

Schedule of Programs – Wednesday October 10, 2012

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

*Programs in Text Boxes feature presentations by special guests of NJSC. Programs in Bold-Italics feature special interest programs for administrators, supervisors and science education leaders.

Wednesday 8:00-9:30

9-12 C, SL/S Discussion

Chemical Storage and Handling: One Person's View

A review of what one district has done to address the concerns surrounding chemical storage and handling. Safety, liability and responsibility will be discussed throughout the session.

Presenter(s): James Kelly, East Brunswick HS

PreK-4 I/G Hands-On

K- 4 Hands-On Science

Connecting, adjusting and expending a common science theme and hands-on inquiries per grade level. Multi-approach from basics to personal student development, following the NJCCCS.

Presenter(s): Marie Numata, The Village Charter School

9-12 I/G, T Hands-On

Bridging STEM and Vernier Technology

Taking STEM education from buzzword to classroom can be challenging. Use Vernier Technology in several MS and HS STEM activities.

Presenter(s): Gretchen Stahmer DeMoss, Vernier Software & Technology

9-12 I/G Discussion

Formative Assessment in the Sciences

Identify some science concepts that are subject to misconception, explore probes that elucidate student misconceptions and discuss how these probes can help inform teaching and learning.

Presenter(s): Rob Richard, West Windsor-Plainsboro Regional Schools (Retired)

K-12 B/LS Demo

Biology Demo Den

Biology Demos and more! Teachers will share demos, mini-labs class openers, role-plays that you can take back and use in your classroom tomorrow!

Presenter(s): Holly Crochetiere, Meenakshi Bhattacharya and Kristina Nicosia, West Windsor-Plainsboro HS North

Wednesday 8:00-9:00

5-8 E/SS; ENV Hands-On

Finding Fossils

Students will model the techniques used by Paleontologists to find and identify marine fossils, discover the species environment and create their own relative dating chart.

Presenter(s): Martha Schoene, Seton Hall University

Wednesday 8:30-9:30

K-12 **SL/SUP, Research** **Lecture**
Building a Competitive HS Science Research Program Through the Implementation of MS Honors Science

Learn how independent research is integrated into middle school honors science curricula to provide a foundation for advanced high school achievement.

Presenter(s): Kelly Aker and James Danch, Woodbridge Township School District

K-12 **C** **Hands-On**

The Art of Science and the Science of Art

Science concepts can be used to create works of art. Intermolecular forces, solubility, conductivity, surface tension, chemiluminescence, and other properties of light and color will be addressed.

Presenter(s): Cathy Lee, College of St. Elizabeth

Wednesday 9:00-10:00

9-12 **P/PS** **Demo**

Using Pendulums to Teach Physics Principles

Pendulums can be used to teach students about periodic motion, potential energy, kinetic energy and how to use trigonometry to make accurate measurements.

Presenter(s): Joe Wyatt, Bayonne HS

K-12 **I/G, ENV** **Demo**

Health and Science Resources at Your Fingertips

The National Library of Medicine provides freely available health and science resources to support K-12 Educators on topics such as genetics, environmental health and more.

Presenter(s): Lydia N. Collins, National Network of Libraries of Medicine, Middle Atlantic Region

Wednesday 9:30-11:00

9-12 **B/LS; Forensics** **Hands-On**

Forensics on a Shoestring Budget: #2 Pollen Analysis

Increase student interest/ knowledge in math, science, literacy, technology. Discover how pollen solves crimes and can be collected, stored, stained, examined and photographed. Free resources CD.

Presenter(s): Anthony Bertino, University at Albany (Retired); Patricia N Bertino, Scotia-Glenville HS (Retired)

5-8 **ENV** **Hands-On**

Teaching About Our Human-made World

Take part in hands-on activities that explore how our species' population has expanded to dominate the Earth and remake the natural world in unprecedented ways.

