



STANYS

NEWSLETTER

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President's Message



Lisa A. Brosnick

For many of us, this time of year seems to be one of the busiest! Somehow, through all of the school work, outdoor work and pre-summer events, this busy time also becomes a time of reflection. As the time with our students comes to a close, we may find ourselves thinking back on the entire year. I know I find myself reflecting during my review sessions with students on the activities and strategies I used throughout the year. What worked? What should I overhaul during the summer? How did my attempts at integrating practices and cross-cutting concepts into my current framework go?

I'll be honest, when I look back at some of the changes I've made in my classroom this year, I'm convinced that I have a lot of work to do to be ready for full implementation. Much like a beginning ice skater, I feel unsure of almost every teacher-move I make. I'm also sure that I may have taken a few falls along the way as well. However, just like an ice skater, the more I work at fully implementing three dimensional teaching, the better I will get at it! Make no mistake, the work we all have to do is hard. Writing storylines, finding good phenomena and locating good data not only takes time, but also a tremendous amount of brain power.

Each time I meet with teachers, the same question comes up... "How are we supposed to do all of this on our own?" In each school there are different situations. In some schools there

continued on page 2

Life is busy – even in the summertime!

NOW is the time to PLAN AHEAD to attend the

124th Annual STANYS CONFERENCE!

November 1-4, 2019

Alan Seidman – Annual Conference Chairperson

Today is the day to make your plans to attend the 124th STANYS Annual Conference, November 1 - 4, at the Rochester Convention Center in Rochester NY!

The New York State Science Learning Standards (NYSSLS) and STEM are two subjects that continue to demand our attention. The 124th STANYS Annual Conference will be the best place in New York State to find out what is going on in these important areas of science education. Our focus will be on **Transforming Innovations into Reality in Science** as we continue to transition our teaching practices and student learning to the NYSSLS.

For those who plan to arrive early, and for those who live in the Rochester area, there will be an optional Friday evening dinner event featuring the Nickel City Reptiles and Exotics show, and a meet & greet with the STANYS Executive team. This will be a wonderful way to kick off your Conference experience. The 2018 event was well attended, and we are once again expecting a full house...

The 124th Annual Conference will offer over 100 individual workshops in addition to six curriculum area morning institutes. Saturday Institutes will feature Physics, Earth Science, Intermediate, and Biology. Sunday will feature Chemistry and Elementary level science. The Institutes will require pre-registration. For 2019, Institutes will be separate from the subject area meals. On Monday, we will offer a full day Argument Driven Inquiry workshop. Lunch will be included in the cost of this special event. Each event will qualify for CTLE credit. The final schedule will be posted in the back to school Newsletter and in the Official Conference Registration Materials.

This year's Speaker Program includes a Saturday Keynote Panel Discussion. The panel will consist of five National and International science education experts. Among the anticipated panelists will be

continued on page 2

**Transforming Innovations
into Reality in Science**





President's Message

continued from page 1

may be only one science subject teacher. In another, there may be only one teacher in the department interested in moving forward. I have come to the realization that we can't do this alone! We must band together and share our intellectual resources if we are to produce the high quality curriculum materials that our students deserve.

STANYS has been working to help facilitate this collaborative work. This summer, during our third Summer Professional Development with Paul Andersen, the group of teacher-leaders is going to focus on building the capacity to share what these amazing teachers are learning with colleagues across the state. STANYS is trying to create a vibrant network of teachers who are willing to collaborate and share their work, in the hopes of helping all teachers find high quality materials for their students.

In order to facilitate this work, STANYS is

beta testing an online sharing platform called CLANED. CLANED will provide us with a place to collaborate across the miles, share learning experiences and continue the professional development that is introduced at STANYS workshops. It is our hope that teacher-leaders will be able to form professional learning teams that are able to work on curriculum materials in this online space and that eventually, these materials will be shared with our members.

STANYS is here to say, "You don't have to do this alone! STANYS is here to help!" I'm very excited to begin this program and can't wait to see it blossom into sustainable, relevant, long term professional development.

If you are interested in being part of this inaugural group of teachers, please consider joining other teacher-leaders at this summer's PD event. You can find out more information on the STANYS website.

Have a happy and restful Summer!



124th Annual STANYS Conference

continued from page 1

Helen Quinn, Okhee Lee, Renae Pullen, Peter McLaren, and Joseph Krajcik. The Sunday Fellows speaker will be Dr. Shawn Otto, author of *The War on Science*. Invited Speakers will include: Dr. Magdia De Jesus, who will talk about breaking barriers in STEM by paying it forward; Dr. John Drazan, whose talk will center on using sports and physics to get inner city kids interested in STEM; Dr. Amy Vedder, who will share her experiences working with mountain gorillas; and Dr. Ernie Lewis, who will be talking about how climate change is affecting our existence on planet earth. AND ...

- The STANYS APP will be back!
- The Great STANYS and WARDS Raffle will be back!

- T shirt competitions will be back!
- Maker Space Activities will be back!
- The Hall of Sections and the DAL information tables will be back!

So, where better to start your *Transforming Innovations into Reality in Science* learning experience? Make plans now to attend the 124th Annual STANYS Conference. Conference registration forms will be posted in early August. For further information, please visit the Annual Conference website conference.stanys.org or contact Conference Chair Alan Seidman at stanysconference@stanys.org. We hope to see you in Rochester this November.

STANYS Mission Statement

The Science Teachers Association of New York State (STANYS) promotes excellence in science education.

Its mission is to work with educators and communities to provide opportunities for ALL students to participate in and learn science.

Goals

- **Student centered education that excites and invites participation by all students will be the prime focus of STANYS supported activities.**
- **A collaborative/partnership relationship will be maintained with other professional and community organizations.**
- **A communications network will be maintained including: telecommunications, newsletter and other publications.**
- **Exemplary programs and effective teaching practices based on tested research will be identified, recognized, modeled and promoted.**

As members and future members of STANYS, it is important to reflect upon both the mission statement and goals of our organization. It is up to all of us to promote these because STANYS is OUR organization. The success of STANYS depends upon the successful teaching strategies, energy, professional commitment, and mentoring exhibited by each of its members.

The *STANYS Newsletter* is an official publication of the Science Teachers Association of New York State, Inc., P.O. Box 2121, Liverpool, NY 13089, website: stanys.org.

It is published five times during the school year: October, December, February, April and June. Articles and photographs for publication, and/or requests for information regarding advertising in the *STANYS Newsletter* should be sent to: Editor Alice Veyvoda at newslettereditor@stanys.org and Communications Director Ashley Bloch at communicationsdirector@stanys.org. *Articles and photos are to be sent to BOTH of these addresses.*

Opinions expressed herein are those of the authors and may not reflect STANYS policy.

**ONE dues, TWO memberships –
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(find *your* Section on the last page of this issue)

Join STANYS now at STANYS.ORG

**2 FOR 1
OFFER!**

BOGO!



TRANSFORMING Innovations into REALITY in SCIENCE (TIRS)

INSTALLMENT V Leadership

Kenneth L. Huff, STANYS President-elect
khuff@williamsvillek12.org



As professional teachers of science and members of STANYS, we have likely realized leadership goes beyond the classroom walls. Most of us are likely involved in policy and/or decision-making at some level.

We have a voice in and work toward improvement and transformation in a school, district, or here within STANYS. In whatever district you work, or community you reside, there are also other shareholders with whom you collaborate in bringing fresh ideas and new perspectives to the effort.

In this fifth installment around my vision Transforming Innovations into Reality in Science, I will discuss:

- Why I focus on leadership
- Why leadership is important within STANYS
- How your leadership contributes to moving STANYS forward

Why I Focus on Leadership

Pulitzer winning author James McGregor Burns, in his 1978 classic *Leadership*, stated leadership is inducing followers to act for certain goals that represent their values and motivations – the needs and wants, the aspirations and expectations – of both leaders and followers. Burns also stated the genius of leadership lies in the way leaders act on their own and their followers’ values and motivations. As your incoming President, I welcome your ideas. I look forward to working together toward implementing new science standards, providing quality professional development, and improving classroom teaching and learning.

As teachers of science, we have the greatest load and heaviest responsibility in Transforming Innovations into Reality in Science. This is why we need widespread leadership to achieve transformation in teaching and learning science. Leadership requires communicating the innovations of new standards to those who also share responsibility for change. Therefore, all individuals associated with science education must contribute to communicating innovations from A Framework for K-12 Science Education. Teachers are essential in the process of transformation. Being a current classroom teacher, I understand the scale of the task.

Why Leadership is Important within STANYS

The New York State Science Learning Standards represent a great opportunity to teach science in a way to prepare our students for an ever-changing world. As stated in earlier installments, transformation is difficult. We accept the diverse views of children and respect the background experiences they bring to the classroom: shouldn’t we do the same in working with other board members and members to help move the Association forward?

Science education is constantly on the move. During our 117th Annual Conference in November 2012, Dr. Stephen Pruitt stated that as leaders, “We

cannot let what is hard get in the way of what is right.” This reminded me that the beneficiaries of leadership are our students, our future citizens of society.

Leadership is key in successful transformation in science education. We can turn our expectations for a better tomorrow into actions that will make a difference for our students. Leadership is important within STANYS because it is the vehicle that can bring together the various components of transformation in science education in ways that will improve teaching and learning at all levels.

How Your Leadership Contributes to Moving STANYS Forward

We have choices as we consider the opportunity to step forth and lead. With our choices, we may also have questions, uncertainties, and even fear about making the choice to do something new and different. It takes courage to thoughtfully present new ideas and make the choice to step forth and provide leadership. Examples of courage include modifying an old lesson with a new emphasis on three dimensional learning, reading that new book you keep meaning to get to and joining a study group with your colleagues or participating in a new STANYS initiative to share innovations of the standards with parents and PTA groups in your community. These are ways to move STANYS forward and *Transform Innovations into Reality in Science*.

Achieving the new vision for science education will require leadership from throughout the entire system. The State of New York, its regions and communities, should not place the entire weight solely on teachers to achieve the new vision. Much good work has already taken place among shareholder groups including NYSED and NYS Science Education Consortium. As science teaching professionals, we must transform ourselves so our students can meet the new vision for science education.

Best wishes for a restful summer among family and friends.



**Transforming Innovations
into Reality in Science**



**You do not want to miss
this year's STANYS
Conference!**

**In addition to workshops and
institutes, we have a number of
outstanding speakers.**

The **Keynote Presentation**, in a new format, will be **Saturday at 4:45 p.m.** This year, President Ken Huff has organized a panel of outstanding educators to address the Conference theme, "*Transforming Innovations into Reality in Science (TIRS)*." Transformation in science education is revolutionary because it represents new ways of thinking about teaching and learning. Any effective transformation of science teaching rests with the teacher and the interactions with the students. TIRS is where the rubber hits the road – in our science classrooms. TIRS involves organizing instruction around compelling phenomena. Just as curiosity sparks innovation, teachers use students' curiosity to engage them in three-dimensional learning. Evidence-based principles for teaching and learning will create new exciting opportunities for your professional growth.

The outstanding panelists are presented on this and the following page.

