



NEW ORLEANS

NSTA 2009 National Conference on Science Education

Celebrating the
Year of Science...
Laissez les Bons
Temps Rouler!

General Information
Wednesday, March 18
Thursday, March 19

CAROLINA

Professional Development for NSTA 2009



Hone your teaching skills or explore a new topic. Our professional development sessions are taught by experienced presenters—classroom teachers, science coordinators serving as teaching partners, and our own staff scientists. Their training in the latest teaching techniques, requirements of the National Science Education Standards, and cutting-edge science topics means you'll receive concise, valuable information. See the schedule below for sessions, times, and locations. **Visit us in Booth 124!**

Session Schedule

Thursday, March 19, 2009

Time	Location	Grade*	Title
9:30 AM–11:00 AM	Room 215	E, M, H	Introduction to Wisconsin <i>Fast Plants</i> ®
9:30 AM–11:00 AM	Room 216	H	DNA Necklaces and Double-Helix Models
9:30 AM–11:00 AM	Room 217	E	Math Out of the Box®—Numbers Game!
11:30 AM–1:00 PM	Room 215	M, H	Take the Leap: <i>Carolina's Perfect Solution</i> ® Frog Dissection
11:30 AM–1:00 PM	Room 216	H	Introduction to Electrophoresis
11:30 AM–1:00 PM	Room 217	E	<i>Building Blocks of Science</i> ®: Measure It!
1:30 PM–3:00 PM	Room 215	H, C	Exploring Feline Anatomy with <i>Carolina's Perfect Solution</i> ® Cats
1:30 PM–3:00 PM	Room 216	H	Above and Beyond with Carolina's AP® Biology Series: Explore the Options!
1:30 PM–3:00 PM	Room 217	E	Addressing Difficult Physical Science Standards for Grades 1–3
3:30 PM–5:00 PM	Room 215	H, C	Think Mink! Exploring Mammalian Anatomy with <i>Carolina's Perfect Solution</i> ® Mink
3:30 PM–5:00 PM	Room 216	H	Molecular Models in the Classroom
3:30 PM–5:00 PM	Room 217	E, M	The Story Behind the Science—Scaffolding

Friday, March 20, 2009

Time	Location	Grade*	Title
8:00 AM–9:30 AM	Room 215	E, M	Carolina's Young Scientist Dissection Series
8:00 AM–9:30 AM	Room 216	H	Amplify Your Genetics Teaching Skills with Carolina's New <i>Inquiries in Science</i> ™ Biology Units
8:00 AM–9:30 AM	Room 217	E	Math Out of the Box®—Measuring Success!
10:00 AM–11:30 AM	Room 215	M, H	Genetics with Wisconsin <i>Fast Plants</i> ®/Flies/Corn
10:00 AM–11:30 AM	Room 216	H	Go APES! Explore Carolina's Quality AP® Environmental Science Series
10:00 AM–11:30 AM	Room 217	E	Science Investigations: Students, Notebooks, and the Power of Inquiry
12:00 PM–1:30 PM	Room 215	M, H	Comparative Vertebrate Anatomy with <i>Carolina's Perfect Solution</i> ® Specimens
12:00 PM–1:30 PM	Room 216	H, C	Illuminate Your Classroom with Carolina's Green Gene Colony Transformation
12:00 PM–1:30 PM	Room 217	E	<i>The Zula Patrol</i> ® Exploration Station—Mission: Simple Machines
2:00 PM–3:30 PM	Room 215	H	AUTOPSY: Forensic Dissection Featuring <i>Carolina's Perfect Solution</i> ® Pigs
2:00 PM–3:30 PM	Room 216	H	"Finding Solutions" for Your Chemistry Labs with Carolina's New <i>Inquiries in Science</i> ™ Chemistry Units
2:00 PM–3:30 PM	Room 217	E, M	Effective Science Materials Support Systems
4:00 PM–5:30 PM	Room 215	E, M, H	Butterflies in Your Classroom
4:00 PM–5:30 PM	Room 216	H	Drop the Lecture and Let Students Pick Up the Learning in AP® Science
4:00 PM–5:30 PM	Room 217	M	The Middle School Science Lab . . . Out of a Box!



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can be!



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us in
Booth
124!

Saturday, March 21, 2009

Time	Location	Grade*	Title
8:00 AM–9:30 AM	Room 215	H	SQUID INK-UIRY: Inquiry-Based Invertebrate Anatomy Through Squid Dissection
8:00 AM–9:30 AM	Room 216	E, M, H	Hands-On Science with Classroom Critters
8:00 AM–9:30 AM	Room 217	E, M	Discover the Solar System and Beyond with GEMS® Space Science Sequences
10:00 AM–11:30 AM	Room 215	M, H	Rats! Inquiry-Based Dissection with <i>Carolina's Perfect Solution</i> ® Specimens
10:00 AM–11:30 AM	Room 216	H	Need "Energy" in Your Environmental Classes? Learn About Carolina's New <i>Inquiries in Science</i> ™ Environmental Science Series
10:00 AM–11:30 AM	Room 217	E	Math Out of the Box®: Data Analysis and Algebraic Thinking Connect to Science
12:00 PM–1:30 PM	Room 215	E, M, H	Creating Habitats in the Classroom
12:00 PM–1:30 PM	Room 216	H	Forensics for the Biology Lab
12:00 PM–1:30 PM	Room 217	E	<i>The Zula Patrol</i> ®: Blast Off with Mixtures, Solutions, and Chemical Reactions
2:00 PM–3:30 PM	Room 215	M, H	Comparative Mammalian Organ Dissection with <i>Carolina's Perfect Solution</i> ® Specimens
2:00 PM–3:30 PM	Room 216	H	Introduction to Protozoa
2:00 PM–3:30 PM	Room 217	E	Math Out of the Box®: Developing Geometric Logic

*E=Elementary, M=Middle School, H=High School, C=College



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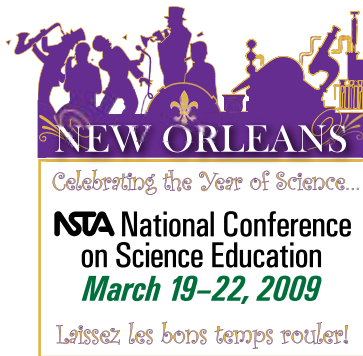
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NSTA 57th National Conference on Science Education

New Orleans, Louisiana • March 19–22, 2009

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NSTA Affiliates

Association for Science Teacher Education (ASTE)
Association for Multicultural Science Education (AMSE)
Council for Elementary Science International (CESI)
Council of State Science Supervisors (CSSS)
National Association for Research in Science Teaching (NARST)
National Middle Level Science Teachers Association (NMLSTA)
National Science Education Leadership Association (NSELA)
Society for College Science Teachers (SCST)

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Mission Statement

The mission of NSTA is to promote excellence and innovation in science teaching and learning for all.

The ideas and opinions expressed in the conference sessions, and in any handout materials provided, are those of the presenter. They are not those of the National Science Teachers Association nor can any endorsement by NSTA be claimed.



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Transition to Transformation: Striving for a Science-literate Nation



Welcome to NSTA's 57th National Conference on Science Education. The theme of this year's conference, *Celebrating the Year of Science...Laissez les Bons Temps Rouler!*, couldn't be more fitting. New Orleans is a remarkable setting for learning about and celebrating our achievements in striving for a science-literate nation. This inspirational and resilient city is known for its *joie de vivre*, even in the face of extreme challenges. In 2007, the unfortunate events of Katrina led to NSTA's moving the national conference from New Orleans to St. Louis. As president of NSTA, and on behalf of our 60,000 members, I want to say how delighted we are to be back in this extraordinary city for our 2009 national conference. For the next four days, educators from throughout the U.S. and around the world will come together as a science education community to

share their expertise, learn from each other, develop new networks and professional contacts, celebrate successes and tackle issues, and leave with new ideas that will transform science teaching and learning for all.

Our dedicated and hard-working Louisiana colleagues have planned a four-day program that is sure to keep our feet moving and our heads spinning. Be sure to thank members of the conference committee for all the work they have done to make this conference experience one to remember. In addition to planning a wealth of workshops, presentations, and other professional development opportunities, the conference committee structured the conference around four strands that focus on topics of current significance: Science and the Human Spirit, Research to Practice: The Science Teacher Professional Continuum, Energy and the Environment: The Natural and Human-designed World, and ISTE: Meeting the Needs of the Digital Student.

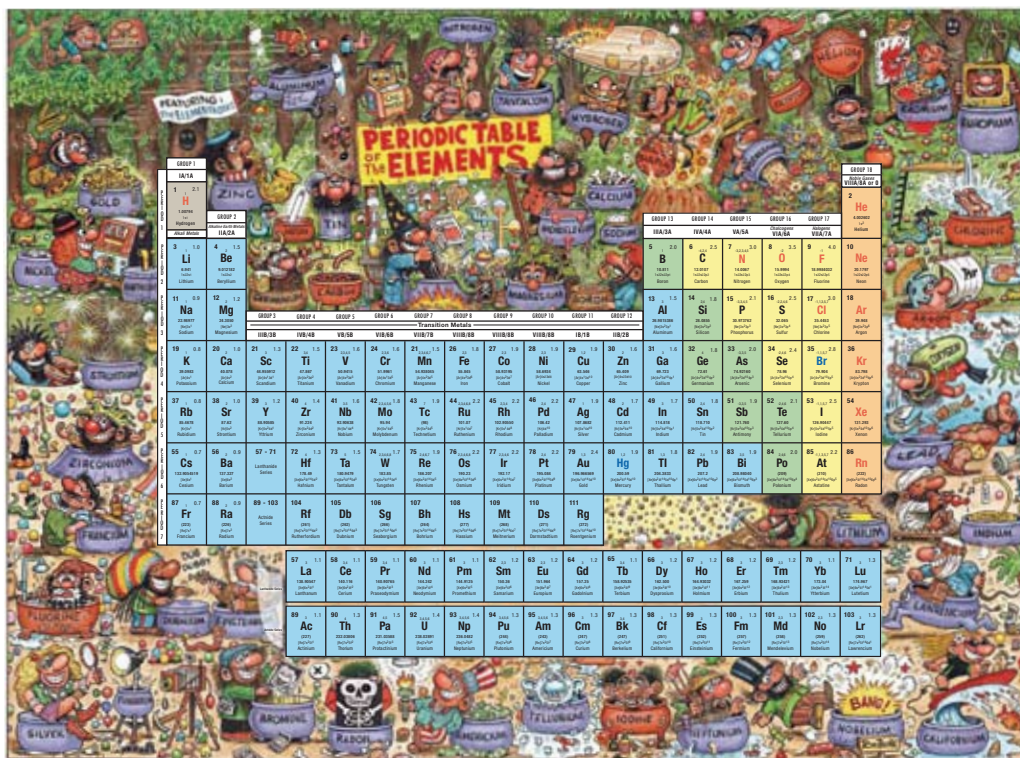
The Exhibit Hall brings a unique opportunity to examine an unparalleled display of top-quality instructional materials, equipment, and professional opportunities. Be sure to spend some time browsing the exhibits and interacting with our many fine exhibitors, who are there to support you with excellent programs and products. Visit the NSTA Science Bookstore to browse an array of best-selling books on science education. Some NSTA Press authors may be signing books. Consider attending a ticketed event—luncheons are a great way to meet new colleagues who share similar interests. If you are a newcomer to NSTA conferences, be sure to attend the First-Timers Session, where you will learn how to navigate through the conference, pick up helpful tips, and meet the “faces of NSTA.”

Whatever opportunities you choose, I promise you will leave this conference “transformed.” In these tough economic times, it is essential that we use our professional development funds wisely. This conference provides an unprecedented opportunity to access new opportunities and knowledge that will support science education in whatever context you work. The important thing to remember is to go back and share—be the conduit that will enhance the learning of others who were not able to attend the conference. As our paths cross during the conference, please stop and say hello. As your NSTA president, I enjoy talking with you to learn more about what NSTA can do to support our common pursuit of a science-literate nation. Together we can transform science education for all.