Presenter(s): Sharon Kinsey, Rutgers Cooperative Extension of Camden County

<p>K-12 I/G, SL/SUP Hands-On <i>Next Generation Science Standards: Build the Scaffolding for 21st Century Science Literacy!</i> <i>Participants will use scaffolded inquiry (directed to guided to full) to illustrate how the Next Generation Science Standards address 21st Century Science Literacy.</i> Presenter(s): Dr. Karen L. Ostlund, President, NSTA</p>

Wednesday 9:30-10:30

9-12 C Large Group Interactive

Get Moving! The Chemistry Edition

Learn to use some chemistry-related standards-based physical activities and “kinesthetic clue” mnemonic devices used at one of New Jersey’s top-performing middle schools.

Presenter(s): Brian J. Ciuffreda and Mark Schlawin, Princeton Charter School

Wednesday 10:00-11:30

K-8 I/G Hands-On

Implementing K-10 STEM in Your Classroom with Carolina™ Curriculum and the Smithsonian Institution

Implement STEM initiatives using research-based programs developed by Carolina™ Curriculum and the Smithsonian Institution. Prepare students for careers in the 21st century global marketplace.

Presenter(s): Jim Smoyer, Carolina Biological Supply Company

K-12 B/LS; T Hands-On

Make-It-And-Take-It: Reproduction In Your Garden

NEW! The fascinating world of flowers and pollination really up close. Bring your compact digital camera and, if possible, the instruction manual. Comprehensive packet.

Presenter(s): Mitch Batoff, Professor Emeritus, New Jersey City University

K-12 B/LS Hands-On

Bio-Rad. ELISA Assay and Swine Flu

An ELISA assay allows for the rapid detection of some communicable diseases. Discover how diseases are transmitted using this diagnostic tool and how vaccinations work.

Presenter(s): Sherri Andrews, Bio-Rad Laboratories

Wednesday 10:00-11:00

K-12 I/G Lecture

Stand Back!! We’re Using Discovery Education’s Science Techbook

We will Explain how digital media can change the way you teach science, Elaborate on how digital media can be utilized to meet the needs of every student, and Evaluate student progress .

Presenter(s): Patti Duncan, Discovery Education

9-12 C Demo

The New Virtual ChemLab: Sophisticated Simulations for High School and AP Chemistry

In this presentation we will provide a demonstration of the completely updated and modernized new version of Virtual ChemLab laboratory simulations available through Pearson Education.

Presenter(s): Brian Woodfield, Pearson Education

Wednesday 10:30-11:30

K-12 ENV, T Lecture

Build a Dynamic GPS Survey with Google Earth and BYOD

Learn to create a GPS survey of an area at little to no cost using free software and allowing students t

Presenter(s): Jason Kries and Dr. Nancy Yard, Holland Township School

Wednesday 11:00-12:00

5-8 B/LS, E/SS Large Group Interactive

Get Moving! The Biology and Earth/Space Science Edition

Learn to use some biology and Earth/space science standards-based physical activities and “kinesthetic clue” mnemonic devices used at one of New Jersey’s top-performing middle schools.

Presenter(s): Brian J. Ciuffreda and Mark Schlawin, Princeton Charter School

Wednesday 11:30-1:00

K-12 E/SS Hands-On

The Reasons for the Seasons

Explore why the poles are colder than the equator and how the tilt of Earth's axis causes seasons by using globes and lights.

Presenter(s): Steven R. Carson, John Witherspoon MS

K-12 SL/SUP, I/G Hands-On

Meeting STEM Through Scientific Inquiry-Based Critical Thinking—RIP Style!

Participants will experience a guided investigation using the Research Investigation Process model of scientific inquiry and view how to incorporate STEM directly into the classroom.

Presenter(s): Robert E. Landsman, ANOVA Science Education Corporation

9-12 B/LS Hands-On

Oh, To Understand Photosynthesis and Cellular Respiration!

From Science and Global Issues - Biology: Address student misconceptions about photosynthesis and cellular respiration both at the micro (cellular) and macro (ecosystem) levels.

