



News from the Chair

Fall 2013



"Everybody's Workin' for the Weekend"

by Paul Nooney - Eastern Section Chairperson nooneya@gmail.com

I was recently talking with a former co-worker, who said she thinks of the months of July and August as the "Saturday" and "Sunday" of summer vacation. July is like a Saturday; you sleep in, you get some work done in the yard, you take a trip, and are in a general state of relaxation. August, on the other hand, is like a Sunday. While there is still time for fun and relaxation, Monday (or in this analogy, September) is right around the corner. But not everyone dreads Sunday, or for that matter Monday. Just as the first day of the week brings a fresh start after a few days away from the job, so does the first day of school offer a chance to start anew with fresh faces in our classrooms, and fresh ideas to add to our collection of daily routines and activities. I know I say this every year, but if "Monday" brings you to the start of a new career as an educator, welcome to the profession! We at STANYS wish you the very best of luck as you embark on what we know will be a

long and rewarding career. If you are returning to the classroom for another school year, may this year be even better than those before it, and know that we at STANYS are here for you as you hope to enlighten all the students who pass before you, even early on a Monday morning.

Before going any further, I want to introduce myself to those that I have not had the good fortune of meeting through my five years on the Eastern STANYS Board of Directors. My name is Paul Nooney, Jr., and I am currently entering my second (and hopefully final) year of graduate school at The College of Saint Rose. After seven years in the classroom as an Earth Science teacher, I returned to the other side of the desk last fall to pursue a second master's degree in College Student Services Administration. Over the course of the last two semesters I have taken classes in college student development, counseling, budgeting and administration. It has amazed me how many parallels there are between college students, during their four years at an institution, and high school students or any pre-college students deal with during their time in our classrooms.

I almost feel that elementary and secondary teachers could benefit from learning how students will continue to grow and develop beyond their years in the K-12 system. With one more school year to go, I look forward to the excitement and challenges that my new career will bring, as I return to working with students, this time at a higher level.



Before all that can happen, we have another big year in science education in New York State. Over the course of last school year, teachers have been asked to provide feedback on the development and potential implementation of the Next Generation Science Standards (NGSS). I am not going to bore you with details about the standards now (you can check them out at www.nextgenscience.org), but throughout the last school year, Eastern STANYS offered local teachers opportunities to come together and discuss the potential impacts of the NGSS on their classrooms and students. As I write this, the state education department is seeking feedback and evaluation of the standards as they look to

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whether or not they are right for New York's teachers and students. If you have not already taken the survey, I cannot stress to you the importance of doing so by the deadline of **October 15th**. The survey can be accessed at <https://www.research.net/s/NYSEDSscienceStandardsSurvey> and should be completed by any teacher whose curriculum includes science education. Please take the time to complete the survey during what we know is a busy time of year, and pass the link along to every K-12 science educator you know!

In addition to working with teachers on whatever comes of the NGSS, STANYS and those of us in the Eastern Section have many great events planned for the 2013-2014 school year. In October, the Eastern Section will present its annual Fall Conference held at Siena College. There is more information about that conference elsewhere in this newsletter. In November, STANYS's State Conference will be held again in Rochester, bringing the best in science in professional development from around New York. The spring sees a return of the Eastern Section's Lab Day at The College of Saint Rose in March, and a social activity in May or June. Our section will also keep an eye on what goes on with the NGSS, and once again offer any assistance we can throughout the year. All of these things, and more are the benefits of being a member of STANYS! If you are currently a member, thank you! If not, I encourage you to join us and be active in the oldest educational professional organization in the state.

As the sun rises on "Monday" morning, I wish you all the best in the coming school year. I look forward to seeing many familiar faces and meeting new ones at our events throughout the year. I just hope this article meets the five pages, six source minimum (sorry, it's a habit).

Elementary News



Katy Perry, Elementary SAR

Email: perry.kate23@gmail.com

Changes! Autumn always brings changes. This year we all face new students, new lessons, and potential new standards. Tracking the changes that Autumn brings with your elementary class is an engaging way to incorporate science and inquiry into your daily routine. Observations of natural events help students generate questions, recognize patterns and connect learning in a multitude of interdisciplinary ways. Some options include tracking the color changes of the leaves, predicting leaf drop, following temperature changes, watching for animal migrations, measuring the daily or weekly height of the sun in the sky, and following the changes of the flowers as they go to seed. Blending a tracking changes activity into your existing classroom routine makes it easier to gather data over a long period of time. Use books on trees, migrations, and seasons to support hands-on Autumn science learning. Have students chart or graph their findings to make discussions easy. I like to keep a list of the questions they generate about

their observations and use it for further research. Getting outside to collect data is best!

