

Schedule of Programs – Tuesday October 22, 2019

Key: **I/G** (Integrated/General Science), **B/LS** (Biology/Life Science), **C** (Chemistry), **E/SS** (Earth/Space Science), **ENV** (Environmental Science), **P/PS** (Physics/Physical Science), **SL/SUP** Science Leaders/Supervision, **T** (Technology)

8:00 AM - 9:00 AM

(001) 9-12 P/PS, Engineering Hands-On Henry

Active Physics and NGSS/NJSLS-S: A Focus on the "E" in STEM

The workshop will feature the "E" in STEM & show how engineering can be assimilated in any curricula via Jenny Daugherty's work with the NRC on Engineering Systems and rooted in Active Physics & NGSS.

Presenter(s): Gary Curts Activate Learning

(002) 6-8 STEM/STEAM, I/G Hands-On Mercer

STEM Activities for the Differentiated Classroom

Classic STEM activities have been repurposed to help differentiate learning in an integrated middle school science classroom

Presenter(s): Catherine Justin; Michael McMullen Cinnaminson Middle School

(003) 6-8 STEM/STEAM, ENV Presentation/Lecture Nassau 25

Junior Solar Sprints

Junior Solar Sprints (JSS) is a STEM program that serves thousands of New Jersey students annually, for free. JSS not only teaches STEM topics but fosters camaraderie among mixed gendered and mixed aged groups.

Presenter(s): Kristen Tomasicchio; Melissa McCutcheon TransOptions

(004) 3-12 NGSS/NJSLS-S, SL/SUP Presentation/Lecture Nassau 28

Upcycle Favorite Activities into NGSS Lessons

Does designing NGSS-aligned lessons feel overwhelming? In this session we will use the NGSS Lesson Screener from Achieve to identify criteria to look for when evaluating lessons - even our own.

Presenter(s): Marisa Miller Mastery Charter Schools

(005) K-5 STEM/STEAM, SL/SUP Presentation/Lecture Nassau 29

If You Build it, They Will Come. Creating a School Science Festival

Science Festivals are designed to showcase STEM related topics to informal audiences. This session will highlight tips for organizing volunteer science festivals with school systems and review assessment results.

Presenter(s): Robert Pyatt Kean University

(006) 9-12 B/LS, ENV Hands-On Rush

The Practical Approach to Cultivating Engagement in a Diverse Population of Science Students

I have a B.S., but this is no BS. The realistic and practical approach to instruction techniques and technology implementation to harvest engagement in science for a diverse population of high school students.

Presenter(s): Lisa Wallin-Geiss; Ashley Taylor; Suzanne McCully Keyport High School

(007) 3-5 STEM/STEAM Hands-On Witherspoon

Students Teaching Parents Science? Getting Families Involved

Attendees will be provided with STEM activities that will allow their students to act as facilitators of the same while engaging their families in the home.

Presenter(s): James Danch; Kelly Aker Colonia High School

8:00 AM - 9:30 AM

(008) 4-10 B/LS, ENV Hands-On Campus

Trout ARE Made of Trees: HOFNOD is more than Fishing!

Trout Are Made of Trees explores the links amid fish and their environment. Participants will: delve into macro-invertebrates, assess the role of plants and pollution in healthy fish populations, and role-play trout.

Presenter(s): Liz Jackson; Alanna Newmark NJDEP Division of Fish & Wildlife

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8:00 AM - 9:30 AM

(009) 9-12 C, T Hands-On Dod

Incorporating Simulations, Animations, and Videos into Your Chemistry Curriculum

Learn about AACT multimedia resources you can use to introduce/reinforce chemistry topics for your students. Attendees will engage in activities and walk away with ideas to help students learn chemistry concepts.

Presenter(s): Kimberly Duncan American Chemical Association

(010) 6-12 STEM/STEAM, NGSS/NJSLS-S Hands-On Lowrie

Introduction to Engineering Design for Science Instruction

Teachers do an engineering design challenge and then work together to outline the engineering design process that they used. Discussion and comparison to the NGSS science and engineering practices will follow.

Presenter(s): Katey Shirey Knowles Teacher Initiative

8:30 AM - 9:30 AM

(011) K-12 NGSS/NJSLS-S, T Presentation/Lecture Carnahan

Promoting the Science & Engineering Practices Using Digital Media and Tools

Quality NGSS instruction should provide opportunity for students to develop S & P practices. These are not explicitly taught, but developed through experiences. Digital media & tools are powerful ways to do this.

