



# The Science Explorer

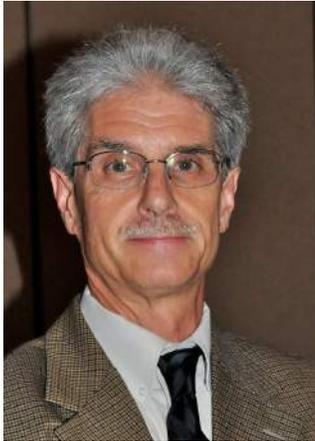
Suffolk Section: Science Teachers Association of New York State

Volume 43

Number 3

Summer 2015

## The Chairperson's Corner



**Glen Cochrane**

It is time to once again thank the Suffolk STANYS Board and our members for an outstanding year. I am proud to say that Suffolk is currently the largest section of STANYS and one of the most active. We have continued to offer a diversity of programs and opportunities for professional development. Last August, Gary Vorwald and Chris Marotta led a fossil trip to quarries in Western NY and Canada to collect marine invertebrates from the Paleozoic rocks and they have another trip described in this newsletter for summer 2015. Last October, the Suffolk Section partnered with the Long Island Science and Engineering Fair with a training workshop for research teachers. Ashley Bloch coordinated a scavenger hunt field trip for teachers and their families to the American Museum of Natural History last March.

One of the highlights of the year was our Spring Conference. Joe Malave convinced the Board to try a new approach to our annual spring conference. Last March, we hosted "Spring into Science with STEM Conference" on a Friday, as a full day conference at Brookhaven National Lab. The response filled most workshops to capacity with over 180 attendees. Participants included vendors, workshop presenters, and members of the Suffolk board. Plans are in the works to offer a similar program on April 1, 2016, so mark your calendar.

Thanks to the efforts of co-chairs, Maria Brown and Brian Vorwald, Suffolk hosted its 40<sup>th</sup> Awards Dinner on May 20 to honor the top science students from member districts and Science Teachers of the Year from elementary, middle and high school. I am proud to have worked with the Office of Educational Programs to host the State Science Congress held May 30 at Brookhaven National Lab.

We look forward to our continued ability to offer opportunities to the science teachers of Suffolk. Thanks to the recent efforts of Matt Christiansen, our section website has been redesigned with resources that should prove useful to teachers. Please take a look and send suggestions. (<http://www.suffolkstanys.org/>). Thanks to Gary Vorwald for his continued editing and formatting of the Suffolk Section newsletter, The Science Explorer. You will find articles from our Subject Area Representatives (SARs) as well as opportunities for professional development.

The Suffolk Section is planning a very exciting change to our materials fair (MATEX) this fall. We plan to offer a full day conference with a keynote

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### **Deadline for Fall Issue of the Science Explorer:**

**August 15, 2015**

**Send articles, news, and suggestions to editor in Word format (Arial 10 pt) at:**

**[glacieregary@aol.com](mailto:glacieregary@aol.com)**

## WHO'S WHO IN STANYS SUFFOLK SECTION LEADERSHIP

The following people can provide information on membership, teacher workshops and other activities.

### Chairperson

Glen Cochrane  
gblink735@gmail.com

### Vice Chairperson - Programs

Ashley Bloch  
abloch01@gmail.com

### Vice Chairperson - Membership

Sheilah Schumann  
sheilah\_s@yahoo.com

### Secretary

Gary R. Vorwald  
glacierygary@aol.com

### Treasurer

Angela Cigna-Lukaszewski  
AngLuke@aol.com

### STANYS Directors

Glen Cochrane ♦  
Gary R. Vorwald ♦

### Newsletter Editor

Gary R. Vorwald ♦

### Awards Dinner Co-Chairpersons

Maria Brown  
zostera2@gmail.com

Brian Vorwald  
BVorw@aol.com

### Conference Chair Joe Malave

jmalave@montaukschool.org

### Informal Education

Alice Veyvoda  
alveyvoda@optonline.net

### Public Relations/Archives

Sheilah Schumann ♦

### Science Congress Liason

Angela Lukaszewski

### Web Master

Matthew Christiansen, EdD  
islipchem@gmail.com

### Biology SAR

David Knuffke  
misterknuffke@gmail.com

### Chemistry SAR

James Ripka, PhD  
RIPKA@aol.com

### College SAR

Linda Padwa  
Linda.Padwa@stonybrook.edu

### Earth Science SAR

Melissa Torre  
Mtorre@levittownschools.com

### Elementary SAR

Joe Malave

### Environmental Science SAR

Sonja Anderson  
andersonapes@gmail.com

### Middle Level SAR

Ashley Bloch ♦

### Physics SAR (Open)

### Retiree SAR

Ed McDaniels  
edmcDaniels@hotmail.com

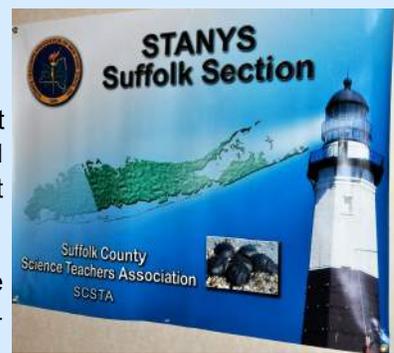
### Special Education SAR

Jean Ann Kohn  
jkohn@copiague.net

## Website Has New Format!

Visit our Suffolk STANYS website at [www.SuffolkSTANYS.org](http://www.SuffolkSTANYS.org). It is a great resource for 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.

Several of our past newsletters, minutes, and pictures of our events are available on the website. Thank you to Melissa Torre for managing the website for the last few years, and to Matt Christiansen for re-designing the site. We hope you enjoy it and find it useful.



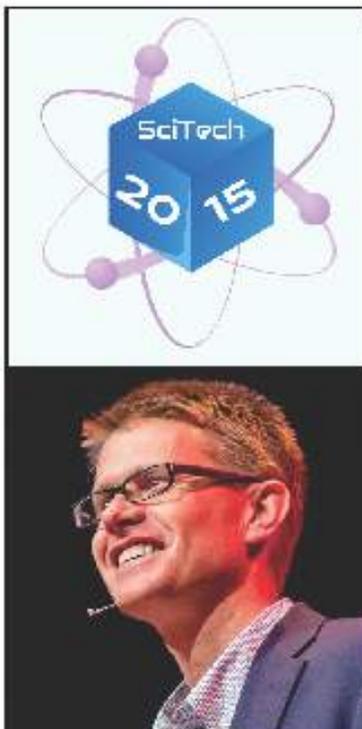
**Chairperson's Corner** *(continued from page 1)*

*"We look forward to our continued ability to offer opportunities to the science teachers of Suffolk."*

speaker and workshops in the morning with a luncheon. The vendors with materials and books will be open and free to all teachers in the early afternoon.

