Brown from Sayville H.S. with her teacher, Environmental SAR Sonja Anderson (left) and Awards Co-Chair Maria Brown. Right: teacher Donna Edgar, from Baypoint-Bluepoint HS with Awards Co-Chair Brian Vorwald.

Grant Opportunities



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>



Exploring the World of Science

Register Now for 2013 Science Olympiad Competitions

Register your school now for the 2013 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 **2013 Eastern Long Island C Division Regional Tournament** will take place on February 2, 2013 at Half Hollow Hills East HS. The **B Division Tournament** will be held on March 16, 2013 at Candlewood Middle School. 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 26 and 27 at the Ramada Conference Center in Fishkill. Visit the NYS website for a schedule of activities and registration information.



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

Science Matters to all Teachers and Students!

Nancy Ridenour

part of this network to receive 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 ■

Never Refuse a Chance to Learn About Your Refuse!

James Ripka, Ph.D., Chemistry Subject Area Representative

Garbage is fascinating. What happens to the stuff we throw out? We got a whole new perspective by visiting the Covanta recycling plant. The Covanta Recycling Center is Long Island's largest Energy-from-Waste (EfW) facility and provides environmentally safe municipal solid waste disposal. The Hempstead facility is the large plant visible from the Meadowbrook Parkway across from Roosevelt Field. Covanta processes waste 24 hours a day, 7 days a week. Every 15 minutes a garbage truck containing 8-10 tons of garbage deposits its materials at the facility. It takes about a day for the garbage to move through a 6 floor high sorting room, whereby an operator drives a giant claw to smash open bags of materials. Everyone asks the person if they are great at the claw game at diners and arcades.

The scale of equipment and building is so huge that everything looks small from a distance. The garbage travels to the municipal solid waste (MSW)-fired combustors inside a water jacketed room. The steam created in the combustors drive 80-megawatt turbine generators, which produce electricity for in-plant use and for sale back to the Long Island Power Authority (LIPA).

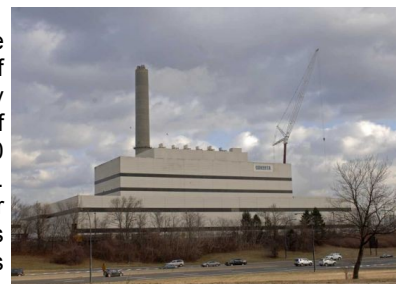
Everyone on the behind the scenes tour wore a hard hat and rubber soled shoes. Some of us had to wear earplugs also. You might think a terrible odor would be present everywhere. Surprisingly only a few locations had any garbage smell. The combustors draw in air from the dumping location and sorting room to be used in the combustion of garbage. Hence, the odor goes up in

smoke. Of interest to me was the amount of currency recovered. They estimate each load of garbage has about \$6.00 in small change mixed in. Over the course of a year almost a million dollars is recovered. This money is sold to a company along with scrap metal and is a significant source of revenue for the facility. The plant has a negative carbon footprint and can be run by less than a dozen people. Most of the senior engineers were ex-Navy engineers who worked on nuclear submarines. Apparently there is a significant cross-over of knowledge.

The tour is free. The tour starts with a short video and explanation of the plant and operations. Then you travel to the sorting room and can speak to the claw operators. You will also get to visit the Central Control Room. One thing I noted in the Control Room was the unusual color of the lights. Red lights on the panels means everything is working well. Green means something is wrong.

Your students in Environmental Science, Chemistry, Recycling clubs, etc. will love the tour. To schedule a tour contact:

Wendy Betik, Administrative Assistant, Covanta Hempstead Company at: wbetik@covantaenergy.com, 516-683-5413. ■



SCIENCE on LONG ISLAND

MAKE A DIFFERENCE

There Couldn't be a Better Time to be a STANYS Member!

STANYS MEMBERSHIP helps us to be the best science teachers we can be. If you are not yet a member or if your membership has lapsed, please join and become part of New York's oldest and most respected professional association of science educators!

STANYS supports its membership through: *Networking, Friendships, and Collaboration; Professional Development Workshops; STANYS' Annual State Conference; Updates on what is Happening in Education throughout the State; State Science Congress and Science Olympiad Information; Access to the STANYS DALs and SARs; The STANYS Newsletter; E-Blasts; The Science Teachers Bulletin; Section Meetings and Updates; and Opportunities for Leadership*

Your membership in STANYS
INCLUDES membership in **Suffolk Section**
—
TWO for the price of one!

AND the Suffolk Section of STANYS is all about Service to You, the Long Island Science Teacher!

Suffolk Section publishes several newsletters each year. Each issue includes SAR articles disseminating current information in each discipline, a Chairperson's report which addresses state updates and other issues in science education, details about local science contests, workshops, and field trips, and other items of interest **specifically to Long Island educators.**

Suffolk Section provides Conferences and Workshops throughout the year, offering information **directly pertaining to teaching on Long Island**, presented by local experts -- classroom teachers just like you! These gatherings provide opportunities to learn more about your discipline, get information about local activities, and provide the chance for networking with colleagues. Lab activities, innovative teaching strategies and demonstrations are just part of what's offered!

