



Eastern Section of STANYS

Newsletter Fall
2017



Albany, Columbia, Fulton, Greene, Hamilton, Montgomery,
Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington

Greeting Science Educators!



The Perseids meteors are falling through the night sky, the solar eclipse glasses are ready, and the summer is speeding into fall. September brings the excitement of new ideas, clean classrooms, and the beginnings of NYS Science Learning Standards implementation. How will I change my methods, lessons, curriculum, and district mindset to incorporate the Three Dimensions? STANYS is organizing many resources and events to help! Eastern Section STANYS offers our Siena Conference, on Oct. 13 at Siena College in Loudonville, NY and the state STANYS Conference is in Rochester, NY Nov. 4-6; both events will bring new ideas, networking, and support to educators of all types. Check out <https://eastern-stanys.org/> for more information. I encourage all of you to join us!

Along with conferences, Eastern Section STANYS, offers informal PD, our Pub Science events, SAR resources and contacts, and an evolving database of curricular connections. If you are looking to get more involved, our Board of Directors has opportunities for you! Come join in our monthly gatherings at Siena College. Our website <https://eastern-stanys.org/> has been recently updated and continues to grow. You can find contact information, events, and ideas, and also send in your ideas and questions.

Engaging the passion in our students, the passion in ourselves, and keeping it fun, inspires the best science teachers and learners. Thank you for your efforts to keep the excitement alive. If you are interested in sharing your expertise with fellow educators, we would love to hear from you. My contact information is easterndirector@stanys.org.

The best start of the school year to you all!

Regards,
Katy Perry
Eastern Section Chairperson and Elementary SAR
easterndirector@stanys.org



October 13, 2017

**STANYS -
Eastern Section
Conference at
Siena College**

Click on the link to
View available
information



Are You Ready to Dive into NYSSLS? Take the Plunge with STANYS!

Becky Remis, Membership Chair
beckyremis@gmail.com

New science standards are HERE and your membership in STANYS will help you "dive in"! The benefits of membership are many: engaging in quality professional development, networking with fellow teachers, attending local and state conferences, receiving timely updates from NYSED, and the chance to elevate your practice and professional involvement. This summer STANYS members also had the chance to dive deeper into the new NYS Science Learning Standards during two-day institutes offered around the state. STANYS leaders attended for free, and several from the Eastern Section attended the institute at SUNY Adirondack. To take advantage of these kinds of opportunities, you must be a STANYS member. Joining STANYS (or renewing) is easy and there are several membership options, including group membership at a 20% discount. Go to <http://stanys.org/about/member-benefits.html> for details, or contact the Eastern Section membership chair at beckyremis@gmail.com.



Eastern Section leaders take a "deeper dive" into NYSSLS: Director Maria Russo, Vice Chair Bill Brown, NGSS guru Paul Andersen, Membership Chair Becky Remis, Treasurer Fran Lohnes, and Living Environment SAR Kelly Ryan.

Thanks to Our Generous Sponsors of our Annual Conference at the Siena College on October 13, 2017!

- The Master Teacher Program
- Flinn
- Pearson
- Wards Science
- Aldon Chemical Corporation
- National Geographic Learning
- miSci/Challenger Learning Center
- Science Take-Out

Also visit:

- The Science and Engineering Fair

A special thanks to our gracious host, Siena College and to Dr. Lucas Tucker, our liaison.

Greater Capital Region Science and Engineering Fair

Joan Wagner, Fair Director
www.gcrsef.org

The Greater Capital Region Science and Engineering Fair will take place on March 24, 2018 at the RPI Walker and Sage Labs.

This Fair is a regional Fair for both the Intel International Science and Engineering Fair and the STANYS State Conference. The junior division feeds into the Broadcom Masters competition, which is modeled after the Regeneron Student Talent Search (STS).

This year, at the Eastern Section Siena Conference on October 13th, I will conduct a workshop providing activities and strategies for science research at the Middle level. Inquiry science is an important component of the NYS NGSS. When students do their own research, not only do they better understand the nature of science, but develop the skills needed to do research.

Many students who have participated in this Fair have gone on to careers in STEM, with some becoming renowned experts in their fields.