Page D. Keeley
2008–2009 NSTA President

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A picture is worth a thousand words, or it can mean the difference between whether or not a student is engaged in learning science. That's why at *It's About Time* we focus on engaging and challenging students in science. *And, it works.* Research has proven that one of the most important features of a good science program is to first engage students in wanting to learn science.

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Tomas Bunk, is a renowned illustrator and artist. He has been featured in Mad Magazine for more than 15 years and was one of the Garbage Pail Kids artists.



What Inquiry Should Be

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Welcome to New Orleans



Jean May-Brett

Paul Johnson

Brenda Nixon

Welcome to New Orleans! The New Orleans Planning Committee is delighted that you have chosen to come to Louisiana for what will be an extraordinary NSTA conference. The journey has been long and arduous across the state as a result of hurricanes Katrina and Rita, and most recently Gustav and Ike, with many of our communities still on the road to recovery. But the excitement of renewal and rejuvenation abounds. New Orleans is well on its way to attaining its former glory, and you are integral to making that happen. Thank you!

The New Orleans conference truly emulates the axiom of NSTA President Page Keeley's administration: "Transition to Transformation: Striving for a Science-literate Nation." The resurgence of interest in the sciences is creating a sense of urgency across the nation to attract students to science and increase science literacy. As NSTA members, we are on the leading edge of this revival. Whether a first-timer or veteran conference attendee, you are sure to find everything you need at the New Orleans conference to help you grow both personally and professionally. A wide range of unique and engaging presentations, workshops, short courses, and more offers a wealth of research, teaching strategies, and networking opportunities. A very special thank-you goes to presenters, workshop providers, invited speakers, field trip hosts, and exhibitors, who are devoting their time to share what is happening across the world in science research and education. We appreciate your efforts to ensure that cutting-edge knowledge is disseminated across the science community.

We hope you find the conference not only informative but invigorating. Take advantage of the many field trip opportunities available...take a canoe trip down a Louisiana bayou, explore the LIGO Science Education Center, see how space shuttle tanks are built at NASA's Michoud Assembly Facility, or learn to cook Cajun style. Take some time to explore the city on your own if your conference schedule allows. Check out the new Audubon Insectarium! It's right around the corner from the conference and will leave you in awe.

There are so many things to commemorate as we come together to "Celebrate the Year of Science." This is also the 20th anniversary of *Science for All Americans*, NSELA's 50th anniversary, and the International Year of Astronomy. We hope you leave the conference with new friends and contacts, a wealth of educational resources, and warm feelings for Louisiana and the New Orleans community.

Who said attending conferences wasn't fun and exciting? *Laissez les bon temps rouler!*

Jean May-Brett
Conference Chairperson

Brenda Nixon
Program Coordinator

Paul Johnson
Local Arrangements Coordinator

NSTA Conferences Go Green!

The National Science Teachers Association is committed to meeting today's environmental challenges by adopting eco-friendly practices both in our own day-to-day operations and at our conferences, workshops, and other events. In addition, we strongly encourage our contracted conference facilities to follow green practices as well. Here are some of the ways NSTA's conference department has worked to minimize our impact on the environment:

New "Conference Previews"

Two years ago NSTA rolled out its new "conference preview." Gone are the days of the bulky newspaper-style "advance program." Conference previews have allowed us to be more focused in our conference content, since each preview is specific to a particular conference. As an added bonus, they have also turned out to be more environmentally friendly, as they dramatically reduce both our print and mailing requirements.

Online Conference Information and Personal Scheduler

Most of your conference arrangements can now be accomplished online (www.nsta.org/conferences). Register and make your housing reservations on the web. Program details formerly included with the printed advance program are available to you on our website using the Session Browser/Personal Scheduler. Scheduling information on our website is up to date and more complete than that available through a printed piece.

Recycled Paper and Sustainable Print Services

Conference previews and final conference programs are now printed on recycled paper. In addition, IPC Print Services, the printer for our conference materials, is in strict compliance with all environmental laws and exceeds these standards in many areas. Wherever possible, IPC Print Services works to reduce and recycle waste, use reduced or low-VOC chemicals, increase the recycled content of raw materials, and use soy- and/or vegetable-based inks. IPC Print Services has also obtained chain-of-custody certification for paper products to ensure they are being harvested from environmentally responsible sources.

Eco-friendly Exhibition Practices

Our conference partner, GES Exposition Services, consistently looks for ways to deliver sustainable solutions. They offer many green product options and services at our conference exhibitions, including 100% recyclable carpet and padding, biodegradable trash bags and wastebaskets made from recycled materials, and recycled exhibit structures. Their green efforts are extended operationally with energy-efficient lighting, materials recycling, and use of recycled paper and signage products.

Green Initiatives at the New Orleans Morial Convention Center

The New Orleans Morial Convention Center and its food service partner ARAMARK, in a concerted effort to reduce use of resources and amount of waste, has initiated the following:

- Comprehensive system for reducing waste, including recycling cardboard, using linens and china instead of paper/plastics wherever possible, contributing prepared and unprepared foods to area food banks, and bulk purchasing to reduce packaging.
- Water conservation measures, including offering five-gallon water coolers instead of bottled water, using low-flow faucets in restrooms, and using irrigation systems with rain sensors to prevent excessive use of water resources.
- Energy conservation steps, including using a computerized energy management system in public areas and meeting spaces; using energy-efficient lighting, variable-volume HVAC and pumping systems, and daylight sensors for exterior lighting; and selecting Energy STAR equipment when purchasing new equipment.
- Clean air practices, including using environmentally preferable cleaners when possible and following preventive maintenance schedules on all air handler units, boilers, and diesel equipment.

"Go Green" at the New Orleans Conference!

- Recycle your conference programs in the clearly marked recycle bins located throughout the convention center.
- Recycle or re-use your plastic badge holders—you can either turn them in at the NSTA Registration Counter or use them at future conferences.
- Use double-side printing and/or recycled paper for session handouts and other conference materials.
- Walk or use public transportation when possible at the conference.
- Bring your own refillable water bottle to the conference.

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New Orleans Conference Committee

We at NSTA wish to express our heartfelt thanks to the members of the Louisiana Science Teachers Association (LSTA) for the many hours of time they volunteered in planning this conference.

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Contributors to the New Orleans Conference

NSTA and the New Orleans Planning Committee are extremely grateful to the following companies and associations for their generous contributions to the New Orleans national conference.

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- **NSTA Membership.** Access high-quality educational materials and professional development opportunities. Pick up a sample journal, your district ribbon, and a free lapel pin.
- **Leadership Opportunities.** Submit your name for nomination to become a candidate on a committee, review board, or the NSTA Board of Directors and Council.
- **NSTA Student Chapters.** Start a student chapter at your college or university.

Enhance Your Skills

- **NSTA Learning Center.** Select high-quality online learning opportunities to build content knowledge. Use our suite of tools for self-assessment and to document your progress.
- **NSTA Symposia.** These ticketed conference workshops include presentations and classroom activities by NSTA partner organizations as well as online follow-up in the form of web seminars and a discussion listserv.
- **Web Seminars.** Update your content knowledge with these free, 90-minute, live online presentations. Voice questions and share in rich chat conversations with the presenters and other educators.
- **SciGuides.** Explore online resources and lessons organized by grade level and specific content themes. All are pre-evaluated and aligned with the National Science Education Standards.

Add Your Voice

- **Building a Presence for Science.** Learn how you and your school can get connected to local, state, and national professional development opportunities and resources focused on curriculum, assessment, and instruction.

Expand Your Mind

- **NSTA Press®** publishes 20 new titles each year. Visit the Science Bookstore to view the newest releases, best sellers, and texts that puts your professional development in your hands and in your classroom. Current authors will be there to discuss their books and do signings. For those who have a book idea, submit it to NSTA, at <http://mc.manuscriptcentral.com/nstapress>.
- **SciLinks®.** Link to science resources on the internet. Expert science educators recommend sites with accurate information and effective pedagogy—the best content available online.

Distinguish Yourself

- **NSTA Awards.** Compete for awards from 17 programs, ranging from kindergarten to college.
- **Toshiba/NSTA ExploraVision® Awards.** This team-based K–12 competition awards up to \$240,000 in savings bonds annually.
- **Toyota TAPESTRY Grants for Science Teachers.** Share in \$550,000 in grants available in 2009. Fifty large grants of up to \$10,000 each and 20–25 mini-grants of \$2,500 will be awarded.
- **THE DUPONT CHALLENGE© Science Essay Competition.** This competition for grades 7–12 students promotes scientific literacy and inspires them to excel. Winners receive cash prizes and an expenses-paid trip to The Walt Disney World® Resort and the Kennedy Space Center.
- **Siemens We Can Change the World Challenge.** Siemens, Discovery Education, and NSTA are pleased to introduce middle school teachers to the Siemens “We Can Change the World Challenge,” the premier national student sustainability competition. Enhance your life science curriculum with a unique, hands-on way to engage students in developing actionable local solutions for a “greener” world, and learn how you and your students can win exciting prizes!



Registration, Travel, and Hotels

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- Airlines
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- Discounted Rental Cars
- Local Transportation
- NSTA Shuttle Bus Service
- Parking
- New Orleans Map and Hotel List
- NSTA Shuttle Bus Service



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Meeting Location and Times

The conference co-headquarters hotels are the Hilton New Orleans Riverside, New Orleans Marriott, and Sheraton New Orleans Hotel. Conference registration, the exhibits, the NSTA Science Bookstore, and sessions will be located at the New Orleans Morial Convention Center. Additional sessions and events will be held at the co-headquarters hotels as well as the JW Marriott Hotel New Orleans, and short courses will be at The Westin New Orleans Canal Place.

The conference will begin on Thursday, March 19, at 8:00 AM, and end on Sunday, March 22, at 12 Noon.

Registration

By action of the NSTA Board of Directors, registration is required for participation in all conference activities. The lapel badge mailed to you with your confirmation, or issued to you at registration on-site, is your “ticket of admission” to all conference activities except those for which a separate fee is stated.

On-site Registration Fees: Member, \$235; LSTA member, \$235; nonmember, \$309; retired NSTA member, \$135; international attendee, except Canada, \$135; full-time student, \$105; nonteaching spouse/guest, \$100; one day only, nonstudent, \$180; one day only, full-time student, \$55; last day only, nonstudent, \$95; and last day only, full-time student, \$45.

Registration Hours: The NSTA Registration Area, located in Exhibit Hall B1, will be open during the following hours:

Wednesday, March 18	5:00–8:00 PM
Thursday, March 19	7:00 AM–6:00 PM
Friday, March 20	7:00 AM–5:00 PM
Saturday, March 21	7:00 AM–5:00 PM
Sunday, March 22	7:30 AM–12 Noon

If you misplace your badge or tickets, present your personal ID at the Badge Reprint Counter in the Registration Area and you will be issued replacements. Only one replacement badge will be issued.

Purchasing Ticketed Events

The New Orleans Planning Committee has scheduled a variety of ticketed events—a research dissemination conference (Science Assessment, Linking Science and Literacy, and Science and English Language Learners: What Does Current Research Have to Say About Best Practices), NSTA symposia, professional development institutes, field trips, short courses, and social functions. Each of these events requires a separate fee and ticket. You may purchase tickets for these events, space permitting, in the NSTA Registration Area. See the Conference Program section (starting on page 43) for details. Note that some events may have required advance registration.