Touching on the last item, I encourage you to read through the Next Generation Science Standards and appendices (<http://www.nextgenscience.org/>) and send your feedback using the survey <https://www.research.net/s/NYSEDSscienceStandardsSurvey>. Your comments will help the Board of Regents make the decision regarding the adoption of the new standards. If the NGSS are adopted by New York State, you can count on STANYS to actively provide professional development and resources for you. STANYS offers networking and support for many of the changes you face. Take a moment to share the benefits of your membership with at least one other teacher, and encourage her/him to become a member. Some of our upcoming events are the Eastern Section Siena Conference, on October 18, from 3-9pm, and the State STANYS Conference in Rochester, November 2- 5. The Elementary Luncheon at the Rochester Conference is on Sunday, November 3. Schedule the time now to join us!

As always, if you have questions, ideas, or information to share, please let me know.

Save the Date!

This year's 32st Eastern Section Conference at Siena College is scheduled for

Friday, October 18, 2013.

Chemistry

Maria Russo, Chemistry SAR –
Email: chemlady302@yahoo.com

Welcome back everyone! Summer is over and a new school year has begun. I'm sure your heads are spinning with all of the "beginning of the year" tasks that we chemistry teachers need to do before we feel we are in control (whatever that really means).

As I was perusing some of the science publications that I received over the summer, looking for inspiration to the content of this article, I remembered I had circled something in a NSTA monthly newsletter that I thought I could use for a future workshop. After going through my "pile of important stuff that I can't throw away but can't bring myself to file in an orderly fashion", I found what I was looking for and decided it was good fodder for an article.

This is an idea taken from a commentary written by physics teacher Ann Hammersly.

"Ranking Tasks as a Next Generation Physics Assessment"

Substitute chemistry for physics and start tweaking!

I liked the idea for a number of reasons: students must determine a ranking, explain their reasoning behind the sequencing and lastly, state the confidence level for the work they had done (guessing to completely sure).

Starting with a prompt like "Arrange the following chemical compounds in order of increasing". You can then use concepts such as bond strength, boiling point, number of atoms, pressure, acid strength, to name just a few. Use diagrams, graphs, words, equations, the list goes on. With the possible adaptation on the Next Generation Science Standards, this is a wonderful way to assess learning. These ranking tasks will also address many of the Common Core Standards already in place.

For our yearly conference held at Siena College, I will incorporate some of these ranking tasks into my workshop on modeling. Maybe some of you can bring your own ideas and we can have a good share-a-thon. Hope to see many of you at the conference and have a great fall!



Greater Capital Region Science and Engineering Fair

Joan Wagner, Fair Director

Email: jsw2012@aol.com
www.gcrsef.org



The 2014 Greater Capital Region Science and Engineering Fair will take place at Rensselaer

Polytechnic Institute on March 22, 2014. All information and forms are available on the website. If your school would like to begin a program that promotes science research, please contact Joan Wagner, <focusonlearning1@aol.com> and she will arrange to provide some professional development at your school for grades 6-12).

Inquiry science and critical thinking skills are emphasized in both the Common Core and the Next Generation of Science Standards. When students do original research, these standards are more than met. Having ownership of your learning provides a powerful incentive for students to expand their horizons. The results of the 2013 science fair is now available on the website so students and teachers can take a virtual tour of competition.

This regional science fair is affiliated with the Intel International Science and Engineering Fair (ISEF). It has a junior division grades 6-8) and a

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senior division (9-12). This science fair feeds into the STANYS State Science Congress (junior and senior division), the Intel ISEF finals (senior division) and the Broadcom Masters (Junior division).

Registration for the fair should be available on the website in early fall.



The Time is Now: a Message from the Membership Chair

Becky Remis

Eastern Section Membership Chair
Earth Science Director-at-Large
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There has been no better time than **right now** to join STANYS. Here's why:

The Next Generation Science Standards (NGSS) are looming on the horizon, with the NYS Board of Regents expected to make their decision to adopt or not adopt in November. If adopted, NGSS offers opportunities for enhanced STEM education for ALL students at ALL levels, but also presents great challenges around professional development (PD) for ALL teachers. STANYS has always been the organization to turn to when new initiatives have come our way. Your membership not only gives you a direct line of communication on changes in curriculum, instruction, and assessment, but your dues also help support our organization in bringing top-notch guest speakers,

networking opportunities, and high quality workshops to our area. Our Section's annual Siena Conference and Lab Day events draw hundreds of area educators and highlight the best practices of your colleagues to enhance your own best practice.