Elementary News

Katy Perry
Eastern Section Elementary SAR
perry.kate23@gmail.com

Phenomenal science, experiments, research, questions..... I wonder how to start off the year? Students are eager learners, love to explore and make messes; so, let's take advantage of it! NSTA press has books to inspire- the "Next time you see a ..." and "Picture Perfect" Series helps connect the wonders and the what's for you and students. Nature Centers, parks, museums, and animals help build awe, empathy, and responsibility. This page <https://www.ngssphenomena.com/> sparks my curiosity and makes for great Question of the Day prompts. Our newly designed website has resource links <https://eastern-stanys.org/elementary-science-resources> to inspire you also. The most important part is getting to know your students and setting procedures and expectations, and keeping their energy in the right direction! I like setting up a WOW experiment to begin the year. Simple ideas such as, how long does it take for a life saver to dissolve (and does color matter), how many drops of water can fit on a penny, insect and spider searches, or STEM structure challenges are easy and engaging. Let me know what you do!

The State Conference in Rochester will host its Elementary Science Institute. Here is a sneak preview!

Elementary Science Institute

In each of the three sessions that make up the Elementary Science Institute, participants will collaborate to improve instruction, content knowledge, and student achievement. They will also share lesson modification ideas emphasizing developmentally appropriate instructional strategies for the complete range of diverse learners found in today's classroom, including ELL. Current research-based strategies will be used.

The three sessions described below will be offered concurrently from 9 – 10:15 a.m. and then repeated from 10:30 – 11:45 p.m. Participants may choose to attend two of the three sessions offered, though each room will have a maximum of 30 participants. The Elementary Science Luncheon, beginning at noon, will conclude the Institute. Participants should register separately for the Elementary Luncheon hosted by Elementary DAL, Duane Willsey.

Making Light of Communication, the Phenomena of Light Waves

Presented by Katy Perry, Elementary SAR for Eastern Section, Mari Scardapane, Elementary SAR for Suffolk Section. How can you send a message using light? What are light waves and how do they travel? Using phenomenon-based learning, PBLs, and scenarios to engage students, you will leave with material you can use to reach the diverse needs of all learners. We'll investigate all this and more as we explore resources, collaborate to share ideas, and experiment with light in this hands-on workshop focusing on designing and building communication devices using light. This unit is aligned to the NYSSLS 1. Waves: Light and Sound, 1-PS4- 2,3,4, and it is adaptable and integrated!

Exploring Structure, Function & Information Processing

Presented by Mary Kay Flett, Elementary SAR for Western Section and Karen Huffman, DAL for Colleges. In this workshop we will develop models that describe phenomena of the senses with an emphasis on vision and the transfer of this information. We will EXPLORE the 4th grade NYSSLS of Structure, Function and Information Processing, with the hopes of participants being able to incorporate this style of lesson INTO their own grade level. This session is aligned to NYSSLS 4. Structure, Function and Information Processing, 4- PS4-2, 4-LS1- 1, 4-LS1- 2.

Engineering Design for Elementary

Presented by Antonietta Quinn, Elementary SAR for Central Western, Mary Thomas, Monroe 2 Orleans BOCES Elementary students are natural engineers. Give them a problem and they will be eager to help you solve it. In this session, participants will engage in the engineering design cycle as they experience an example of an elementary design problem aligned to 3-PS4- 2; K-2- ETS1-1,2,3; 3-5- ETS1-1,2,3. Participants will collaborate with others to gain content knowledge and improve their understanding of Engineering Design at the elementary level as described in NYSSLS. The diverse needs of all students, including ELL learners, will be addressed with suggested strategies. A design portfolio and rubric (in both print & digital formats) will be provided to teachers to gather evidence of student learning in their classrooms. This will be a hands-on experience in which teachers walk away with resources that can be adapted to any K-5 classroom.

Make sure you join us! I'll also present my personal version of **Making Light of Communication, the Phenomena of Light Waves** at our Eastern Section Siena Conference on Oct. 13. Register soon!

As always, if you have ideas to share, questions, or requests, send them my way!

To Be Informed of Opportunities in The Region: Connect!

Arden R. Rauch
rauch@union.edu

1. **Local Earth Science** opportunities and succinct references to current ES events:

If you are already receiving updates from me, you don't need to do anything.

If you want to join (FREE) ESnet, and well over 100 are or want to be deleted, email me at rauch@union.edu.

2. **Local Environmental Science** opportunities and succinct references to current Environmental events:

If you are already receiving updates from me, you don't need to do anything.