Airlines

The toll-free numbers to contact NSTA-designated airlines are as follows:

Air Tran	866-683-8368	Event Code SCIENCE09
American	800-433-1790	NSTA Index No. A2639AK
Continental	800-468-7022	NSTA Agreement Code AKYZQS
Northwest	800-328-1111	WorldFile NY22V
United	800-521-4041	Meeting ID Code 510CK

Ground Transportation to Airport

A taxi to Louis Armstrong New Orleans International Airport from the Central Business District costs about \$28 for one or two persons and \$12 per passenger for three or more passengers. There may be an additional charge for extra baggage. A one-dollar fuel surcharge may be added to the total fare.

Airport Shuttle New Orleans is the official ground transportation provider for the airport. NSTA has made arrangements with Airport Shuttle for a \$2 per person discount when booking online. Without the discount, the rate is \$15 one way. You must book no later than 1:00 PM the preceding day to use the online booking service. To make your reservation, visit the Airport Shuttle website at <http://airportshuttleneworleans.hudsonltd.net/res?USERIDENTRY=NSTA309&LOGON=GO>. You may change your original reservation online or by phone at 866-596-2699, but to receive the discounted rate your original reservation must have been made online.

Discounted Rental Cars

Special car rental rates for conference attendees have been negotiated with Enterprise Rent-A-Car. Make your reservation in one of three ways: book on the internet, call 1-800-Rent-A-Car, or contact your local branch directly. You must use the NSTA corporate number 16AH230 to receive these special rates.

To make your reservation online, log on to www.enterprise.com. Enter your destination and dates of car rental and enter the NSTA corporate number 16AH230. Click on “search.” At the prompt, enter the three-digit pin number “NST” and you’re on your way to discounted car rental!

Getting Around Town

New Orleans is one of the world’s busiest ports and the cultural capital of the South, yet the city is remarkably compact and easy to navigate. Many of the city’s attractions, accommodations, and event venues are within walking distance of each other. New Orleans also has a very accessible and reasonably priced public transportation system. It costs only \$1.25 to take an RTA bus or

one of the city’s famed streetcars, which travel the Riverfront and Canal Street.

Stop at the Welcome/Information tables in the NSTA Registration Area for helpful advice on what to see in New Orleans and how to navigate the city. The New Orleans Convention and Visitors Bureau website (www.neworleanscvb.com) has a wealth of information on getting around New Orleans.

NSTA Shuttle Bus Service

Free shuttle service is provided between the convention center and most NSTA hotels during registration and session hours. The Hampton Inn Suites New Orleans Convention Center, New Orleans Marriott at the Convention Center, Embassy Suites, and Hilton Garden Inn are within walking distance of the convention center and are not part of the service. See page 20 for a schedule.

Parking

There are many parking lots in the French Quarter. Rates range from \$3.50 to \$7.00 a day for earlybird parking (in before 9:00 AM), after which a higher rate is charged. Many metered spots are also available. New Orleans offers a downtown parking service (504-529-5708; milespark@aol.com) to aid travelers. No arrangements have been made with the New Orleans Morial Convention Center to provide parking to conference attendees.

Contact your hotel to check availability of guest parking. We recommend that conference attendees use NSTA’s shuttle bus service to attend conference events.

Hotels

Discounted rates for conference attendees were arranged with 22 New Orleans hotels. See pages 18–19 for a complete list of hotels and phone numbers and a map of the downtown area.

A Housing Bureau representative will be available at the NSTA Program Pickup Kiosk during registration hours to assist with housing questions.

Registration, Travel, and Hotels

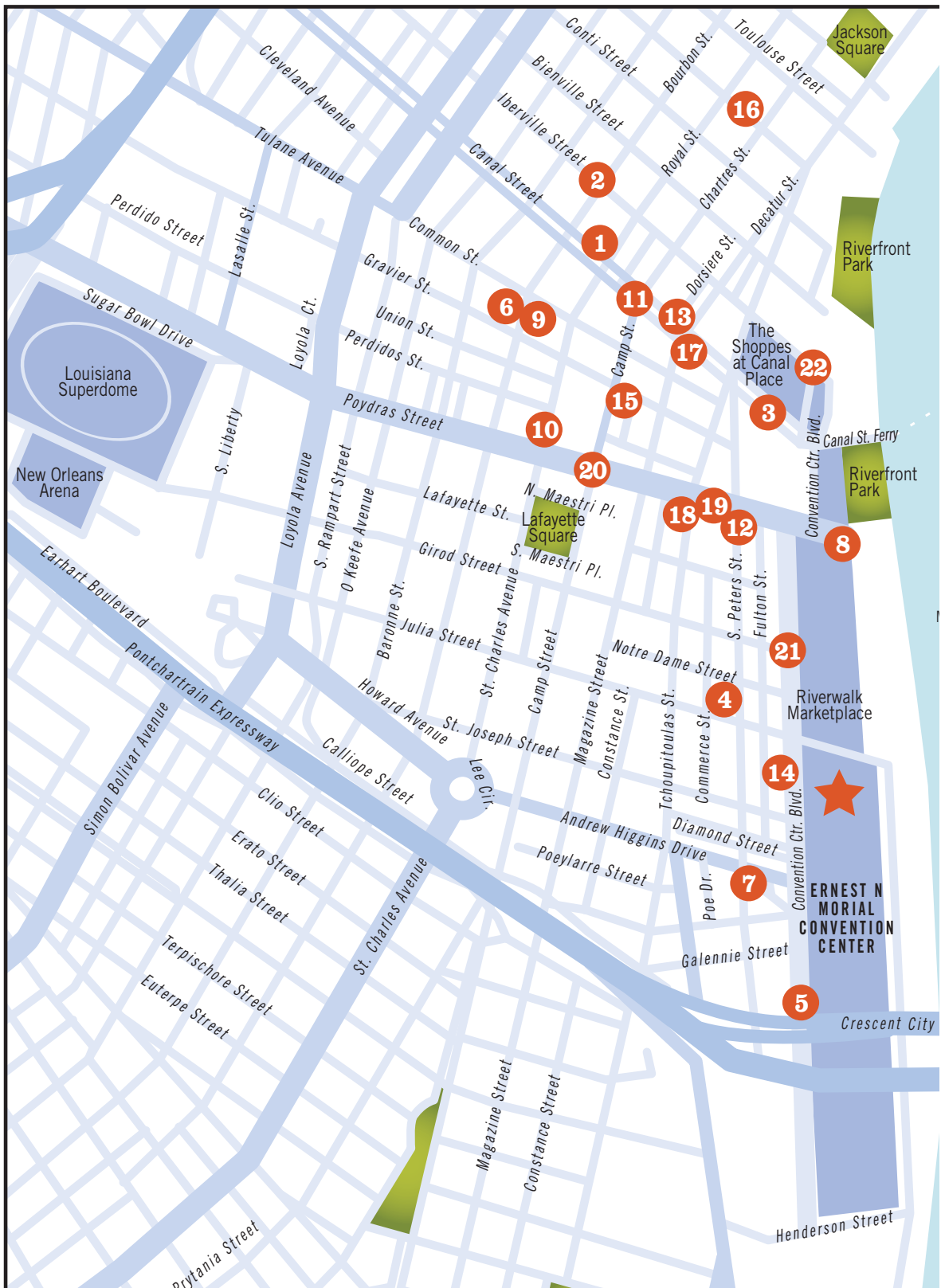
NSTA Conference Hotels



—©NOMCIVB

1. The Astor Crowne Plaza
739 Canal Street at Bourbon
504-962-0500
2. Chateau Sonesta Hotel New Orleans
800 Iberville St.
504-586-0800
3. Doubletree Hotel New Orleans
300 Canal St.
504-581-1300
4. Embassy Suites New Orleans-
Convention Center
315 Julia St.
504-525-1993
5. Hampton Inn & Suites New Orleans
Convention Center
1201 Convention Center Blvd.
504-566-9990
6. Hampton Inn French Quarter Area/
Downtown
226 Carondelet St.
504-529-9990
7. Hilton Garden Inn New Orleans
Convention Center
1001 S. Peters St.
504-525-0044
8. Hilton New Orleans Riverside
Co-Headquarters Hotel
Two Poydras St.
504-561-0500
9. Holiday Inn Express
221 Carondelet St.
504-962-0700
10. InterContinental New Orleans
444 St. Charles Ave.
504-525-5566
11. JW Marriott Hotel New Orleans
614 Canal St.
504-525-6500
12. Loews New Orleans Hotel
300 Poydras St.
504-595-3300
13. New Orleans Marriott
Co-Headquarters Hotel
555 Canal St.
504-581-1000
14. New Orleans Marriott at the
Convention Center
859 Convention Center Blvd.
504-613-2840
15. Omni Royal Crescent Hotel
535 Gravier St.
504-527-0006
16. Omni Royal Orleans
621 St. Louis St.
504-529-5333
17. Sheraton New Orleans Hotel
Co-Headquarters Hotel
500 Canal St.
504-595-5527
18. Staybridge Suites
501 Tchoupitoulas at Poydras
504-571-1818
19. W New Orleans
333 Poydras St.
504-525-9444
20. The Whitney, A Wyndham Historic
Hotel
610 Poydras St.
504-581-4222
21. Wyndham Riverfront New Orleans
701 Convention Center Blvd.
504-524-8200
22. The Westin New Orleans Canal Place
100 Rue Iberville
504-566-7006

New Orleans Hotel Locator Map



NSTA Conference Shuttle Service To/From Convention Center (MCCNO)

Hours of Operation

Peak Service – Shuttles depart every 10–15 minutes

Off-Peak Service – Shuttles depart every 20–30 minutes

Meeting Express (Red Route)—Continuous peak service between Hilton, Westin Canal Place, Marriott New Orleans (Canal Street), Sheraton New Orleans (Canal Street), and JW Marriott (departs at Marriott or Sheraton).

MEETING EXPRESS – RED

Hilton Riverside – Side Breezeway
Westin Canal Place – Canal St. in front of Saks
Marriott New Orleans – Side Breezeway
Sheraton New Orleans – Canal St.
JW Marriott – depart at Marriott or Sheraton
Does NOT stop at Convention Center

ROUTE 3 – GOLD

Sheraton – Canal St.
Omni Royal Orleans – Walk to Sheraton
Doubletree – Tchoupitoulas & Gravier
W New Orleans – Tchoupitoulas & Gravier
Loews – Walk to Staybridge Suites
Staybridge Suites – Tchoupitoulas

ROUTE 5 – BLACK

Omni Royal Orleans – St. Louis Street

ROUTE 6 - BROWN

Intercontinental – Poydras & St. Charles
Whitney Hotel – Poydras & St. Charles
Hampton Inn FQ – Carondelet & Common
Holiday Inn Express – Carondelet & Common

ROUTE 1 – GREEN

Hilton Riverside – Side Breezeway
Wyndham Riverfront – Convention Center Blvd.

ROUTE 4 – BLUE

JW Marriott – In front on Canal St.
Astor Crowne Plaza – In front on Canal St.
Chateau Sonesta – In front on Canal St.