Presenter(s): Linda Culpepper, Debbie Carlisle, Eva Ogens and John Allen, Lab Aids

Wednesday 11:30-12:30

9-12 B/LS Lecture

Free Teaching Resources from HHMI: Bones, Stones & Genes

Current research in human evolution reveals the fossil and genetic evidence chronicling the origin of our species. Review the research and receive free resources from the HHMI.

Presenter(s): Anthony Bertino, University at Albany (Retired); Patricia N Bertino, Scotia-Glenville HS (Retired)

Wednesday 11:30-12:30

K-8 I/G Hands-On

Equip Your iPad® for K-8 Science

Get a preview of SPARKvue® HD, PASCO's newly announced sensor-based science application for the iPad®. Get a hands-on experience collecting data on your own iPad.

Presenter(s): Craig Luckfield, PASCO scientific

5-8 E/SS, P/PS Hands-On

Too Hot to Handle: NASA Engineering Design Challenge - Thermal Protection System

Learn how to incorporate a design challenge into your classroom! Participants will design, build, test, and revise their own spacecraft thermal protection system.

Presenter(s): Kathie Klein and Bridget Pronovost, Assistant Director, Buehler Challenger & Science Center

5-8 I/G Lecture

You're NOT Gonna Believe What We Did in Since Class Today!

Mom and Dad will hear about these discrepant events at the dinner table. Come explore our favorites. Door prizes and freebies!

Presenter(s): Ted Beyer, Educational Innovations, Inc.

K-12 I/G, P/PS Demo

"A Little Science Magic!" ... Motivate Your Science Students Using Discrepant Events

This fast-paced presentation will highlight thought-provoking, paradoxical discrepant demonstrations that will energize any science classroom throughout the year.

Presenter(s): Buzz Putnam, Whitesboro HS

5-8 I/G, B/LS Hands-On

Change Over Time, Worms Under Attack! Scenario-based Food Foraging/Evolution Hands-on Activity

Scenario based - students experience foraging, evolution, graphing, and critical thinking. Students go outside to find colored "pickworms" (toothpicks) to discover how natural selection occurs.

Presenter(s): Jessica DiBenedetti, Hammarskjold MS

9-12 C, P/PS, Middle Level Hands-On

Elements of Thanksgiving

Science teachers will participate in several activities and receive information on how STEM supports literacy standards in this unique holiday experience.

Presenter(s): Connie K. Duff, NYSSELA

K-12 I/G Lecture

10 Awesome STEM Lessons

Learn about 10 + lessons that develop STEM skills of problem solving and collaboration that integrate all four disciplines for the middle school and high school classroom.

Presenter(s): Patti Duncan, Educator (Retired)

Wednesday 12:00-1:30

5-8 I/G; P/PS Hands-On

Going Beyond What Seems Obvious

NEW! "But why is that so?" We'll dig deeper--beyond the glib explanation--to attain conceptual understanding. Soap, coins, ping pong balls, circuits and more. Supports STEM.

Presenter(s): Mitch Batoff, Professor Emeritus, New Jersey City University

K-12 I/G Hands-On

Science Practices in the National Frameworks: How Will They Affect Classroom Teaching and Learning?

Experience and reflect on the Science Practices in the new National Frameworks. Think about how you can change your instruction to address these Practices.

Presenter(s): Theresa Moody and Wil van der Veen, New Jersey Astronomy Center at RVCC

5-8 I/G, STEM Hands-On

STEM Practices: Meeting the NGSS with FOSS® 3rd Edition

Understanding the core ideas in science requires the application and use of scientific knowledge. Explore embedded practices throughout the learning progressions that develop STEM practices.

Presenter(s): Amy L. Hamacher and Helen Weber, FOSS Consultant/Delta Education

Wednesday 12:00-1:00

10-12 C Discussion

Discussion Group for New AP Chemistry Teachers

Q&A discussing topics such as: preparing for the exam while teaching chemistry and exciting students; important labs and lab skills, and how to prepare for the reaction section.

Presenter(s): Carrie Jacobus, River Dell HS; Karen Galley (Retired)

K-8 ENV Discussion

Environmental Education in Action: A Model School Approach for Systemic Change

Discover how teachers use STEM to incorporate standards-based environmental education activities in their schools to guide students toward stewardship.