The new Annual Professional Performance Review (APPR) system includes a Professional Development component for all teachers. Active membership in STANYS fulfills this component and gives you the chance to become not just a receiver of highly effective PD, but a provider of this as well. We all have unique talents and skills to offer one another, and the Eastern Section welcomes your involvement at all levels. No contribution is too small: from helping to stuff folders for Lab Day or lending a hand at a social event, to leading PD as a Subject Area Representative, your assistance helps others to grow professionally and allows you to give back to the teaching profession.

The most important reason to join STANYS is simple: *membership in professional organizations sustains teachers over the long haul*. Rapid changes in our field are hard to keep up with, and stress levels can soar. As a member of STANYS you are part of an organization that's advocating for you and your science students, and giving you the resources to stay informed, enhance your teaching, and connect you with your colleagues in a meaningful and positive way.

Thank you to all of our current members who understand the value of STANYS to themselves and to

the profession. For those of you who are not yet members or who once were and are no longer, I encourage you to join today. You can fill out and mail the membership form included in this newsletter, or submit your membership online at <http://www.stanys.org/about/member-benefits.html>.

Intermediate Science

Jennifer Gescewicz, Intermediate SAR

Email: jgescewicz@stthomas-school.org

Roller Coasters with Middle Schoolers



In March 2013, I had the privilege of attending the STANYS SAR/DAL planning meeting in Oneonta, NY. I attended a session about STEM

education led by DALs Mary Thomas (Elementary) and Steve Fielman (Intermediate). It was a wonderful session and I left it with a new set of resources in my back pocket. One resource is the Teach Engineering Resources for K-12 website (www.teachengineering.org). The website is full of activities, lessons, and units related to numerous subject areas: Algebra, Data Analysis and Probability, Earth and Space, Geometry, Life Science, Measurement, Number and Operations, Physical Science,

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Problem Solving, Reasoning and Proof, Science and Technology, Biology, Chemistry, Physics, and Computer Science. I also don't want to forget to mention that everything on the site has information about which state standards are being addressed.

Invigorated by what I'd learned at the meeting, I went home and I planned to have my students complete an activity from the website as soon as possible. The STANYS planning meeting occurred near the end of my unit on Energy for my Physical Science classes. Therefore, the activity they completed was titled Amusement Park Ride:

Ups and Downs in Design, which was contributed by Making the Connection, Women in Engineering Programs and Advocates Network (WEPAN). The premise of the activity is based around a fictitious town's desire for a new roller coaster ride to celebrate their 300th anniversary. Groups of students design and build marble roller coasters made out of inexpensive foam pipe insulation, masking tape, and paper clips. The main goal of the design is to incorporate as many loops as possible, but to have the marble (i.e. roller coaster cart) arrive safely at the end of the track. At the end of the building phase, groups present their coasters to the class and are scored by their peers on complexity and

aesthetics. I have never seen as much enthusiasm in my classes as I did when my students were working on this project. Even students who typically sit in the "back" of the room were engaged and excited - some even asked to come in during their free time to tweak their coasters. For me, it became an extended moment of teaching bliss.

I strongly encourage you to peruse the Teach Engineering website. I'm not sure I'd have ever found it had I not attended the STANYS meeting last Spring. I definitely want everyone to know about it and will certainly be using it again, frequently, in my lessons. Check it out!

Stay Informed

Arden R. Rauch, SAR Environment
Email: rauch@union.edu



The goal of BaP, renamed Science Matters, is to send pertinent science information directly to one person in each school in this region. The email would then be forwarded to appropriate staff in the building. The commitment is just a few minutes per week and will enable you and your colleagues to find out about local opportunities and other tidbits of information.

For more information:

<http://bap.nsta.org/>.

On the left, click on becoming a PoC. Feel free to contact me with any questions or concerns.

Earth Science

Fran Lohnes – SAR / Earth Science
Email: fflohnes@gmail.com

Get involved

When I was doing my student teaching I was advised to join STANYS because it would "look good" to have a professional affiliation on my resume. At the time it didn't make much sense to me, so I didn't join. In my second year of teaching I was encouraged to attend the Siena Conference but had a conflict at the time and was unable to attend. Finally I joined STANYS in my third year and went to the State Conference soon after. A couple of years later I did go to the Siena Conference and also met with the Earth Science Network (ESNet) - started by Becky Remis and Arden Rauch - at Union College on Saturday mornings to share best practices.