Suffolk Section offers Professional Development Hours close to home, and **directly related to teaching on Long Island.**

Suffolk Section hosts MATEX (Materials and Textbook Exhibit) each October. Vendors display and discuss the latest textbooks, science equipment, and field trip opportunities. **Free Admission and Give-aways** are always a part of the program!!

Suffolk Section holds an Awards Dinner each May honoring outstanding **Suffolk County** high school seniors and exemplary teachers.

Suffolk Section provides Local Leadership Opportunities and the chance to share experiences with your colleagues **in districts throughout Suffolk.** You have an open invitation to each monthly Section planning meeting.

(Continued on page 27)

(Continued from page 26) Membership

**But most importantly, Suffolk Section STANYS provides us,
as Long Island's Premier Science Educators,
the Opportunity to Make a Difference in Education in Suffolk County!**

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

Use the membership form below or join electronically using the form at the
STANYS website: <http://www.stanys.org>

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

STANYS MEMBERSHIP FORM

Please Print	Dues*	Check One	
Date _____ New ___ Renewal _____		1-YEAR	2-YEAR
STANYS ID (If known) _____	Elementary	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Name _____	Intermediate/Jr. HS	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Street Address _____	High School	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
City _____ State _____ Zip _____	College	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
Home Phone (_____) _____	Associate	<input type="radio"/> \$44.00	<input type="radio"/> \$82.00
School/Organization _____	Retired	<input type="radio"/> \$23.00	<input type="radio"/> \$42.00
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 _____			

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.

Effective July 1, 2012

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

Dates for 2012-13 are:

Wednesday, October 3

Thursday, November 1

Wednesday, December 5

Thursday, February 7

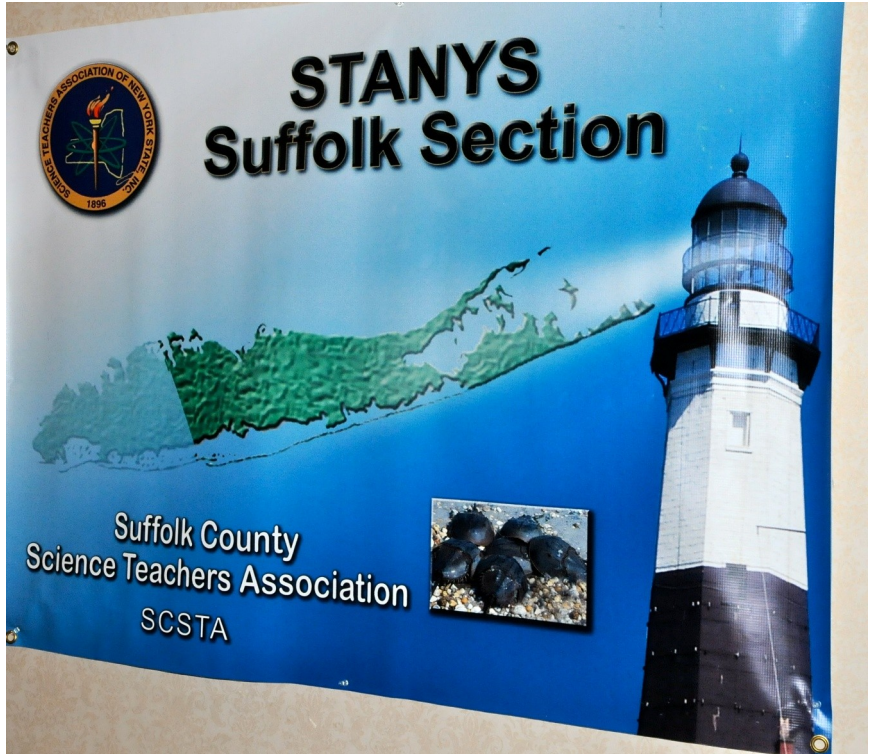
Wednesday, March 6

Thursday, April 4

Wednesday, May 1

Thursday, June 6

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



The results of our section elections are in the adjacent table. This was the second time that we conducted electronic voting; however, we had a significant decrease in participation from last year. The Executive Board candidates were unopposed and unanimously elected. Due to decreased membership in the Suffolk Section, we only qualify for two Director-at-Large positions in the state organization. Glen Cochrane and Gary Vorwald will serve as Directors, with Angela Lukaszewski as alternate. With 200 members we hope more of you will be able to vote next Spring.

STANYS Suffolk Section Election Results

May 2012

Chairperson/Director

Glen Cochrane 36

Vice-Chairperson (Programs)

Ashley Bloch 36

Vice-Chairperson (Membership)

Sheilah Schumann 36

Secretary

Gary Vorwald 35

Treasurer

Angela Lukaszewski 36

Suffolk STANYS Director at Large

Angela Lukaszewski 12

Melissa Montauk 10

Gary Vorwald 17