SPEAKERS PANEL for the 124th STANYS Conference

Joan Wagner, Speaker Chairperson



Moderator – Okhee Lee

Ms. Okhee Lee is a professor in the Steinhardt School of Culture, Education, and Human Development at New York University. She is currently leading collaborative research to develop instructional materials aligned with the Next Generation Science Standards (NGSS) in order to promote science learning and language learning of elementary students including English learners. Ms. Lee is also leading collaborative research to integrate computational thinking and modeling in NGSS-aligned instructional materials. She was a member of the NGSS writing team and served as leader for the NGSS Diversity and Equity Team. She was also a member of the Steering Committee for the Understanding Language Initiative at Stanford University.

Education Through Research Award in 2010. In 2014 the Michigan Science Teachers' Association awarded him the George G. Mallinson Award for Overall Excellence of Contributions to Science Education. Mr. Krajci was honored to receive a Distinguished Professorship from Ewha Woman's University in Seoul, South Korea in 2009, Guest Professorships from Beijing Normal University in Beijing, China in 2002 and 2018, and the Weston Visiting Professor of Science Education from Weizmann Institute of Science, Israel in 2005.



Panelist – Peter McLaren

Mr. Peter McLaren is the Executive Director of Next Gen Education, LLC and works as a consultant with states and districts in support of the implementation of the Next

Generation Science Standards and other three-dimensional state science standards. In his previous work Mr. McLaren served in a number of roles pertaining to science education policy including Director of the State and District Support for Science at Achieve, Science and Technology Specialist at the Rhode Island Department of Education and served as President of the Council of State Science Supervisors (CSSS) from July 2010 until April 2013. Mr. McLaren also served as a member of the national writing committee for the Next Generation Science Standards (NGSS), the National Academy of Engineering Guiding Implementation of K-12 Engineering Education committee, and the National Academy of Science Committee for Developing Assessments for the Next Generation Science Standards.

Mr. McLaren has been a part of a Hawaii Department of Education (HIDOE) funded professional learning project (PLEASE) delivering high-quality, differentiated statewide professional development for elementary teachers, secondary teachers, resource teachers, and educational officers. This professional development is designed to support full implementation of the Next Generation



Panelist – Joseph Krajci

Mr. Joseph Krajci serves as director of the CREATE for STEM Institute and is the Lappan-Phillips Professor of Science Education at Michigan State University. In his role as director of CREATE, he works with faculty, teachers and researchers to improve the teaching and learning of science, mathematics and engineering, kindergarten through college, by engaging in innovation and research. Throughout his career, Mr. Krajci has focused on working with science teachers to design and test learning environments to reform science teaching practices and to research student learning and engagement in project-based learning environments. He has authored and co-authored books, over 100 manuscripts and curriculum materials. In 2019, Mr. Krajci was elected as a member of the National Academy of Education. In 1999 he served as president of the National Association for Research in Science Teaching from which he received the Distinguished Contributions to Science



Speakers Panel for the 124th STANYS Conference

continued from page 4

Science Standards. He has been involved in the PLEASE grant since 2017.

An award-winning educator, Mr. McLaren was a teacher of science for 13 years at both the high- and middle-school level. In 2001, he was recognized with the Milken Family Foundation National Educator Award, and in 1995, as the Rhode Island Science Teacher of the Year by the MIT-sponsored Network of Educators of Science and Technology. He holds Bachelors of Science and Master of Arts degrees in Science education from the University of Rhode Island.



Panelist – K. Renae Pullen

Ms. K. Renae Pullen is the K-6 Science Curriculum Instructional Specialist for Caddo Parish Public Schools in Shreveport, Louisiana. Ms. Pullen has been an educator in Caddo Parish for over 20 years and has served on several local, state, and national committees, presenting at numerous workshops and conferences. She was a member of the elementary science workgroup that developed the Louisiana Student Standards for Science and was a member of the Teachers' Advisory Council for the National Academies of Sciences, Engineering, and Medicine (NASEM). She currently serves as a member of the Board on Science Education for the National Academies of Sciences, and is a National STEM Ambassador for NSTA/NCTM.

Ms. Pullen was a consulting expert for NASEM practitioner's guide, *Seeing Students Learn Science: Integrating Assessment and Instruction in the Classroom* and served on the NASEM committee that produced *English Learners in STEM Subjects: Transforming Classrooms, Schools, and Lives*. In July 2018, Ms. Pullen was appointed to the Science, Technology, Engineering and Mathematics Education Advisory

Panel for the National Science Foundation. Ms. Pullen has received numerous awards and several grants and fellowships, including the Wal-Mart Local Teacher of the Year award in 2007, Caddo Parish Teacher of the Year in 2006, a Fund for Teachers fellowship to study creativity and STEM in Spain, a fellowship from the National Endowment for the Humanities to study the American Skyscraper in Chicago, and the Presidential Award for Excellence in Math and Science Teaching.



Panelist – Helen R. Quinn

Dr. Helen R. Quinn is Professor Emerita of Particle Physics and Astrophysics at SLAC National Accelerator Laboratory. She received her PhD in physics at Stanford in 1967. She

worked at SLAC from 1977 until her retirement in 2010, and has received many awards for her research in theoretical particle physics.

Dr. Quinn has been active in science education for some years, and since her retirement this has been her major activity. She was a founding member of the Contemporary Physics Education Project (CPEP), which produced a well-known standard-model poster for schools in 1987. She served as chair of the US National Academy of Sciences Board on Science Education (BOSE) from 2009-2014. She was the chair of the BOSE study committee that developed the "Framework for K-12 Science Education", which is the basis of the Next Generation Science Standards (NGSS) and similar standards now adopted by about 30 states in the US, including California.

Dr. Quinn now acts as an advisor to those seeking to implement these new standards and to science education researchers studying aspects of that work.

***** DEADLINE – Pre-Conference Newsletter *****





INVITED SPEAKERS for the 124th STANYS Conference

Joan Wagner, Speaker Chairperson



DR. JOHN DRAZAN
University of Pennsylvania

Saturday, November 2
11:00 a.m. – 12:00 p.m.

From Sports to STEM: Engaging Students in STEM In and Out of the Classroom through DIY Sport Science

“The sports science and analytics revolution has made the study of sports performance

just as technologically advanced as university medical labs. Sports are the ideal venue to engage youth with the STEM disciplines within an activity that they love. Unfortunately, the equipment and analytical techniques used at elite levels are often too complicated and expensive for coaches, players, and teachers to access. This missed opportunity is especially pernicious because there is a well-documented interest gap in STEM between female, African American, and Latino youth, many of whom participate in sports. The democratization of sports science and analytics through the development of low-cost training tools has potential to reach these youths to provide an authentic introduction to STEM.

As the STEM Director for 4th Family Inc., I have created a suite of low-cost sport science and analytics tools to train youth athletes. We introduce STEM as a tool for athletic improvement which empowers youth athletes to use STEM techniques to collect and analyze their own performance data. We have used to this approach in partnership with NBA franchises, elite universities, and urban schools to broaden access to the STEM pipeline for students who would not typically sign up for traditional STEM activities. In this talk I will describe my journey from hosting an afterschool STEM program at an urban high school to running STEM outreach at the NBA Summer League as well as sharing best practices for using sport science to engage students in STEM in and out of the classroom”.

Dr. John Drazen is an IRACDA NIH post-doctoral fellow at the University of Pennsylvania in the Human Motion Lab. At Penn, Dr. Drazen seeks to combine his expertise in STEM outreach and biomechanics research to build a community-situated biomechanics lab where youth athletes and community members can serve as biomechanics research subjects while being exposed to STEM educational opportunities. This approach promises to enable large scale, prospective studies to understand the development of musculoskeletal pathologies “in the wild” while also diversifying the STEM career pipeline by providing an avenue for research subjects to become the researchers themselves.

Dr. Drazen received his doctorate in biomedical engineering from the Rensselaer Polytechnic Institute in 2017. While at Rensselaer, he started the 4th Family STEM program. As STEM director, Dr. Drazen has developed an award winning STEM outreach program where over 5,000 urban student athletes have been introduced to STEM as a sports training tool. He is the creator of the “Court Science Academy” at the NBA Summer League in Las Vegas where youth from the Jr. NBA Program participate in a weeklong sport science camp at the arena. His work in STEM outreach has won several major awards including the “Best Research Paper” at the MIT-Sloan Sports Analytics Conference, the NSF GK12 Fellowship, AAAS Early Career Award for Public Engagement with Science Finalist, and the NIH-IRACDA Postdoctoral Fellowship at the University of Pennsylvania.



DR. MAGDIA DEJESUS
New York State Department
of Health

Saturday, November 2
1:45 – 2:45 p.m.

Breaking Barriers in STEM by Paying It Forward: The Power of Teachers, Mentors and Role Models

In this session, Dr. De Jesus will speak about the transformative power that teachers, mentors, role models and pipeline mentorship programs have for students that are interested in STEM careers. Through a personal narrative, Dr. De Jesus identifies the challenges and victories of her scientific career and how she is a product of pipeline mentorship. She will also discuss how she now “pays it forward” with students in K-12 through “skype a scientist” and a “scientist looks just like you” program that she is developing. In the last part of her talk, Dr. De Jesus will also speak about her current research on the development of vaccines and therapeutics against the new emerging multidrug resistant fungal *Candida auris* that is considered the MRSA of the fungal world.

Dr. Magdia De Jesus received her Ph.D. in Microbiology and Immunology from the Albert Einstein College of Medicine in 2009. Subsequently, she served in two postdoctoral appointments with the Wadsworth Center of the New York State Department of Health – first as an Emerging Infectious Disease Fellow under the sponsorship of the Center for Disease Control (2009-11), and second as a Postdoctoral Fellow under the sponsorship of the Howard



INVITED SPEAKERS for the 124th STANYS Conference

continued

Hughes Medical Institute (2011-14). She joined the School of Public Health at the State University of New York at Albany in September 2015 as an assistant professor of biomedical sciences. Her most recent research seeks (1) to understand how the intestinal immune system recognizes fungal microbes such as *Candida albicans* and (2) to develop oral based vaccines against *Candida auris*, a new antifungal resistant emerging pathogen.

Dr. De Jesus was born in Puerto Rico and raised in Harlem, New York City. She credits her interest in an academic career in science to a “pipeline” of mentors throughout her educational journey. Her academic journey has led her to develop “A scientist looks just like you” program to educate and inspire children in grades 3-12 to understand that they too can be scientists regardless of background or socioeconomic status.



DR. AMY VEDDER
Yale University

Sunday, November 3
1:45-2:45 PM

Mountain Gorillas: From Science to Inspiration

Mountain gorillas are immense, self-willed and powerful, yet also deeply social, caring, and even mysterious. They are also one of our

closest kin within the world’s great panoply of species. What can they teach us about the wilds on this earth, about conservation, about ourselves and our relationship to nature? Having spent years studying and then working toward the conservation of mountain gorillas in Rwanda, Dr. Amy Vedder will speak about her experiences and the lessons she learned in the process. Having grown up in a small town in upstate New York, she never dreamed that this would become a part of her life. Yet it became the focus of her doctoral research, laid the groundwork for her career in field conservation, and affects her outlook on life.

Dr. Vedder will talk about the ecological science that she undertook to better understand mountain gorillas and their habitat requirements: the formal questions she asked and how she went about answering them. She will go well beyond this, however, to show how this information was key to conserving the gorillas – yet incomplete, and how persistence and passion play key roles as well. The story of mountain gorilla conservation is one that includes some of the poorest people of our world, a nation in turmoil, and new heroes that emerge. It is also the story of one of the most alluring species on this planet – one that remains critically endangered. How this story plays

out tells us a great deal about both wild nature and human nature.