If you want to join (FREE) EnvNet, and well over 50 are or want to be deleted, email me at rauch@union.edu.

3. **Join Science Matters:**

National Science Teachers Association (NSTA) sponsors a free distribution list which is designed to have one person in each school receive email and then send it on to appropriate colleagues. To learn more, go to: <http://bap.nsta.org/Content/Home/FAQ.aspx>

If you chose to become a PoC, which requires just a few minutes per week, go to:

<http://bap.nsta.org/Content/Home/BecomeAContact/Default.aspx>

Feel free to email me with any questions.

Keynote Speaker at the 36th Annual Siena Conference - Amanda Zullo



The 36th Annual Siena Conference will take place on Friday, October 13th. Our keynote speaker is Amanda Zullo who is currently an Associate in Instructional Services at NYSED. Her talk is called Now is the Time. It will be interactive and forward focused on tapping into the knowledge and expertise that surrounds us.

Amanda Zullo, NBCT was a chemistry teacher for 12 years at Saranac Lake High School in New York and now is the Associate in Instructional Services-Science for the State Education Department. While at Saranac Lake she was the grant coordinator with ADK Farm to School Initiative, on the professional development team and continues to be a National Board Candidate Support Provider for candidates in the Adirondack Park and surrounding northern regions.

In addition, we have a bounty of workshops for you to choose from with a balance between all the disciplines. Attached is the program and registration form. Please "go green" and use the electronic registration at Eventbrite. The first 50 people to register will receive a free drink! See you there!

Authentic Science Learning with Breakout Edu Games

Jennifer Gecewicz, Intermediate SAR

jen.gecewicz@gmail.com



In early August, I had the pleasure of attending the Games in Education Symposium at SUNY Albany. During the two-day conference, I attended sessions with topics that taught why and how to implement games into my students' lessons. Breakout Edu games were highlighted in one session, and can easily be used in science classes to teach various content and skills.

Why? Breakout Edu games (<https://www.breakoutedu.com/about>) enable students to be purposefully engaged and to learn authentically while doing something that comes naturally to them: playing. The games are highly engaging, and offer opportunities for students to build important 21st-century skills including collaboration, critical thinking, communication, and creativity.

They can also encourage development of a Growth Mindset! Ultimately, students need to solve clues and puzzles to open something. If this is a rabbit-hole you're willing to jump into, then you first need to decide how you're going to implement them. Breakout Edu offers games in two varieties: The Breakout Edu kit games or digital games.

How does this work with science classes? Breakout Edu games are extremely good examples of how science is done! Scientists - which include our students - are expected to be able to sort through data [i.e. clues/puzzles] to make sense of the world [i.e. solve the game, or open the box]. In scientific research, there is no answer key, so what better way to allow our students to experience that than by doing - and by playing with something fun!

How do you get started? The Breakout Edu kit requires a purchase (or creating your own!) that essentially includes a lockable case, a black light flashlight, a flash drive, a multi-lock hasp, and locks of several varieties [i.e. 3-digit, 4-digit, alphabetical, and directional]. The digital games are free, but require an internet connection and an internet-connected device (according to their website, "preferably a laptop, Chromebook or desktop computer"). You can have as many students as you have on your roster using one kit or device, but in my experience having students work in smaller groups will keep more of them engaged longer. There are several premade games of both types available on the website, just keep in mind that the kit games will require color-printing materials to play. (Kit games: <https://games.breakoutedu.com/> ; Digital games: <https://www.breakoutedu.com/digital/>) I have used a kit with my students, and some of the digital games with my two elementary-school aged sons. Just like we want our students to do, you have to learn how to use them by doing. (I recognize the irony in my teaching you about them by writing an article about them. SMH.)

Continued....

Continued

Authentic Science Learning with Breakout Edu Games

Oh, now you want to know some of MY advice?! Sure! The following are some random thoughts about my experiences with the games. I found that some students will get frustrated - very frustrated [i.e. my almost-eight-year-old was in tears because he felt “stuck”, and in class several students resorted to being distractors because they couldn’t figure out a clue]. My students naturally divided up into do-ers and followers. I gave them time to play and work together, but was prepared to give hints, when necessary. Don’t be afraid to throw in some red herrings to throw them off. Both types of games can employ invisible ink. Hint: Digital invisible ink can be made by writing in a font color the same as the background color. You can create your own games for both varieties, which is something I plan to do in the future.