I found these experiences incredibly valuable. I was able to learn from and share with many talented teachers all of whom were very friendly and willing to help. In addition, I collected many valuable resources. Today these resources and many others are available at the touch of a key but the STANYS conferences and networking opportunities are even more

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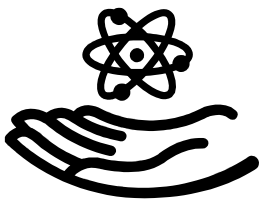
valuable and keep me informed about what is going on in science education. Whether you are a first year or a veteran teacher it is beneficial to both you and your students to know what's happening. With the possible adoption of the NGSS and significant changes to how earth science (and science, in general) will be taught it is more important than ever to keep informed.

As you do your planning, keep in mind that the **Siena Conference** is on October 18th and the **Annual State Conference** is on November 2-5th in Rochester.

If you haven't had an opportunity to look at the NGSS website, here's the link:

<http://www.nextgenscience.org/next-generation-science-standards>

To make your voice heard about what science education should look like in NYS, please take some time and complete this survey that SED will use to help determine whether to change the learning standards or adopt the NGSS. It will be available until October 15th:



Physics

Tony Malikowski, Physics SAR

Email:

malikowskia@hoosickfallscsd.org

Greetings fellow Physics teachers, allow me to introduce myself: my name is Tony Malikowski, and I am the new Physics SAR for the Eastern Section of STANYS. I am replacing Paul Fedoroff, who has moved up in the ranks at STANYS. Congratulations Paul, and good luck with the new position.

I teach Regents Physics, College Level Physics, and Forensic Science at Hoosick Falls Central School in Hoosick Falls, NY. My school is a small rural K-12 school (cows sometimes invade our playground), but for me it is a large school, because I used to be a one man science department at an even smaller, even more rural school up in the Adirondack Wilderness (graduating classes of 10 to 15 students). To teach way up north I had to gain all five science certifications that you can have in NY State, and thus I came into Physics by the back door, so to speak. My original certification was Biology, not Living Environment, and it was issued in Pennsylvania, not New York.

Having not grown up in the New York system, I had to spend a great deal of time learning the ins and outs of the NY Regents science curriculum. Although it took me several years to get acquainted with the scope of it all, I feel like my time was well spent, and that being forced to learn all four Regents curricula gave me a good

perspective on the big picture of science as it is taught in New York State. I think it helps to know the size of the field and the rules of the game if you hope to make a difference in the outcome.

I hardly need to tell you that the rules of our game are changing right now. I can safely say that if you taught a class in a NY public high school this past year then you must have had an "interesting" time. If you are going to continue to teach science in this state then you owe it to yourself to spend some time this year looking at the Next Generation Science Standards (NGSS).

You probably received an e-mail this summer from your administration informing you that you are invited to participate in a survey. **You should open that e-mail.**

The NY Board of Regents is currently seeking your opinion on the direction P-12 science teaching and learning should take in this state by giving you the chance to fill out an online survey. They are using the survey to collect feedback from various stakeholders in science education (i.e. you). They are asking you to evaluate the current New York State science learning standards and to compare them to the NGSS.

The survey may be accessed at https://www.research.net/s/NYSE_DScienceStandardsSurvey. It is currently open and will remain open until Tuesday, October 15, 2013.

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I urge you to attend a conference or a workshop this year. I also urge you to spend some time talking to your math teachers to see how they approach the algebra, trigonometry, and/or calculus that you use in class; you may be surprised to find that they are eager to hear how they can show the students you share how the math applies to the real world. Go talk to your technology department, they are probably doing design competitions that your students can join in on and use the opportunity to apply some of their Physics knowledge.

I also urge you to keep your eyes and ears open to the news. For example, yesterday I was reminded that the Sun's magnetic field is getting ready to flip again any time now. Every 11 years or so, the Sun's magnetic field experiences a reversal that is linked to the increases in sunspot activity. You can hear all about it at NASA's excellent ScienceCasts on YouTube. <http://www.youtube.com/watch?v=34gNgaME86Y#at=76>

Another good source of current events material is the TedTalks archives at www.ted.com. Here you can hear the best and brightest in the science world talk about everything from the Standard Model, to Super Symmetry, to how a fly actually flies. A word of warning: this site is very addictive, and you will never get to the end of the great and interesting material available for free.

Good luck this year, get active, and I hope to see you at either the

STANYS Eastern Section or NY State conference this year.



<https://www.research.net/s/NYS-EDScienceStandardsSurvey>

RPI Wants You.....

.....to know about their Sustainability Studies programs in which the students participate in a dynamic outreach program to k-12 students. Undergraduates delve deeply into an environmental issue (air or water pollution, for example), then design and deliver workshops to younger students. RPI EcoEd advances a cascade structure of education in which older students refine their own knowledge through development of innovative ways of sharing it with younger students. In process, older students grow in remarkable ways into roles as stewards of both environmental and educational systems.