The most exciting thing for me has been STANYS' involvement in a movement to revise the science standards for New York State students. In January 2015, the Board of Regents adopted the Statewide Strategic Plan for Science (<http://www.p12.nysed.gov/ciai/mst/sci/documents/Final-Statewide-StrategicPlanforScience.pdf>). By March, STANYS members were among those selected to review and comment on the NGSS from the four science disciplines (life, earth, physics, and chemistry). At our May Planning Meeting, STANYS leaders from the subject areas gathered to review the comments made regarding the core content and performance expectation of NGSS. Other professional organizations from NY also participated in similar reviews of NGSS. These comments were compiled and will be used by standards writing teams to develop a NY version of NGSS. This is the start of the five year plan revising how and what is taught to NY science students. Once the writing teams finish, the plan is to make the new standards available in a survey for review and comment from all stakeholders. Your STANYS leadership will keep you informed and make you aware of opportunities to review and comment as we move through the process of revising our science standards.

I hope you find an opportunity to grow professionally this summer. Teachers are lifelong learners so a break from the school year routines offers a chance to add knowledge and experiences. Look for events, programs and travel that will add enhance you as a person and rejuvenate you for another school year. My best wishes for you to enjoy a well deserved vacation.



## SAVE THE DATE - SEPTEMBER 28, 2015

The Suffolk Section of STANYS is pleased to announce that the annual MATEX has been revamped into the SciTech Conference, a full-day STEM conference focused on the integration of technology in science education. Updates on the development of the NY State version of the NGSS will be provided. The materials exhibit will still be free of charge for educators after 3 pm. However, the full day workshops will be offered to conference attendees for a fee. As more information becomes available, we will be updating the section website ([suffolkstanys.org](http://suffolkstanys.org)). The conference website can be accessed directly through the QR scan in the lower right-hand corner.

Our keynote speaker will be the renowned **Paul Andersen**, creator of hundreds of YouTube tutorial videos used by countless science students and teachers from around the world. His vast resources, including a detailed overview of NGSS, can be found on either the Bozeman Science YouTube channel or his website ([bozemanscience.com](http://bozemanscience.com)).

Space is limited to the first 200 registrants, so register early through the conference website! We will accept school purchase orders to cover the registration fee.



[/groups/suffolkstanys](https://www.facebook.com/groups/suffolkstanys)



[/suffolkstanys](https://twitter.com/suffolkstanys)



## Spring Conference a Huge Success!

Joe Malave  
Conference Chair

The 2015 *Spring into Science with STEM* conference on March 27<sup>th</sup>, at BNL was a huge success. We had 180 people in attendance! That made the 2015 Suffolk STANYS conference one of the largest regional conferences in decades. In our post conference survey, the average rating was 4 out of 5, with a third of participants responding. In this year's conference, educators, scientists, and engineers spoke about the new Strategic Science Plan, NGSS, STEM, or seminars to expand your teacher's tool box. In addition, the Suffolk STANYS Spring Conference had a wide range of workshops and seminars based on all of the major scientific and academic disciplines.



*David Krause, a paleontologist from Stony Brook University, was our keynote speaker. Dr. Krause is pictured with Suffolk Chairperson Glen Cochrane.*

Our keynote speaker Dr. David Krause of Stony Brook University spoke on his recent fossil finds in Madagascar and his goal to help the children in poverty on the island of Madagascar. See his website on this called the [ANKIZY fund](#). His talk was one of the highest rated offerings at the conference. He was a skillful speaker whose research on Mesozoic and the Early Cenozoic mammals of Madagascar and more, was mesmerizing and captivating. As a teacher, I appreciated his timing, delivery, and the how he used the right balance of humor during his talk to keep his audience captivated. For more information on the keynote speaker use this [link](#).

<http://www.anat.stonybrook.edu/people/facultypage/krause>

This year's conference included seminars on bee pollination, flipping your classroom, fossils, secondary impact craters on the east coast, making science teaching fun again, nanotechnology for the classroom, Lego robotics, a tour of Brookhaven National Lab, and many more. This year's conference also included professional development certificates.

Plans are under way for next year's conference on **April 1st, 2016** at Brookhaven National Lab. One of our goals for next year will be to expand the range of workshops and develop more elementary science programming, as well as offering more hands on and turnkey sessions. Our science conferences depend on teachers willing to share lessons or interesting student centered projects aimed towards facilitating professional growth. If you have any lessons or pedagogical knowledge you would like to share, watch for the call for workshop/presentation proposals in September, or email me with your proposal anytime at: [jmalave@montaukschool.org](mailto:jmalave@montaukschool.org)

To my colleagues and friends that supported this conference and my efforts, I want to express my gratitude and thanks. It was hard work to put this conference together, but knowing that most of you valued it, was extremely rewarding for me, and I'm very much looking forward to next year's conference!

*(Continued on page 5)*

*(Continued from page 4)*

Early registration is important to help improve the quality and flow of the conference, so watch for the conference announcement with registration information right after the Winter recess. We hope to have our online registration active in the first week of January, 2016.



***Scenes from the Spring Conference including table top presentations, workshops, and networking.***

## Opportunities for Teachers & Students



### Plan Ahead for the Fall

#### CESAME Programs for Students

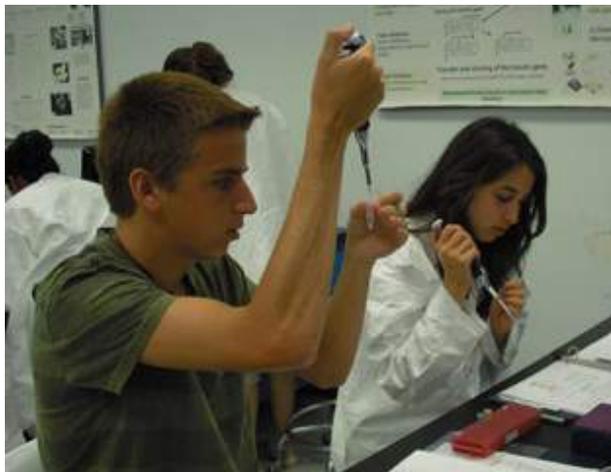
Have you been looking for opportunities to take your students out of the classroom and into a science laboratory? Would you like to give them lab and field experiences that you can't provide because of equipment limitations? If so, consider scheduling a field trip to the Center of Science and Mathematics Education (CESAME) at Stony Brook University.