Dr. Vedder has worked in applied conservation for more than 30 years, using ecological and social science to conserve wildlife and wildlands. She currently teaches in the graduate program of the Yale School of Forestry and Environmental Studies, focusing on the practice of international, on-the-ground conservation. Formerly, Dr. Vedder served as Senior Vice President for Conservation at The Wilderness Society (TWS), senior advisor to the Rwandan Environment Management Authority, Vice President at the Wildlife Conservation Society (WCS), and Director of the WCS Africa Program.

Dr. Vedder is known for her pioneering ecological studies of mountain gorillas in Rwanda during the late 1970s, based on 2 1/2 years of observing gorillas in the wild. She co-founded, with her husband Dr. Bill Weber, the Mountain Gorilla Project, which improved awareness in schools and in the public domain, and generated income for local and national constituents. The project’s conservation and economic success has become an inspiring model for numerous other conservation projects world-wide.

Dr. Vedder is co-author of the critically acclaimed *In the Kingdom of Gorillas* (Simon & Schuster, publishers), as well as the focus of a Scholastic biography *Gorilla Mountain* written by Rene Ebersole for middle school students. She will be available in the exhibit hall for book signing before her presentation.

Dr. Vedder enjoys hiking, snowshoeing, and canoeing in the Adirondack mountains, which she calls home, as well as spending time with her family including several new grandchildren.



DR. ERNIE LEWIS
Brookhaven National Laboratory.

Monday, November 4
11:00 AM-12:00 PM

*What Will Earth Be Like in 50 Years?
A Look Back at Our Future*

Earth’s climate and environment are currently experiencing a number of influences resulting from human activities, key among these being global warming, ocean acidification, and other issues caused by emissions of greenhouse gases into the atmosphere. There is also loss of biodiversity and population declines in many species caused by chemicals in the environment. The current state of Earth’s climate and environmental health are examined, and these are compared to what they were immediately prior to the first Earth Day in 1970. Outcomes from the first Earth Day, and lessons that may be applied to Earth’s current state and to the future, are presented and discussed.



Transforming Innovations
into Reality in Science



124th Annual STANYS Conference **NOVEMBER 1 - 4**

Rochester Convention Center | Rochester, NY

COMING IN AUGUST: Online Registration at
conference.stanys.org

Invited Speaker **Dr. Ernie Lewis**

continued

Dr. Ernie Lewis is an atmospheric scientist at Brookhaven National Laboratory on Long Island, NY. He has been at the laboratory for 25 years, first as an oceanographer studying the carbon dioxide system in the oceans (during which time he participated in a dozen research cruises around the world), and for the last 20 years as an atmospheric scientist studying properties of aerosols and clouds. He is co-author with Stephen E. Schwartz of the book *Sea Salt Aerosol Production – Mechanisms, Methods, Measurements, and Models*

Dr. Lewis was the Principal Investigator for the MAGIC field campaign undertaken by the US Department of Energy’s Atmospheric Radiation Measurement program, which deployed three radars and numerous other instruments for eight months on a cargo ship traversing a route between Los Angeles and Honolulu to study the stratocumulus-to-cumulus cloud transition that occurs in this region.

Dr. Lewis is an avid birder and photographer and enjoys traveling. He and his wife Laura live in New York and Boston.

Fellows Presentation | Sunday, November 3



FELLOWS SPEAKER **Shawn Otto**

Mr. Otto’s book, *The War on Science*, is a must read. You can purchase copies in the exhibit hall and Mr. Otto will be available to sign your book. The title of his talk is: *The War on Science: ‘Alternative Facts’ and the Threat to Democracy*.

“Wherever the people are well-informed,” Thomas Jefferson wrote, “they can be trusted with their own government.” That was two hundred years ago, and Jefferson was a champion of evidence-based policymaking. But what happens now, when science has become so advanced and so powerful that it impacts

every aspect of life, yet that very complexity means relatively few people understand it – and politicians seem afraid to even talk about it?

We’ve seen the predicted results. At the very time we need it most, science is denied by policy-makers in favor of “alternative facts” on topics ranging from climate change to GMO food, from vaccines to economics to environmental regulations, while celebrities push pseudoscience and journalists argue there is no such thing as objectivity. Combined, these trends have pushed the Western democracies away from Jefferson’s ideal of a public policy grounded in evidence and toward one grounded in ideology, paving the way for authoritarians.

We will explore today’s three-part War on Science:

- ① the Identity Politics war, ② the Ideological war, and ③ the Industrial war,

all of which are being amplified by social media technology that has privatized the public square and allowed for unprecedented levels of propaganda. In the new sci-tech age we must ask: are the people still well-enough informed to be trusted with their own government? And if not, what do we do?

Shawn Otto is also an award-winning screenwriter and novelist, including writing and co-producing the Academy Award-nominated movie *House of Sand and Fog*, and the LA Times Book Prize finalist literary crime novel, *Sins of Our Fathers*. Otto was awarded the IEEE-USA (Tech engineers) National Distinguished Public Service Award for his work elevating science in American public dialogue. He is cofounder and producer of the US presidential science debates at ScienceDebate.org and the only person to get Donald Trump to answer science questions during his presidential campaign. He is the award-winning author of *The War on Science*, which has been called “a game changer, and probably the most important book you’ll read this year.” He has advised science debate efforts in many countries and speaks worldwide on the critical role of science and truth in free societies.

He lives in Minnesota with his wife, Rebecca Otto, a former Minnesota State Auditor, in a solar and wind-powered green home he designed and the couple built with their own hands.

ATTENTION!

September/October
Pre-Conference Newsletter
articles and photos
DUE JULY 15th

Don't let this date slip by!
newslettereditor@stanys.org

REPORTS
 from the

STANYS Directors-at-Large



Earth Science

Rosemarie Sanders

dalearthscience@stanys.org

It's finally here. The implementation of the New York Science Learning Standards in our classrooms this September. I admit that there was some trepidation about the new learning standards, but after a lot of training, trial and error, and discussion among colleagues, I am confident with the coming year. Most of the reason why I stand with confidence is because I learned so much by attending the seminars, practiced and discussed with friends; all of this at various STANYS conferences.

Many people have not the opportunity to participate in events nor have the face-to-face conversations that are so essential. STANYS is working to help people to achieve their goals of being NYSSLS ready. Through workshops around New York State this summer, people have the opportunity to work with Paul Andersen and his deep dives into 3-D learning.

Having had discussions at the STANYS state conference in Rochester, I met with many members who expressed the same concerns I had when I started to study the new teaching methodology. Now, there is little time. I thought deeply about this. I realized that the means to address this concern is through the Earth Science Institute. I thought about what does the membership want? What does the membership need?

I had a crazy plan. I broached the concerns and pitched my crazy idea. Hearing these concerns, your subject area representatives responded with whole-hearted support. You want lesson plans? You got 'em. You want these lesson plans explained? No problem. You want to have the opportunity to browse through all of the SARs' presentations? Sure. Crazy? How about a "SAMPLER" professional development program?

There will be a brief introduction by me, Director at Large. I'll give a brief overview, about how we are conducting this program. Participants will break out to see the Subject Area Representatives. They will be at assorted tables demonstrating and explaining New York Science Learning Standards lessons for small groups for a short period of time each. Lessons are repeated throughout the duration of the Institute. Participants will have the opportunity to learn from all of the Subject Area Representatives, and take away lessons that are featured. All sessions run concurrently.



Intermediate Level

Mary Lobello

dalintermediate@stanys.org

The Intermediate Institute is Back in 2019 with a NEW Format!

Come join your fellow Intermediate Level teachers who are "stuck in the middle" at the Intermediate Level Institute on Saturday, November 2nd. You will have an opportunity to network with your colleagues throughout the state, as well as meet and speak with your SARs. We want to hear from YOU! With what do you need help in navigating through the new NYSSLS Standards? This will be your opportunity to tell us what type of professional development you want to receive.

The Intermediate Level Subject Area Representatives have been hard at work creating outstanding workshop proposals for the 2019 Annual Conference in November. Each of our Sections, except Catskill-Leatherstocking, has an Intermediate SAR. This year, at the Intermediate Institute, we will be highlighting five outstanding workshops that address a different aspect of NYSSLS teaching. You will be allowed to "speed date" through the five presentations, getting a glimpse at what more is to come at the full-length workshops later in the Conference. I will also highlight the other SAR workshops that will be presented outside of the theme of our Institute.

I know that I am excited to attend all of the workshops that the SARs and I have been busy preparing, and I hope to see many of your faces at those workshops as well. I hope you all enjoy a restful and stress-free end of the school year and have a wonderful summer break, where you will re-energize for our next school year.

I want to thank the SARs: Cinnamon (MV), Tami (NA), Bill (NYC), Erin (NC), Becky (NE), Mike (NW), Loretto (SE), Libby (SO), Ashley (SU), Karen (W), Susan (WR), Daniel (CE), Scott (EA), Amy (SW), and Michael (CW) for all their hard work, dedication, and expertise. If you have any questions, please feel free to reach out to your Section's SAR or to me (email address above).

AGENDA FOR INSTITUTE

Introduction	10 minutes
Mini-session 1	20 minutes
Mini-session 2	20 minutes
Mini-session 3	20 minutes
Mini-session 4	20 minutes
Mini-session 5	20 minutes
Closing	10 minutes

STANYS wishes all of our colleagues a
HAPPY SUMMER!



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Fran Hess, STANYS Funding Initiative Chairperson

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percentages of an individual's order to that person's organization of choice. Help us raise funds for STANYS' professional development endeavors. Use the convenient QR codes or hyperlinks to go directly to the sites and place orders using either program.

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The Science Teachers Bulletin

Official Publication of the Science Teachers Association of New York State (STANYS)

Call for Manuscript Submissions



Welcome from the Editor,
Aaron D. Isabelle, Ph.D

The *Science Teachers Bulletin* welcomes articles about science and science education. The science work that you undertake is of tremendous value to the teaching profession; therefore, I highly encourage you take the time to document your work to share with your colleagues across New York State. We want to know about the wonderful things that you are doing in your classrooms related to science, and *The Bulletin* is the perfect outlet for your ideas. If you wish to submit an article for publication, please prepare the following:

1. Double-spaced manuscript, 12-point font, and one-inch margins (in Microsoft Word format) with figures, tables, photos, or other images separated from the main body of text. Permission for image/photo use may be required.

2. Choose one of the following manuscript types for submission:

- **Feature Article:** The main body of your manuscript should be approximately 2,000 words. References, captions, and other supplementary text are not included in the word count. A 200-word abstract should accompany submission of a Feature Article.
- **Innovation in Science Teaching Column:** Share your how-to instructional strategies, practical advice, and classroom applicable results of action research. The column should be approximately 750-1000 words.

3. We strongly encourage you to demonstrate how your manuscript aligns with the *NYS Science Learning Standards* (2016) and the vision of *A Framework for K-12 Science Education* (See National Research Council, 2012).

4. References should appear at the end of the text using APA reference format.

5. Include an autobiographical sketch containing your background, email, telephone number, and address.

6. *The Science Teachers Bulletin* is published twice a year (Fall and Spring). Submissions must be received no later than **July 15** to be given full consideration for the Fall issue and by **January 15** for the Spring issue.