RPI EcoEd undergraduates have run green building workshops for elementary students, leveraging the skills of RPI's architecture and engineering students, integrated with social studies insight into the ways people make decisions and work collectively to decrease energy use. RPI EcoEd has also run workshops that move elementary students through science centers (focused on waste and garbage, for

example), then on to creative writing in which they work to share what they have learned with others.

In EcoEd Sustainability Photography Workshops, both elementary and middle school students have learned basic photographic techniques, while learning to "see" a landscape in new ways.

In EcoEd's Secondary School Research Program, young students are assigned an RPI student mentor, and with them move through a nine-week exploration of a research topic, culminating in a substantial written report and formal oral presentation. In the first year of the program, in spring 2012, secondary students focused on problem areas such as coral reefs, palm oil plantations, golf courses and baseball stadiums – first mapping the problems and stakeholders, then mapping solutions that have been developed or proposed. In spring 2013, each secondary student carried out a sustainability country assessment, working through a set of research memos developed by their RPI student mentors focused on demographics and government, water and energy use, pollution, and an array of other sustainability indicators.

RPI's Sustainability Studies B.S. degree is educating undergraduates in ways that help them leverage different kinds of knowledge and skill, laying ground for careers that are intensively rewarding, and of great benefit to society. RPI's EcoEd program links RPI students

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and faculty to k-12 students and faculty, striving to develop innovative and durable structures for sustainability education that can reach many types of students, at many stages in their education – in a manner that entwines STEM education, civics, critical thinking and public service. These programs will continue to expand in the coming year.

For more information about the outreach program, contact Professor Kim Fortun, fortuk@rpi.edu.

Connecting Sustainability Educators!

Meeting at RPI: Sunday, September 8, 2-4. Union Room 3606

All welcome. Contact: Professor Kim Fortun, fortuk@rpi.edu
<http://tinyurl.com/lsg8a4>

Gasland2 + discussion
RPI Sustainability Film Series, September 8, 4-6. DCC 308
Free and open to the public. Contact: Professor Kim Fortun, fortuk@rpi.edu
<http://tinyurl.com/m4s3ean>



Living Environment

Kelly Ryan SAR Eastern Section
kellyryan@ncolonie.org

As summer winds down and I am inundated by back-to school commercials, my annual August anxiety begins- you guessed it- teacher nightmares! Even after 25 years in the classroom I am still plagued by these outlandish

dreams of not being on time, not being able to find my classroom, having no supplies, etc. And of course, these *are* our worst nightmares as teachers because we work so diligently to provide high quality lessons for our students everyday. But, they also encourage me to reflect back on the previous school year and think about new lessons I'd like to incorporate into my courses.

Summer gives me time to catch up on reading professional journals and perusing websites for ideas. This led me to two activities I plan to implement this school year. The May 2013 edition of The American Biology Teacher journal has an article entitled "A Hands-on Activity to Introduce the Effects of Transmission by an Invasive Species" that looks like it would be great for our LE students. Using easy to acquire materials such as dice, plastic chips (poker, bingo) and paper plates, students act as an invasive species, in this case the Emerald Ash Borer, and move from their native Asia and "invade" various regions in the United States. Plastic chips represent the ash trees, the plates are the regions and the dice determine the action of the student Ash Borers. I look forward to trying this engaging activity- I'll let you know how it goes!

The other activity, "The Plant Game: Plants' Strategies for Growth" is a Cornell Institute for Biology Teachers (CIBT) original that was shown to me by one of the authors, Mary Colvard. Mary is an exceptional educator who has developed numerous activities for

CIBT and Biointeractive (HHMI's education resource site). While working at State Ed with Mary this summer, she was kind enough to bequeath to me her supplies for the game. Summarily, students work in teams to "grow" a plant made of roots (paper clips), leaves and flowers (laminated cards). The goal is to produce a maximum number of flowers. Depending on the weather conditions (determined by the teacher, as mother nature rolling the dice), "plants" gain or lose water and vary their glucose production (glucose tokens). Students must strategically use glucose tokens to "buy" new leaves, roots, or flowers. A great activity for reinforcing the concepts of photosynthesis and the effects of abiotic factors on the survival and reproductive success of organisms. All directions, templates, student sheets and teacher information can be found on the CIBT website <http://cibt.bio.cornell.edu/>.