Presenter(s): Patti Duncan Discovery Education

(012) 4-6 NGSS/NJSLS-S, B/LS Hands-On Fitzgerald

Building a Better (Food) Web

Does a standard food web show the whole story? How do you show matter & energy moving between organisms? Explore these questions in Smithsonian Science for the Classroom's "How Can We Predict Change in Ecosystems?".

Presenter(s): Connie Siewert Carolina Biological Supply Co./Smithsonian Science Education Center

(013) 10-12 C, T Presentation/Lecture Nassau 24

How to Create Digital Learning Games

If you use PowerPoint, then you can create short-games for students. With the use of hyperlinks and action buttons, PowerPoint has the ability to function beyond a presentation tool.

Presenter(s): Paul Orbe Union City High School

(014) 1-12 ENV, B/LS Presentation/Lecture Nassau 27

Roots & Shoots: Making Positive Change Happen

Roots & Shoots was started by Dr. Jane Goodall and is about making positive change happen for people, animals, and the natural world. Educators will put thoughts into action by developing a campaign.

Presenter(s): Kyle A. Seiverd Toms River High School North

(015) 8-12 Common Core, SL/SUP Discussion Nassau 30

Building Linguistic Competence in Science

Science can be thought of as just a conversation. Most students are ill equipped to engage in a scientific conversation. This Program will propose ways to build Scientific literacy to promote understanding.

Presenter(s): Joe E Wyatt Jr Bayonne High School

(016) 6-12 B/LS, NGSS/NJSLS-S Hands-On Princeton

Who is Baby Whale's Father? DNA Fingerprinting Solves the Mystery!

Come pour, load, and run a gel, capture gel image, analyze the results to deduce a probable conclusion for a whale of a forensic mystery. Gel electrophoresis and DNA fingerprinting in a single classroom session.

Presenter(s): Mike Herbst Embi Tec

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8:30 AM - 10:00 AM

(017) K-12 NGSS/NJSLS-S, SL/SUP Hands-On Bainbridge

What NGSS-Aligned Classrooms Look Like and Sound Like

We have spent four years visiting K-12 classrooms around the state to learn from teachers as they implement the NGSS/NJSLS. We'll share high-impact strategies and success stories from these classrooms.

Presenter(s): Stacey van der Veen; Wil van der Veen Leadership in Science

(018) 5-8 E/SS, NGSS/NJSLS-S Hands-On Forrestral

Inspired by Germany: Understanding Global Climate Change to Take Local Action

Explore global climate change data and human impacts using the Bremerhaven Klimahaus as a model to engage students in asking questions and taking local action.

Presenter(s): Loris Chen Dwight D. Eisenhower Middle School

(019) K-6 STEM/STEAM, NGSS/NJSLS-S Presentation/Lecture Wilson

Family STEAM Nights

Learn how to organize and facilitate a successful Family STEAM Night. Resources will be provided to help you!

Presenter(s): Debbie Ericksen; Kimberly McGrath Adamsville Primary School, Bridgewater-Raritan RSD

9:30 AM - 10:30 AM

(020) 5-9 T, T Hands-On Henry

Arduino in the Science Classroom

Augment your existing science curriculum with Arduino. Join us for an introduction to simple circuitry and coding to assemble basic components into tools used to collect data in the science classroom.

Presenter(s): Melissa Randall; Paul Randall Byram Intermediate School

(021) PreK-12 SL/SUP, STEM/STEAM Presentation/Lecture Maclean

Plan 2020: A Journey in K-12 Science in Service to Three-Dimensional Teaching and Learning

Participants will hear policy, instructional, and district support considerations from the current president of the National Science Education Leadership Association, as he works to realize the shifts in NGSS.

Presenter(s): James Blake National Science Education Leadership Association (NSELA)

(022) 8-12 Forensics, NGSS/NJSLS-S Presentation/Lecture Mercer

Forensic Soil/Sand Analysis Using Historical Case Studies /Podcasts (NGSS/NJSLS-S/Earth Science/History)

Engage students using historical case studies and phenomenon based learning. International Soil Theft, WWII Japanese Fire Balloons, Romanov Gravesite, Jamestown Study. Handouts:5E lesson plans, activities, NGSS

Presenter(s): Patricia N Bertino; Anthony (Bud) Bertino Nat Geo/Cengage

(023) 2-12 NGSS/NJSLS-S Discussion Nassau 25

You Can Never Talk Too Much...The Productive Science Classroom

Explore how to create a classroom culture where discussion is respectful, equitable, and focused on reasoning. Utilize these strategies in your classroom to leverage productive talk and empower your students.