CESAME offers a wide range of field trip options for students in middle and high school. Experiences address biology, chemistry, earth science, environmental science, and physics topics. Classes are being scheduled for the coming academic year, so now is a good time to think about when you want to bring your classes for one or more of the programs at CESAME.

More information can be found at the website:

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

Questions can be directed to [cesame@stonybrook.edu](mailto:cesame@stonybrook.edu)





Gaining Research Experience in the Environment  
A School, Community, and Government Partnership

**BROOKHAVEN**  
NATIONAL LABORATORY

2015



## Environmental Teacher Workshop

**Where: Brookhaven National Laboratory**

**When: July 13-17 8:30 am – 5:00 pm**

**Registration Deadline: June 25, 2015**

- \* Explore the interdisciplinary nature of Open Space Stewardship and how it can serve as a basis for multiple content areas.
- \* Find open spaces near your school, and develop a plan for implementing OSSP in your classroom.
- \* Learn about and practice field and hands-on techniques for studying the environment.
- \* Examine ways to incorporate Open Space activities into your school day.
- \* Correlate Open Space to local and state learning standards and expectations.
- \* Instill an understanding of, and appreciation for, the outdoor environment in your students.

This practical, hands-on workshop provides an opportunity to experience the equipment and field techniques that are useful in Open Space Stewardship Program, and is being offered to teachers at *no charge*. Certificate of completion for 40 hours will be presented at the conclusion of the workshop.

**For more information and how to register, contact:  
Mel Morris –(631) 344-5963 or [mmorris@bnl.gov](mailto:mmorris@bnl.gov)**



STANYS, NYESTA and NYS Master Teacher Program

**Niagara Falls Natural History and Devonian Fossils**

August 19-21, 2015

Niagara Falls, Canada  
and

Penn Dixie Paleontological Outdoor Education Center

The Suffolk STANYS section along with the New York Earth Science Teachers Association (NYESTA) and the NYS Master Teachers Program invite you and your family to participate in a unique opportunity to experience the natural wonders of Niagara Falls and collect Paleozoic age fossils from Western New York.

Gary Vorwald and Chris Marotta, from the Suffolk STANYS section, will lead the trip. Gary Vorwald is a veteran Earth Science teacher from the Three Village CSD and a NYS Master Teacher. He studied geology and paleontology at the University of Kansas. Chris Marotta has led many fossil collecting trips for the New York Paleontological Society.

The trip is being coordinated by CTA (Curriculum Travel of America) and reservations need to be made at [www.CTAfieldtrips.com](http://www.CTAfieldtrips.com) with the trip code GVN2015. The rates include 2 nights lodging at the Travelodge at the Falls, all admissions, and local transportation in Niagara Falls via the WEGO Niagara tram system. Meals, other than breakfast will be on your own, but we are hoping to arrange for box lunches and reservations for dinner. You need to arrange for your own travel to and from Niagara Falls, Canada. **You will need a valid Passport at the US-Canada border.** See the attached flyer for detailed itinerary and registration information.

Plan to arrive in Niagara Falls, Ontario, Canada on Wednesday evening, August 19 where we have reservations at the Travelodge at the Falls. We will spend the entire day on Thursday experiencing the wonders of the Niagara Falls gorge and power of one of the world's most famous waterfalls. Emphasis will be on the geologic history as well as how the unique landscape developed as a result of the melting of the glaciers at the end of the Ice Age.

Our second day, Friday, August 20, we will meet at the Penn Dixie Paleontological Outdoor Education Center in Hamburg, NY. It is about a 45 minute drive from the border, and is located about 15 miles south of Buffalo. This site is renowned for its abundant, Devonian age fossils. We will collect from 10:00 a.m. – 3:00 p.m., although you can stay all afternoon till they close. There is an admission fee of \$12.00 for adult/\$9.00 for children and you can keep all fossils that you find. The shale is weathering to a clay, and it is very easy to find crinoid stems, brachiopods, horn coral, etc. Trilobites (*Phacops & Greenops*) can also be found by splitting the more limey layers. Fossils are abundant and everyone will go home with a nice collection. There is NO age restriction at this site and it is family friendly.

Tools to bring include rock hammers, sledge hammers, goggles, boxes or buckets for specimens, paper, etc. You will need water and a picnic lunch.

There will be opportunities for Master Teachers to network and discuss each day's experiences. More information will be provided to everyone who registers.

Professional development hours/credit will be available to all teachers who register.

For more information, contact Gary Vorwald at: [glacierygary@aol.com](mailto:glacierygary@aol.com)

### REGISTER BY JULY 3

[www.CTAfieldtrips.com](http://www.CTAfieldtrips.com) Trip code GVN2015.

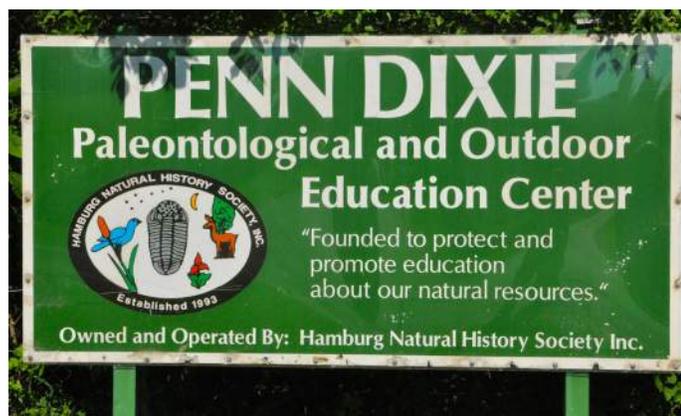
### SEE ITINERARY AND REGISTRATION FLYER ON NEXT PAGE