Lastly, one of my summer reads was The Worst Hard Time by Timothy Egan. This non-fictional account of the survivors of the Dust Bowl is an eye-opening, and at times gut-wrenching story describing what some have dubbed our nation's greatest environmental disaster. The economic conditions in the early 1900's led to the plowing under of the High Plains in order to farm wheat. The removal of the well- adapted prairie grass had unforeseeable consequences – the loss of bison and other herbivores, insect invasions of crops, overgrowth of invasive species (the tumbleweed), and most notably the loss of tons of fertile soil as it

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literally blew away during the dust storms of the 1930s. This dust blinded and choked cattle and horses to death. People perished from "dust pneumonia". Most ultimately lost their farms, their homes, everything. And the High Plains ecology, over 8 decades later hasn't fully recovered. A powerful book with a powerful message. I feel an ecology case study lesson coming on ... I'll let you know.

Have a great start to the school year!



Join the Environmental Science Network

By Arden R. Rauch

Add your name to the EnvNet and receive short, succinct, pertinent information including local opportunities. Free, and I'll promptly remove your name when requested. Also, you do not have to be an Environmental Science teacher.

All are welcome: any grade or subject or not even a science teacher for that matter.



If you are one of the 127 already on EnvNet, you don't have to do anything. Although there is some overlap between the EnvNet and EsNet (Earth Science), you will receive very few duplicate messages.

To join Envnet, send email to rauch@union.edu Home or school email address OK.

Yet Another Network - Join the Earth Science Network

By Arden R. Rauch

No, you are not seeing double. There are two networks and this one is for Earth Science. Often different information than for EnvNet but same intent, that is to let you know about regional opportunities. You won't be swamped with emails. Add your name to the EsNet and receive short, succinct, pertinent information including the local opportunities. Free, and I'll promptly remove your name when requested. Also, you do not have to be an Earth Science teacher. All are welcome: any grade or subject or not even a science teacher for that matter.

If you are one of the 127 already on EsNet, you don't have to do anything.

To join Esnet, send email to rauch@union.edu Home or school email address OK.

Board of Directors

Contact us!

If you have any questions or concerns regarding your particular branch/level of science please feel free to contact your STANYS Eastern Section Subject Area Representatives:

Chemistry - Maria Russo - chemlady302@yahoo.com

College/Pre-service - Pat Price - pprice2@nycap.rr.com

Chair - Paul Nooney - nooneypa@gmail.com

Elementary SAR/ Vice Chair – Kate Perry: perry.kate23@gmail.com

Env. Science/BaP - Arden Rauch - raucha@union.edu

Intermediate – Jennifer Gecewicz - jen.gecewicz@gmail.com

Earth Science- Fran Lohnes - fflohnesh@gmail.com

Newsletter /Webmaster – Elisabeth Milot – easternstanys@gmail.com

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Siena Conference – Tom Shiland - t_shiland@saratogaschools.org

Science/Engineering Fair - Joan Wagner - jsw2012@aol.com

Science Olympiad - Scott Holdren - sholdren@rcscsd.org

Science Teachers Association
of NYS Eastern Section

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Eastern Section
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Eastern Section-STANYS Lab Day

The College of Saint Rose

Saturday, March 1, 2014

Save the Date!

- *Hear a great keynote speaker.**
- *Spend quality time in 2 laboratory activities.**
- *Choose from labs in every content and discipline.**
- *Enjoy refreshments and lunch with your colleagues.**

CALL FOR PRESENTERS:

We are looking for people to present engaging activities and lab experiences for current and pre-service educators. Full laboratories and electronic classrooms are available.

For a Presenter Proposal form or more information, contact:

Christine Stankavich
109 Sycamore Court
Niskayuna, NY 12309
(518) 372-2911
cegnaczyk@aol.com

Please watch for the Eastern Section-STANYS Newsletter or check the STANYS website (www.eastern-stanys.org) for further information.

Share this flyer with a colleague; display it in your faculty room or science department.



32th Annual Eastern Section STANYS Siena Conference

Siena College, Loudonville, NY

Friday, October 18, 2013



Agenda:

3:00-4:10 pm	Exhibitors, refreshments, registration	Sarazen Campus Center
4:10-4:25 pm	Welcome, presentation of Service Award	Sarazen Campus Center
4:30-5:20 pm	Session I	
5:40-6:30 pm	Session II	
6:45-7:45 pm	Dinner	Serra Hall
7:55-9:00 pm	Door Prizes and Keynote Speaker	Sarazen Campus Center