Presenter(s): Scott Goldthorp Cherry Hill Public Schools

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9:30 AM - 10:30 AM

(024) 4-6 STEM/STEAM, P/PS Presentation/Lecture Nassau 28

Elementary Engineers

We will explore science concepts and problem solving skills and engineering design skills linked with New Jersey Science Learning Standards. Projects are earthquake proof structures, wind turbines and Newton Cars.

Presenter(s): Jessica Saxon Pierrepont Elementary School

(025) 9-12 NGSS/NJSLS-S Presentation/Lecture Nassau 29

How Did You Support Your Claim? Helping Students Identify the Correct Evidence!

This interactive classroom-tested activity addresses how to get students to successfully choose evidence that supports their claim, pushing them to explain their reasoning in order to deliver a confident conclusion.

Presenter(s): Susan Marie Terra Westfield High School

(026) 5-12 T, STEM/STEAM Hands-On Witherspoon

Teaching Tech with Arduino

Learn to use an amazing, versatile tool for teaching computer programming and STEAM subjects. Leave with knowledge of the Arduino platform and a lesson plan differentiated for all skill levels. Laptops suggested.

Presenter(s): Richard S Skibitski Lodi High School

9:30 AM - 11:00 AM

(027) 6-12 NGSS/NJSLS-S Hands-On Rush

NGSS/NJSLS-S Claim, Evidence, Reasoning--Analyzing and Interpreting Data to Construct Explanations

Using a data-generating simulation for microevolution, learn how to lead students through a computational analysis of raw data to draw explanations supported by evidence.

Presenter(s): Kristen Dotti CATALYST LEARNING CURRICULA

10:00 AM - 11:00 AM

(028) 6-12 NGSS/NJSLS-S Hands-On Campus

Then & Now

This round table discussion showcases how 2019 Maitland P. Simmons Memorial Award Scholars have transformed their own lessons to align with NGSS via an NGSS Science Exemplar System for PD training.

Presenter(s): Cheryl Zanone; All who are registered through the 2019 Maitland P. Simmons Memorial Award Summer Institute will be a part of this presentation on their choice of either of the two days. In particular, Marisa Castronova has multiple presentations on her d NJSTA, Maitland P. Simmons Memorial Award Committee

(029)	K-12	NGSS/NJSLS-S, SL/SUP	Hands-On	Carnahan
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Equitable Access to Science Learning

All students can and should learn complex science. Achieving equity in science ed is an ongoing challenge. Some students face opportunity gaps. We will explore how to avoid accidentally creating opportunity gaps.

Presenter(s): Michael Heinz New Jersey Department of Education

(030) 6-12 I/G, NGSS/NJSLS-S Demo Dod

From Storylines and Story Maps: Communicating Results

Engage in a free tool that students can use to share their results from making sense of phenomena. ESRI story maps are easy to create and easy to share. Join us to learn how to tell your story.

Presenter(s): Margaret Holzer; Billy Goodman; Luis Olivieri Chatham HS

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10:00 AM - 11:00 AM

(031) 3-12 STEM/STEAM, Assessment Hands-On Lowrie

Let's Use Claim-Evidence-Reasoning (CER) to Increase Student Voice

CER is a way for students to explain observed phenomenon in a scientific way. Come see how students use this structured approach to better understand concepts and write explanations for phenomena.

Presenter(s): Pam O'Brien STEMscopes / Accelerate Learning Inc.

(032) 4-12 ENV Presentation/Lecture Nassau 24

The Optimistic Environmentalist

Do you see all environmental issues as unsolvable problems? Let me be your rose colored glasses and together we'll look at the world from a different perspective.

Presenter(s): Laura McCluskey Retired

(033) 6-12 B/LS, T Presentation/Lecture Nassau 27

What's the Hype With HyperDocs?

Come create your first HyperDoc! Teachers will learn to create a HyperDoc to integrate technology into the science classroom. We will focus on HyperDocs for both regular lessons and lab activities.

Presenter(s): Talissa Nahass Rutherford High School

(034) 7-12 P/PS, B/LS Hands-On Princeton

Colorful World of Electrophoresis! Molecules in ACTION!

Separate color dyes using electrophoresis. Which way will they go? Why? What properties drive the direction of migration? Can you solve for the unknown dye?