Please submit manuscripts electronically to isabella@newpaltz.edu. If you have any questions, please email me. In addition, if you would like to look at previous submissions, click on the following link for *The Bulletin* archives: drive.google.com/drive/folders/16u64Ru9dgdV8GK9VvxCXrgD-y34mXkeT

Note: *The Science Teachers Bulletin* has a publication agreement, signed by the author or lead author of each article, certifying that the work is the author's own and has not been published elsewhere, and transferring the copyrights to STANYS. Opinions expressed in *The Science Teachers Bulletin* are those of the authors and do not necessarily reflect STANYS policy.

Don't miss your opportunity to be published!

Put these important STANYS Newsletter dates in your mobile calendar today.

Issue	Articles Deadline	Post Online
September/ October 2019	JULY 15	AUGUST 31
November/ December 2019	NOVEMBER 15	DECEMBER 10
January/ February 2020	JANUARY 15	FEBRUARY 10
March/April 2020	MARCH 15	APRIL 10
May/June 2020	MAY 15	JUNE 10

Share with your fellow science teachers!

ideas • experiences • lessons
what worked/what didn't

Remember, please send photos as separate JPEG files, not embedded in Word.

Send your articles & photos to:

Editor Alice Veyvoda –
newslettereditor@stanys.org

and copy

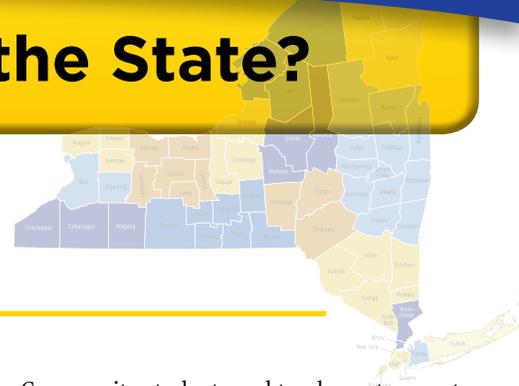
Communications Director Ashley Bloch
communicationsdirector@stanys.org



What's Happening Around the State?

SECTION HIGHLIGHTS

Carol-Ann Winans, Section Highlights Coordinator | nassaudirector@stanys.org



Catskill-Leatherstocking

C-L Section hosted a variety of Section and regional events. These events offered CTLE Credit to members and non-members and helped promote and encourage membership in STANYS. The Section is happy to report a large increase in membership and Section activity.

The C-L Section was awarded a Transportation Grant from The Watershed Agricultural Council. Through funds made available through the grant, the Section hosted a "Teacher Institute on Climate Change." Over 50 Teachers from 10 districts participated in a bus tour that visited five sites in the Catskills. In partnership with The Catskill Watershed Corporation (CWC), Cornell Cooperative Extension (CCE), and Catskill Youth Climate Action (CYCA), Catskill-Leatherstocking planned and executed this fun and informative day out for teachers. The event awarded over 200 hours of CTLE credit to attending teachers. The Section is planning another Teacher Institute for 2020.

The C-L Section looks forward to the coming year with a new vision for larger events in partnership with aligned organizations, such as ONC BOCES.

Central

Central organized a tour of the Budweiser brewery in Baldwinsville. This tour allowed members and guests to learn about the brewing process as well as explore the ingenuity involved in the production of various products produced at the plant.

In April, SUNY Environmental Science and Forestry presented a Pulp and Paper Chemistry workshop to the membership. At the end of the workshop time was made available to introduce local teachers to learning opportunities offered by the university.

Website: sites.google.com/stanys.org/centralsection

Central Western

CW Section is continuing to provide teachers and students of the region with relevant professional development designed to keep members up to date on the latest changes in science content, curriculum and pedagogy.

In March, the Section held a "Science on Tap" social event at Rohrbachs Brewing Company in Rochester. This event provided an opportunity for teachers to network and socialize. Area experts provided a short lecture, followed by a question and answer period.

In April, the Section held its annual Central Western Section Dinner at St. John Fisher College in Rochester. Members were provided with the opportunity to participate in learning experiences, share ideas, and network with colleagues.

In May, for the 48th consecutive year, Central Western STANYS sponsored Science Exploration Days at St. John Fisher College. This event invites Rochester's scientific community, students, and teachers to the campus for a day of hands-on enrichment, demonstrations, and science exhibits. The exhibit

hall is open to the Rochester Community students and teachers at no cost.

Website: ggw.org/~cws/

Eastern

Eastern Section would like to congratulate Section member Tom Shiland on his nomination as STANYS Fellow. Eastern would also like to welcome several new SARS and coordinators.

The Eastern Section is currently planning Pub Science events for May and June. They are also looking to increase professional development opportunities and expand teacher mentorship programs. Please check the website for new professional development opportunities.

Website: eastern-stanys.org/

Mohawk Valley

MV Section is pleased to announce a significant increase in membership. As a result the Section earned the "Greatest Increase in Total Number of Members Award" at the Annual Conference in November.

In April, with the help from their College SAR, Jennifer Herzog, Mohawk Valley STANYS planned a professional development day at Herkimer. With help from sponsors Bedford, Freeman & Worth, Wards, and the Master Teachers, MV welcomed over 50 teachers from around the area for a variety of workshops focusing on Water Quality. Presenters included Faith Thomson from Herkimer College, Philip Tangorra from Mohawk Valley Water Authority, Madison Quinn from New York Water Education Association, and Dr. Michael McCormick from Hamilton College. This event was the Section's first experience with CTLE accreditation, and it's first partnership with the Master Teacher Program. The Section was encouraged by the success of the event and looks forward to offering more opportunities to the membership.

Nassau

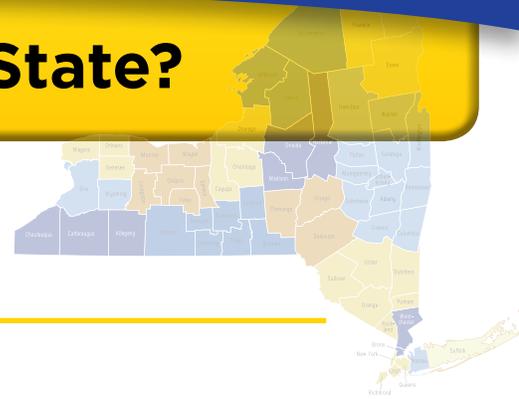
Nassau's Spring Workshop and Dinner was held Wednesday, March 20 at Division HS in Levittown.

Physics teachers worked with William Leacock to construct a working



Teachers building their Heron Fountains

What's Happening Around the State?



SECTION HIGHLIGHTS

continued



Teachers at the Nassau Spring Workshop adding new demos to their repertoire.

Heron Fountain, a self-contained water fountain which seems to defy physics by running for a long period of time without any apparent power source when a small amount of water is poured into the top of the fountain.

Chemistry teachers engaged in demonstrations and songs designed to make chemistry class fun and interactive.

Earth Science teachers worked with Ken Abbott to provide students the opportunity to create short easy videos using a cell phone or tablet to produce "Boring Diagram Explanations" for over 80 key models from previous Regents exams.

Additionally, participants were given the opportunity to explore phenomenon-based instruction using GRC, QFT, and 3-D instruction models with Catherine Beasley, Heather Bizewski, Tami Cruz, and Carol-Ann Winans. The workshops were followed by a dinner where raffles were distributed and valuable membership networking, conversation, and bonding took place.

The Nassau Section hosted their awards dinner on May 21st at the Coral House in Baldwin. At the dinner, the Nassau Section honored one outstanding senior from each member high school. A teacher from the student's home school provided a description of the outstanding student's accomplishments and each student was awarded a plaque Website: nassaustanys.weebly.com/

Blog: nassaustanys.weebly.com/blog

New York City

NYC Section recently launched a new website, stanysnyc.org. The website features a calendar with updated events and a blog that focuses on sharing local resources.

SCONYC recently held its annual conference and many of the New York City SARS participated. Sessions ranged from case studies, overviews of NYSSLS,

to sessions that looked towards the future of the transition. At the session, many new and pre-service teachers joined NYC Section.

Website: sites.google.com/view/nycstanys

North Central

NC Section represents Jefferson, Lewis, and St. Lawrence counties on the easternmost edge of Lake Ontario and the St. Lawrence River. The Section plans to welcome Brett Moulding to Watertown for a professional development opportunity. NGSS Writing Team Leader Brett Moulding is currently the Director of the Utah Partnership for Effective Science Teaching and Learning. He is a member of the National Academy of Sciences Board on Science Education and a member of the National Research Council (NRC) Committee developing the Conceptual Framework for K-12 Science Education. The Section is excited to provide an opportunity for Mr. Moulding to share his vast knowledge of the 3D approach to teaching science and insightful NGSS knowledge with their membership.

Northeastern

NE Section is happy to announce that Section members Cookie Barker and Sarah Fink were recognized by STANYS for their Outstanding Service to Science Education. Cookie was also the keynote speaker at a recent professional development for Waterford-Halfmoon School District.

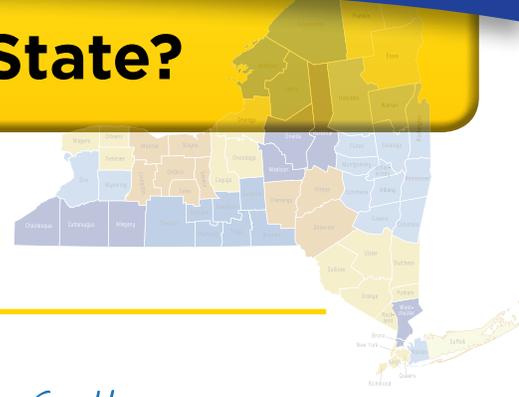
In January and February Section members facilitated day long professional development through CVES BOCES for both elementary and secondary educators. Both sessions were well attended and highly reviewed by attendees.

Northeastern Section of STANYS continues to promote the integration of the NYSSLS by holding evening workshops in various locations



Northeastern Section looking phenomenal and working hard at the March Planning Meeting

What's Happening Around the State?



SECTION HIGHLIGHTS

continued

around the Section. They try to reach as many of their Section members as possible. The most recent workshop occurred at Ausable Valley High School. Sessions focused on best practices for immediate implementation in the classroom.

In May, the Section held an “Elementary Educator Open House” at the North Country Teacher Resource Center. The event was geared to engaging elementary teachers in the new standards.

Three-dimensional practice is clearly on the minds of our members, and we look forward to finding new ways to help our members make these shifts. For more information on three-dimensional practices from the Northeastern Section be sure to check out the 3D science Café: north-countrynyssls.blogspot.com/

Website: sites.google.com/a/stanys.org/nestanys/

Southeastern

SE Section held two workshops in collaboration with the LiveOn program for 7-12 grade science teachers to discuss a 5-lesson unit on homeostasis in the body, organ transplantation, donation and blood transfusions. Teachers heard from nurses who have firsthand experiences with organ donations. Workshops were held at Nyack Hospital and Orange Regional Hospital in Middletown. There was lots of food, fun, learning and door prizes!

In May, the Southeast Section provided teachers with an introduction to NYSSLS at North Rockland High School in Stony Point, Rockland County.

Website: sites.google.com/stanys.org/stanyssoutheastern/home



Members of Southeastern STANYS participating in a collaborative workshop with the LiveOn program for 7-12 science teachers.

Southern

Southern Section is already planning fall professional development. The Section’s fall conference will be hosted at Chenango Valley School and a call for presenters will begin over the summer.