Breakout Edu offers templates for you to use to create them yourself. (Kit game templates: <https://www.breakoutedu.com/create>; Digital game templates: <https://sites.google.com/site/digitalbreakoutjb/how-to>) I used the kits in my four science classes on a half day with 20-minute classes; I just reduced the number of clues/puzzles they had to solve. My “outside-the-box thinking” students were more comfortable with the games, while my more “traditional” students became frustrated faster. I have thought about ways to reduce competition, while boosting collaboration and am considering using one game kit over a longer period. I could release clues more slowly, because there is no rule about the time frame in which you play them. Lastly, if you choose to use a kit in your class, realize that it will take time for you to set it up again for your next class to use. I am lucky enough to work with other teachers who love these games, and collectively we have purchased several kits to share. I would recommend you try a level 3 or lower digital game to get started. Before you know it, you’ll be addicted. Feel free to contact me at jen.gecewicz@gmail.com.

Will you Breakout???

Living Environment



Kelly Ryan, SAR Eastern Section
kellyryan@ncolonie.org

As summer 2017 ends and I get ready to begin my 30th year in the classroom I am both excited and nervous as we begin the transition to the new science standards in New York State (NYSSLS).

After spending a few years reviewing the standards, reading up on 3D learning and attending workshops, I was beginning to feel more comfortable with the new standards, so last school year I decided to get “my feet wet”. I made a conscious effort to use the vocabulary associated with 3D learning throughout the year. For example, students *modeled* biological processes, looked for *patterns* and trends in data, used *evidence* and reasoning to support their *claims*, tracked flow of *energy and matter* through ecosystems.

This year I plan on “wading in a bit further” as I feel even better equipped after attending a few workshops this summer. During the first week of August, I attended “A Deeper Dive into NYSSLS” with Paul Andersen (Bozeman Science), along with a few hundred teachers from across New York State. For two days we focused on phenomena, science & engineering practices and crosscutting concepts. We worked on developing 3D assessments and 3D lessons. My goal for this school year is to take at least one unit in my Living Environment course, that is similar in terms of content to a few of the Performance Expectations in NYSSLS, and use the 3D approach to learning. For great resources check out this website that was put together during this statewide event: bit.ly/NYSSLS17

Don’t forget our STANYS Eastern conference on October 13! I attended another workshop this summer on Medicine and Me and Big Data offered by the University of Rochester. Our conference in October will feature 2 workshops on “Medicine and Me”. The “Medicine and Me” lessons are not only highly engaging but they also fit nicely into the 3D learning model. I look forward to seeing you in October.

Lastly, I just began reading [A Crack in Creation: Gene Editing and the Unthinkable Power to Control Evolution](#) by Jennifer Doudna and Samuel Sternberg. It is an engaging book about the discovery of the gene editing complex CRISPR and its applications as well as its *implications* for the future. Incidentally, Jennifer Doudna was just awarded the prestigious Albany Medical Center Prize in Medicine and Biomedical Research for this discovery.



STANYS Eastern Section 36th Annual Siena Conference

Mail-in Registration Form

Siena College, Friday, October 13, 2017 from 3:00 to 9:00 PM

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

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

- ✓ Fill in the registration information specified on the form below.
- ✓ Make out a check for the appropriate amount:
 - \$ 44 for STANYS members
 - \$ 54 for Non-members
 - \$ 36 for students or pre-service teachers
- ✓ Make checks payable to: *STANYS Eastern Section* - Purchase orders will NOT be accepted!
- ✓ Mail the registration form, along with your payment, postmarked by **Friday, October 6, 2017** to:

Kelly Ryan, Registrar, 9 Heather Lane, Rensselaer, NY 12144

No one will be officially registered unless full payment is received.
Registration questions: contact Kelly Ryan at kellyryan@ncolonie.org.