WALK (HOTELS TO MCCNO)

Hampton Inn & Suites Convention Center
Marriott Convention Center
Embassy Suites
Hilton Garden Inn

ROUTE 2 – PURPLE

Marriott New Orleans – Side Breezeway
Westin Canal Place – Canal St. in front of Saks

Wednesday, March 18

All routes (no Meeting Express)	6:00–10:00 AM	Off-peak service between route hotels and MCCNO for Professional Development Institutes (ticket required for PDI-1 through PDI-14)
All routes (no Meeting Express)	4:30–8:30 PM	Off-peak service for NSTA Registration at MCCNO (5:00–8:00 PM)

Thursday, Friday, and Saturday, March 19–21

Meeting Express (Red)	6:30 AM–6:30 PM	Peak service
Routes 1 (Green), 2 (Purple), and 3 (Gold)	6:30–10:30 AM 10:30 AM–2:30 PM 2:30–6:30 PM	Peak service Peak service to meeting facilities ONLY (Convention Center, Hilton, Westin, Sheraton, and Marriott) Peak service
Routes 4 (Blue), 5 (Black), and 6 (Brown)	6:30–10:30 AM 10:30 AM–2:30 PM 2:30–6:30 PM	Peak service NO SERVICE Peak service
All routes (no Meeting Express)	6:30–10:00 PM	Off-peak service between route hotels, MCCNO, and Hilton Riverside for the Saturday President’s Banquet (M-11 ticket required)

Sunday, March 22

All routes (no Meeting Express)	6:30 AM–1:30 PM	Off-peak service
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Conference Resources

- Graduate Credit Opportunity
- Exhibition of Science Teaching Materials
- NSTA Avenue
- NSTA Science Bookstore
- Welcome and Information Center
- LSTA Booth
- Evaluation Booth/Presenters and Presiders Check-In
- Conference Evaluation
- First Aid Services/Security
- Lost and Found
- Message Center
- Audiovisual Needs
- International Lounge
- NSTA Coordinating Center for People with Disabilities
- Business Services
- Rent-a-Box Small Parcel Shipping Center
- Session Evaluations/
Tracking Professional Development
- Floor Plans
- NSTA Headquarters Staff
- NSTA Officers, Board of Directors, and Council
- Future NSTA Conferences
- Philadelphia Call for Sessions



Graduate Credit Opportunity

Framingham State College, Framingham, Massachusetts, offers one graduate-level credit to teachers attending the New Orleans conference. To earn credit, the applicant must attend sessions, workshops, and/or presentations during the conference. The credit requires a written assignment and application in addition to an NSTA transcript documenting attendance (see Session Evaluations and Tracking Professional Development on page 25). A minimum of 12 hours of attendance is required. Visit the Framingham State College website at www.framingham.edu/nsta for details and to pick up a registration form.

NSTA Exhibits

NSTA exhibits are an essential feature of every NSTA conference. These exhibits give you an opportunity to examine and learn about a wide variety of up-to-date teaching materials. Here you will find the latest textbooks, computer hardware and software, laboratory equipment, industry-supported educational materials, summer opportunities, and many other exhibits that are designed to enhance your knowledge and teaching skills.

Registration badges are required for admission to the exhibits. For a complete list of exhibitors and contact information, see Volume 4. A foldout map of the Exhibit Hall floor plan is available at Program Pickup.

Exhibit Hall Hours. Located in Exhibit Hall B1 at the New Orleans Morial Convention Center, exhibits will be open for viewing during the following hours:

Thursday, March 19	10:00 AM–6:00 PM
Friday, March 20	9:00 AM–5:00 PM
Saturday, March 21	9:00 AM–5:00 PM

Ribbon Cutting. An opening ceremony is scheduled on Thursday at 10:00 AM at the NSTA exhibits entrance, Exhibit Hall B1, Convention Center.

Leads Retrieval. NSTA exhibitors use leads retrieval, a paperless tracking system, to receive quicker, more accurate information about conference attendees who have visited their booth. With the leads retrieval system, an exhibitor scans your badge as you visit the booth. This allows exhibitors to send information to you while the conference is still fresh in your mind.

Guidelines for Industry Representatives. A person or company who wishes to attend NSTA conferences to conduct business can register as an industry representative. Such business includes market research; determining new trends in the marketplace; interacting with manufacturers, dealers, and distributors; canvassing the exhibit hall for new items for a product catalog; and holding sales or business meetings. Publishers, editors, and authors also fall under this category.

A business representative who attends NSTA conferences by any means other than through exhibiting will be registered as an Industry Representative at a fee of \$1,500 for the national conference. The fee is applicable to each person in attendance. In addition to a registration lapel badge, industry representatives will also have access to hotel rooms in the conference housing block.

Exhibitor Workshops. Exhibitor-sponsored workshops for science teachers are offered Thursday through Saturday. These workshops give you an opportunity to use a variety of commercial instructional materials. The number of participants for each is limited by the size of the room, but tickets are not required. Attendance is on a first-come, first-served basis. See Volume 4 for a complete listing of exhibitor workshops.

The NSTA Avenue

Stop by and visit NSTA (Booth No. 1030) to learn about member benefits, services, products, programs, and partners... all created for you. Share with others, expand your knowledge, and get the latest on awards for you and your students. See Volume 4 for a complete list of NSTA services and programs.

NSTA Science Bookstore

Don't miss the opportunity to shop and browse the Science Bookstore for hundreds of the best books and teacher resources in science education. Take a close look at some of our "just released" new titles for 2009—*College Science Teachers Guide to Assessment*, *Reforming Secondary Science Instruction*, *The Biology Teacher's Handbook*, and Bob Yager's *Inquiry: The Key to Exemplary Science*. Select authors will be there to discuss their work and sign books. Keep in mind that NSTA members save 20% on all NSTA Press® products and 10% on products by other publishers. Enjoy our free shipping option as an added attendee benefit!

Welcome and Information Center

A Welcome and Information Center is located at the Program Pickup Kiosk in the NSTA Registration Area. Here you'll find information on conference activities, tourist attractions, transportation, housing, and program changes. The center will be staffed during registration hours.

LSTA Booth

The Louisiana Science Teachers Association (LSTA) booth is located in the NSTA Registration Area. Stop by for information about New Orleans or the metro area. Membership forms and information on association activities will also be available. Be a part of what's happening in science education in Louisiana! Louisiana teachers who need CLU certificates should visit the LSTA Booth before leaving the conference.

Evaluation Booth/Presenters and Presiders Check-In

If you are presenting or presiding at a session, please check in and pick up your ribbon at the Evaluation Booth in the Registration Area after you have registered for the conference and received your name badge. Session presenters should also pick up an evaluation packet for each session presented (see "Session Evaluations..." on page 25).

If you are a provider of an exhibitor workshop, you should pick up an evaluation packet at the Exhibitor Registration counter for each of the sessions you are offering.

Conference Evaluation

All conference attendees are invited to complete a conference evaluation form online at http://ecommerce.nsta.org/2009new/conference_evaluation.asp.

First Aid Services/Security

The First Aid Room is located in Lobby B2 of the Convention Center. In case of emergency, call 504-582-3096.

Lost and Found

All lost-and-found items at the Convention Center will be turned in at the Exhibitor Registration counter. Lost-and-found items at other facilities will be turned in at the facilities' security offices.

Message Center

A Message Center for conference attendees is available in the NSTA Registration Area. No messages, except extreme emergencies, can be broadcast over the public address systems.

Audiovisual Needs

NSTA will fulfill AV needs originally requested on the program proposals as long as the request is within the limits of equipment that NSTA provides. For any last-minute AV needs, presenters must arrange and pay for their own equipment. Technology Express, Inc., the designated AV company on-site, will be located in the following rooms:

Convention Center	Room 223
Hilton	Warwick Room
Marriott	Galvez Room
JW Marriott	Royal Room
Sheraton	Poydras Room

Conference Resources

International Lounge

The Trafalgar Room at the Hilton New Orleans Riverside Hotel has been reserved as an international lounge. All international guests are welcome to use this lounge as a place to meet or just simply relax while here at the NSTA conference. We also invite conference attendees to stop by and meet our international colleagues. The lounge will be open Thursday 10:00 AM–6:00 PM and on Friday and Saturday 9:00 AM–5:00 PM.

NSTA Coordinating Center for People with Disabilities

NSTA makes an effort to provide convenience and accessibility for all persons attending conferences. A Center for Services for Disabled Persons, staffed by local committee volunteers, is located in the NSTA Registration Area. If you need assistance, visit this table during registration hours. NSTA cannot guarantee services for requests not made in advance of the conference.

Business Services

The Morial Business Center, operated by RHINO business services, offers copy and fax service, UPS and FedEx small parcel shipping services, office and packing supplies, design services, and much more. Located in Lobby F, the business center is open during the following hours:

Wednesday, March 18	9:00 AM–6:00 PM
Thursday, March 19	8:00 AM–6:00 PM
Friday, March 20	8:00 AM–6:00 PM
Saturday, March 21	8:00 AM–6:00 PM
Sunday, March 22	9:00 AM–12 Noon

Contact the center at 504-670-8941 or rhinof@rhinobiz.com.

Friday, March 20 7:00 AM–12 Midnight

Start Time	End Time	Activity/Event Title
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____

Saturday, March 21 8:00 AM–12 Midnight

Start Time	End Time	Activity/Event Title
_____	_____	_____
_____	_____	_____
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_____	_____	_____

Sunday, March 22 8:00 AM–12 Noon

Start Time	End Time	Activity/Event Title
_____	_____	_____
_____	_____	_____

Session Evaluations and Tracking Professional Development

All attendees can evaluate sessions while simultaneously tracking professional development certification (based on clock hours).

- 1 Concurrent session presenters** (teacher presentations and workshops) are required to check in at the Presenters/Presiders/Evaluation booth in the NSTA Registration Area and pick up a session evaluation packet.

Each exhibitor workshop provider is required to check in at the Exhibitor Registration counter in the East Registration Area and pick up his or her company's workshop evaluation packets.

All presenters then distribute evaluation forms to attendees at the latter part of the session.
- 2 Attendees** will complete this short evaluation and deposit the form in the evaluation drop-off boxes located in each meeting facility. Since these forms will be used to "track" professional development hours, all evaluations must be placed in these drop-off boxes no later than 12:30 PM on Sunday. Concurrent session presenters may also complete evaluation forms for their own sessions in order to track professional development credit.

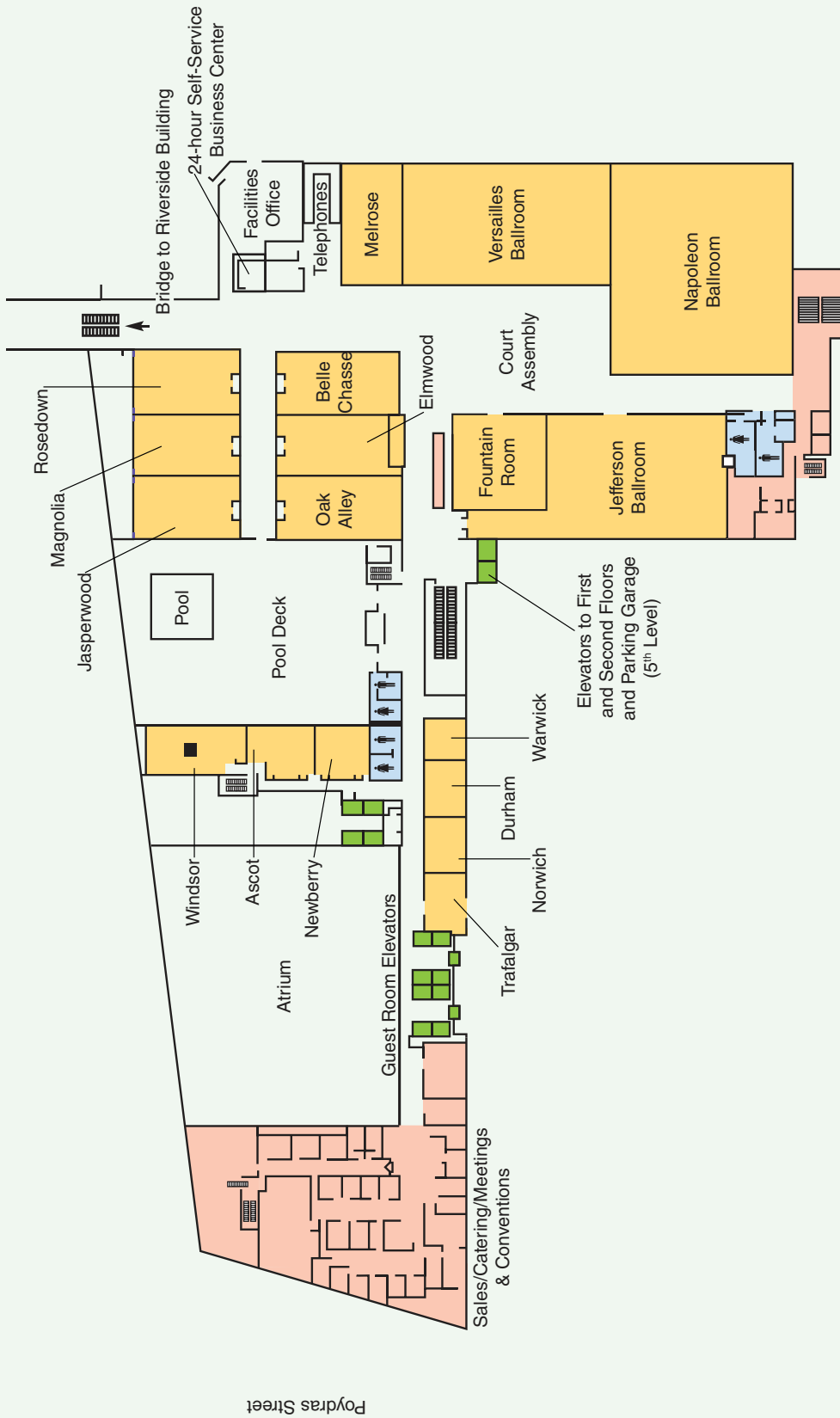
You **MUST** enter your badge number accurately (up to seven digits) on the evaluation form to have your attendance at the session documented.