Presenter(s): Christine Girtain; Sherri Andrews Embitec

10:00 AM - 11:30 AM

(035) 4-8 NGSS/NJSLS-S, E/SS Hands-On Fitzgerald

Ocean Science: Hands-On Lesson

Teaching about oceans can be overwhelming. Experience a hands-on lab where students learn the impact of wind, land, density and temperature on ocean currents. Educators come away with free lessons and resources.

Presenter(s): Lissa Johnson; Dee Kuiken or Lorraine Gueye Mosa Mack Science

10:30 AM - 11:30 AM

(036) K-12 NGSS/NJSLS-S, I/G Panel Bainbridge

NGSS District Partnership Program: Supporting Colleagues With the Implementation of the NGSS

Join our Teacher Leaders to learn how they collaborated with colleagues to implement and improve NGSS-aligned instruction in their schools.

Presenter(s): Jessica Nathans; Stacey van der Veen, Leadership in Science LLC; Anne Catena, Princeton University; Joe D'Amato, Ramsey School District; John Jones, Howell Public Schools; Denise Magrini, Mendham; Borough School District; Jessica Nathan, Warren Township Raritan Valley Community College – Science Education Institute

(037) 7-12 B/LS, E/SS Hands-On Forrestal

Lab in a Box: A Free Biotechnology Loaner Program from Genes in Space

Learn about the free classroom resources provided by Genes in Space. Genes in Space is a free contest for students to design DNA experiments to be performed by astronauts on the International Space Station!

Presenter(s): Bruce Bryan; Zeke Alvarez-Saavedra miniPCR

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10:30 AM - 12:00 PM

(038) 6-12 B/LS, C Hands-On Wilson
Exploring Opportunities to Learn Through Science Tasks
Teachers will analyze science tasks for features that support varied learning opportunities for students to learn the content. Participants will also develop guides to assess these learning opportunities.
Presenter(s): Joyce Lin Knowles Teacher Initiative

11:00 AM - 12:00 PM

(039) 10-12 P/PS, T Demo Henry
The Physics of SCUBA Diving
Safe SCUBA diving requires solving problems in thermodynamics, buoyancy, the gas laws and human physiology. Program will use actual SCUBA gear to demonstrate how Physics addresses and solves these problems.
Presenter(s): Joe E Wyatt Jr Bayonne High School

(040) K-12 I/G, T Hands-On Maclean
101 Websites for Science
I will share my current collection of web-based resources for science teachers. Tons to share, tons to learn! Come ready to check them out! Bring a device if you have one.
Presenter(s): Patti Duncan Retired

(041) 3-6 STEM/STEAM Hands-On Mercer
How to Encourage Girls in Elementary School to Enjoy and Continue Interest in STEM-Related Courses
There will be a presentation of ways to encourage girls in grades 3-6 to feel comfortable with STEM topics. Participants will experience five different interactive stations.
Presenter(s): Carrie Jacobus River Dell High School

(042) 9-12 NGSS/NJSLS-S, STEM/STEAM Discussion Nassau 29
Learning Through Stories: Using Case Studies to Apply Knowledge
Interrupted case studies use a story to introduce a problem for students to solve. As the story progresses, students use the available information to create and revise a claim as more evidence becomes available.
Presenter(s): Theodore J. Graham; Caitlin Marie Ament Passaic Preparatory Academy

11:00 AM - 12:30 PM

(043) K-12 I/G, I/G Demo Nassau 25
How to Maintain and Repair Your Microscopes, Balances and other Lab Equipment
Basic repair and maintenance of various microscopes, balances (both mechanical and electronic) and other lab equipment. Demonstration, discussions along with questions and answers.
Presenter(s): Raoul Bovelle New York Microscope Company

(044) 5-8 STEM/STEAM, Sustainability Panel Nassau 28
Full S.T.E.A.M Ahead: A Year Later
During the 2018 NJ Science Convention, our STEAM Team presented our STEAM Experience program for middle school students. We are excited to present on our growth and experiences with program implementation.
Presenter(s): Elford Rawls-Dill; Patrica Hillyer; Dustin Reynolds; Deana Baumert; Mark Irons; Kristin Junguet Matawan-Aberdeen Regional