Session I: 4:30-5:20pm

- A. Changing Planet: Past, Present, Future-Free Resources from HHMI.** *Bud Bertino, University at Albany, and Patti Bertino, retired, Howard Hughes Medical Institute.* Has earth changed over deep time? How did earth shape life and life shape earth? What does Earth's past climate tell us about our future? Biology/General. **RB 250**
- B. Water Rockets for Physics.** *Kris Darlington, Galway High School.* Using off the shelf parts, this project routinely launches rockets over a hundred meters. On the web: youtube.com/naturalphilosophers. Physics. **RB 222**
- C. Use of the Bike Hike Trail as an Outdoor Classroom.** *Patrick Clear.* We will discuss how to use the bike hike trail in Albany, Schenectady and Montgomery Counties. General. **RB 302**
- D. Earth Time: Investigating Time and Scale.** *Fran Lohnes (Earth Science SAR) and Sherry Riese, Earth Science teacher, Saratoga Springs High School.* Using the content on pages eight and nine of the Earth Science Reference Tables, your students will explore geologic time while learning about scale and New York State's geologic history. Earth Science. **RB 132**
- E. Exploring Light and Color Through Physics and Art.** *Heather Buskirk, Physics Teacher, Johnstown School District.* Participants will work through the key parts of a project that explores the behavior of light and color. Middle school/Physical Science **RB 136**

- F. The Science and Art of Cheese Making.** *Paula Dellavilla, Schalmont High School.* Students have fun learning about enzyme function as they make their own cheese and discuss the origins and process of cheese making. General. **MSC 241**
- G. Solar Motion Models-Understanding the Sun's Path.** *Courtney Deming, Schalmont High School .* Students have fun and get a better understanding of how the sun's path varies with time of day. Earth Science. **RB 208**
- H. Developing and Using Models in Chemistry.** *Maria Russo, Chemistry SAR.* Participants will look at models presently used in their classrooms and determine how to take these models and tweak them to meet the NGSS performance. Chemistry **RB 210**
- I. The Perfect Home.** *Kate Perry, Elementary SAR.* Explore an interdisciplinary hands-on activity designing an ideal home for an animal. Students connect animal characteristics and needs with habitat studies. NGSS and Common Core aligned. Elementary **RB 328**
- J. Reading in Science Classes.** *Sharon Trova, Amsterdam High School.* Resources and active reading strategies will be shared that help students read and comprehend science text.**RB 226**
- K. Stem Education in the Middle School Classroom.** *Jennifer Gecewicz, St. Thomas the Apostle School.* Come learn about inexpensive and practical ways to incorporate STEM education into your middle school science classes. Be prepared to build and play! **RB 238**

Session II: 5:40-6:30pm

- L. Evolution is Everywhere in the LE Curriculum.** *Kelly Ryan, Biology SAR.* Integrate activities that emphasize the concepts of natural selection and adaption throughout the school year. Learn how the evolution of chili peppers can become part of a lesson on cell receptors and how the evolution of ice fish can become part of a lesson on circulation. Biology **RB 238**
- M. Fun Forensic Apps: Inexpensive, Interesting Ways to integrate MST.** *Anthony (Bud) Bertino, SUNYA retired and Patricia Nolan Bertino, Scotia Glenville High School, retired.* Solve real life problems integrating MST using free or inexpensive Apps: Time of death, anthropology, facial recognition, ballistics, crime scene documentation and more. **RB 250**
- N. Using a Vernier Microphone to Demonstrate Beat Frequency and Harmonics.** *Shawn Mowry, Physics Teacher, Bethlehem CSD.* Demonstrations on how to use the Vernier Microphone to verify the beat frequency equation and to find the fundamental frequency of a 5 tone child's toy. Physics . **RB 222**
- O. Out of the Textbook and Into the Field.** *Agnes Zellin, 4th Grade teacher, Berne Elementary and Dawn O'Neal, PhD. Director of Conservation Education and Research, Edmund Niles Hucyk Preserve and Biological Research Station.* Science Curriculum comes alive in the field. A 4th grade teacher and a scientist talk about their collaboration using STC kits, science curriculum and a nature preserve to turn students into scientists. NYS Math, ELA and Science Standards included. Elementary . **RB 340**

