



EASTERN SECTION OF STANYS

Greetings Eastern Section Members

Katy Perry, Eastern Section Chairperson
easterndirector@stanys.org

I have been immersing myself these last few days of school in sustainability and human impact on our environment, and I have done a lot of self-reflection. Plastics in our world are showing up in the most extraordinary places, from the guts of birds to the grains of sand. Much of the plastic floating in the ocean is too small to detect, but not too small to cause problems. National Geographic's series [Planet or Plastic](#), is a must read. I'll leave it up to you to decide what you must do, but I encourage you to share the mantra of "less".

At STANYS, we have spent time discussing how to get the word out, about good science, and good practices. At the state level, we are exploring newsletter formats that would be broad reaching, environmentally friendly, and economically feasible. Suggestions and ideas are welcome! Newsletters to all the teachers in the state would be fantastic.....

Also, at the May BOD meeting, in Vestal, we discussed socially responsible investing and walking the walk. Many good conversations are yet to be finished. Helen Pashley, our current President, led us efficiently through the meeting and helped to iron out goals and positions. Rochester planning is underway- institutes and presentations abound!

Across the board, STANYS is looking for more membership participation! We are in need of help with our **Siena Conference**, which is **Oct 12, at Siena College**. Registration, coordination, and set up volunteers are wanted! If you are interested, email me, easterndirector@stanys.org.

If you are interested in presenting, but want support or ideas, or if you would be interested in Mentoring a Presenter, drop me an email too! **See attached proposal form.**

Keep sciencing and have a restful summer.

Regards,
 Katy Perry, Eastern Section Chairperson

Section Activities

Join us!

- Fall Conference at Siena, 12th October 2018

See attached proposal form if you are interested in presenting a workshop at the conference

- Monthly Pub Science Series

[Look for more information on our website](#)



- [Lab Day, Spring 2019](#)
- [Facebook](#)
- [Contact us](#)

Chemistry News

Bill Brown
Chemistry SAR

SAR Chemistry Session for the Siena Conference, October 2018

Regents Chemistry Session: It may seem impossible to find the time to teach all of the chemistry content for the current exam while trying to incorporate more and more of the NYSSLS standards each year. Lab time may be the answer that we are looking for. Come to a chemistry session where we will split into groups that try to tackle how we can adjust some of the most common chemistry labs so that they align with the NYSSLS. The Science and Engineering Practices, Crosscutting Concepts, and Disciplinary Core Ideas will all be discussed. Every high school chemistry teacher, no matter what level of understanding you currently are with the new standards, should be able to walk away from this session with concrete ideas on how to incorporate more of the new standards into your classroom. I hope to see you there.

Watch out! Elementary kids are free!

Katy Perry, Elementary SAR

As the school year winds down, we all have a lot on our plates! Take a moment to catch your breath after the students are out the doors, then dive into a revitalizing summer!

Summer Science events occur continually, through local citizen science and nature ([Pine Bush](#), [Huyck](#), [Dyken Pond](#), [Five Rivers](#), [Thatcher Park](#)), museums, and workshops <https://www.dec.ny.gov/education/1913.html>
<http://www.nysm.nysed.gov/education/professional-development-workshops-teachers>
<https://www.misci.org/Educators-and-Groups>

And more!

Take yourself on a field trip to the local park, arboretum, or pond and explore the informal science around you.

I've been interested in how to keep kids from summer brain drain, so I assign "Summer Science" experiments and projects. What ideas do you have? Let me know, [here](#). I'll share the responses with everyone later!

In the meantime... Ice cream makes a great phenomena for further research.

TEACHING WITH THE LANDSCAPE: AUGUST 7-9, GRAFTON LAKES STATE PARK

Sponsored by Rensselaer Youth Outdoors, A Part of the National Network of Children's Forests

A Professional Development training for K-8 teachers to visit and learn about forest and wetland habitats in Rensselaer County, and to gain a tool belt of curriculum resources to incorporate nature and place-based learning into their teaching. We will hike the forested trails at Grafton Lakes State Park and take a field trip to experience the wetlands at Dyken Pond Environmental Education Center. One day will be reserved for a NYSDEC Project WILD training workshop.