Note: In some cases, the presenters may not have enough evaluation forms to go around. A Professional Development Documentation Form is included with this program so that attendees can keep a personal record of activities for which they do not receive an evaluation form, either because the presenter did not provide one or because an activity is not being evaluated. See "3," which follows.
- 3** Five weeks after the last day of the conference, an attendee can visit the NSTA website <http://ecommerce2.nsta.org/transcript> to access a transcript of his or her attendance at specific sessions and to document credit for other activities that are not being evaluated (ie., field trips, short courses, exhibit hall visits, the General Session, featured speakers, and meetings). Each attendee is responsible for tracking his/her own attendance at such events.

A Professional Development Documentation Form is included following page 24 to help attendees keep a personal record of sessions/events attended that were NOT evaluated.
- 4** The transcript can be printed from the NSTA website <http://ecommerce2.nsta.org/transcript> and presented to an administrator who requires documentation of participation in the conference. All information in these transcripts will be maintained (and can be accessed) indefinitely as part of an attendee's individual profile.

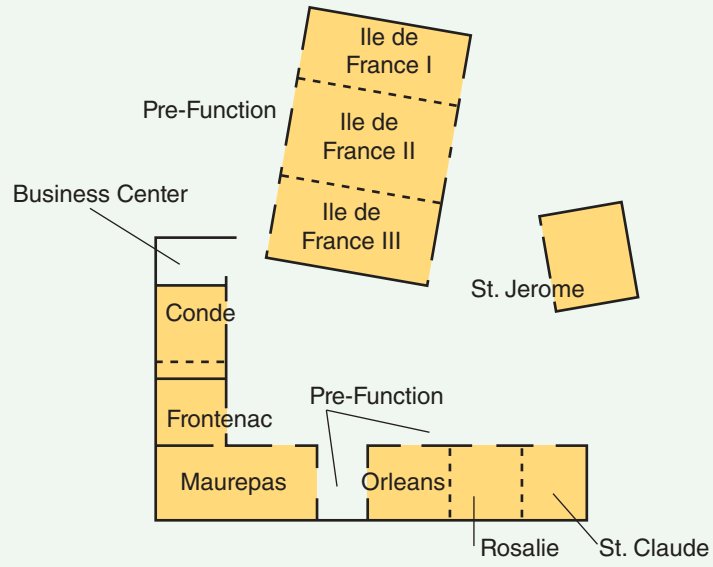
Hilton New Orleans Riverside

Third Floor



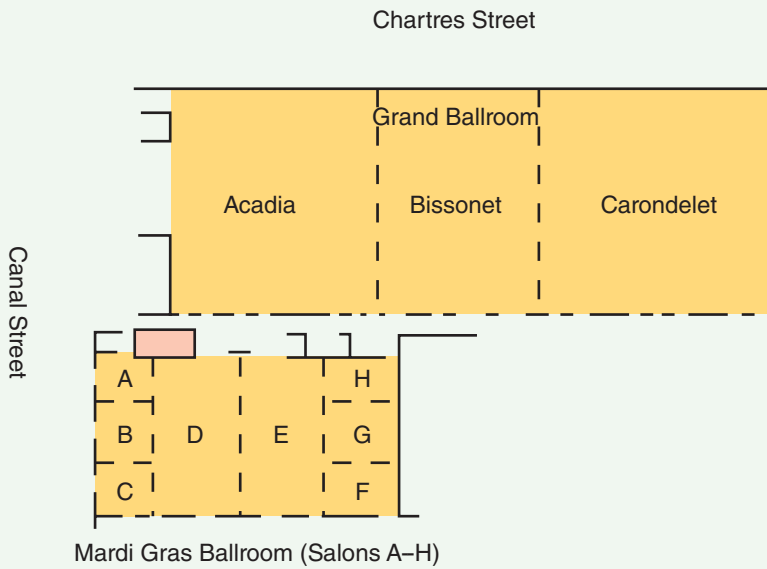
JW Marriott Hotel New Orleans

Third Floor

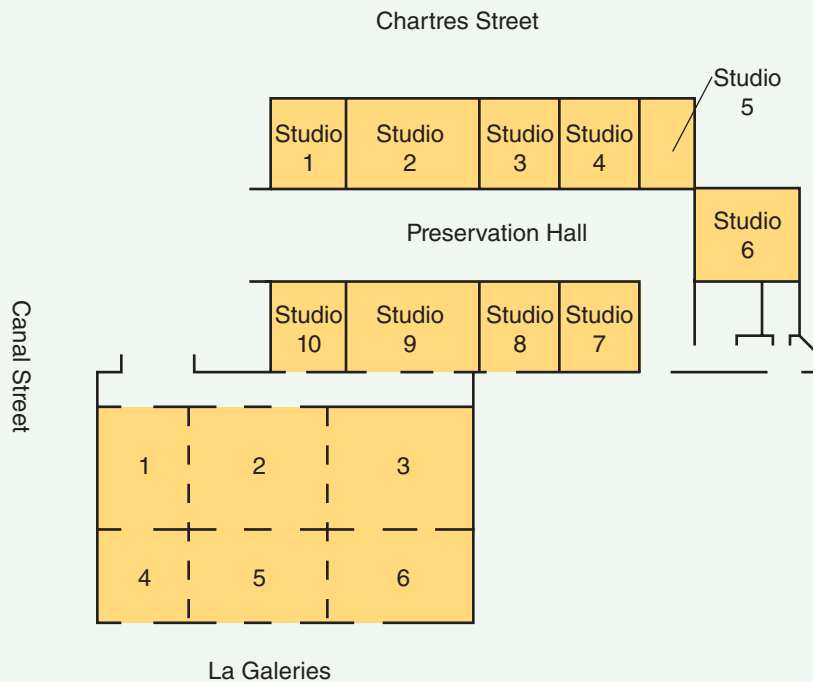


New Orleans Marriott

Third Floor

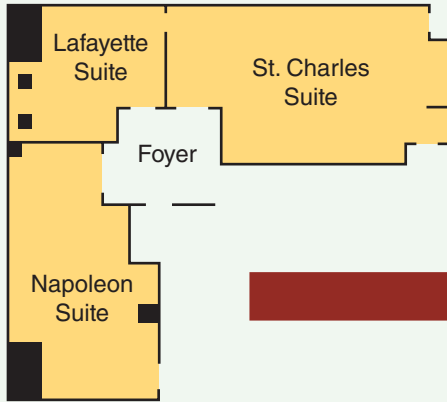


Preservation Hall

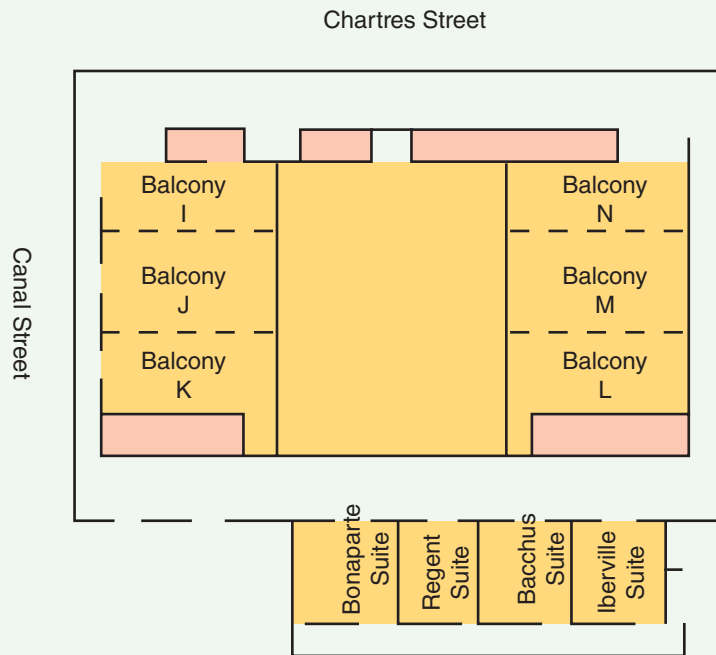


New Orleans Marriott

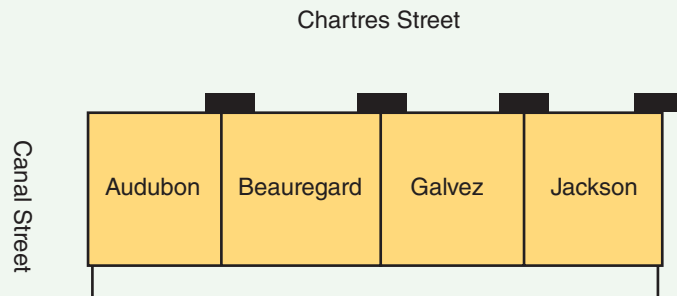
41st Floor Suites



Fourth Floor

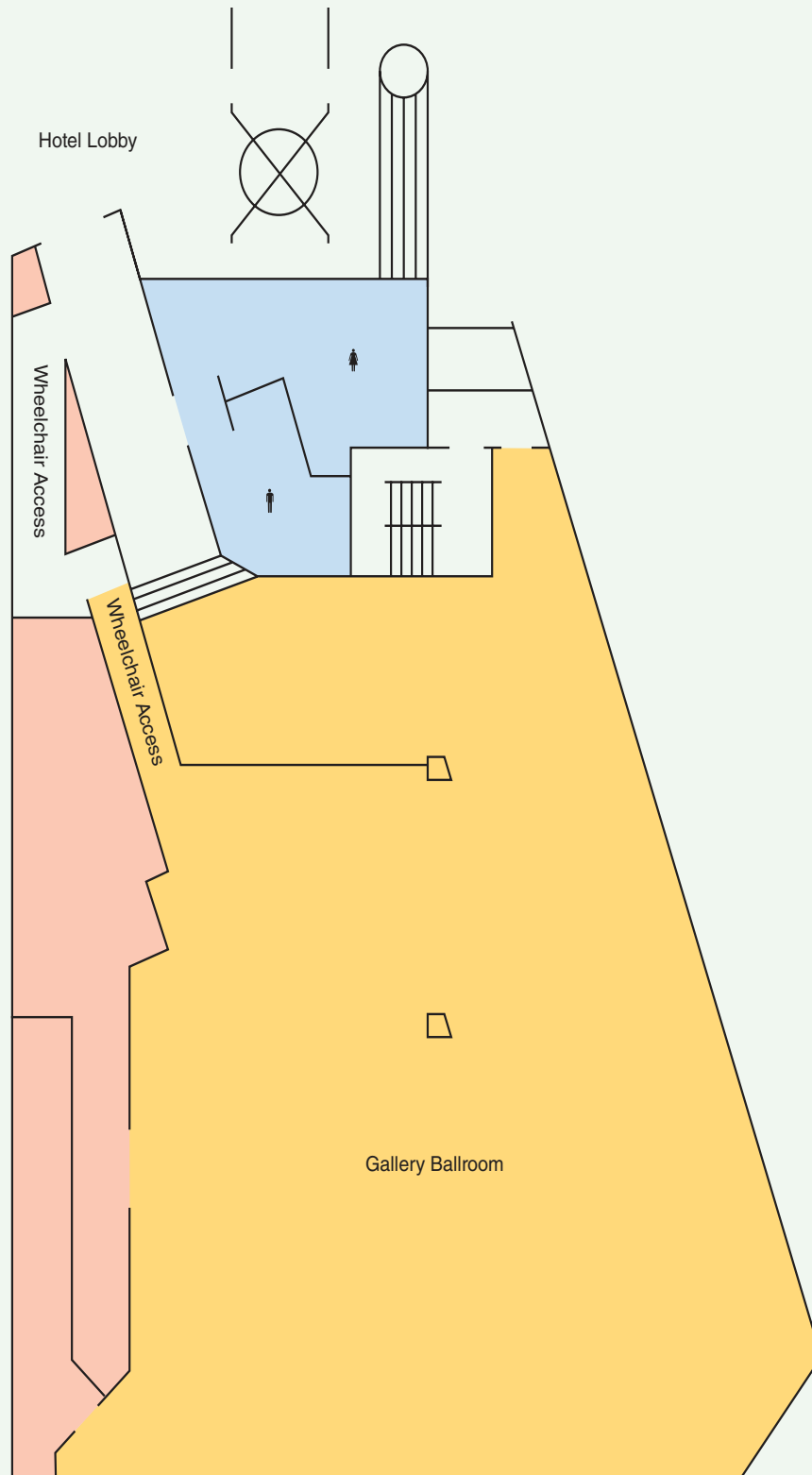


Fifth Floor



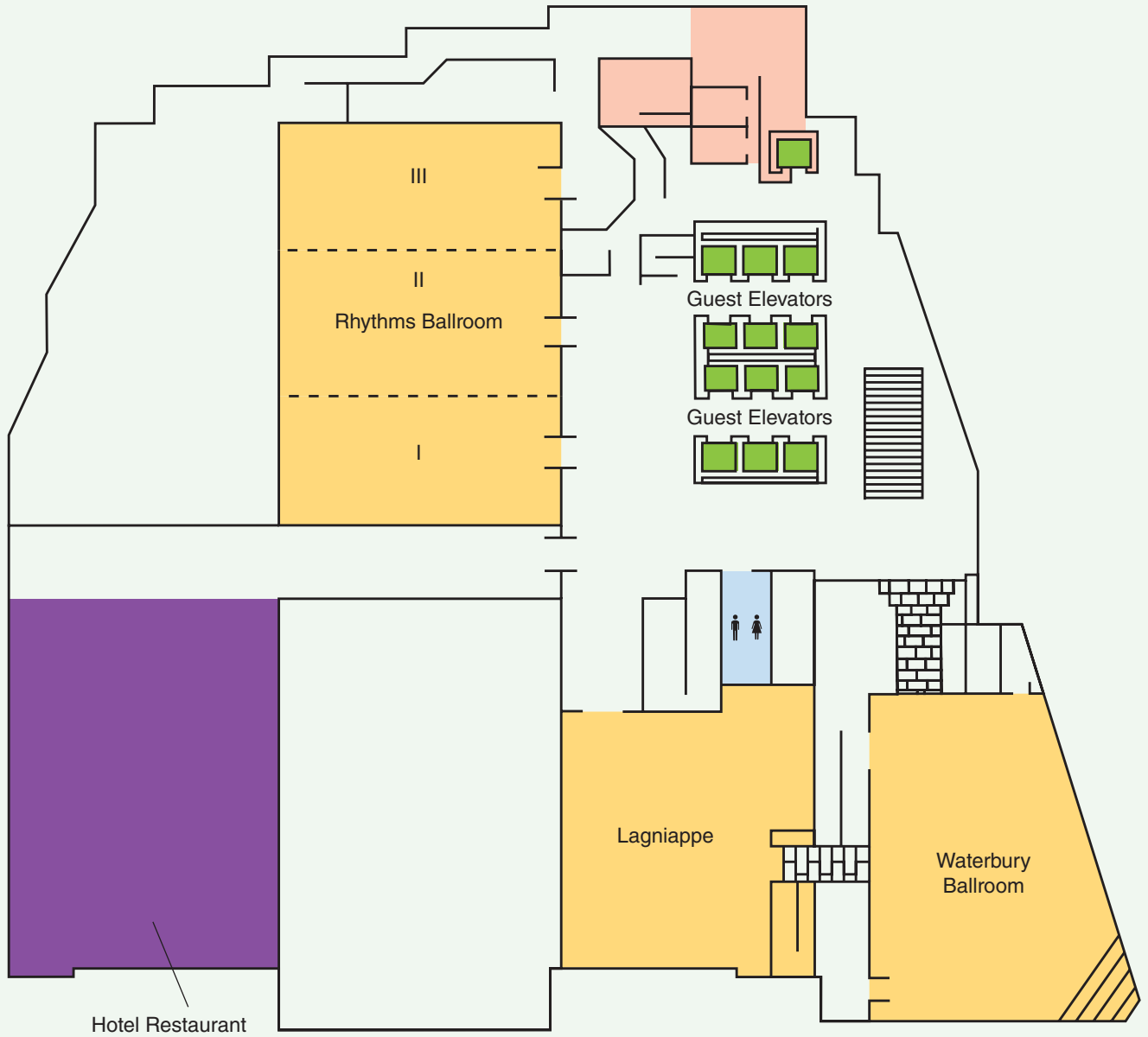
Sheraton New Orleans Hotel

First Floor



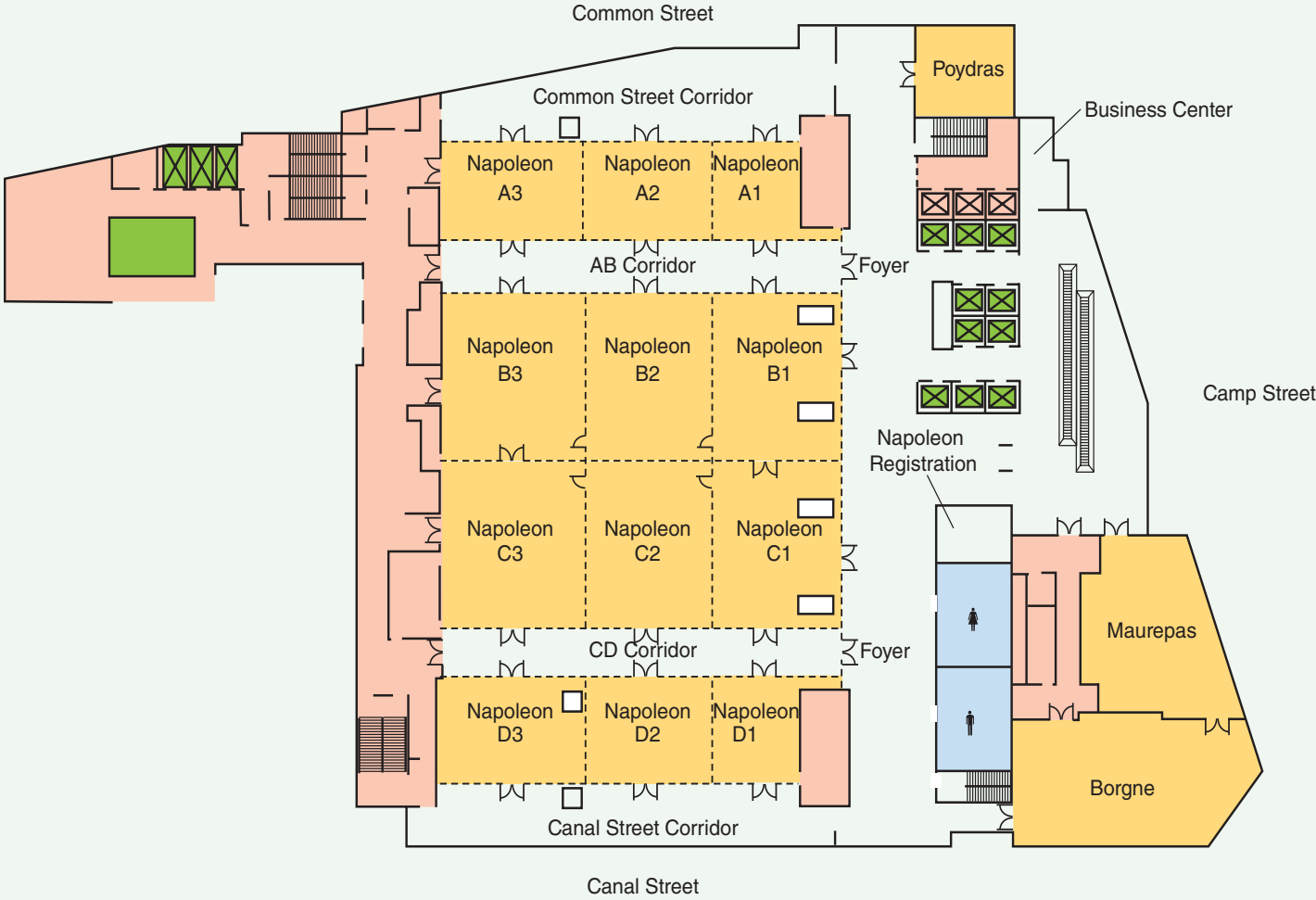
Sheraton New Orleans Hotel

Second Floor