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

✂-----

Name _____

School or affiliation: _____

Grade level: _____

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

Preferred address: _____
street city zip code

Preferred phone number: _____

Preferred email: _____ (please print)

Session Choices:

Session 1 First choice: _____ -----> Alternate choice for Session 1: _____

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

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

Check one:

*Member _____ Non-member _____ student/pre-service _____

* Please be sure your membership is current

Amount enclosed \$ _____

36th Annual Eastern Section STANYS Fall Conference At Siena College



Friday, October 13, 2017

Agenda

3:00-4:10 pm Exhibitors, refreshments, registration (Sarazen Campus Center)

4:10-4:25 pm Welcome, (Sarazen Campus Center)

4:30-5:20 pm Session I

5:40-6:30 pm Session II

6:45-7:45 pm Dinner (Serra Hall)

7:55-9:00 pm Door Prizes and Keynote Speaker (Sarazen Campus Center)

Session I: 4:30-5:20 PM

A. Exploring Exoplanets. *Valerie Rapson, Ph. D., Outreach Astronomer at the Dudley Observatory; Megan Norris, Planetarium Director at miSci.* Teachers will create scale models of exoplanet systems compared to our solar system and learn how to use the exoplanet archive graphing tools in the classroom. *Earth Science, General. Siena 101*

B. Medicines and Me I. *Nichole Mantas, Troy Middle School and Alicia McTiernan, Guilderland High School*

Teachers will engage in lessons developed by the University of Rochester Life Science Learning Center that have been designed to incorporate OTC medicine safety education into science curricula. In “Cold, Flu or Allergy?” simulated flu tests are conducted on the Miller family and students determine treatment options based on the results. In “How Much and How Often” measurement tools and modeling are used as students assist Micah in the proper dosing of OTC medicines. *Biology. Siena 119.*

Note: Participants do NOT need to attend both sessions.

C. Approaching NYSSLS as a District: One Cross Cutting Concept at a Time. *Becky Remis, NBCT,*

NYSSLS implementation is happening with time to do it right if you start now. Learn about one district’s K-12 approach with a focus on cross cutting concepts. *General. Siena 120*

D. Science Research for Grades 6-8. *Joan Wagner, Focus on Learning, Eastern STANYS SAR for Informal Learning, Dudley Observatory. Earth Science, General.*

Inquiry and cross-cutting concepts are an important part of NGSS. Students of all ages are capable of carrying out STEM research with guidance. Activities that “train” students to do research will be shared. Participants will have electronic access to all activities and will try out at least one of them. *General. Siena 117*

E. Layering through Earth’s History. *Lisa Fort, earth science teacher, Queensbury High School.* The presentation will include two interactive laboratory activities for the Earth’s History Unit (ES). Specifically, how scientists analyze cores from the ice and soil to determine the past. *Earth Science. Roger Bacon 238*

Elementary, Intermediate, High School, Earth Science, General Science. **Siena 105**

J. Climates of the Past – Using Tree Rings, Ice Cores, and Fossils to discover ancient climates. *Deborah Mabey, NBCT, NY State Master Teacher – Capitol Region, SAR - Applied Science and Technology, Hoosick Falls High School; Kim Hayden, Questar III STEM Research Fellow.*

In this session, we will focus on how scientists figure out how climate has changed over time by analyzing ancient climates recorded in tree rings, ice cores, sediments and fossils. Participants will engage in several activities that will provide opportunities to analyze and interpret data that can be adapted for use in their own classes. This workshop will provide a number of lessons and activities that can foster three-dimensional learning by building a model-based understanding of climate change. *Earth Science, Environmental Science, Living Environment, General.* **Siena 106**

K. Explaining Natural Phenomena with Claim Evidence Learning. *Fred Pidgeon, Past President STANYS.*

Through use of the NYS STEM quality learning rubric I will explain how to encourage teachers to use claim evidence based learning to explain natural phenomena. The teachers will learn how natural phenomenon applies to science principles and how to engage their students to think and work out their own ideas about science principles. General. **Siena 125**

L. Hyper docs: What's All the Hype? *Mrs. Jody Suprenant, Capital District Master Teacher, Hudson Falls Central School District.*

Want to learn how to create a single document where all components of a learning cycle have been pulled together into one central hub? A document where students can control their pace and sequence and where differentiation is the default? Enter the HyperDoc. Hyperdocs are dynamic instruments that help us package 3D learning experiences and empower our students to take ownership of their

F. Climate Change and the Next Generation Science Standards. *Stephen Danna, Ed.D. SUNY Plattsburgh at Queensbury.*

The Next Generation Science Standards offer an opportunity to develop a science literate public able to adapt and mitigate climate change impacts and minimize human suffering. *General.* **Siena 123**