Participants will also explore new 'teacher kits' that will be available for loan to all Rensselaer County teachers. The kits include materials such as binoculars, field guides and ideas for teaching outdoors. Participants will receive CTLE credit hours based on the number of workshop hours attended. Lunch/snacks will be provided each day. Daily agenda and presenters will be emailed to those enrolled. For more information, contact Jaimy George, Rensselaer Youth Outdoors Program Coordinator: 315-542-437

Rensselaer Youth Outdoors is a network of partners that introduces and engages the children and families of Rensselaer County to the wonder, science, and adventure of nature in an effort to create a healthier, more sustainable community in an increasingly complex world.

Location: Grafton Lakes State Park

Dates: August 7-9; 8am - 3pm

Facilitator: Jaimy George, Rensselaer Youth Outdoors Program Coordinator

Fee: None. This training is supported in part by funds provided by the Northern Research Station, Forest Service, U.S. Department of Agriculture.

Registration is required.

Registration: <https://bit.ly/2FoXFNU>

Earth Science

Earth Science SAR - Laura Van Glad

Hi everyone. Hope you had a great year. I have two things to share with you. The first is information about a geologic field conference happening this summer. The other is about an Earth Science (and Living Environment) curriculum tool where you can get ideas for your classes.



<http://visitadirondacks.com/files/styles/500x500/public/small-tughillregion.jpg?itok=kOmtUgB4>

Firstly, NYESTA (NYS Earth Science Teacher Association) is hosting their 5th Annual Geologic Field Conference on July 18-20th. This year's trip will be based in Lyons Falls. We will tour the Western Adirondacks and the Tug Hill Plateau regions with Geology Professor Robert Darling from SUNY Cortland. On Thurs. July 19th, we will explore Middle Proterozoic metamorphic rocks along the Moose River toward Old Forge and the Black River, between Port Leyden and Watson. On Fri. July 20th, we will follow the tall terraces of the Tug Hill limestones and shales skirting the elusive, nearly billion year gap unconformity in the area toward Lowville. We will be having our banquet on Thursday night at the Boondocks Restaurant across from The Edge Hotel (where we have rooms blocked under NYESTA at a reduced rate till June 18th). Our keynote speaker is Dr. James Ebert, Distinguished Teaching Professor of Geology at SUNY Oneonta. At this dinner we will also be hosting an award ceremony for the Distinguished Service Award. This year's recipient is Steve Kluge. After the banquet, if the skies permit, we will be stargazing in the dark skies of Lewis County

(bring binoculars if you have them). The full conference includes Geologic Tour of Western ADKs and Tug Hill, two box lunches, banquet with speaker and award presentation, traditional conference T-Shirt, Field Guide Book and a 3D printed souvenir landscape of our conference location (while supplies last). Come learn about this fantastic area of our state and enjoy the camaraderie with fellow Earth Science professionals. To register via Eventbrite, go to NYESTA.org

Regarding the curriculum tool, last November, at the STANYS conference in Rochester, I attended a presentation on an Earth Science curriculum that follows the standards called "New Visions". I found it to be very informative. New Visions has free open-source curriculum materials by and for teachers. Currently materials are made for Earth Science and Living Environment. Tools for Chemistry and Physics are being developed. Each New Visions science course shares some design features. Each uses Goggle tools. Teachers are encouraged to make copies and adapt documents to their student's needs. Core concepts and themes are spiraled. Unit plans are designed using the "backwards planning" approach described in *Understanding by Design* by Wiggins and McTighe (2005). Plans use the 5E instructional Model and each unit culminates in a regents-like assessment (made up of items from prior Regents exams) and a performance Task that requires application of the learning in the unit to a real-world problem. There is also an item bank from prior Regents exams that you can use. My administrators have given me the opportunity to work with the New Visions curriculum next year and I am looking forward to expanding my horizons. If you are not already using New Visions I highly recommend checking out the website (newvisions.org) and incorporating some of their ideas.

Check out both New Visions and the NYESTA websites. Come join me at the NYESTA field conference in the Adirondacks and the Tug Hill. You won't be disappointed.