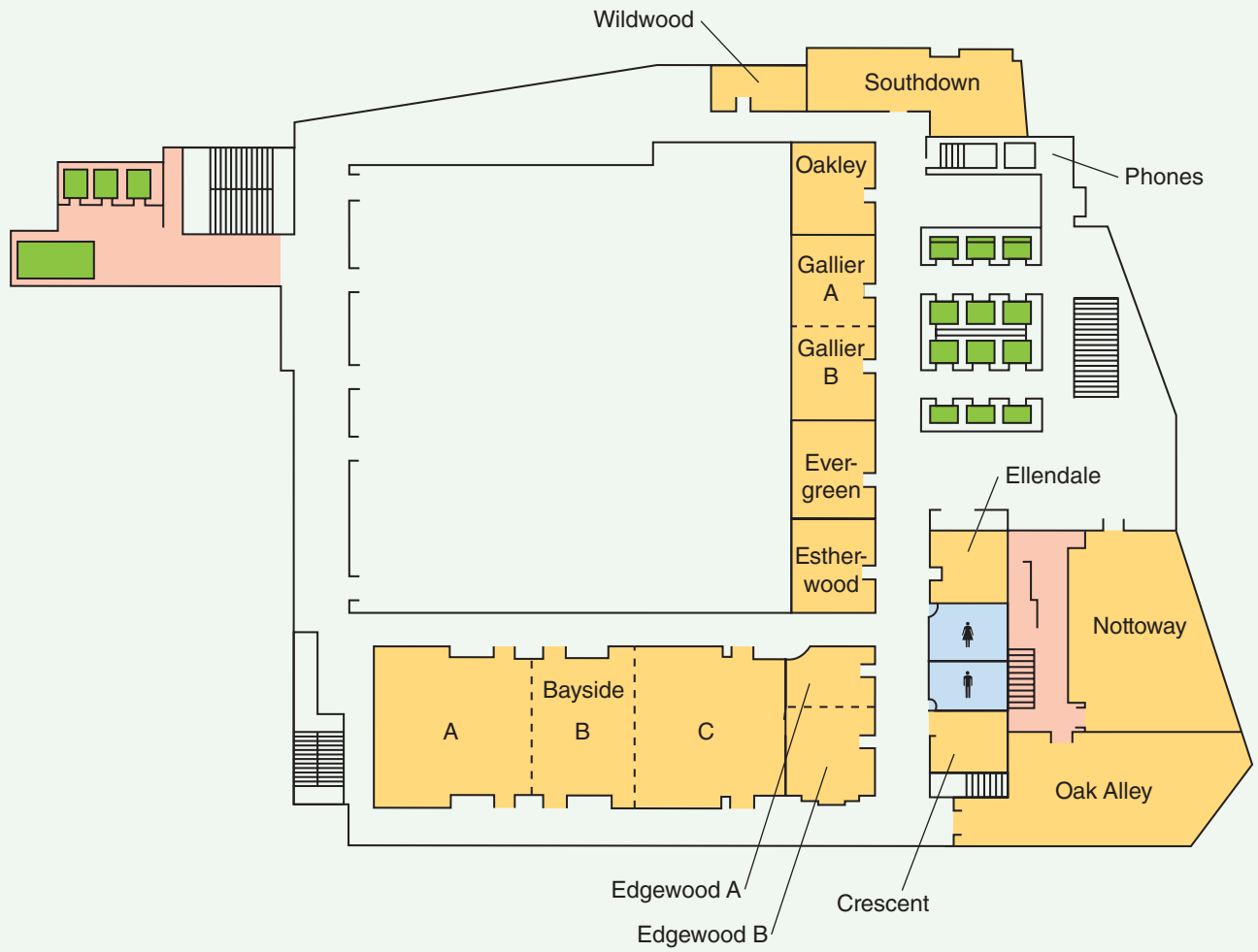
Sheraton New Orleans Hotel

Third Floor



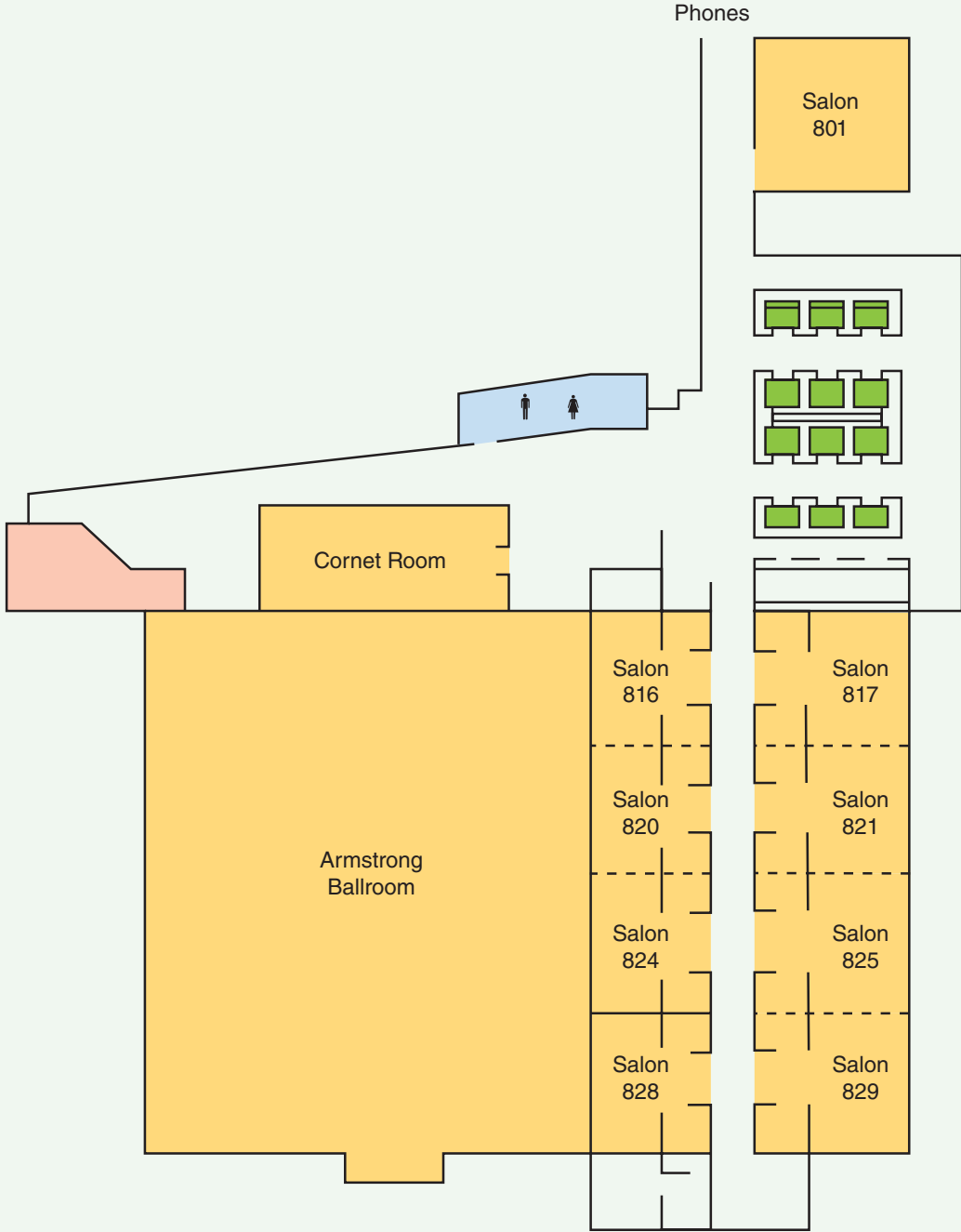
Sheraton New Orleans Hotel

Fourth Floor



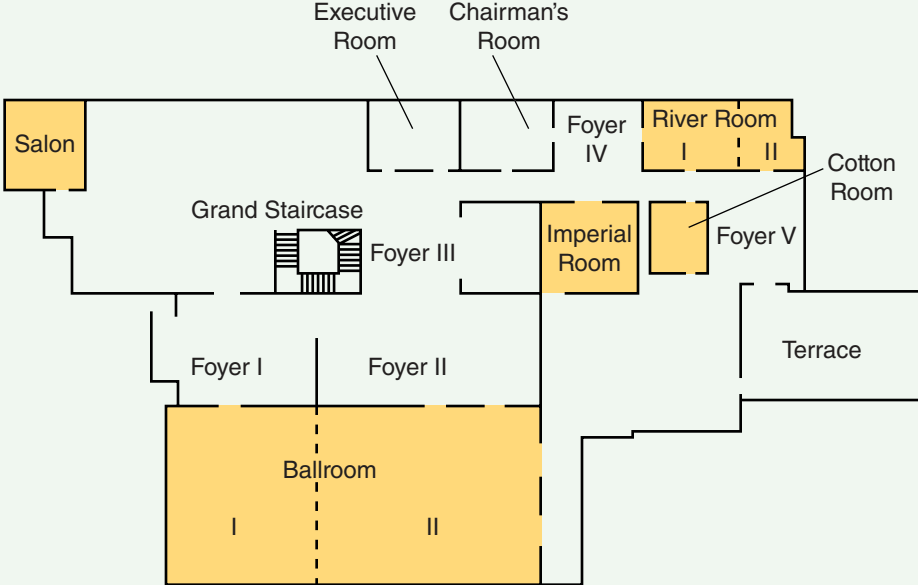
Sheraton New Orleans Hotel

Eighth Floor



The Westin New Orleans Canal Place

12th Floor



NSTA Headquarters Staff

Executive Office

Francis Q. Eberle, Executive Director

BOARD RELATIONS

Michelle Butler, Executive Administrator and Manager

DEVELOPMENT AND CORPORATE RELATIONS

Larry Rzepka, Assistant Executive Director

Corporate Partnerships

Marie Wiggins, Director, Corporate Partnerships and Toshiba/NSTA ExploraVision
Eric Crossley, Assistant Director, Corporate Partnerships and Toyota TAPESTRY
Brian Short, Assistant Manager, Toshiba/NSTA ExploraVision

Development

Bleik Pickett, Assistant Director
Lauren Medsker, Assistant Manager

LEGISLATIVE AND PUBLIC AFFAIRS

Jodi Peterson, Assistant Executive Director
Cynthia Workosky, Communications Specialist
Kate Meyer, Public Affairs Specialist

NOMINATIONS AND TEACHER RECOGNITION PROGRAMS

Amanda Upton, Manager

Marketing and Sales

Ed Rock, Associate Executive Director
Jeffrey LeGrand, Marketing and Sales Associate

EXHIBITS AND ADVERTISING SALES

Rick Smith, Director
Jason Sheldrake, Assistant Director
Kimberly Hotz, Administrator, Exhibitor Relations and Sales Support
Olenka Dobczanska, Advertising Production Manager
Becky Shoemaker, Advertising Sales Associate

MARKETING

Michele Soulé, Director
Roberta Banning, Manager

U.S. REGISTRY OF TEACHERS

Jamelle Thomas, Manager

Operations and Membership

Moira Baker, Associate Executive Director, COO, and CFO
Shantee Young, Administrative Assistant

BUSINESS AND FINANCE

Ann Hess, Assistant Executive Director, Accounting, and Controller
Kristin Carter, Director of Grants and Contracts
Diane Cash, Manager, Accounts Payable
Beth Custer, Manager, Cash Receipts
Stephanie Steffer, Coordinator, Accounts Receivable
Gaby Bathiche, Accountant

FACILITIES AND OPERATIONS

Christine Gregory, Director
Rodney Palmer, Building Engineer