The websites below provide more information about the locations and fossils:

Penn Dixie Paleontological and Outdoor Education Center  
4050 North Street Blasdell, New York  
<http://www.penndixie.org/>

Penn Dixie Facebook Page  
<https://www.facebook.com/penndixie>

“Digging for Fossil Gold” article  
<http://www.penndixie.org/events/bflonews>





### Professionally Designed Educational Tours

800-541-6606 • request@CTAfieldtrips.com • fax: 610-395-8693

5194 Hamilton Boulevard, Allentown, PA 18106

Long Island, NY office: 866-541-6606

[www.CTAfieldtrips.com](http://www.CTAfieldtrips.com)

## Preliminary Itinerary NY Science Educators Field Trip Niagara Falls ~ Aug 19-21, 2015

\*\*\*Start of program\*\*\* (Registration deadline 7/3/15)

Wed 3:00 PM Check in at *Travelodge At The Falls*, 4943 Clifton Hill, Niagara Falls, ON, Canada

*Limited availability of rooms with either 1 King or 2 Double beds (reply to your CTA registration confirmation email to request room type). Valid passport required at US-Canada border. On-site hotel parking available for a daily fee. Evenings free to walk to the Grand Illumination of the falls (closest hotel to falls), swim in the outdoor pool, browse the many nearby attractions and try your luck at the Niagara Casino! Earn NY professional development hours.*

Thur **Deluxe continental breakfast buffet** at the hotel included

8:00 AM Meet trip leader Gary Vorwald at the hotel meeting room for your orientation of the day's events, and to receive your information packet and Niagara admission/transportation pass

9:00 AM Walk to **Table Rock** for breathtaking views of Niagara Falls from the brink and experience **Journey Behind The Falls** via tunnels actually located behind Niagara Falls!

Admission to the 4-D multimedia experience *Niagara's Fury* is also included here.

*Local attraction transfers by WEGO Niagara tram system; 48-hours of unlimited transfers included.*

11:00 AM **White Water Walk** along some of the world's fiercest rapids, within the awesome **Niagara Gorge**

12:00 PM Lunch break (at individual expense)

2:00 PM On the state-of-the-art **Hornblower catamaran**,

get as close as possible to the flow, power and mist of the Falls within the Great Gorge, as we journey past the American Falls, Bridal Veil Falls and into the heart of the Horseshoe Falls.

4:00 PM **Skylon Tower** (open until midnight) 775 feet in 52 seconds via **Yellow Bug** exterior elevators - first of its kind - with a glass-enclosed exterior to view your ascent! Evening free. Overnight at *Travelodge At The Falls* included.

Fri **Deluxe continental breakfast buffet** at the hotel included; check out of hotel

*US border crossing; valid passport required (individual transportation to Hamburg, NY)*

10:00 AM Meet Gary Vorwald at **Penn Dixie Fossil Quarry**, Hamburg, NY (45 min drive from border)

*Spectacular marine fossil collection site! (3 hour visit; keep whatever you find)*

3:00 PM Depart **Penn Dixie Fossil Quarry**

\*\*\*End of program\*\*\* (Registration deadline 7/3/15)

**Rates:** Adults, per-person (16 + over)

Quad \$225 / Triple \$252 / Double \$305 / Single \$495

Students, per-person (under 16 with paying adult)

Quad \$220/ Triple \$247 / Double \$301

**Payments:** July 3, 2015 - \$200 pp deposit due

July 19, 2015 - Final balance due

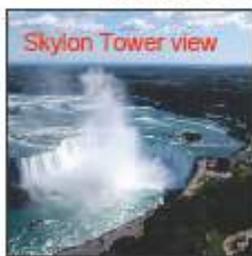
Register at [www.CTAfieldtrips.com](http://www.CTAfieldtrips.com) with Trip Code "GVNF2015"

Registration deadline July 3, 2015

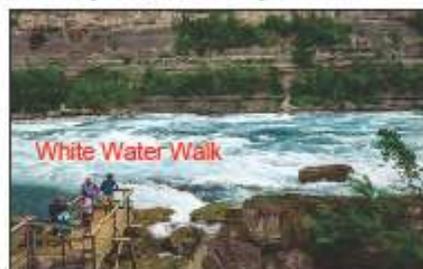


Hornblower catamaran at Horseshoe Falls

Register at [www.CTAfieldtrips.com](http://www.CTAfieldtrips.com) with Trip Code "GVNF2015"



Skylon Tower view



White Water Walk

Register online with Trip Code "GVNF2015"



Penn Dixie Fossil collection site

## Professional Development at the AMNH

Ashley Bloch, Middle Level Science SAR

The American Museum of Natural History (AMNH) offers many exciting and worthwhile professional development opportunities for science teachers throughout the year. Over the years, I have had the opportunity to participate in many different workshops on a variety of topics. Utilizing the greatest resource that they have to offer, the museum itself, I found that these workshops were a great way to develop lessons that not only used the museum, but their online resources.

Workshops are offered in a variety of topics and usually last 1 to 3 days. I have not had the opportunity to take all offerings, since I choose workshops that would be best suited to what I currently teach (general science and earth science). However, the workshops that I attended were very interesting and useful for my students. I was able to participate in an extensive workshop concerning climate change, where we were able to use data from the Goddard Space Center for analysis. We developed concrete, straight forward examples that we could bring back into our classrooms. We were able to fully explore the museum's Mars exhibit and review the materials that the museum had created and offer suggestions of follow-up lessons that would be an excellent complement to what they had already done. I also participated in a workshop about the ecology of the Hudson River and the zebra mussels that are present – we even took a short excursion to the Hudson River to collect data that we could use with our students.

While many of the workshops were geared towards teachers in New York City, it was worthwhile to teachers from all over. This was evident by the geographic diversity of where the teachers who participated taught. It was also rewarding to be able to meet with teachers from all over the tri-state area. All too often, we teachers are only able to discuss techniques and strategies with our peers within our own district or located somewhat nearby. Here, I was able to learn what fellow educators were doing in various boroughs of the New York City, upstate New York, New Jersey, and Connecticut. Additionally, it was eye-opening to hear the thoughts of other educators regarding the Next Generation Science Standards and Common Core – I find it can be very easy to live in the bubble of one's district or of just Long Island.