Presenter(s): Elizabeth Faircloth, NJ Project Learning Tree; Barbara Pietrucha (Retired)

Wednesday 12:30-2:00

9-12 B/LS Lecture

Science Under Siege. Teaching Evolution and Climate Change in a Climate of Controversy.

Evolution and Climate Change are controversial, yet essential topics in Biology. These issues will be analyzed and classroom solutions will be suggested.

Presenter(s): Kenneth R. Miller, Brown University

K-8 E/SS Hands-On

Helping Students Model Earth, Sun, and Moon Relationships in Grades K-8

Explore engaging strategies designed to help students develop an understanding for why we experience moon phases, eclipses, seasons, and time differences on Earth.

Presenter(s): Jonathan Nolde, Metuchen Public Schools/Campbell School

Wednesday 1:00-2:00

9-12 T Demo

Making it "Click": Using Student Response Systems in the Classroom

Engage in a mock lesson to learn how to implement student response systems in the classroom for assessment and participation purposes.

Presenter(s): Jennifer Miller and Jessica Toth, Robbinsville HS

K-12 I/G, E/SS, P/PS Hands-On

Science, Aviation, and Aerospace, Perfect Together

Show how math/science and physics are connected to aviation /aerospace. Lesson plans and a NJ Aviation Resource Book will be provided.

Presenter(s): Jerry Iacona, Tom Flieger and Janis Blackburn, NJ Aviation Education Council

K-12 I/G, P/PS Discussion

Collaborative Connections Between Physical Science, Math and Engineering

Explore a physical science lesson with related engineering challenges that engage elementary and high school teams in content, inquiry, collaboration and other 21st Century skills.

Presenter(s): Katheryn Kennedy, Stevens Institute of Technology; Danielle Pearce, Maple Road School; Michael Rose, West Milford HS

K-12 B/LS Behavioral Sci Hands-On

An Exploration of Biological Oddities

Excite your students with studies of biology's bizarre evolutionary pathways - regeneration, carnivorous plants, electrical fish, perceptual illusions, and more. Rekindle the fascination of Biology.

Presenter(s): Warren Marchioni, Liberty Science Center

K-12 I/G, B/LS, ENV Lecture

Connecting to the Amazon

The rainforest has the world's greatest biodiversity for a reason. Explore and connect to the Amazon in a way that you won't get anywhere else!

Presenter(s): Don Dean, Oakland Valley MS

9-12 I/G Demo

HS Forensic Science - Investigate for Yourself and Discover a Measurable Difference!

Hear how schools are re-engaging students using Cengage Learning's complete Forensics program. Learn strategies for integrating STEM movement while incorporating digital literacy.

Presenter(s): Maxine Dennis, Cengage Learning

9-12 I/G, SL/SUP Discussion

The New Science Model Curricula

Learn how the NJDOE worked alongside state experts to develop a model curriculum for biology, chemistry, earth system science, and environmental science and what this means for your school.

Presenter(s): Michael Heinz, NJDOE

Wednesday 1:30-3:00

5-8 I/G; Suitable for MS and HS Hands-On

Science Interactive Notebooks

Using brain-based research, organize and challenge your students to higher levels of thinking with a personalized daily portfolio that address all learning styles.

Presenter(s): Tara Sain, Ocean Township Intermediate School

9-12 C Hands-On

Understanding the Difference Between Heat and Temperature

Provide a framework for understanding the difference between heat and temperature. Perform lab investigations that will allow students to understand calorimetry and aspects of thermochemistry.

Presenter(s): Debbie Carlisle, Eva Ogens, John Allen and Linda Culpepper, Lab Aids

Wednesday 1:30-2:30

5-12 E/SS Kinesthetic

What Is the Greenhouse Effect?

Participate in a kinesthetic activity to explore the greenhouse effect and the transformations and conservation of energy involved.