Donovan Parker, Mailing Services Assistant Manager
Joe Harpe, Mailing Services Coordinator

HUMAN RESOURCES

Irene Doley, Assistant Executive Director
Janine Smith, Human Resources Generalist

INFORMATION TECHNOLOGY

Todd Wallace, CIO
Tim Weber, Assistant Executive Director of Web and News
Ryan Foley, Director, Systems Development
Jim Convery, Director, Information Technology
Papa Faal, Senior Manager, Network Operations
Edwin Pearce, Manager, Information Technology Support
Martin Lopong, Web and Database Developer
Bryan Zorzi, Web and Database Developer
Edward Hausknecht, Web and Database Developer

MEMBER, CHAPTER, AND CUSTOMER RELATIONS

Howard Wahlberg, Assistant Executive Director

Member Relations

Theresa Nicely, Senior Coordinator

Chapter Relations

Theresa Nicely, Senior Coordinator
Ken Rosenbaum, Chapter Relations Consultant

Service Central

Michelle Chauncey, Manager
Jasmine McCall, Customer Service Representative
Nelly Guacheta, Assistant Manager
La'Keisha Hines, Special Project Coordinator
Cindy Thomas, Fulfillment Coordinator/Claims Correspondent
Kiara Pate, Receptionist

Professional Programs

Zipporah Miller, Associate Executive Director
Caroline Nichols, Executive Administrator and International Program Coordinator

E-LEARNING AND GOVERNMENT PARTNERSHIPS

Al Byers, Assistant Executive Director
Tanya Radford, Coordinator
Larry Cain, Budget Manager

e-Learning Production

Joan Scheppe, Senior Director

SciPacks and Science Objects

Susan Young, Senior Course Developer
Jeanette Woods, Multimedia Manager
Debbie Tomlin, SciPacks Production Coordinator

NASA Explorer Schools

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Larry Cain, Budget Manager
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NSTA Mission Statement

The mission of NSTA is to promote excellence and innovation in science teaching and learning for all.

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Conference Resources

Future NSTA Conferences

All cities are subject to change pending final negotiation.