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11:30 AM - 12:30 PM

(045)	PreK-12	SL/SUP, I/G	Presentation/Lecture	Carnahan
Doing Science Safely				
This presentation will focus on some of the most important safety issues that teachers, supervisors and schools encounter, as students engage in investigations and hands-on activities.				
Presenter(s): Mary Loesing Connetquot Central School District				
(046)	6-12	B/LS, NGSS/NJSLS-S	Hands-On	Lowrie
Investigating Cell Structure and Function Beyond Paper Exercises!				
Covering cell structure and function doesn't have to be rote! Come and learn how to teach cellular anatomy and processes via CER and unique hands on DNA lab experiences.				
Presenter(s): Tamica Stubbs Bio-Rad Explorers				
(047)	K-12	STEM/STEAM, I/G	Discussion	Nassau 24
Making Science Learning Lifelong, Lifewide and Lifedeeep: The Importance of Out-of-School Learning				
Delve into the research regarding when and where STEM learning occurs, and the role of out-of-school learning. Explore examples of effective experiences and consider what programs might be appropriate for you.				
Presenter(s): Dennis Schatz NSTA				
(048)	3-12	STEM/STEAM, T	Presentation/Lecture	Nassau 27
Raspberry Pi in the Classroom				
The Raspberry Pi is a \$35 computer that fits in the palm of your hand. It is an incredibly powerful tool to introduce your students to coding, physical computing, sensors, AI, Robotics, and more.				
Presenter(s): Jason Kries Holland Township School				
(049)	K-3	NGSS/NJSLS-S, B/LS	Presentation/Lecture	Nassau 30
Amazing Informational Texts and the Next Generation Life Science Standards: Grades K-3				
Come join us to hear about amazing Informational texts and lessons that match specific Next Generation Life Science Standards (K-3).				
Presenter(s): Sarah Anderson; Dr. Susan Dougherty Metuchen Public Schools				
(050)	6-12	NGSS/NJSLS-S, B/LS	Hands-On	Princeton
Bioconservation Meets Technology				
Restore the endangered California condor population using gel electrophoresis to identify the gender of your chick and develop a breeding management plan that minimizes the inheritance of chondrodystrophy.				
Presenter(s): Lois Chen; Sherri Andererws Embi Tec				
(051)	6-12	I/G, Assessment	Discussion	Rush
Addressing Student Growth Through Assessment				
We're all trying to move students to mastery of skills and content in our courses. We'll discuss how a standards-based model provided us with the evidence needed to make meaningful adjustments to our classroom.				
Presenter(s): David Frangiosa; Elise Burns Pascack Hills High School				

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11:30 AM - 12:30 PM

(052) K-12 Engineering, B/LS Hands-On Witherspoon
Examine How to Promote Vertical Articulation Through the Use of Engineering Challenges
Participants will focus on how to develop engineering challenges that are developmentally appropriate. Scaffolding tools on developing engineering challenges that articulate by gradebands will be discussed.
Presenter(s): Vicky Pilitsis; Helen Corveleyn Hopewell Valley

11:30 AM - 1:00 PM

(053) 6-12 B/LS, Forensics Hands-On Campus
Starla's Hands-On Body Systems: Seeing 'Eye-to-Eye'
Instructors will receive a great hands-on lesson that covers the components of the eye and how vision varies between animals. Take your new 'eye' with you after the workshop!
Presenter(s): Starla Ewan Starla's Creative Teaching Tips

(054) K-8 I/G, NGSS/NJSLS-S Hands-On Dod
Don't Be LEFT Out: Why Science Notebooking is RIGHT for Your Class!
How to incorporate a science notebook into class instruction. The importance of routines, significance of the left and right side and best practices will be covered.
Presenter(s): Jayme Tchalabi Kearny School District

12:00 PM - 1:00 PM

(055) 9-12 B/LS Hands-On Forrestal
Are You a Night Owl? A Morning Lark? The Answer May Be in Your Genes...
Link the genetic control of circadian rhythms to students' own DNA. Use PCR and DNA gel electrophoresis to explore a genetic association in this authentic research investigation.
Presenter(s): Bruce Bryan; Zeke Alvarez-Saavedra miniPCR

12:00 PM - 1:30 PM

(056) K-12 NGSS/NJSLS-S, SL/SUP Hands-On Bainbridge
Beyond Claims-Evidence-Reasoning: Taking Down Scaffolds to Increase Student Reasoning
CER is an effective scaffold; however, as explanations and arguments get more complex, a scaffold can become a barrier. We will explore strategies to support students in communicating their reasoning.
Presenter(s): Stacey van der Veen; Wil van der Veen Leadership in Science