Presenter(s): Steven R. Carson, John Witherspoon MS

9-12 I/G, P/PS Demo

Promoting Interest Through the Use of Digital Literacy and 3-D Gaming.

Demonstration of a graphic-rich, 3-D gaming environment, similar to that which students play 'for fun' which will facilitate delivery or reinforcement of science content.

Presenter(s): James Neufell and Robert Vermilyer, St. Thomas Aquinas College

K-8 I/G Interactive Discussion

Practical Ideas to Improve Science Thinking

We will share activities that improve science thinking throughout the curriculum. Bring your thinking caps to this dynamic presentation.

Presenter(s): Nathan Levy, Nathan Levy Books LLC

Wednesday 2:00-3:30

PreK-4 I/G, CORE, NGSS Hands-On

Science-Centered Language Development: Focusing Instruction to Meet CORE and NGSS with FOSS® 3rd Edition

The effective use of best practices in language arts instruction supports science learning. Strategies that support English learners and develop academic vocabulary will be modeled.

Presenter(s): Amy L. Hamacher and Helen Weber, FOSS Consultant/Delta Education

Wednesday 2:00-3:00

5-8 P/PS Hands-On

Elastic Power: Wind Up Your Engines and Explore

Use an elastic-powered wooden car to explore concepts of energy transfer, force and motion. Continued exploration focuses on mass, friction, inertia, momentum and force.

Presenter(s): Norm Barstow, Educational Innovations

9-12 B/LS, New Teacher Hands-On

Cafe Connect: Helping New Teachers Grow

A hands-on workshop that meets the needs of the pre-service and new life sciences/biology teacher. Learn the tricks of the trade from veteran teachers.

Presenter(s): Yamini Varma-Kumar, Matawan Regional HS

Wednesday 2:30-4:00

5-8 E/SS Hands-On

Keeping Things In Motion with NASA and Newton's Laws

Spice up your classes, excite your students and cover NJCCCS 5.2 strands C, D and E at the same time. Free NASA Poster Sets for all participants

Presenter(s): Linda Lee Smith, NASA EPO/Paulsboro Public Schools

9-12 B/LS Lecture

Stem Cell Research. What's Really Happening, and How do we Teach it?

Stem cell research offers unique opportunities to teach important biological principles. Recent developments in the field and suggested teaching strategies will be discussed.

Presenter(s): Kenneth R. Miller, Brown University

5-8 T Discussion

Maitland P. Simmons Summer Institute, 2012

Join the Maitland Scholars as they share their experiences using the STEM technology they learned at the 2012 Summer Institute

Presenter(s): Nancy Evans Bennett and Christine Lijoi, NJSTA; Adam Scribner, Stevens Institute of Technology

9-12 I/G, C, P/PS Hands-On

Active Learning Using a Lab First Approach

Use the lab to create a conceptual framework for understanding gas laws before 'lecture'. Discover the "Modeling Chemistry" approach.

Presenter(s): Cheryl Litman, North Brunswick Township HS; Donghong Sun and Lisa Chedid, Montgomery HS

Wednesday 2:30-3:30

5-8 I/G, SL, SUP Panel

Integrate To Be Great

Discuss the process of building an integrated and comprehensive science curriculum, focusing on practical steps and specific spiraling topics and activities.

Presenter(s): Maura Crowe, Wendy Hall and Sarah Shea, Kent Place School

Wednesday 2:30-3:30

PreK-4 I/G, STEM Lecture/Hands On

STEM Activities for PreK to 4th Grades

STEM activities that explore concepts with hands-on learning will be presented for Pre-K to 4th Grades and include simple machines, friction, gravity, magnets, and math.

Presenter(s): Lillian Rankel, Mt. Airy Happy Time School; Marilyn Winograd, MDW Educational Services

Wednesday 3:00-4:00

K-12 I/G, T Discussion

Blogging, Vlogging, Tweeting, and Podcasting for a Brighter Future

Learn how and why you should integrate blogging, vlogging, tweeting, and podcasting in your science classroom.

Presenter(s): Rebecca McLelland-Crawley, BTANJ