A nice bonus to these professional development workshops is that they are free and sometimes even include a small stipend for attending. However, you do need to apply and have a recommendation from your principal. For more information regarding these workshops, please visit the museum's website at:

<http://www.amnh.org/learn-teach/educators/workshops-institutes-and-courses>

## 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. Upcoming course offerings have been posted for this summer and next fall.



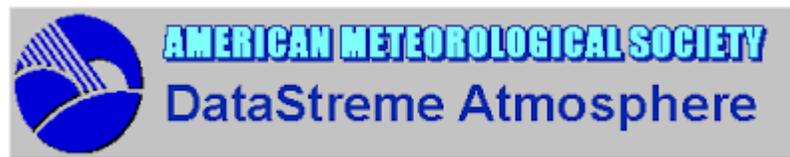
### Summer 2: July 6—August 16, 2015

*The Ocean System; Genetics, Genomics, Genethics; Evolution, Space, Time, and Motion; The Diversity of Fishes; The Brain: Structure, Function, & Evolution; Water: Environmental Science*

### Fall 1: September 21—November 1, 2015

*Climate Change; Earth: Inside and Out, Evolution, The Ocean System; Space, Time, & Motion; Water Environmental Science*

For more information and to register go to: <http://www.amnh.org/learn/>



## How Could You Pass This Up?

**Lisa Bastiaans**

If you haven't heard of the AMS DataStreme courses for K-12 teachers, then you must read on. The American Meteorological Society has a precollege teacher enhancement and leadership training program offered in a hybrid online learning format. There are two different thirteen-week courses offered in the fall and spring semesters – **DataStreme Atmosphere** and **DataStreme Earth's Climate System**. The courses use an e-textbook and an e-lab investigations manual as well as a web site that contains two weekly current weather and climate activities and a wealth of current data and information that can be used in the classroom.

Participants will get access to the e-textbook and e-investigations manual, and other resource materials at no cost to the participant! Teachers who successfully complete the course will earn three graduate credits through SUNY Brockport at no cost! So how could you pass up this opportunity? Read on to find out how to apply for this course.

You may register for only **ONE** DataStreme course per semester. Applicants must be teaching professionals at the precollege level. Although these are inquiry-based science courses, it is not just for science teachers or high school teachers. The program seeks teachers who are willing to accept a leadership role as a weather and/or climate education resource teacher in their school district and community. Participants will develop a plan of action that will be implemented upon completion of the course. This plan will help them introduce colleagues, administrators, parents and members of their community to the benefits of using real-time environmental data as vehicles for learning across the curriculum. They will also develop a lesson plan based on one of the topics covered in the course.

Both courses begin the week of Monday August 24, 2015 and finish AFTER the week of November 30, 2015.

To learn more about the AMS **DataStreme Atmosphere** course and to download an application, go to <http://www.ametsoc.org/amsedu/dstreme/DSindex.html>. The first meeting will be during the first week of class from 3:30-7:30 PM (date to be determined) at the National Weather Service office, Upton, Long Island, NY. This meeting includes dinner and a tour of the NWS facility. The other two meetings will be on Saturdays from 12-2:30 PM at Nassau Community College, Garden City, Long Island, NY. Some participants travel 2 hours to get to each meeting. So if these days and times and locations work for you, please send your completed application or questions to [Lisa.Bastiaans@ncc.edu](mailto:Lisa.Bastiaans@ncc.edu)

To learn more about the AMS **DataStreme Earth's Climate System** course and to download an application, go to <http://www.ametsoc.org/amsedu/ECS/index.html>. All three meetings will be held at Long Island University, C.W. Post Campus, Brookville, NY from 5-7 PM on Tuesdays. If this day and time and the location works for you, please send your completed application or questions to [Margaret.Boorstein@liu.edu](mailto:Margaret.Boorstein@liu.edu)

Seating is limited in both courses so send in your completed application to the appropriate contact person **ASAP**.

Check out the Datastreme website for access to live weather data including maps, satellite images, and meteograms.

<http://www.ametsoc.org/amsedu/dstreme/>

## Subject Area Representative (SAR) Reports

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### A Couple of Review Ideas

David Knuffke, Biology SAR

Now that the year is winding down, you might be looking for some review activities here at the end to try with your students. In that spirit, I offer the following ideas for adoption, or adaptation, as you prefer:

**"Built Out" Concept Maps:** Concept mapping over time. In this activity, the teacher provides groups of students with a series of foundational understandings from the course (either overall, or within particular units). Here in NY, we are fortunate that we have core curricula for each of the core sciences that can easily provide these prompts. Once given out, students are asked to organize them as a concept map, with the statements serving as nodes. That accomplished, the instructor then asks students to sequentially add more information to the concept maps over the next few days. Some ideas for things that can be added include:

Linking "action phrases" that are placed on the connections between nodes to make the connections explicit.

Key terms and vocabulary that accompany each node.

Items from course assessments that are related to the nodes (particularly useful if assessments are taken from old regents items, and nodes are taken from the core curriculum)

Diagrammatic representations of the concepts in each node, or a subset of them.

Other interesting things related to the course of study.

Instructors may find it helpful to have students color code the different additions to their maps, and include a key. It might be useful to have groups exchange maps between the different content addition phases. Additionally, it may be interesting to photograph the maps after each stage in their creation sequence so that students can visualize the development of the maps through time.

**"Top Ten" Lists:** In honor of David Letterman's impending retirement, why not take a page from "Late Night" and have students develop lists of the top ten concepts that they should remember from each unit of the course. Just like the concept maps, instructors can have students create top ten lists for a variety of concepts related to a unit, including:

Top Ten Big Ideas

Top Ten Vocabulary Words (and definitions!)

Top Ten Misconceptions/Mistakes/Things to Avoid

Top Ten Repeated Questions on the Regents Exam

Instructors can also take a meta approach, and have students generate top ten lists for study tips, or preparing for the Regents exam, or end of the year reminders, or anything else that a teacher might want to spotlight here at the end of the year. The only limitation is your creativity.

**"Flipped questions:** In this activity, the teacher provides students with a series of Regents question stems that have the question and answers removed. Students are tasked with developing their own question and answers

*(Continued on page 14)*

(Continued from page 13)

for each stem, and indicating what the correct answer should be, and why. Consider having different students answer each other's questions, or leading a whole-class discussion of the variety of questions that can be developed for each question stem.