G. Next Generation Chemistry. *Maria Russo, STANYS Director, Conference Evaluation Chair.* Participants will be introduced to phenomena driven instruction and its incorporation in a three-dimensional chemistry unit. *Chemistry.* **Roger Bacon 250**

H. Breakout Boxes. *Paul Levin and Amy Derwin, Galway Central School.*

Incredibly engaging game that is gaining popularity in schools. Breakout EDU was inspired by the Escape Room phenomena round and is fun for all ages. Games can be used to teach any academic content or as a team building activity! In this session, you will learn about Breakout EDU, play a Breakout EDU game, and using teamwork, collaboration, creativity, critical thinking trouble shooting and communication, you will problem-solve to try to beat the clock and break into the Breakout EDU box. *Elementary, Intermediate, High School* **Roger Bacon 328**

I. Enhance Your Weather Content with Real-Time National Weather Service Data. *Jared Foro, Guilderland High School*

Use of real-time National Weather Service data is an easy and fun way to make your weather content more relevant to your students. Ideas will be shared on how to incorporate such data in the form of a daily weather briefing. Weather briefings can be as basic as identifying phenomena on radar, or as complex as in-depth upper air analysis. All NWS data is easily accessible and new technologies developed by NOAA continue to improve the general public's access to this information.

learning while decreasing time spent on direct instruction. Win/Win/Win. *General. Siena 121*

Session II 5:40- 6:30 PM

M. Medicines and Me II: *Sandra Fischer, Chatham High School and Kelly Ryan, Shaker High School, Living Environment SAR and NYS Master Teacher.* Teachers will engage in lessons developed by the University of Rochester Life Science Learning Center that have been designed to incorporate OTC medicine safety education into science curricula. In “A Case of Unintentional Overdose” students conduct simulated lab tests on Luis and analyze his medications to determine what he did wrong that prevented his liver from maintaining homeostasis. In “A Family Medicine Cabinet” students learn scientific testing is important for determining drug safety as they compare OTC drugs, prescription drugs and dietary supplements. **Siena 119**

N. Phenomena in Physical Science: Chemistry and Earth Science for the Elementary Classroom. *Becky Remis, NBCT, Bill Brown, Chemistry teacher, Lake George High School.* Two secondary science teachers will share observable phenomena that will engage all students, especially our youngest scientists! We will focus on the cross cutting concepts of *Energy and Patterns* found in the NYSSLS. *Chemistry, Earth Science.* **Siena 120**

O. Bringing Biotechnology to the Classroom. *Ms. Nichole Mantas, Living Environment teacher, Troy Middle School and Ms. Nikki DiGiuseppe, Living Environment teacher, Saratoga Springs High School.* This is a crash course in basic biotechnology- including micro-pipetting and gel electrophoresis. You will leave a pro with ready to use activities. *Biology.* **Siena 121**

P. Science the *Shift Out of This!* An NGSS Model. *Ms. Leigh Feguer, Living Environment Teacher, Schenectady High School; Mr. Joshua Conway, Living Environment Teacher, Schenectady High School.*

Follow in Matt Damon’s footsteps, by assembling your team (2-3 people) to create a shareable lesson plan or model, using only the materials list provided to you prior to this session. Compete for bragging rights, to see if you have what it takes to survive the shift to NGSS! *Biology, General.* **Siena 117**

Q. Co-Teaching Climate-Is It Getting Hot in Here? *Matt Glogowski, New York State Master Teacher, Ballston Spa High School; John Balet, New York State Master Teacher, Ballston Spa High School.*

Why Temperature Matters: Using NASA data in math and science lessons for middle and high school students. Walk away with on-line lessons for your students. *General.* **Siena 123**

R. Pedagogical Strategies Designed to Assist English learners (ENL students) as They Learn Science Content. *Danielle Budlong, Biology Teacher, Schenectady High School; Ann Koronowski, English as a New Language Teacher, Schenectady High School.*

The session is designed to enhance ENL learning through specific research based strategies. This will encourage an equitable learning environment for ENL students while ensuring all educators and staff have the knowledge and skills to meet the needs of our growing ELL population. We will provide strategies from multiple sources to improve professional practice on ENL learning. We will expand educators’ content knowledge about educating ENL students. *Biology, General.* **Siena 125**

S. Be Successful Teaching Seasons and Master Moon Phases. *Margaret (Candy) Dolen, New York State Master Teacher, Bethlehem Central Middle School.*