(057) 3-12 NGSS/NJSLS-S, I/G Hands-On Fitzgerald
3-D Assessment Design Process
There will be an outline of the design process from teacher and supervisor perspective. Participants will get a mini-training for designing the 3-D assessments, along with resources and time to design their own.
Presenter(s): Jessica Monaghan; Danielle Ruffino, Robin Mayer-Carroll, Angie Alva New Brunswick Public Schools

12:30 PM - 1:30 PM

(058) 3-8 Engineering, Computational Thinking Hands-On Henry
Computational Thinking Infused Through Robots in 21st Century Digital Classroom
CT & robots, a unique pair which engages methodology of engineering and programming concepts, expressing freshness and innovation by differentiating instruction with revolutionary innovative learning experiences.
Presenter(s): Carol Munn Eisenhower Intermediate

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12:30 PM - 1:30 PM

(059) K-12 NGSS/NJSLS-S, Modeling Presentation/Lecture Nassau 29

Modeling: Building Student Understanding

Explore a strategy to help your students become better modelers. This strategy offers ample opportunity for students to "think about" models and "think with" models increasing their agency for the practice.

Presenter(s): Marisa Castronova Montville Board of Education

(060) PreK-5 NGSS/NJSLS-S, STEM/STEAM Presentation/Lecture Wilson

Classroom Collaborations Between Grade Levels

Support NGSS/NJSLS-S and students' social and emotional growth by collaborating with another grade level. Learn about some simple strategies and ideas to get you started. Then, make it your own!

Presenter(s): Debbie Ericksen; Rachel Glassman Adamsville Primary School, Bridgewater-Raritan RSD

12:30 PM - 2:00 PM

(061) 7-12 B/LS, ENV Hands-On Maclean

Understanding Global Change to Design, Evaluate and Refine Solutions from HHMI BioInteractive

Explore new resources that enable students to analyze and evaluate human impact on environmental systems and solutions. The free materials and resources can be used online or on paper. From HHMI BioInteractive

Presenter(s): Karen Lucci Hopewell Valley Central High School

(062) 3-12 STEM/STEAM, Engineering Hands-On Mercer

Entrepreneurship Meets STEM

Students are empowered to materialize their imaginations & create their own product meant to solve a real world problem and launch a business.

Presenter(s): Michael Burghoffer PicoTurbine International

1:00 PM - 2:00 PM

(063) 10-12 C, NGSS/NJSLS-S Presentation/Lecture Nassau 24

Is Science Eurocentric?

The existence of Eurocentric tendencies in gas laws is examined. Interesting findings from students' perspectives were uncovered.

Presenter(s): Paul Orbe Union City High School

(064) 6-12 T, B/LS Presentation/Lecture Nassau 25

Creating A Paperless Science Classroom

Stop spending all of your time at the copy machine! This session will focus on tips and tricks for creating a paperless science classroom. We will go through different apps/web tools to use in any class.

Presenter(s): Talissa Nahass Rutherford High School

(065) K-12 STEM/STEAM, T Discussion Nassau 27

Satellites in the K12 Classroom

You don't have to look for unique opportunities to incorporate real-world data in your classroom. Improve your understanding of Earth observing satellites and learn how students can benefit from using this ICT!

Presenter(s): Vicky Gorman Medford Memorial Middle School, Medford, NJ

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1:00 PM - 2:00 PM

(066) 8-12 NGSS/NJSLS-S, B/LS Discussion Nassau 28

Biotechnology: The Intersection of Engineering, Biology, and Chemistry

Biotechnology applies the concepts of biology in order to make new medicines and products for human use. We will discuss how to infuse biotechnology into existing courses and even how to set up a new program.

Presenter(s): Caitlin Marie Ament; Theodore J. Graham Passaic Academy for Science and Engineering

(067) 4-12 E/SS, P/PS Demo Nassau 30

The Observable Universe, From Earth to the Quasars

Real-time tour of our Solar System. See our Sun, planets, moons, asteroids, comets, eclipses & transits, the flyby of Pluto. From the Milky Way to the Quasars. This is your opportunity to ask all those questions.

Presenter(s): Aram Friedman Ansible Technologies Ltd.

(068) 8-12 B/LS, Forensics Hands-On Princeton

DNA Forensics Solves the Murder Mystery of Dr. Ward

In this interactive MiniLab, analyze hair, fingerprint, and DNA evidences to determine the killer of Dr. Ward. Learn how to conduct the hands-on lab using electrophoresis to perform DNA analysis for DNA forensics.