It's easy to get bogged down in the nitty-gritty details of preparing students for end-of-course assessments. By using strategies like the ones described above, teachers can supplement the targeted work they are doing with worthwhile thematic activities that help students make the connections between coursework that they will need in order to succeed on the Regents, and retain the material they have learned this year for the years to come.

Here's to a great end of the year!

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## New Mandates for ELL: How will this impact science classrooms?

Jean Ann Kohn – Special Education & ELL SAR



Each day in our science classrooms we have the ability to be faced with teaching students who are learning English as a second language. In September 2014, a new set of mandates from the commissioner were proposed and will be put into place September 2015. The purpose of these mandates is to create equal educational opportunities for students learning English as a second language. With the changes came a lot of new terminology.\* With the new terminology changes also came changes as to who can teach these students. In the past, a science teacher did not have to have TESOL/ESL certification to teach ELL students. As of September, the science teacher needs to have ESL or bilingual certification or have a push in teacher with the certification. This is very different from what we are used to.

For science teachers, the most important changes come from the type of teacher that now can teach these students. The science teacher must either be dually certified with ESL and content certification or have an ESL teacher co-teach in the classroom of the science class is the one chosen as the content with support for the new language learner. This does not mean it is a special education classroom. It is now a supported model for students learning English as a second language. Another interesting change that can affect science teachers is the mandate stating that there must be an additional meeting with the parents during the school year in addition to the bi-annual parent/teacher conferences. This is similar to what we have for special education students. It is the districts discretion as to how they are going to meet this mandate and to determine whether science teacher is needed at the additional meeting.

One of the major changes has to do with Professional Development requirements. All teachers will be required to have 15% of their total PD hours be ELL specific. This will be a challenge for teachers to fulfill, but many classes and opportunities are out there for teachers. As more of the changes are set in stone, I will be continuing to write articles to give science teachers the most updated information. If you have any questions please don't hesitate to contact me at [jkohn@copiague.net](mailto:jkohn@copiague.net).

To see the entire power point from EngageNY, visit:

<http://www.p12.nysed.gov/biling/docs/CRPART154Overview-webversion.pdf>

\*A table with this terminology appears in my article in the most recent STANYS newsletter on page 21:

<http://stanys.org/images/pdfs/Newsletter/2015%20May-June%20STANYS%20Newsletter.pdf>

## How Many Pairs of Socks Do You Need for a Month?

Ed McDaniels  
Retiree SAR

I was recently posed with this sock dilemma when I prepared to pack for a month-long cruise on Royal Caribbean's Quantum of the Seas. First, we crossed the Atlantic and then sailed through a number of ports in the Mediterranean, through the Suez Canal and ended in Dubai. The weight of the luggage you bring aboard ship can be quite a bit but because we were flying home from Dubai the airline's weight restriction was the limiting "factor" in the sock quandary. Bringing fresh shirts, pants, underwear, socks, etc. for each day is impossible, so what is an alternative? The ship will be happy to do your laundry, but it would run almost as much as the cruise itself. Very few ships have a self-serve laundry and you aren't allowed to bring an iron. The answers are narrowed to, as much as possible, wash-and-wear clothing that can dry as quickly as possible. I brought quick drying gym clothes with me that I could wash and by the next morning they were dry and ready to go. If I washed my athletic socks, it would take about two days for them to dry. Walking shorts, semi-dress shirts, long pants all took more than a day to dry hanging up in the air-conditioned cabin. If you have a balcony, don't count on that helping too much because humidity and salt spray can limit how dry those clothes will get even on a sunny day.

Can you wash things out in the bathroom sink? Only very small things will fit in the miniature sink that are in most cabins. I brought a heavy-duty Space Bag that you can suck air out of to reduce the size of the clothing bundle in your suitcase. It became my washing machine tub. I filled the bag in the shower with water, added soap and sloshed away inside the bag and then rinsed the individual pieces in the shower. A very hardy squeezing of the wet clothes reduced the drying time. I brought some washing detergent; shampoo will do in a pinch, and washed almost every day and never ran short of clothes.

Two other useful items that you might consider in this laundry saga; Tide to Go Instant Stain Remover pen and Downy Wrinkle Releaser. A maxim for the traveler should be, never eat tomato soup when you are wearing a white shirt. That was a lesson I was slow to learn. The Tide pen was handy for eliminating the pinpoints of red on my white shirt. If you spill a whole cup of coffee on it, no, the pen will not make it all go away. The Downy is very handy when you first unpack and you have had clothes very tightly squeezed together for a day or two. Also after a wash, even a wash-and-wear shirt needs something to reduce wrinkles. Is it going to be as crisp as if you had snuck an iron into your luggage, no? Is it acceptable? It was to me.

This was my first time traveling in Europe and I didn't know what to expect with language, currency, weather. As we crossed the Atlantic, we had temperature in the 40's and 50's. However, going through the Straits of Gibraltar we hit 81 mph winds, a bit breezy. As we got to Spain the temperature rose to the 70's. Italy and Greece were slightly warmer and no rain. When we got to Petra in Jordan, temperatures were in the 80's in this semi-arid desert. By the time we had finished crossing our final time zone, nine in all, to arrive in Dubai the temperatures exceeded 110 degrees every day. Yes, the humidity was lower, but so is the air coming out of an oven. Neither is pleasant.

Having euros through Europe made the currency concern less of a problem. The ship, local banks, and ATM's make exchanging dollars easy. All make some money on the exchange but hey, you are on vacation. Language was really my biggest concern, but we were on guided tours and there was always a local native who could manage some English. In Dubai, almost every sign is in both Arabic and in English, so that was no problem. We stayed an extra 3 days in Dubai after departing the cruise ship and used both a hop-on, hop-off bus and their Metro, a subway system that is extremely clean, efficient and relatively inexpensive. You could eat off the floor in the air conditioned subway cars. You can in NY City also, but because of all the food left around, not because of cleanliness. We seemed to always ride the train at rush hour but people were always polite and patient. The last two cars of the train were reserved for women and children. They were not required to sit there but men are definitely not allowed to sit there. That would be interesting to see implemented in New York City. There are no doors from one car to another just a line on the floor separating the sections and I never saw a man violate this rule. Good for them.