The Southern Section continues to partner with the New York State Master Teacher Program for workshops and professional development. This collaboration has allowed the Section to strengthen its ability to reach new members.

Website: southernstanys.org/

Suffolk

Through a partnership with the Brookhaven National Laboratories, Suffolk STANYS secured a historic site for their Spring Conference held on Thursday, March 28.

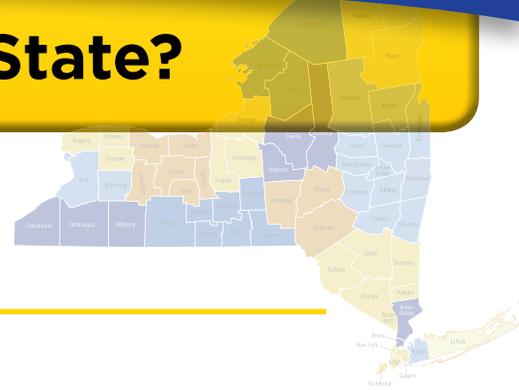
The Keynote was presented by Dr. Cary Snieder, a Professor at Portland State who is a member of the NGSS Engineering Writing Team. His keynote focused on the concept of inquiry and how it has changed within the guise of NGSS. The breakout sessions offered a variety of workshops to choose from, ranging from argument driven inquiry presented by Dr. Victor Sampson, to escaping the classroom, to exploring many phenomena associated with hot sauce. Participants were engaged throughout the day and were involved with hands on workshops that covered all content and grade levels. The conference was a success with teachers walking away with lessons that they could use in their own classrooms.

Brian Vorwald and Kathi Dinota coordinated the Suffolk Section’s Annual Awards Dinner in May to honor teachers and recognize the top high school



Teachers practicing reverse engineering during Keynote Speaker, Cary Snieder’s presentation at the Suffolk STANYS’ Spring Conference

What's Happening Around the State?



SECTION HIGHLIGHTS

continued



Teacher's enjoying the exploration of 3-D Instruction during a Suffolk STANYS' Spring Conference breakout sessions.

senior science students from the Suffolk region. This program is funded through district membership and provides teachers from membership districts discounted participation in Suffolk STANYS professional development events.

Website: suffolkstanys.org/.

Blog: news.suffolkstanys.org/events/

Westchester/Bronx

Westchester/Bronx Section supported the Tri-County Science Fair held in April in White Plains. The Section will help three to four winners go to the state level competition in June 2019.

The W/B Section is looking to develop a workshop series to provide additional professional development to their members

Website: sites.google.com/site/bwstanys

Western

On March 27, in partnership with the Master Teacher Program, the Western Section hosted its annual mini-conference at Buffalo State College. Over 100 teachers attended the event, which offered attendees their choice of 3-hour long sessions, for CTLE credit, from a pool of over 20 presentations. The day also included a catered meal and a chance to mingle and network with more than 20 different vendors and education outreach groups from the area.

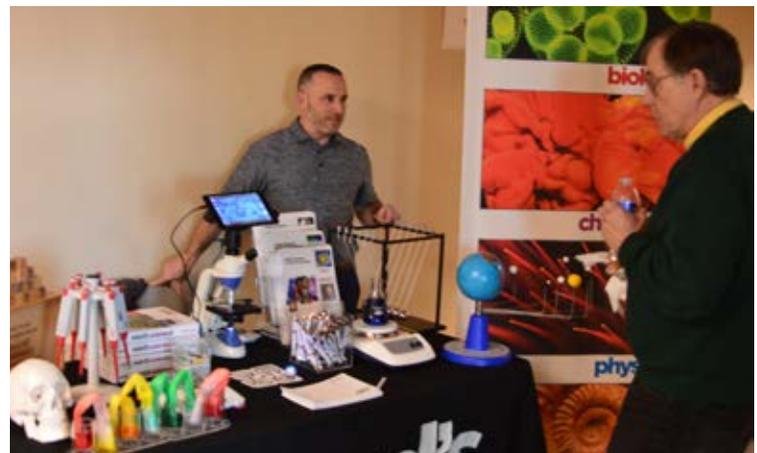
On May 29th, the Section hosted their Section Awards Banquet at Ilio DiPaolo's Restaurant in Blasdell. At the banquet they honored the student award winners from the Western New York Regional Science & Engineering Fair, the Section Service Award winner, and 2019 K-8 Outstanding Teacher Award Winners.

Western Section members are encouraged to visit their website for upcoming news and events happening in and around the Section.

Website: westernstanys.com



Teacher's enjoying the exploration of NYSSLS during a Western STANYS' Annual Mini-Conference



Ward's Exhibit at Mini-Conference

SPECIAL BOGO OFFER!

Join STANYS statewide & get membership in the Section of your choice FREE!

Opportunities galore await you

The Section is the Connection!

STANYS.ORG





Youth Incentive Award

The Coleopterists Society, an international organization of professionals and hobbyists interested in the study of beetles, has established a program to recognize young people studying beetles. The Society has pledged to provide up to \$600 each year for the Youth Incentive Award Program. The Junior award is a monetary grant of \$200 and the Senior award is \$400. Award recipients also will receive up to \$200 (Junior) and \$400 (Senior) of equipment credit from the [BioQuip Products](#) catalog. In addition to monetary and BioQuip grants, award recipients will each receive a one year subscription to the society journal, *The Coleopterists Bulletin*. **This is for children of grades 7-12 only.**

The objectives of the Youth Incentive Award are to:

- provide encouragement and assistance to young beetle enthusiasts (grades 7-12).
- promote the study of beetles, the most diverse group of insects, as a rewarding lifelong avocation or career.
- provide opportunities for young people to develop important life skills such as leadership, cooperation, communication, planning and conducting a scientific study, grant writing and managing funds.
- provide some financial support to enrich activities or projects.

A Youth Incentive Award Committee from the Coleopterists Society will evaluate the applications and will select up to two winners annually; *one each* in **junior (grades 7-9)** and **senior (grades 10-12)** categories. The selection committee invites proposals for topics such as field collecting trips to conduct beetle species inventories or diversity studies, attending workshops or visiting entomology or natural history museums for special training and projects on beetles, studying aspects of beetle biology, etc. The proposed activities or projects will be evaluated on their degree of creativity, educational benefit to the applicant, scientific merit, feasibility and budgetary planning. This Award is for proposals by **individuals only**. Each applicant is strongly encouraged to find an adult advisor (teacher, youth group leader, parent, etc.) to provide guidance in proposal development, but the proposal **MUST** be written by the applicant. The Coleopterists Society would also be happy to assist in establishing contacts between youth and professional Coleopterists.

Additional details and application forms for **The Coleopterists Society Youth Incentive Award Program** can be obtained from: Dr. David G. Furth; Entomology, NHB, MRC 165; P.O. Box 37012; Smithsonian Institution; Washington, D.C. 20013-7012 (phone: 202-633-0990, FAX: 202-786-2894, email: furthd@si.edu). Also check The Coleopterists Society WebPage: coleopsoc.org/society-info/prizes-and-awards/youth-incentive-award/

Applications for this year must be submitted by **November 1, 2019**.

STANYS Can Be More Fun With Friends!



PICK 5 & SAVE!!!

Discounted memberships are now available for individuals joining or renewing as a group. Regular Members from the same school district will receive a 20% discount on dues. Each individual submits a complete membership form referencing the School District PO or Group Payment. All will be enrolled at the same time and memberships will begin (or be extended for current members) the month the PO is received. The membership dues are for the individuals enrolled and cannot be transferred or refunded. Groups interested in a membership package must contact the STANYS Data Manager for specific instructions. (516) 783-5432 or membership@stanys.org LET'S DO IT!

Summer Study at Buff State

This summer SUNY Buffalo State College will offer PHY622 (only) as a workshop course. PHY510 will NOT be offered this summer, but we will offer it again next summer, alongside with PHY620. These are 6cr courses which have been used as physics content courses by almost 350 teachers seeking NYSED Physics certification since 2002.

Tuition and fees will be just under \$500/credit or \$3,000 for in-state students, who will receive SUNY graduate PHY transcript credit. Some students have been supported with Federal Title II funds from their LEAs, which can cover up to 100% of incurred costs (tuition, fees, books, room and board, travel etc). Check with your school.

Details and applications at physics.buffalostate.edu/summer-physics-academy. Registration is open, and we already have enough confirmed registrations that we will run PHY622. Contact:

Dr. Dan MacIsaac

Assoc, Professor of Physics & AAPT Fellow
macisadl@buffalostate.edu

HAPPENING: A Clean Energy Revolution

Now Available to Teachers for FREE

Watch as Robert Redford's son James Redford explores the factors driving the transition to clean energy in his feature documentary HAPPENING. To further engage students, the Redford Center created TEACHING HAPPENING, an interdisciplinary, modular curriculum developed to work alongside HAPPENING. [Click here to watch a short trailer.](#)

Free to teachers, the classroom version of the film runs 50 minutes and the curriculum is aligned with national standards for grades 6-12 in Science and English. To access your free HAPPENING streaming link and educational curriculum, [click here](#)

STANYS FOUNDATION 2018-19 AWARD WINNERS

Vivian Pokrzyk, Foundation Committee Chairperson

STANYS congratulates the two winners of the 2018-1019 Foundation Award: Karin Cyganovich and Sandra George. Each awardee received a \$500 award to use in her classroom for some exciting science activities.

The Foundation Award was set up by STANYS to help teachers of science in PreK-16 levels promote innovative science in their classrooms or to help them attend science conferences or other staff development opportunities. An award applicant must be a member of STANYS for 3 current consecutive years or more. Two grants are awarded each year for an amount up to \$500

each. A product from each applicant is a description of their activities in an article with photos submitted to the *Newsletter* or *Bulletin*.

The following articles present the results of the winning projects. We hope that learning about these successful projects will encourage PreK-16 teachers to apply for the next awards. Further information can be found on the STANYS website, under "Foundation" ([click here](#)) or contact Vivian Pokrzyk at vivianpokrzyk@gmail.com

Creating a Makerspace in the High School

Sandra George – Frontier High School, Hamburg, NY

When the NYSP-12SLS were finally adopted by the NYS Board of Regents I was elated. It had been almost 20 years since there had been any changes in how we teach science in our schools and now we have an opportunity to further engage students by fostering inquiry and creativity.

Wow, I thought, I can do a lot with this. In the document, it states that the first conceptual shift in education is that K-12 'Science Education Should Reflect the Interconnected Nature of Science as it is Practiced and Experienced in the Real World.' So, I thought, what better place for students to do science and learn about the nature of science than in a Makerspace where risk-taking and failure is encouraged?



When I applied for the Foundation Award I intended to purchase supplies for a dedicated Makerspace for the students at the Frontier High School. I wanted to create a space where students can explore, create and innovate at the same time aligning their learning with the NYSP-12SLS. Since our STEAM program is in its infancy, I decided to kickstart

our Makerspace by purchasing a number of Raspberry Pi kits with the Award.

With the Raspberry Pi units, I was able to transform four HDMI TV's into desktop computers where students can access the internet for research and also learn to code.

I have integrated the Raspberry Pi coding into a few Robotics and Physics lessons with great success! The students have been engaged and find it challenging to write their own code in Python to perform a specific task.