Hope all of you have a wonderful summer.



Greater Capital Region Science and Engineering Fair

www.gcrsef.org

Joan Wagner, Director

The senior division finalist of the Greater Capital Region Science and Engineering Fair competed at the Intel ISEF from May 13-18th in Pittsburg, PA.

The finalists were Samantha Boyea (senior at Greenwich HS), Aryia Dattamajumdar (10th grader at Niskayuna HS) and Zach Huang (junior at Albany Academies).

Close to 1800 students from 81 countries and territories competed for over \$4 million in awards.

I am pleased to announce that Samantha Boyea, who developed a drone that can fly into silos to check for structural integrity won two awards. Her special award was from the China Science and Engineering Association. She won \$1200, a ribbon and certificate of recognition. In her category of Robotics, she placed second winning \$1500 and she will have an asteroid named after her. How cool is that!

Zach's project was on identifying epilepsy from EEGs. He received an Honorable mention from the American Statistics Association.

Aryia developed a search and rescue system using a robot and GPS. Though she did not win any awards at Intel ISEF, the day after she returned she competed in the local STEAM competition and won first place.

Dudley Observatory

Joan Wagner, Education Chair

On June 1 st, ground broke to build the new observatory. It should be open by mid-July. The Dudley Observatory is located at miSci on Nott Terrace in Schenectady.

miSci Science Festival

The annual miSci Science Festival will take place October 5-8.

If you are interested in helping, please contact Joan Wagner at: roshni.bhambhwani@misci.org and joanshirley410@gmail.com or call 518-283-7890 x245



Living Environment

Kelly Ryan

Living Environment SAR

As my 30th year of teaching winds down, I feel as though I should attempt to write something profound about teaching, particularly about teaching science. But after much reflection, the best I have to offer is: *keep changing it up*.

In 30 years, a lot has changed – the climate, the students, the electronics, the field of biology - and so has my teaching! With the help of STANYS, the Teacher Centers, BOCES, the Master Teacher Program, local colleges, museums, and companies, there have always been plenty of professional development opportunities available. These experiences *always* translate into something new to bring back to the classroom. I encourage you to take advantage of what's out there - you won't be sorry.

Personally, I chose two workshops to attend this summer. I will be doing a weeklong Forensics workshop at Syracuse University in June and a two-day workshop on implementing the new standards, featuring Paul Anderson. I also recently joined the American Modeling Teachers Association to further explore the practice of modeling in science teaching and learning – a topic I will be presenting on at our annual conference at Siena in October.

But for me, a summer is not complete unless I have a few good books to read. A few weeks ago, I heard an interview on NPR with the author, Richard Powers.

He was discussing his new novel, The Overstory and I was so intrigued I ordered the book as soon as I got home.

The novel interconnects the stories of nine individuals (one a renowned botanist) with



the world's oldest and grandest life forms- trees. It is a story that attempts to reconnect

humans with the natural world. I can't wait to start it! I hope your summer is both rejuvenating and restful!

Phenomenal Science Teaching and Learning

Becky Remis,
Eastern Section Membership Chair

The five-year-old son of a colleague recently asked "Dad, how long will it take toothpaste to dry out?" Of course, a mini investigation followed, and a curiosity was satisfied.

The questions that our students ask are usually more complex – if they ask any at all. So, the questions that arise are these: How do we promote curiosity and questioning in our students? How do we accommodate the design and implementation of authentic investigations? And, how do we use observable phenomena to meet these two goals? The answers are as complex as the phenomena themselves.

Learning which is both engaging and lasting usually centers around an intriguing problem, curiosity, question or story. These serve to motivate, to cause wonder, to ponder solutions, and to make connections to our prior experiences and background knowledge. As science teachers we can take advantage of these truisms by using observable phenomena in our classrooms. As you've probably heard over and over, phenomena do not have to be "phenomenal" (although this helps) to be effective tools for learning. So, what does a lesson that centers on a phenomenon look like, exactly? How can phenomena be used to help us create learning sequences that align to the three dimensions of the new NYSSLS?