If you ever get the chance to go to Dubai, go. You will see what open land, good planning and almost unlimited money can produce. Just some of the sights included the world's tallest building, world's largest mall, world's largest hotel, and on and on. A primary highway through the main part of town, if you count both directions and with the service roads, had more than 20 lanes of traffic. However, the roads surrounding the malls and apartment areas were just as crowded as you would see in Manhattan, so there are some universal consistencies. The last thing I want to share is that my wife and I were happy to get home. Paradise has an expiration date. To quote Dorothy, "There's no place like home."



## State Science Congress 2015

Glen Cochrane  
State Science Congress Director



The STANYS State Science Congress, hosted by the STANYS Suffolk Section and Brookhaven National Lab (BNL), was held on Saturday, May 30, 2015. Seventy students from the Junior and Senior Divisions presented 54 projects to more than 30 judges in a poster format. The day began with a welcome address from Brian Vorwald, Past President, and an overview of BNL by a Program Administrator of Educational Services, Scott Bronson. During the morning session students presented their research several times to different judges. After lunch, Dr. Bruce Ravel, a physicist working

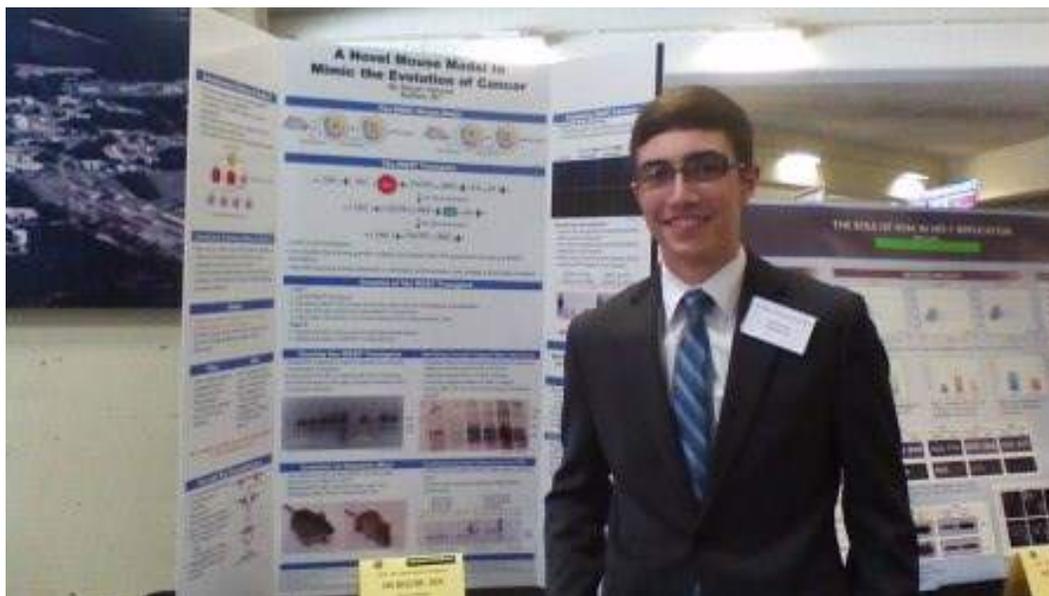


for the National Institute of Standards and Technology, gave a talk titled "What is a Synchrotron" to students and teachers. After the talk, they toured the Northeast Solar Energy Research Center and the National Synchrotron Light Source II. The Awards Ceremony was held in the auditorium at Berkner Hall after the tours. Approximately 32% of the projects received plaques and monetary awards and 40% received Honorable Mention medals.

This was the third year the state-wide Science Congress was hosted by Suffolk Section and BNL. Approximately 74% of the students came from the largest local fair representing Nassau and Suffolk. I am very pleased that we had strong representation from other NY State regions which included students representing fairs from Westchester, Central, Central Western, Western, Greater Capital (Eastern), and the Southern Tier.

The STANYS State Science Congress has traditionally moved to different regions of the state with the support of the regional STANYS section. Now that the Suffolk Section sponsored our third successful state-wide Science Congress at BNL, I am pleased to announce the State Congress will move to the Western Section for 2016. It will be in the competent hands of Susan Sullivan, John Paul Martin, and Mary Martin. They have been coordinating the Western New York Science Congress for many years. The Suffolk Section wishes them the best and we are here to assist anyway we can.

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 6 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. I sincerely hope the regional science congresses will continue to support the State Congress when it moves to the Western Section.





## Outstanding Students and Teachers Recognized at the 40h Annual Awards Dinner

Brian Vorwald, Awards Dinner Co-Chair

Each year the STANYS Suffolk Section presents an Awards Dinner at which outstanding science students and science educators are honored. The dinner this year was held on May 21, 2014 at the Villa Lombardi's in Holbrook. Each high school science department from districts who are patrons of our *District Membership Services Program* had the opportunity to nominate an outstanding graduating senior to be recognized at the Awards Dinner. Twenty six high schools recognized their outstanding seniors and three teachers (elementary, middle level, and high school) received our *Science Teacher Recognition Awards* for meritorious service as a science educators.

Two Suffolk STANYS members received service awards for their meritorious service to the section. **Matthew Christiansen** was the recipient of the Suffolk STANYS section's 2015 Service Award. Matt is science chairperson at Islip High School and as webmaster of the Suffolk STANYS website, redesigned the site which was launched at the end of May. **Joseph Malave**, who teaches at Montauk Public School, received the STANYS Service Award, an award provided by STANYS for service to the local section. Joe, as chairperson of our Spring Conference, provided the leadership and guidance which were instrumental to the overwhelming success of the event. Our 2015 Elementary Science Teacher of the Year was **Susan Rosner**, who teaches at Burr Intermediate School in at Commack Public Schools and the Middle Level Science Teacher of the Year was **Rochelle Petre** who teaches at James Wilson Young Middle School, Rocky, Bayport Public Schools. **Wayne Mennecke**, who teaches at Islip High School, Islip Public Schools, was the 2015 High School Teacher of the Year.

Look for a comprehensive article in the Fall 2015 issue of this publication that will recognize our three **Teacher of the Year Award** recipients and all of the outstanding seniors who were recognized by their high schools.