While the current Makerspace is in my room, it won't be for long! The Award was the spark that has ignited the creation of Makerspace or STEAM Spaces in all of our district schools. Although it will take a little time for me to work with the different schools to create a STEAM Space unique to each school, I am committed to move forward and integrate STEAM into Frontier. The students here are ready and excited for this change!

Using PocketLab Sensors in Middle and High School

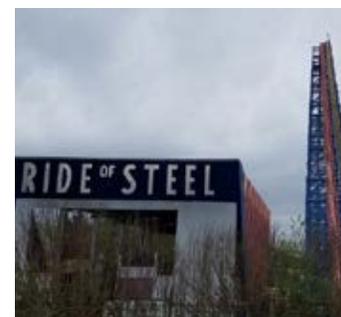
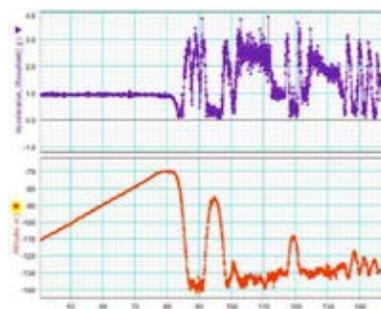
Karin Cyganovich – Cheektowaga Central School District

The STANYS Foundation Award and a matching grant allowed the Cheektowaga Central School district to purchase six PocketLab sensors. In the two weeks since they arrived, science teachers have used them both in the classroom and on a field trip.

Middle school science teachers used the online resource "Teaching MS-PS2-1 with PocketLab: Crash Cushions and Bumper Design". Simply put students designed and built impact barriers out of everyday supplies to reduce the acceleration and hence force of a cart during a collision. In this activity, the sensors were used to measure the acceleration of the carts.

In high school, the students used the sensors to measure altitude and acceleration of roller coasters during Physics Day at Darien Lake. Shown is data from one run on the Superman Ride of Steel. Below are pictures of the students at the park and of the ride.

In both activities, students were excited to observe and analyze instant data. Teachers are excited to try more labs from the PocketLab online resources and to create some of their own.



New York State Science Honor Society (NYSSHS)



The New York State Science Honor Society (NYSSHS) was established to recognize students who excel in science. Members are students who have demonstrated their science ability not only in the classroom but in science related activities in the school and community. They have been involved in activities such as science research, Science Congress, Science Olympiad, peer tutors in science, hospital junior volunteers, science clubs etc. NYSSHS provides activities and an environment

where these students can further develop their knowledge of science and technology. It is endorsed and supported by the following:

- Science Teachers Association of New York State (STANYS)
- New York State Science Supervisors Association
- New York State Assembly

Every year, NYSSHS awards scholarships to senior members of active chapters. This past

May, fourteen scholarships were given out. If you are interested in starting a chapter at your school or need to request renewal forms, certificates or pins, please contact Barbara Poseluzny through e-mail at poseluzny1@verizon.net.

NEW YORK STATE SCIENCE HONOR SOCIETY 2019 Scholarships Winners

The New York State Science Honor Society was established in 1991 by STANYS. This year 14 scholarships were awarded to students from nine schools.

SCHOLARSHIP WINNER	SCHOOL	TEACHER-ADVISOR
FIRST PLACE Winners (Received \$750)		
Anna Sherman	Mohonasen High School	Mrs. Rebecca Shea
Martin Peticco	Newburgh Free Academy	Mrs. Arduino
SECOND PLACE Winners (Received \$500)		
Joshua Bauer	Center Moriches High School	Mrs. Golofaro
Anne Yang	Newburgh Free Academy	Mrs. Arduino
THIRD PLACE Winners (Received \$250)		
Natalie Stagnitti	Schalmont High School	Lynn Gemmiti
Julius Olitan	Newburgh Free Academy	Mrs. Arduino
Samantha Romanowski	Lancaster High School	Mrs. Sandra Miller
Eric Cornell	Lancaster High School	Mrs. Sandra Miller
HONORABLE MENTION Winners (Received \$100)		
Ryan DeRosa	East Meadow High School	Mr. Freitag Blinder
Emma Piwko	Lancaster High School	Mrs. Sandra Miller
Alaina Bates	Auburn High School	Mr. Bealer
Maria Najjar	Brewster High School	Mrs. Bald
Serena Burnetter	Burnt Hills-Ballston Lake HS	Mr. Brian Watts
Milan Patel	Newburgh Free Academy	Mrs. Arduino

Congratulations

to all these outstanding students, and many thanks to their Teacher-Advisors!

New York State Science Honor Society Financial Statement for the Fiscal Year ended July 2018

Submitted by Barbara Poseluzny
Treasurer, NYSSHS

Starting Balance July 2017

Chase Checking	\$15,608.58
Chase Savings	\$15,479.24

Total Receipts

from Chapter/Membership Dues, and orders of pins, seal and certificates	\$6,049.00
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Disbursements

Scholarships	\$6,350.00
Membership printing/postage/mailings	\$427.72

Closing Balance July 2018

Chase Checking	\$14,778.41
Chase Savings	\$15,483.24





Watch this space

STANYS pilots an online learning platform

Dr. Helen Pashley, Past President



Has your district provided professional development around the new NYSP-12SLS yet?

Have you had the opportunity to unpack the Performance Expectations for your grade level or course?

Are you collaborating with others to develop a storyline for a unit or “NYSSLS” some old labs?

One of the challenges facing teachers around the state is inequities in opportunities for high quality professional development within districts, at a BOCES, Teachers Center or to attend a conference. The NYSED NYSP-12SLS Timeline for Development, Adoption and Implementation released in January and found here nysed.gov/common/nysed/files/programs/curriculum-instruction/science-time-line.pdf suggests that Grades P-3 and 6th grade should be well underway by September 2019. In this timeline, students benefit from multi-year, three dimensional, instruction before the new assessments in 5th and 8th grade in 2022. This should be followed by aligned Regents courses and new assessments in Biology and Earth and Space Sciences in 2023 and Chemistry and Physics in 2024.

However, it is also evident that very little has been done in some districts to meet these timing guidelines. This scenario begs the question, how can STANYS best support our members in their transition to the NYSP-12SLS beyond our Annual Conference in November, and Section events throughout the year?

At the May Board of Directors meeting it was agreed to pilot an online platform called CLANED for one year. CLANED is a Finnish company based in Helsinki and it is used by the United Nations,

Microsoft, and Cambridge University UK, as well as the Finnish Department of Education and many others. It is much easier to use than other platforms with which you may be familiar such as Moodle or Blackboard. It is much more interactive, and has data collection features to give users insights into their learning path.

The rationale for exploring an online platform was as follows:

1. The platform would support the goals of the summer workshop series with Paul Andersen by providing an online forum to share sample 3D assessments, and then refine questions based on discussion of samples of student work. It would link participants from all three sites and enable work to extend beyond the two days of the actual workshop. It is hoped that participants would be able to share the results of this work at future STANYS events.
2. Feedback from the 5 year planning committee (and DAL PD) who saw a trial learning “Board” created by President Lisa Brosnick and myself was very positive. A Google form survey of STANYS members received 164 responses. 108 indicated that they were interested or very interested in the possibility of an online learning community

platform with an additional optional fee. However, a one year pilot of the platform, during which data and feedback would be collected to establish actual use and feasibility would be prudent. If STANYS intends to offer this benefit and use for other courses and a wider audience, this would require a considerable commitment of time and energy. The decision should be based in actual data.

3. NYSED and Districts are looking for more sustained professional development opportunities rather than “one and done” days. Reference higher.nysed.gov/tcert/pdf/pdstds.pdf. An online platform would enable STANYS to offer on-going follow up opportunities after the Annual Conference. It would also provide flexibility in professional development for those teachers in rural areas, those who are the only science teacher, and those balancing family and other commitments.

After the one year CLANED pilot, during which it will be determined if it is a good fit for STANYS, and after approval from the Board of Directors, we hope to offer this opportunity for professional development in fall 2020. So watch this space!

STANYS 124th ANNUAL CONFERENCE
NOVEMBER 1-4, 2019
 Rochester, NY

Transforming Innovations into Reality in Science (TIRS)

Plan ahead!
Reserve the dates today!
Registration in August at
CONFERENCE. STANYS.ORG



Summer PD Opportunity

Brookhaven National Laboratory, Upton L.I., NY

July 9, 2019 - 8 AM - 4 PM

The Use of NGSS-based Curriculum Materials to Support Teaching of Middle School and High School Life Sciences and Their Physical Science Prerequisites

This is a free professional development workshop for middle school science and high school life science and chemistry teachers presented by Project 2061, the science education initiative of the American Association for the Advancement of Science (AAAS). The workshop will introduce participants to a pair of curriculum units designed to give students a coherent understanding of matter and energy and how they are conserved and transformed for growth and repair in living organisms.

Certificates of participation will be provided to all teachers who attend. A light lunch will be served. Teams of two or more educators representing middle and high school are encouraged to apply. To apply for the free workshop, please go to surveymonkey.com/r/NLMCF8W



How Can Your Membership in STANYS and NSTA Help You Love Science Teaching Even More?

Kenneth L. Huff, STANYS President-elect khuff@williamsvillek12.org

STANYS members have the option of a special offer of joint STANYS/NSTA membership. Here are four details of how membership in STANYS and NSTA can provide you with valuable resources and opportunities to re-energize your science teaching.

Read Your Publications

You can find these publications in your mailbox, online, and at the conferences. The STANYS Newsletter and NSTA's four journals provide ideas from introducing phenomena to students to professional development and grant opportunities. There are ideas that cover every grade level and interest from STEM to the NGSS. For more details: stanys.org/Publications and nsta.org/publications/#journals

Reward Yourself

STANYS and NSTA offer annual award recognition programs. These award programs recognize and raise awareness of the outstanding work being done in classrooms and the field of science education. Awards for 2020 will be open for application in the coming months. Read up on the details now and get ready to participate. For additional details: stanys.org/STANYS Awards and nsta.org/about/awards.aspx

Get to Know Your Leaders and Become One Yourself!

Reach out to one of your STANYS Directors at Large or your Section Director and express your desire to become more involved. There are many opportunities

available for you to share your expertise and leadership. NSTA has ten division directors and with the three association presidents, they comprise the board. These people are all volunteers and spend countless hours to enhance your membership experience. For more details about leadership opportunities and governance structure see: stanys.org/Leadership and nsta.org/about/governance/boardand-council.aspx

Attend the Conference

The STANYS and NSTA conferences are where science teachers come to gain valuable insights by being around like-minded people. Discounts are available for early registration. Consider not only attending the conference, but submitting a proposal for a presentation. This is an excellent opportunity to share your great teaching practices with colleagues. Additional details can be found at: stanys.org/ConferenceMain and nsta.org/conferences/

STANYS and NSTA are comprised of hundreds of volunteers who know the importance of a quality science education. Consider how you can take advantage of what both associations offer to bring fresh, new ideas to your work.

Join
STANYS
AND
NSTA!