The professional development that STANYS provides is one avenue for us to share what we are doing to meet the demands of new science standards, and to learn from each other. Plan to attend (or present at) the Eastern Section Siena Conference in October, and the Statewide STANYS Conference in November. And remember, your membership in STANYS is what allows these events to happen every year.

Enjoy the summer. I look forward to seeing you in the fall!



TEACHER CENTER COURSES

Wildlife Cameras Course: <https://bit.ly/2K4M2Jg>

Bird Banding Course: <https://bit.ly/2HFS3he>

1. USING WILDLIFE CAMERAS TO INTEGRATE TECHNOLOGY AND NGSS SKILLS INTO THE CLASSROOM

“Camera trapping” has become a widely used tool for monitoring wild mammal populations across the globe. At the Albany Pine Bush Preserve, researchers have been using wildlife cameras for over five years to observe and document cryptic wildlife for various management purposes. This research allows you to bring real-life photos and data into your classroom as a fun and engaging way to meet the new science standards. In this multi-session program, you will actively participate in various ways to apply camera traps in your classroom. Participants will have the opportunity to borrow a camera trap to set up a research project at their school.

While participants are encouraged to attend all three sessions, you may still join the fall sessions if you cannot make Session 1 in August. Please let the instructor know if this is the case after registering.

- **Session 1:** 8/15/18, 1:00 - 3:00 PM. Science staff from the Albany Pine Bush Preserve Commission will discuss the use of wildlife cameras in the Albany Pine Bush Preserve, the analysis of photo data, and tips on how to deploy a wildlife camera. A local science teacher will share lessons and activities that integrate the use of camera technology into the classroom.
- **Session 2:** 10/9/18, 5:00 - 7:00 PM. Dig deeper into how camera trap photos and data can be used in your classrooms to meet the new science standards. Participants will learn how to incorporate camera data, citizen science, spreadsheet/graphing skills, and NYSSLS engineering practices/crosscutting concepts.
- **Session 3:** Asynchronous online (3.5 hours). Work with teachers to continue the discussion and share results of camera trap projects in your school. The goal is to reflect on the process and create shared photo/data resources. (asynchronous online).

Location: Albany Pine Bush Preserve Discovery Center

Dates: 8/15/18, 1:00 - 3:00 PM; 10/9/18, 5:00 - 7:00 PM; Asynchronous online (3.5 hours)

Facilitators: Pine Bush staff; Jennifer Ford, Farnsworth MS; James St. Denis, GCRTC Coach

Fee: None. Sponsored by GCRTC, Master Teacher Program - Capital Region, and Capital Region BOCES.

Registration is required.

Registration: <https://goo.gl/Wixmjd>

2. USING BIRD BANDING RESEARCH IN THE ALBANY PINE BUSH PRESERVE TO ENGAGE STUDENTS IN “THREE-DIMENSIONAL LEARNING.”

The Albany Pine Bush Preserve is home to 44 species of birds in need of conservation. The rarity of species that call this place home along with the high-quality habitat and diversity of bird species that breed here have earned the preserve designations as both an Audubon Important Birding Area and a NYS-DEC Bird Conservation Area. The APBP Conservation Science Team has been banding birds in the preserve for over eight years. Birds are caught using fine nets called mist-nets. The captured birds are then banded, sexed, aged, and their health evaluated before being released. The data gathered from this research allows us to evaluate survivorship and productivity as well as monitor usage of the preserve as a migration stopover.

While participants are encouraged to attend all three sessions, you may still join the fall sessions if you cannot make Session 1 in July. Please let the instructor know if this is the case after registering.

- **Session 1:** 7/18/18 7:30 - 9:30 AM. Meet at the APBP Discovery Center and come along on an early morning adventure to see our science team in action as they capture and band birds! We will be walking off trail, so please dress in light colored pants, long socks to tuck pants into, and sturdy walking shoes.
- **Session 2:** 10/25/18 5:00 - 7:00 PM. Dive deeper into how bird banding research can be used in your classroom to provide the phenomena to spark student questioning/investigation and meet the new science engineering practices in an engaging way.
- **Session 3:** Asynchronous online (3.5 hours). Work with teachers to continue the discussion and share the results of classroom implementation.