Presenter(s): Mary Russo Embi Tec/ MiniOne Systems (what booth title should be)

(069) 9-12 C, T Presentation/Lecture Rush

Integrating Technology Into the Secondary Classroom

We will look at different ways to integrate technology (websites, apps, & simulations) into teaching and learning in the secondary classroom (ie Chemistry) to correspond with NGSS/NJSLS.

Presenter(s): Iris Pierri; Monica Weisberg Glen Rock High School

(070) 6-12 ENV, B/LS Hands-On Witherspoon

From Cascading Science & Engineering Practices to a Coherent Story About Phenomena

Scientists bounce among practices to answer questions, and then create coherent stories to communicate their research. We provide scaffolds for students to do the same.

Presenter(s): Vicky Pilitsis; Missy Holzer Hopewell Valley Regional School District

1:00 PM - 2:30 PM

(071)	K-12	NGSS/NJSLS-S, SL/SUP	Discussion	Carnahan
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Appendixes to the NJSLS-S

How do we integrate P-21 Skills, Career Ready Practices, Technology, Social Emotional Learning, and Interdisciplinary Connections into science units? We will explore and discuss the Appendixes to the NGSS/NJSLS-S.

Presenter(s): Michael Heinz New Jersey Department of Education

(072)	K-12	I/G, NGSS/NJSLS-S	Hands-On	Lowrie
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Using Phenomena to Engage Students in Science

Explore example phenomena-based lessons as I share resources to get you started on building your own phenomena based science lessons.

Presenter(s): Patti Duncan Retired

Schedule of Programs – Tuesday October 22, 2019

Key: **I/G** (Integrated/General Science), **B/LS** (Biology/Life Science), **C** (Chemistry), **E/SS** (Earth/Space Science), **ENV** (Environmental Science), **P/PS** (Physics/Physical Science), **SL/SUP** Science Leaders/Supervision, **T** (Technology)

1:30 PM - 2:30 PM

(073) 6-8 NGSS/NJSLS-S, I/G Presentation/Lecture Campus
Transitioning to Standards-Based Grading in Science Through Lesson Embedded Assessments
Explore how free teacher training by National Geographic and Rutgers University inspired a growth mindset for assessment of student learning in a grade 8 science.
Presenter(s): Loris Chen Dwight D. Eisenhower Middle School

1:30 PM - 3:00 PM

(074) 4-8 I/G, NGSS/NJSLS-S Hands-On Dod
Let's Go on a Quest: Scaffolded Problem-Based Learning
Create purposeful, scaffolded PBL experiences that move students to construct explanations of natural phenomena. Explore strategies to introduce phenomena and ask questions that drive teaching and learning.
Presenter(s): Zipporah Miller Pearson

(075) 9-12 B/LS, C Demo Forrestal
Teach Biology and Chemistry Using 3D Models
Utilize the data of proteins and small molecules from the RCSB Protein Data Bank and Cambridge Structural Database and software from Schrodinger to build 3D models for exploring concepts in chemistry and biology.
Presenter(s): Maria Voigt; Amy Sarjeant, Jennifer Chambers RCSB Protein Data Bank

2:00 PM - 3:00 PM

(076) 5-8 T, STEM/STEAM Demo Nassau 29
Creating and Exploring Your Own Virtual Reality with CoSpaces
Join us as we build our own VR worlds using CoSpaces. Use code to make your world interactive and tell stories, create historic reenactments, and build games. Use the OculusGo to explore the world your created.
Presenter(s): Kyle Mirena; Elyse Mirena Green Hills School

2:00 PM - 3:30 PM

(077) K-12 NGSS/NJSLS-S, I/G Hands-On Bainbridge
Making Crosscutting Concepts Explicit in Instruction and Assessment
Crosscutting Concepts provide a powerful lens to focus student thinking as they construct explanations for phenomena. Learn how to use Crosscutting Concepts to prompt student responses in instruction and assessment.
Presenter(s): Wil van der Veen; Stacey van der Veen, Leadership in Science LLC, Anne Catena, Princeton University
Raritan Valley Community College – Science Education Institute

2:00 PM - 3:30 PM

(078) 6-8 NGSS/NJSLS-S, STEM/STEAM Hands-On Henry
Building a Future of Problem-Based Learning
Using the Engineering Design Process, teachers will use problem-based learning to construct a bottle rocket that safely transports cargo by using a well-tested high flying approach to learning.
Presenter(s): Patricia Hillyer; Darrell Williams, Dustin Reynolds Matawan Aberdeen Middle School

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2:00 PM - 3:30 PM

(079) 6-8 B/LS, ENV Hands-On Wilson

Teaching Evolution in Middle School

The Teacher Institute for Evolutionary Science helps teachers teach evolution with confidence. Participants will receive a free unit of materials, including many NGSS/NJSLS-S-based active learning ideas.