- P. New York State's Response to Climate Change.** *Mark Lowery, Climate Policy Analyst, New York State Department of Environmental Conservation.* Overview of projected climate change effect in New York State and programs to reduce greenhouse gas emissions and prepare for the effects of climate change. Earth Science **RB 136**
- Q. What's Math Have to Do with Science.** *Jim Reynolds and Carrie Herron, Galway Central School.* How can your math colleague help you meet the NGSS? This hands-on session will include activities and labs for you to use for interdisciplinary problem solving and integration of math. Each lab has the students working using science as the lens to explore our world and math as the tool to collect its data and develop the solutions. General. **RB 208**
- R. Pedagogy: The Science and Art of Teaching** *Joan Wagner Focus on Learning.* An excellent teacher is not only an expert in his or her content area, but must also know how to inculcate knowledge to the learner. Let me share what I have learned after 34 years in the classroom teaching students in grades 7-12. Effective teaching strategies should expedite the delivery of the NGSS. Biology/General. **RB 132**
- S. BioProducts.** *Colleen Hagadorn and Susan Moore-Palumbo. South Glens Falls High School.* An overview of Bioproducts and Bioenergy including some hands on activities. Presenters will also provide various resources for websites, labs and summer workshops. **MSC-241**
- T. Scientist in Residence: The Research in the High School Program.** *Dr. Larry Lewis, Burnt Hills/Ballston Lake High School.* The Scientist in Residence Position is described. Examples include lectures on statistics, scientific method, and mentoring of student research. **RB 302**
- U. The Language of Science: Enhancing EL Student Achievement in Science through a Focus on Language.** *Karen Gregory, Research Assistant, University at Albany; Adjunct instructor University at Albany and Union Graduate College.* We will discuss the MOP research project taking place at the University at Albany, with a focus on strategies that one team of teachers used to enhance instruction to EL students. **RB 226**
- V. Hands on Geology in the Earth Science Classroom.** *Laura Grooten, Earth Science Teacher, Shaker High School.* Participants in this session will be trying out different lab/class activities addressing a range of topics in geology. Participants will receive copies of each activity. **MSC 236-237**
- W. NGSS: To Adopt or Not to Adopt: That is the Question.** *Dr. Bruce Tulloch, Associate Dean, Union Graduate College, NYS Education Consortium.* This session will review the results of the three-day Twelfth State Science Education Summit held in August, 2013 and update participants on future steps that may be taken to consider the NGSS for possible adoption. **RB 328**

Keynote address
7:55-9:00 pm
Sarazen Campus Center

"The environment of early Earth: Decoding our planet's oldest materials"

Professor Bruce Watson

Geologists have long considered the first 500 million years of Earth history (the Hadean Eon) to have been the most tumultuous period in the history of our planet. During this time period, Earth is believed to have collided with a Mars-sized-object, melted to a depth of 400 miles, grown the first continents, suffered withering bombardment from space, and witnessed the emergence of life. Details of these events and processes have been elusive, but a clear picture is now coming into focus. The known rock record begins only 4 billion years ago, but nature has provided humankind with zirconium silicate crystals (zircons) that have encoded key information from 400 million years earlier. Professor Watson will provide evidence gleaned from ancient Australian zircons suggesting that Hadean Earth was cool and wet, with oceans and continents much like those of today, as well as volcanoes emitting gases dominated by CO₂ and H₂O. Hadean Earth appears, in fact, to have been habitable --a finding not inconsistent with the oldest DNA lineages inferred from biomolecular clocks.

Professor Watson received his PhD from MIT in 1976, and for most of the subsequent 37 years he has been teaching and doing research at Rensselaer Polytechnic Institute (RPI), where he holds the title Institute Professor of Science. Watson and his research team develop and apply high pressure-temperature experimental techniques to explore the inner workings and chemical processes of the Earth and terrestrial planets.



STANYS Eastern Section, 32nd Annual Siena Conference Registration Form

Siena College, Friday, October 18, 2013 from 3:00 to 9:00 PM

(Check in, refreshments, and exhibits from 3:00 - 4:10. Introductory remarks at 4:15, then the sessions begin at 4:30. Dinner is at 6:45, the Keynote Address and door prizes will follow dinner at 7:55)

Important: All participants AND presenters must pick up materials at the registration desk located in Sarazen Campus Center

- ✓ Fill in the registration information specified on the form below.
(Copies of this form and the conference brochure can be downloaded from: www.Eastern-stanys.org)
- ✓ Make out a check for the appropriate amount:
 - \$ 40 for STANYS members
 - \$ 50 for Non-members
 - \$ 35 for students or pre-service teachers
- ✓ Make checks payable to: *STANYS Eastern Section*
Purchase orders will NOT be accepted!

- ✓ Mail the registration form, along with your payment, postmarked by **Friday, October 11, 2013** to:
Kelly Ryan, Registrar, 9 Heather Lane, Rensselaer, NY 12144

A late fee of \$10.00 will be assessed to any registration received after 10/11/13. No one will be officially registered unless full payment is received.

Registration questions: contact Kelly Ryan at kellyryan@ncolonie.org.

- ✓ Arrive at Roger Bacon Hall before 4:10 PM to pick up your conference information and program.

Please mail the bottom portion of this form with your check, retain the top section for your information.

✂-----

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All information provided will be treated as confidential and will only be used for registration purposes.

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Session 2 First choice: _____ -----> Alternate choice for Session 2: _____

*You will **always** get your first choice unless the session is filled or cancelled. ---- Register early!!
If you have no second choice, you will have to choose from what is available on the day of the conference.*

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