Location: Albany Pine Bush Preserve Discovery Center

Dates: 7/18/18 7:30 - 9:30 AM; 10/25/18 5:00 - 7:00 PM; Asynchronous online (3.5 hours)

Facilitator: Pine Bush staff; James St. Denis, GCRTC Leadership Coach for Science

Fee: None. Sponsored by the GCRTC, Albany Pine Bush, and Master Teacher Program - Capital Region

Registration: <https://goo.gl/2SbddX>

Summer events open to the public:

ECOS EVENTS (ECOSny.org)

Stratton Air National Guard

June 28, Thursday, 10 a.m.

Kelly Adirondack Center: 897 St. David's Lane, Niskayuna

A talk about the mission and work of the Guard, with focus on polar conditions and climate by press office Willie Gizara.

ECOS WALKS & RIDES

GUIDED SATURDAY WALKS

All walks will start at 10 a.m. Rain dates are **Sunday**, the next day, same time. Bring boots or sturdy sneakers, sunscreen, bug spray, water. Contact 518 370-4125 or info@ecosny.org for more information.

June 23 – Bozenkill.

This is a newly created, 214-acre preserve, made possible by a partnership between the Open Space Institute, the Nature Conservancy, and the Mohawk Hudson Land Conservancy.

Meet at the preserve parking lot on Westfall Road, off Bozenkill Road, Altamont. Walk leader: Darwin Roosa

July 14 – Hetcheltown. This 100-acre preserve follows the banks and bluffs of the Indian Kill, with its native hardwood forest, conifer plantations and wetlands, as well as wildflowers and a variety of fern species. Meet at the parking lot across from the county recycling facility at 24 Hetcheltown Rd., Glenville. Walk leader: Art Clayman.

PRESERVE CHALLENGE WALKS

(Choose your own dates!)

ECOS is encouraging both members and non-members to do the following hikes on their own – with or without ECOS guidebooks. Once a hike is completed, participants can receive a patch from ECOS. Contact 518 370-4125 or info@ecosny.org for more information.

- Bozenkill
- Hetcheltown
- Lisha Kill
- Plotterkill
- Christman
- Schenectady County Forest Preserve
- Sanders Preserve

GROUP BIKE RIDES

Bike rides are on Wednesdays at 5 p.m. Rain dates will be Thursday, the next day, same time. No kids under 10 – sorry!

June 20 – GE plot. Meet across the street from the Unitarian Society at 1221 Wendell Avenue, Schenectady, for a leisurely ride through the peaceful GE Realty Plot, with its beautiful, historic homes. Approximate time: 1 hour.

July 18 – Rexford Bridge to Casino. Meet at the parking lot next to the boathouse, just off the new traffic rotary circle, for a ride along the bike path to and around the casino site. Distance: 12 miles round trip. Approximate time: 90 minutes.



**36th Annual STANYS Siena Conference
Presenter Proposal Form
October 12, 2018**



Name (including title): _____

Additional presenters with school/business/ organization affiliation:

Your school/business/organization affiliation: _____

Preferred Mailing Address: _____

Phone numbers: home _____ office _____ cell _____

Preferred email: _____

Title of Presentation: _____

Description of Presentation (25-word maximum please): _____

Preferred Session: Session I, 4:30-5:20pm _____ Session II, 5:40-6:30pm _____

**Preference cannot be guaranteed. Sessions are assigned based on need & room availability*

Room needs (circle all that apply): PC MAC projection with screen lab tables sinks

other: _____

I will bring my own:

- computer
- projection equipment

Please return by July 15, 2018 to:

Tom Shiland
30 Fairway Boulevard
Gansevoort, NY 12831

I will contact you by September 7, 2018 with a room number.

For questions, email Tom at tomshiland@gmail.com




2018 ASTRONOMY INSTITUTE
 A week of professional development for K-12 educators
July 23-27, 2018
 at College Park Hall at Union College
 PRESENTED BY DUDLEY OBSERVATORY AT MISCI

REGISTER NOW



**Pub Science:
 Tour of Indian Ladder Farm in
 Altamont, NY**