Presenter(s): Robert Cooper Pennsbury High School

2:30 PM - 3:30 PM

(080) 10-12 C Discussion Maclean

AP Chemistry Round Table and Discussion

Come and discuss problems, issues, and share successful lessons and labs with an experienced AP Chem Reader. In addition, there will be some techniques to help put an inquiry twist on traditional labs.

Presenter(s): Carrie Jacobus River Dell High School

(081) K-8 C, P/PS Demo Mercer

Elementary & Middle School Demonstrations and Lab Activities on a Dime

Learn about engaging demos and activities that help K-8 educators teach chemistry topics. Attendees will receive several resources and the chance to win a “demo box” full of materials to use with their students.

Presenter(s): Kimberly Duncan American Chemical Society

(082) K-5 I/G, NGSS/NJSLS-S Discussion Nassau 24

Knowing Science Users Group: Open Forum

Join other users of the Knowing Science K-5 Curriculum to share ideas, exemplars, and experiences. If you are considering adopting this NGSS/NJSLS-S aligned program, this session is for you.

Presenter(s): Lola Szobota Retired

(083) 6-12 B/LS, Genetics Presentation/Lecture Nassau 25

Keep Calm and Love Heredity-Classroom Resources for Teaching Genetics and Genomics

This session will highlight free resources available from the American Society of Human Genetics, Genetics Science Learning Center, Genomics Education UK, and others for teaching genetics in the 6-12 classroom.

Presenter(s): Robert Pyatt Kean University

(084) K-12 STEM/STEAM, I/G Discussion Nassau 28

100Kin10 Listening Session

Want to make a difference! Join this 100Kin10 focus group for a discussion about STEM in your district and community. Your opinions will be broadly shared to inform the work of the 100Kin10 network and the field.

Presenter(s): Vicky Gorman Medford Memorial Middle School, Medford, NJ

(085) 6-12 ENV, E/SS Presentation/Lecture Nassau 30

Measuring Sea Level

In this session, receive materials designed by AMS and NOAA about the monitoring of sea levels and learn how to incorporate phenomena and NGSS/NJSLS standards for Marine, Environmental, or Earth Science course offerings.

Presenter(s): Kristen Batko Red Bank Regional High School

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2:30 PM - 3:30 PM

(086) 9-12 B/LS Hands-On Princeton

To Taste or Not to Taste! PTC Genotype Determination

Use electrophoresis to solidify the theoretical teaching of Mendelian genetics and learn the basics of genotyping to determine the PTC taster genotypes for a family.

Presenter(s): Kate Van Lenten Embi Tec

(087) 6-12 I/G, Assessment Discussion Rush

Why Standards-Based Grading is a Powerful Tool for Learning.

With alternative assessment gaining popularity, it's important to be fluent in the facts driving this change. We'll provide examples of how the research translates into effective classroom applications.

Presenter(s): David Frangiosa; Elise Burns Pascack Hills High School

(088) 3-5 NGSS/NJSLS-S, Assessment Hands-On Witherspoon

What Is CER, and Why Should I Use It?

Explore what Claim, Evidence and Reasoning looks like in your classroom. We will use hands-on activities to guide us through this tool used to empower students to explain their scientific thinking.

Presenter(s): Laura Noonan; Holly Izsa Southern Boulevard School

3:00 PM - 4:00 PM

(089) K-12 I/G Discussion Nassau 27

NJSTA Executive Board Meeting

Join us for our general membership meeting and meet your board. All members are welcome to attend.

Presenter(s): Cheryl Zanone Montville Public School

Research Poster Sessions: Stockton 31

Educational research posters will be on display Tuesday October 22 from 8:00 to 3:30. Presenters will be available for Q/A during the following hours: 11:00-12:00 and 1:30-2:30. Stop by and support your fellow educators and view their research results.

5:00 – 6:00 PM

PRESIDENTS' RECEPTION

6:00 PM

ANNUAL BANQUET

(TICKET REQUIRED)

Banquet Speaker: Dr. Sabine Kastner, Princeton University

Banquet Address: Educational Neuroscience for the 21st Century

Lisa Doyle and Lola Szobota, Executive Co-Chairs