**Awards Dinner Co-Chairs Brian Vorwald and Maria Brown, flanking STANYS Suffolk Chairperson Glen Cochrane**



## Science Olympiad C Division 2015

Glen Cochrane,  
Eastern Long Island Regional Coordinator

The Eastern LI Regional Science Olympiad C Division was hosted on January 31 at Brentwood High School. Thanks to Mr. Repetto, the Brentwood coaches, a superb custodial staff, and the generosity of the Brentwood School District, the Olympiad went without a hitch. Their team of student volunteers representing clubs served breakfast and snacks. The teams were delighted with a multimedia program showing the Olympians competing in the day's events to start the awards ceremony. Thanks to the over 100 coaches and volunteers all events were well supervised and scored. A contingent of pre-service science teachers from Stony Brook University joined us and was treated to a day of science excitement.

The Brentwood community proved to be wonderful hosts and accommodated all 24 events in their very large building. We had 48 teams from 25 Suffolk schools compete on a very cold day so we were happy that there was no outdoor rocket launcher this year. Teams of up to 15 students competed in a wide range of science and technology events. Teams worked solving problem on disease, cell biology, forensics, compound machines, green generation, it's about time, astronomy, dynamic planet, fossils, protein modeling, game on, chemistry lab, anatomy, and entomology. Our engineers constructed and tested scrambler, air trajectory, bridges, air planes, mission possible, and bungee cords. We look forward to hearing which events the Board of Directors at the National and State level decides to run for the 2016.

The top 6 teams in the Eastern Region advanced to the state competition held on March 13&14 at Le Moyne College in Syracuse, NY. The State Competition involved twenty-five events with the top teams all regions of the state. Congratulations to the schools that qualified for the State Competition this year: Ward Melville, Hills East, Islip, Kings Park, Port Jefferson and West Babylon. The top two teams from that continue on to the National Tournament, May 15-16, 2015, at the University of Nebraska, Lincoln, Nebraska.

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. 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 National Science Olympiad web site (<http://www.soinc.org/>) and you'll find links to the state site and lots of useful information. Next year's regional tournament will be held on Saturday, January 30, 2016 at Brentwood High School.



*Eastern Long Island Science Olympiad Champions - Ward Melville High School from the Three Village CSD, Setauket*

## Grant Opportunities



*Funder:* Randi Educational Foundation

*Program:* Grants for educators

*Summary:* In its continuing efforts to provide resources to teachers and other educators, the Foundation is proud to announce its grants for educators. These grants of up to \$500 each are intended to help offset the cost of developing or improving critical thinking and scientific skepticism programs in the classroom and beyond. The grants will be awarded annually to educators of grades K-12 to help improve the education of their students, school and/or community in the methods of science and critical thinking through the examination of the paranormal and pseudoscience. Grants will allow teachers to purchase materials and / or equipment for the classroom, school or community for use in skepticism and critical thinking education; begin new school and / or community skepticism and critical thinking outreach and educational programs; enhance and expand existing skepticism and critical thinking educational programs; attend courses, workshops or conferences related to scientific skepticism that will significantly enhance their teaching activities.

*Deadline:* N/A

URL: <http://www.randi.org/site/index.php/component/content/article/37-static/1066-education.html>

*Funder:* Motorola Solutions

*Program:* Innovation Generation Grants 2012

*Summary:* The Foundation will provide \$4.9 million in funding to U.S. science, technology, engineering and math (STEM) education programs. This year's grants will be allocated by two categories. Local Impact Grants target innovative, hands-on STEM education programs for U.S. elementary through university students and teachers. Grant requests must be between \$15,000 and \$60,000 for projects that start after June 2012. National Partnership Grants support large-scale, multi-regional STEM education programs that impact at least 150 primary participants. Grant requests must be between \$50,000 and \$250,000 for projects that start after June 2012. Projects may last up to one year.

*Region:* Priority will be placed on programs that serve the Motorola Solutions communities in and around the greater metropolitan areas Long Island, N.Y

*Deadline:* N/A

URL: <http://responsibility.motorolasolutions.com/index.php/communityinvestment/education/iqg/>



*Funder:* Rockwell Collins, Inc.

*Program:* Charitable Corporation. Community Partnership Fund

*Summary:* Rockwell Collins has two funding vehicles: the *Charitable Corporation* and the *Community Partnership Fund*. Within these entities, we have identified two distinct funding priorities, and special consideration will be given to proposals that integrate these issues: 1. education, with emphasis in math, science, engineering and technology (STEM); and 2. culture and the arts, with emphasis on youth educational programs. Rockwell Collins also contributes to Health and human services and civic organizations. The *Charitable Corporation* was established for the exclusive purpose of supporting qualified non-for-profit organizations in the communities where our employees live and work. These grants are targeted for major projects and programs and generally total \$5,000 or more. Budgeting for these grants is done annually, with approval in October. We request that grant applications are submitted prior to September 1. ... The purpose of the *Community Partnership Fund* is to support qualified not for profit organizations with fundraising, sponsorships and other events/activities. These grants generally total less than \$5,000. Applications are accepted on an ongoing basis, with decisions rendered within six weeks.

*Deadline:* Open

URL: [http://www.rockwellcollins.com/Our Company/Corporate Responsibility/Community Overview/Charitable\\_Giving.aspx](http://www.rockwellcollins.com/Our Company/Corporate Responsibility/Community Overview/Charitable_Giving.aspx)



**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](mailto:nridenour@twcny.rr.com)



New York State Science Olympiad Champions—Paul J. Gelinas JHS from Three Village CSD, Setauket

## 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 23)*

(Continued from page 22) 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](mailto: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.

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

**Dates for 2015-2016:**

Thursday, September 3

Wednesday, February 3

Thursday, October 1

Thursday, March 3

Thursday, November 12

Wednesday, April 6

Thursday, December 3

Thursday, May 5

January TBA

Wednesday, June 1



**The results of the 2015 STANYS Suffolk election are:**

**Chairperson : Glen Cochrane**

**Vice Chairperson Programs: Ashley Block**

**Vice Chairperson Membership: Sheilah Schumann**

**Treasurer: Angela Lukaszewski**

**Secretary: Gary Vorwald**

**Section Directors: Angela Lukaszewski**

**Gary Vorwald**

**Matthew Christiansen**