STANYS and NSTA have arranged for STANYS members to join both our State organization and the national organization, NSTA, at a discounted membership rate! NSTA has the joint membership posted as an option on its website. To use the option, go to the NSTA membership join or renew option and select "All Yearly Options". Then select "Join State Memberships" and scroll to the NSTA/Joint membership. Joint membership will offer access to all NSTA journals and article archives, and discounts. Find all the details of the enhanced benefits

nsta.org/membership/stanys.aspx



SPECIAL REPORT NASSAU SECTION SUMMER IDEAS

Carol-Ann Winans

Nassau BOCES Outdoor and Environmental Education is working hard to reconnect children with nature. As stated by Richard Louv, "The future will belong to the nature-smart—those individuals, families, businesses, and political leaders who develop a deeper understanding of the transformative power of the natural world and who balance the virtual with the real. The more high-tech we become, the more nature we need." As part of the No Child Left Outside coalition, Nassau BOCES Outdoor and Environmental Education like many other environmental, educational, business, public health, outdoor recreation and conservation groups, believes that young people should have the opportunity to receive a strong education about their natural world. The Educational Program has five ecologically diverse locations: Brookville Education Center, Caumsett Education Center, Fire Island Ferries, Jones Beach Coast Guard Station, Miss Freeport and the Dolphin, and Captree State Park.

The **Brookville Education Center** is centrally located in Nassau County, on 20 acres of land that formally housed the NIKE Missile Base. This location offers experiences that vary from Adventure Education, Orienteering and Survival, Homestead Ecology, Nature Trail Exploration, and the Nature Exploratorium.

The **Caumsett Education Center** is located on the property that once held the estate of Marshall Field, III, and has retained many of its historic buildings. Since 1976, the Nassau BOCES Environmental Center has utilized the 1600 acres property containing a combination of diverse natural habitats: fields, forests, pond, salt marsh and seashore to create ecology-based programs to design a program to meet specific district curricular needs.

For those looking for opportunities to study our local marine ecosystems, the Nassau BOCES Outdoor and Environmental Education offers: (1) South Shore Boat Trips out of Freeport and Captree, (2) Canoe trips at Caumsett State Historic Park and along the Nissequogue, Carman and Peconic Rivers. (3) South Shore Beach Hikes at Jones, Tobay Beach, and the Sunken Forests of Fire Island.

All trips offer students the opportunity to use scientific instruments to record data that is inputted into a database that records data from all participating schools. This information is made available for reference and analysis once students are back in their traditional classroom.

This summer is a great opportunity to check out the wonderful programs offered by Nassau BOCES Outdoor and Environmental Education. Take a hike, paddle a canoe, cast a line, get outside and visit one of their many locations. Be sure to stop by their education centers to figure out a way to reconnect your students with nature. Contact: Carolann James, Program Coordinator cjames@nasboces.org Website: nassauboces.org/Page/5319



Sponsor STANYS. Support Science Education in NYS.

STANYS sponsorship is a wonderful opportunity to support science education and teachers of science across New York State. Our volunteers have taken the time to create a well thought out initiative for such a purpose – a tiered sponsorship program to give supporters a series of options to support STANYS and its mission.

MISSION: To promote excellence in science education. To work with educators and communities to provide opportunities for all students to participate in and learn science. To support student-centered education that excites and invites participation by all students. To share exemplary curriculum and effective teaching practices based on research.

For more information contact: Fran Hess (ficchair@stanys.org)

PLATINUM	GOLD	SILVER	BRONZE	COPPER
\$10,000	\$5,000	\$2,500	\$1,000	\$500
Prominent placement of company or organization name/logo on Annual Conference materials	Prominent placement of company or organization name/logo on Annual Conference materials	Prominent placement of company or organization name/logo on Annual Conference materials	Prominent placement of company or organization name/logo on Annual Conference materials	Prominent placement of company or organization name/logo on Annual Conference materials
Acknowledgement during programs (verbal announcement, posters, PowerPoint slides)	Acknowledgement during programs (verbal announcement, posters, PowerPoint slides)	Acknowledgement during programs (verbal announcement, posters, PowerPoint slides)	Acknowledgement during programs (verbal announcement, posters, PowerPoint slides)	Acknowledgement during programs (posters, PowerPoint slides)
Recognition in appreciation Newsletter article	Recognition in appreciation Newsletter article	Recognition in appreciation Newsletter article	Recognition in appreciation Newsletter article	Recognition in appreciation Newsletter article
Recognition on general and Conference websites	Recognition on general and Conference websites	Recognition on general and Conference websites	Recognition on general and Conference websites	Recognition on general website
VIP seating for Keynote and Fellows addresses for up to 4 representatives	Preferred seating for Keynote and Fellows addresses for up to 2 representatives	Preferred seating for Keynote and Fellows addresses for up to 2 representatives	Preferred seating for Keynote and Fellows addresses for up to 2 representatives	Preferred seating for Keynote and Fellows addresses for one representative
Invitation to Donors Reception for up to 4 representatives	Invitation to Donors Reception for up to 3 representatives	Invitation to Donors Reception for up to 2 representatives	Invitation to Donors Reception for one representative	<div style="border: 1px solid black; padding: 5px;"> <p>Possible Uses of Funds from Any Tier Level</p> <ul style="list-style-type: none"> • Conference or professional development support for speakers, special events, breakfasts, luncheons, receptions, wine & cheese or snack events • Designated support for STANYS' website, Newsletter, Science Congress • Undesignated general support of STANYS </div>
Recognition on Wall of Honor at Annual Conference	Recognition on Wall of Honor at Annual Conference	Recognition on Wall of Honor at Annual Conference	Recognition on Wall of Honor at Annual Conference	
Option to include company/organization-provided publicity sheet with distributed Conference registration material	Space availability for company or organization-provided publicity sheet in Annual Conference registration area	Space availability for company or organization-provided publicity sheet in Annual Conference registration area	Space availability for company or organization-provided publicity sheet in Annual Conference registration area	
May designate area of use for funding*	May designate area of use for funding*	May designate area of use for funding*	May designate area of use for funding*	
Annual Conference Registration for up to 2 representatives	Annual Conference registration for one representative			
Full-page ad in Conference Newsletter	Half-page ad in Conference Newsletter			
Full-page ad in Conference Program	Half-page ad in Conference Program			
2 exhibit tables	One exhibit table			
				<p><small>* With STANYS Executive Committee approval.</small></p> <p>STANYS Funding Initiative Chair ficchair@stanys.org</p>

Learn more about STANYS sponsorship opportunities at stanys.org/sponsorship or contact Fran Hess at ficchair@stanys.org.

A note from Nancy Ridenour

STANYS
Science Matters
Coordinator

Dear STANYS colleagues:

As one of the NYS state coordinators for Science Matters (formerly BaP), I would like to encourage you to use this electronic network to help you promote your activities and initiatives. When I see on the Oneonta list that someone in any subject is advertising an event in one of the STANYS Sections and is broadcasting it to the whole state but only in that subject, I feel the information could better be distributed through Science Matters.

I can send messages to your Section, and neighboring ones, by subject, by grade level, etc. These messages go to Point of Contact (PoC), not all of whom are STANYS members. **It might even promote membership!**

We have about 6,000 public and non-public schools in this state. Right now, we have about 2500 Points of Contact. In order to serve all schools, we need more Points of Contact to receive messages and to share them with school colleagues.

Page 23 of this Newsletter gives instructions on how to become a Point of Contact (PoC) in your school. Please duplicate and share with colleagues, hand out at Section meetings and events, and put into Section newsletters.

Science Matters is a STANYS project. Please use it! See you at STANYS Conference 2019! Drop by the Science Matters booth and say Hi. In the meantime, if you have any questions or concerns, contact me at nridenour@twcny.rr.com

Save the Date...



Taking a Deeper Dive for NYSSLS Leaders

This two-day workshop is designed to prepare teacher leaders to begin the work of facilitating workshops on how to transition to NYSSLS. This workshop builds on the work from the last two summers, and teacher leaders will leave with multiple ideas and resources to share with other educators in their home schools/regions. Those attending will also create storylines for lessons to help further understanding regarding the shifts to the new standards and phenomenon-based learning. Once again, we will be joined by presenter Paul Andersen, who will facilitate this work.

July 29-30, 2019 *Stony Brook University, Stony Brook*

Jul 31-Aug 1, 2019 *SUNY New Paltz, New Paltz*

Aug 2-3, 2019 *Wayne-Finger Lakes Teacher Center, Newark*

Questions: dominick.fantacone@cortland.edu or president@stanys.org





“Science Matters” to All Teachers and Students!

Nancy Ridenour, State Coordinator nridenour@twcny.rr.com

STANYS is the lead organization in NYS for the NSTA initiative, Science Matters. The purpose of Science Matters (formerly 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.

Educators can sign themselves up as Points of Contact (PoC's). The POC for his/her school receives digital information that they are requested to share electronically with colleagues. There can be more than one PoC per school. The messages sent out for Science Matters are seldom the same as those shared on the Oneonta networks.

The success of this network requires all buildings and all teachers to be represented. Please encourage any of your colleagues in other schools to sign up to become a PoC. there are more than 6,000 public and non-public schools in this state that need to receive information relevant to teachers and students.

The network needs you to sign up to help. It does not take a lot of time. Please sign up to become a Point of Contact:

1. Go to <http://bap.nsta.org>
2. On the left side of the opening page, click on **“Become a Point of Contact”**;
3. Step 1: Select State
From the menu, select “New York”;
4. Step 2: Enter only your school’s Zip in the first box (no other info in other boxes) & click **“Find Schools”**;
5. Step 3: Look just below “Find Schools” for the listing of all schools with that ZIP, & **click on your school’s name**. (If your school’s name does not appear, send a message to Nancy Ridenour (nridenour@twcny.rr.com) with the school’s official name, address, and ZIP. It will then be added to the list of schools with that ZIP);
6. Step 4: **Complete template** of first page about **General Info**. & click **“Next”**;
7. **Complete template** on second page about **Demographics**. Under Demographics for Grades and for Subjects:
 - 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.
8. When completed, click on **“Submit”**.

Thanks for volunteering to be a PoC!

If you have any questions, contact Nancy Ridenour (nridenour@twcny.rr.com)



ADI WORKSHOPS

Introduction to the Argument-Driven Inquiry Instructional Model



WORKSHOP OVERVIEW

The workshop is an introduction to the Argument-Driven Inquiry (ADI) instructional model. During the workshop, participants will have an opportunity to learn about the ADI instructional model by participating in all eight stages of an ADI lab investigation from start to finish. The participants will then have time to reflect on their experiences during the lab investigation and ask clarifying questions. Finally, the participants will see how ADI is aligned with the state standards for Science and English-Language Arts, and learn about ways to support students during each stage of the approach.

There are workshops for both Elementary educators and Middle/High School educators.

Elementary Workshop

Materials included

- Prepublication of 8 Elementary ADI Labs
- Lab Handouts
- Guidance PowerPoint for the Example Lab

MS/HS Workshop

Materials included

- Lab Handouts
- Guidance PowerPoint for the Example Lab

SUNY New Paltz

July 8 - Elementary

July 9 - MS/HS

SUNY Cortland

July 10 - Elementary

July 11 - MS/HS

Buffalo State College

July 12 - Elementary

July 13 - MS/HS

COST: \$195 per person

REGISTER online at argumentdriveninquiry.com



Cold Spring Harbor Laboratory
DNA LEARNING CENTER

2019 SUMMER SCIENCE CAMPS!

Sign up at: <http://summercamps.dnalc.org>

Cold Spring Harbor Laboratory's DNA Learning Center (DNALC) is the world's first science center devoted entirely to genetics education. The DNALC invented DNA camps over 30 years ago, and over 21,000 students have participated. Guided by experienced instructors, students entering 6th–12th grades use sophisticated laboratory and computer equipment to perform experiments several grade levels ahead of their peers.