Instructional strategies intended to help middle school students, including students with disabilities and English Language Learners gain deeper understanding of the reasons for the seasons and moon phases. *Earth Science, Intermediate, General (lab tables)* **Roger Bacon 238**

T. NASA SOFIA- Infrared Astronomy and the Electromagnetic Spectrum in the Classroom. *Paul Levin and Edie Houle, Galway Central School District.*

NASA SOFIA is the largest airborne observatory in the world. Flying at 43,000+ SOFIA uses an infrared telescope and various instruments to explore the solar system, galaxy and universe. As an Airborne Astronomy Ambassador, we had the opportunity to fly 2 missions with SOFIA and do observations along side the crew, pilots and scientists. Learn how you can use the same technology as SOFIA in your classroom curriculum. There are many connections to real work applications for K-12 science. *Earth Science, Intermediate, General.* **Roger Bacon 328**

U. Making Light of Communication, the Phenomena of Light Waves. *Katy Perry, Eastern Section Elementary SAR and Chairperson. Robert C. Parker School.* How can you send a message using light? What are light waves and how do they travel? Using phenomena based learning, PBLs and scenarios to engage students, you will leave with material you can use to reach all learners. We'll investigate all this and more as we explore resources, share ideas, and experiment with light in this hands-on workshop focusing on designing and building communication devices using light. Aligned with NYSSLS 1. Waves, Light and Sound. 1-PS4-2,3,4. Adaptable and Integrated! *Elementary, General (lab tables)* **Roger Bacon 250**

V. But I Read It on Facebook! (Discovering Science in Social Media) *Ms. Dharini Adhvaryu, Living Environment teacher, Lansingburgh Central School District.*

This session focuses on providing students with the tools to evaluate popular media portrayals of science and identify credible sources. Intermediate, High School, Earth Science, Biology, Chemistry, Physics, General Science, Applied Sciences (Environmental Science, Engineering, Forensics, etc. **Siena 105**

W. Checking for Understanding: How do you know what they know? *Mrs. Jennifer Gecewicz, SAR Intermediate, Ichabod Crane Central Schools; Mrs. Laura Van Glad, SAR Earth Science, Jefferson City Schools.*

A review of several methods you can use to check for understanding with an emphasis on NYSSLS. Leave with strategies to use tomorrow. *General, Intermediate, Earth Science.* **Siena 106**

X. Excellent Enzymes, *Jessica Vaccaro- Piper, Jamie St. Denis and Sarah Reilly, New York State Master Teachers.*

Discover simple and fun experiments to enhance students' understanding about enzymes. Participants will have the opportunity to try several lab activities using cost effective supplies and easy set ups. *Biology.* **Roger Bacon 226**

Keynote Address
7:55-9:00 PM Sarazen Campus
Center

Now is the time

Amanda Zullo, Associate in Instructional Services,
NYSED.

This talk will be interactive and forward focused on tapping into the knowledge and expertise that surrounds us.

Amanda Zullo, NBCT, was a Chemistry teacher at Saranac Lake High School in New York for 12 years and now is the Associate in Instructional Services-Science for the State Education Department. While at Saranac Lake she was the grant coordinator with ADK Farm to School Initiative, on the professional development team and continues to be a National Board Candidate Support Provider for candidates in the Adirondack Park and surrounding northern regions.

As a member of the school professional development team at an isolated rural district, a national board certified teacher, and a master teacher she has assisted in the coordination of many events for a broad range of educators focused on increasing their agency and impact on student learning. Amanda served as associate editor for POGIL project books while presenting locally, regionally and nationally about the pedagogy. She was a New York State Master Teacher, #TeachStrong Ambassador, NYS Ed Voice Policy Fellow and a Hope Street Group National Teaching Fellow. After presenting on a panel for the 100K in 10 initiative Amanda is now serving on their advisory board along with serving on the SUNY Provost Steering Committee for TeachNY. Recent honors include 2016 ASCD Emerging Leader, a 2016 Empire State Excellence in Teaching awardee and is the 2015 New York State Science Awardee for Presidential Awards for Excellence in Math and Science. Amanda has a B.S. in Organizational Communication/Pre-Medical Studies from SUNY at Geneseo and a Master's in Science Education from Clarkson.

Eastern Section Newsletter Fall 2017

Thanks to Our
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