Fun with DNA (entering grades 6, 7) Build an understanding of cell biology, microbiology, biotechnology, and genetics through hands-on experiments.

WiSE Fun with DNA (girls entering grades 6, 7) Held on the CSHL campus with support from Women in Science & Engineering (WiSE), the camp is based upon *Fun with DNA* and is offered for girls only. You will also tour the CSHL campus and meet women in science to learn about current research at the Lab. [Limited space]

World of Enzymes (entering grade 8, or Fun with DNA alumni entering grade 7) Explore the use of enzymes in molecular biology and the food and health industries.

Green Genes (entering grade 9, or World of Enzymes alumni entering grade 8) Perform the same recombinant DNA techniques used to manufacture human proteins such as insulin.



Forensic Detectives (entering grade 9 & 10) CSI enthusiast? Experience forensics through a series of labs and activities in a more realistic fashion than portrayed on TV—it's not just DNA!



Being Human (entering grades 10–12) Connect the prehistoric world with modern human biology through anthropological labs that will get you up close and personal with your ancient ancestors.

For more info about DNALC programs visit

www.dnalc.org

email dnalc@cshl.edu phone 516-367-5170

CAMP LOCATIONS

- Dolan DNA Learning Center**
334 Main Street
Cold Spring Harbor, NY 11724
- DNA Learning Center NYC @ City Tech**
New York City College of Technology
300 Jay Street
Brooklyn, NY 11201
- Cold Spring Harbor Laboratory**
1 Bungtown Road
Cold Spring Harbor, NY 11724
- DNA Learning Center West**
5 Delaware Drive - Suite 5
Lake Success, NY 11042

DNA Science (entering grades 10–12) Perform lab experiments in molecular biology, culminating in the construction and cloning of recombinant DNA. Based on our popular *DNA Science* textbook.

DNA Barcoding (entering grades 10–12) Use DNA barcoding in this project-based camp to survey the biodiversity of an ecosystem or uncover food fraud.



BioCoding (DNA Science alumni entering grades 11, 12) Get started in computer programming (coding) and bioinformatics, a growing field in managing and analyzing biological data. No coding experience required!



Genome Science (entering grades 11, 12) Use biochemical and computer methods to analyze the genetic component of living things.

Have you considered
a career move...
into MODELING?

This summer, try
MODELING WORKSHOPS!



Transforming STEM Education

American Modeling Teachers
Association Modeling Workshop
and Outreach

Modeling Instruction is designated as an Exemplary K-12 science program and a Promising Educational Technology program by the U.S. Department of Education. Modeling Workshops™ are peer-led. Content is reorganized around basic models to increase its structural coherence. Participants are supplied with a complete set of course materials and work through activities alternately in roles of student or teacher, as they practice techniques of guided inquiry and cooperative learning. Models and theories are the purpose and the outcomes of scientific practices. They are tools for engineering design and problem solving. Thus, modeling guides all other practices.

Each MODELING WORKSHOP has these features:

- Aligned with National Science Education Standards
- Focuses on all 8 scientific practices of NRC Framework K-12 Science Education.
- Addresses multiple learning styles.
- Addresses student naive conceptions.
- Collaboration, creativity, communication, and critical thinking.
- Systems, models, modeling.
- Coherent curriculum framework, but not a curriculum; thus flexible.
- Compatible with Socratic methods, project-based instruction, PBL, etc.
- Science & math literacy.
- Authentic assessments.
- High-tech and low-tech options for labs.

Learn more about this summer's workshops. Visit <https://modelinginstruction.org/professional-development/upcoming-workshops/summer-2019>

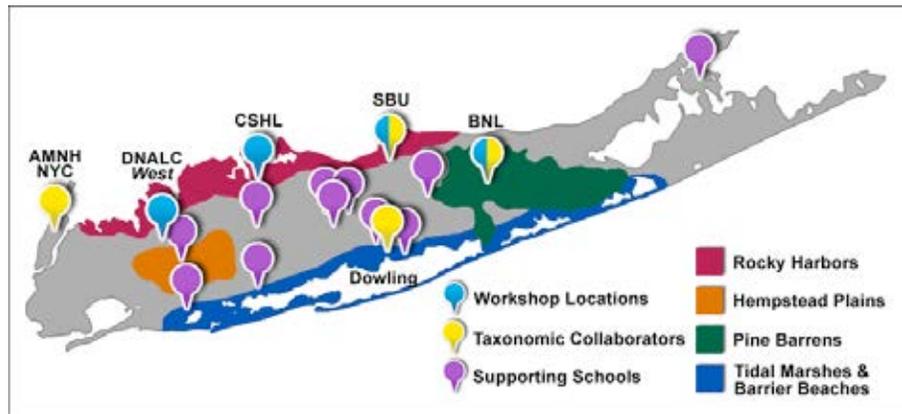


Science Research Opportunity for Long Island High Schools

Funded by the National Institutes of Health

Barcode Long Island Explore Long Island's DNA

In collaboration with Stony Brook University (SBU), Brookhaven National Laboratory (BNL), and the American Museum of Natural History (AMNH), the DNA Learning Center (DNALC) of Cold Spring Harbor Laboratory invites high school students and teachers to



participate in *Barcode Long Island (BLI)*. With funding from the National Institutes of Health, the project mission is for students to gain an intuitive understanding of the crucial interdependence between humans and the natural environment.

BLI is using DNA barcoding to explore, document, and track the biodiversity on and around Long Island through independent and distributed experiments by student research teams led by trained Long Island educators. *BLI* provides all the training, equipment, materials, and infrastructure needed to support this large-scale, student-driven research effort.

Over the span of the project, six hundred student teams comprising 1,800 students are being led by 240 teachers trained at workshops held at BNL, SBU, and two DNALC locations (Lake Success and Cold Spring Harbor) that span Long Island. Workshops introduce teachers to DNA barcoding, experimental design, laboratory and bioinformatics methods, lab kit components, and detail how teachers and students can participate in *BLI* projects and campaigns. With DNALC, SBU, AMNH, and BNL staff, plus a network of scientists from local institutions as support, students are guided as they design experiments, analyze results, and present their research at annual symposia.

Projects can use DNA barcodes to examine LI's biodiversity:

- Checking for invasive plant or animal species
- Monitoring disease vectors
- Determining interactions between species
- Identifying the biodiversity in a taxonomic group or location
- Exploring interactions with the environment and humanity





Barcode Long Island Educator Workshop

Science teachers from Nassau and Suffolk Counties and the NYC boroughs of Queens and Brooklyn may attend summer training. Then, trained teachers assemble student research teams in grades 9 to 12 and submit an original research proposal using our proposal submission guideline. Teams with accepted proposals will receive supplies, equipment, and scientific support needed to conduct experiments. Program data will contribute to a distributed effort to generate a “big picture” of Long Island's many ecosystems and diverse living things. Results will be shared at an annual symposium.

Join us for a free **DNA Barcoding Educator Workshop** this summer. Participants will be introduced to sample collection and DNA barcoding wet-lab and bioinformatics infrastructure. The workshop is Monday-Friday, 9:30 am to 3:30 pm each day.

August 12-16, 2019

**Hyatt Place Long Island/East End
at the Long Island Aquarium**

451 East Main Street
Riverhead, NY 11901

Attending teachers will receive CTLE credit, a light breakfast and lunch daily, and aquarium admission on Friday.

The Cold Spring Harbor Laboratory DNA Learning Center is an approved Sponsor of Continuing Teacher and Leader Education (CTLE) through the New York State Education Department (NYSED).

Please visit the website

www.dnabarcoding101.org/programs/bli/

Where you can:

Register for educator training · Access proposal guidelines · Register for participation in *Barcode LI* · Register *Barcode LI* teams · Submit project proposals · Sign up for laboratory support

Questions? Contact the *Barcode LI* team at barcodeli@cshl.edu

Executive Committee

JULY 2018 – JUNE 2019

President LISA A. BROSNICK
 Past President HELEN PASHLEY, Ph.D.
 President-elect KENNETH L. HUFF
 Vice President DOMINICK FANTACONE
 Association Secretary DONNA BANEK

Association Treasurer SANDRA GEORGE

Bulletin Editor AARON D. ISABELLE, Ph.D.

Newsletter Editor ALICE VEYVODA



Conference 2019

Chairperson ALAN SEIDMAN

Assistant Chairperson GLEN COCHRANE

**IF YOU MOVE, PLEASE NOTIFY STANYS
 OF YOUR CHANGE OF ADDRESS**
stanys.org/contact

Find yourself in STANYS!

The list below shows the counties represented by each STANYS Section. When you join STANYS, you can choose to be a member of any of the Sections. Perhaps you'd like to be a part of the Section in which you work... or, if you live close to a "county line", you might find it "geographically desirable" to become a part of the Section next door. Or you might just want to join the Section in which many of your colleagues are actively involved. Whatever your choice, your Section will be the springboard to workshop offerings and leadership opportunities locally and statewide.

JOIN STANYS NOW – and "have it your way"!

STANYS SECTIONS

New York City (NYC) - Brooklyn, Manhattan, Queens, Staten Island

Northeastern (NE) - Clinton, Essex, Franklin

Catskill-Leatherstocking (CL) - Chenango, Delaware, Otsego

Northwestern (NW) - Genesee, Niagara, Orleans

Central (CE) - Cayuga, Onondaga, Oswego

Southeastern (SE) - Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster

Central Western (CW) - Livingston, Monroe, Ontario, Seneca, Wayne, Yates

Southern (SO) - Broome, Chemung, Cortland, Schuyler, Steuben, Tioga, Tompkins

Eastern (EA) - Albany, Columbia, Fulton, Greene, Hamilton, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

Southwestern (SW) - Allegany, Cattaraugus, Chautauqua

Suffolk (SU) - Suffolk

Mohawk Valley (MV) - Herkimer, Madison, Oneida

Westchester (WE) - Bronx, Westchester

Nassau (NA) - Nassau

Western (WR) - Erie, Wyoming

North Central (NC) - Jefferson, Lewis, St. Lawrence

Use this convenient interactive PDF to complete the form, then print and mail to STANYS with your payment.



STANYS MEMBERSHIP FORM (PLEASE PRINT)

8/2016

Date _____

New Renewal STANYS ID (if known) _____

Name _____

Street Address _____

City _____ State _____ Zip _____

Home Phone (_____) _____

School/Organization _____

Street Address _____

City _____ State _____ Zip _____

School/Organization Phone (_____) _____

Preferred Email _____

Secondary Email _____

Subjects taught or position _____

Last year of membership _____ Section to which you wish to belong _____

Dues*

Check One

	1 year	2 year
Elementary	<input type="checkbox"/> \$44.00	<input type="checkbox"/> \$82.00
Intermediate/Jr. HS	<input type="checkbox"/> \$44.00	<input type="checkbox"/> \$82.00
High School	<input type="checkbox"/> \$44.00	<input type="checkbox"/> \$82.00
College	<input type="checkbox"/> \$44.00	<input type="checkbox"/> \$82.00
Associate	<input type="checkbox"/> \$44.00	<input type="checkbox"/> \$82.00
Retired	<input type="checkbox"/> \$23.00	<input type="checkbox"/> \$42.00
Free Student Membership	<input type="checkbox"/>	

** Enclosed is my tax deductible contribution of \$_____ to:
 STANYS Foundation
 Fellows Conference Award Fund

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**.

* Membership dues are not refundable.

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