National Conferences on Science Education

Philadelphia, Pennsylvania
March 18–21, 2010

San Francisco, California
March 9–12, 2011

Area Conferences on Science Education

2009 Area Conferences

Minneapolis, Minnesota
October 29–31

Fort Lauderdale, Florida
November 12–14

Phoenix, Arizona
December 3–5

2010 Area Conferences

Kansas City, Missouri
October 28–30

Baltimore, Maryland
November 11–13

Nashville, Tennessee
December 2–4

2011 Area Conferences

Hartford, Connecticut
October 27–29

Denver, Colorado
November 17–19

Seattle, Washington
December 8–10

2010 National Conference on Science Education

Philadelphia, PA
March 18–21, 2010

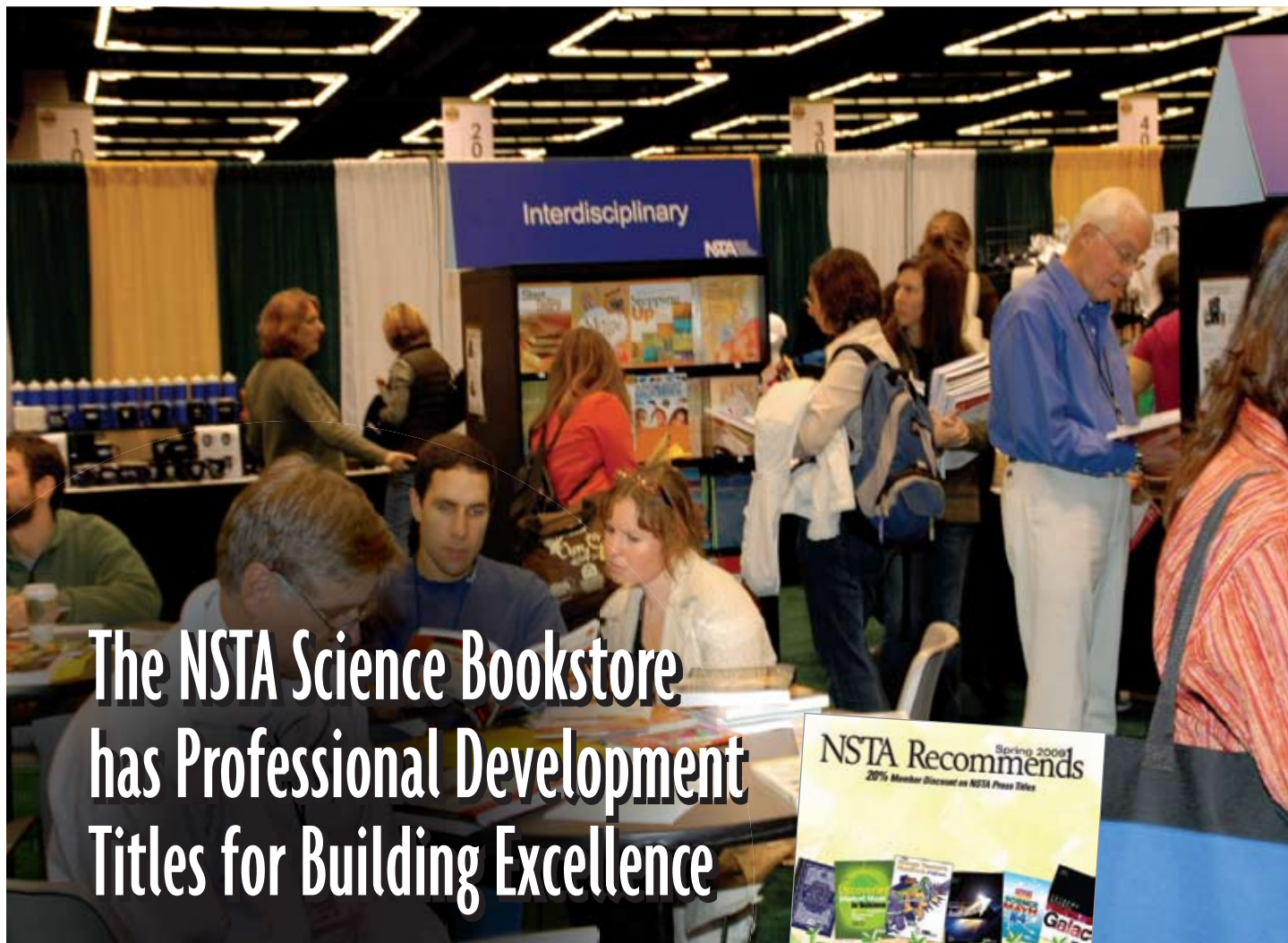
Deadline:
April 15, 2009



call for sessions

www.nsta.org/conferences

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Wednesday	5:00 p.m. – 9:00 p.m.
Thursday	7:00 a.m. – 5:00 p.m.
Friday	7:00 a.m. – 5:00 p.m.
Saturday	7:00 a.m. – 5:00 p.m.
Sunday	7:30 a.m. – Noon

NSTA National
Science
Teachers
Association



Conference Program

- NSTA 2009 Award Winners
- Conference Highlights
- Conference Strands
- NSTA's Exemplary Science Program (ESP)
- NSTA International Science Education Day
- Informal Science Day
- Teacher Researcher Day
- The Centers for Ocean Sciences Education Excellence (COSEE) Program
- NESTA Earth and Space Science Resource Day
- Science Assessment, Linking Science and Literacy, and Science and English Language Learners Conference
- NSTA Professional Development Institutes
- NSTA Symposia
- Short Courses
- Field Trips
- Meetings and Social Functions (Sun.–Sun.)
- NSTA Affiliate Sessions

- Wednesday Daily Program
- Thursday Daily Program

Conference Program

NSTA 2009 Award Winners



National Science Teachers Association
Robert H. Carleton Award
for National Leadership in the
Field of Science Education

Sponsored by Dow Chemical Co.

Fred D. Johnson
1997–1998 NSTA President, and
Consultant, Shelby County Board
of Education
Cordova, Tenn.



National Science Teachers Association
**Distinguished Informal
Science Education Award**

Jean Dubach
Geneticist
Brookfield Zoo
Brookfield, Ill.

National Science Teachers Association
**Distinguished Service to Science
Education Award**



Linda Atkinson
Associate Director
STEM Partnerships
Norman, Okla.



National Science Teachers Association
Presidential Citation

Richard Konicek-Moran
Professor Emeritus
University of Massachusetts
Amherst, Mass.

Shell Science Teaching Award

Sponsored by Shell Oil Co.

Awardee

Finalist



David Heil
President
David Heil & Associates, Inc.
Portland, Ore.



Deborah Cornelison
Byng Junior High School
Ada, Okla.



Mark Klawiter
Deerfield High School
Deerfield, Wis.

Finalist



Anne Tweed
2004–2005 NSTA President,
and Principal Science Consultant
McREL
Denver, Colo.



David Brock
Roland Park Country School
Baltimore, Md.

NSTA 2009 Award Winners



Delta Education Award for Excellence in Elementary Level Inquiry-based Science Teaching

Sponsored by Delta Education, LLC, a division of School Specialty Science

Vana Richards
Fifth-Grade Teacher
Kenneth J. Carberry Intermediate School
Emmett, Idaho



Ciba Foundation Exemplary Science Teaching Award, Middle Level

Sponsored by the Ciba Foundation

Beth Zigmont
Science Teacher
Radnor Middle School
Wayne, Pa.



Frey Scientific and Neo/Sci Education Award for Excellence in Middle Level Inquiry-based Science Teaching

Sponsored by Frey Scientific and Neo/Sci Science, a division of School Specialty Science

Cary Berryman Rosillo
Science Teacher
Independence Middle School
Jupiter, Fla.



Ciba Foundation Exemplary Science Teaching Award, High School

Sponsored by the Ciba Foundation

Timothy Couillard
Science Teacher
James River High School
Midlothian, Va.



CPO Science Education Award for Excellence in High School Inquiry-based Science Teaching

Sponsored by CPO Science, a division of School Specialty Science

Peggy Deichstetter
Science Teacher
St. Edward High School
Elgin, Ill.



Ciba Foundation Exemplary Principal Award, Middle Level

Sponsored by the Ciba Foundation

Craig Jones
Principal
Western Branch Middle School
Chesapeake, Va.



Ciba Foundation Exemplary Science Teaching Award, Middle Level

Sponsored by the Ciba Foundation

Loris Chen
Science Teacher
Eisenhower Middle School
Wyckoff, N.J.



Ciba Foundation Exemplary Principal Award, High School

Sponsored by the Ciba Foundation

Susan Fisher
Principal
Center for Advanced Research and
Technology School
Clovis, Calif.

Conference Program

NSTA 2009 Award Winners



Vernier Technology Award Elementary Level

Sponsored by Vernier Software & Technology

Sheryl Sotelo
Science Teacher
McNeil Canyon Elementary School
Homer, Alaska



Vernier Technology Award High School Level

Sponsored by Vernier Software & Technology

Robert Benedetto
Science Teacher
Central Catholic High School
Lawrence, Mass.



Vernier Technology Award Middle Level

Sponsored by Vernier Software & Technology

Chris Campbell
Science Teacher
Simsboro School
Simsboro, La.



Vernier Technology Award High School Level

Sponsored by Vernier Software & Technology

Sarah Southam
Science Teacher
Telstar High School
Bethel, Maine



Vernier Technology Award Middle Level

Sponsored by Vernier Software & Technology

Kristy Gollakner
Science Teacher
Gwinn Middle School
Gwinn, Mich.



Vernier Technology Award High School Level

Sponsored by Vernier Software & Technology

Eric Walters
Science Teacher
Marymount School of New York
New York, N.Y.



Vernier Technology Award College Level

Sponsored by Vernier Software & Technology

Virginia Balke
Science Instructor
Delaware Technical & Community College
Newark, Del.



Bio-Rad Award

Mike Sana
Biology Teacher
Waipahu High School
Waipahu, Hawaii

NSTA 2009 Award Winners



Faraday Science Communicator Award

Dennis Schatz
Senior Vice President
Pacific Science Center
Seattle, Wash.



Legacy Award

Frank A. Zuerner
Former NSTA District VII
Director, NSTA Board of
Directors Executive
Committee, and Teacher
James Madison Memorial
High School
Madison, Wis.



Sylvia Shugrue Award

Richard Tabor
Fourth-Grade Teacher
Amerman Elementary School
Northville, Mich.



Wendell G. Mohling Outstanding Aerospace Educator Award

Allan Miller
Seventh-Grade Science Teacher
Kenai Middle School
Kenai, Alaska

DuPont Challenge Science Essay Teacher Awardees

Junior Division



Thomas S. Hounsell
Henry B. du Pont Middle
School
Wilmington, Del.

Senior Division



Erin Tideman
Biology Teacher
Centennial High School
Boise, Idaho

DCAT "Making a Difference" Award

Sponsored by the Drug, Chemical, and
Associated Technologies Association



Jason Crean
Science Teacher
Lyons Township High
School
LaGrange, Ill.



Mette Schwartz
Science Teacher
Sherwood Middle School
Shrewsbury, Mass.

NSTA 2009 Award Winners

Zula International Early Science Educator Awards

NSTA/CESI Affiliation

NAEYC/NHSA Affiliation



Jennifer Williams
K-4 Teacher
Isidore Newman School
New Orleans, La.



Susan Rosenberg
PreK Teacher
The Frances and Herbert
Brody Preschool of Temple
B'nai Or
Morristown, N.J.

The Maitland P. Simmons Memorial Award for New Teachers

Cristina Conciatori	Kristin Pullyblank
Anitra Cooper	Pamela Osborne
Leah Croker	Patrick Smith
David Jensen	Misty Thurber
Katherine Larson	Elizabeth White
Linda LeBard	Anna Swenty
Jennifer McFadden	



Seaworld/Busch Gardens Environmental Educator of the Year Award

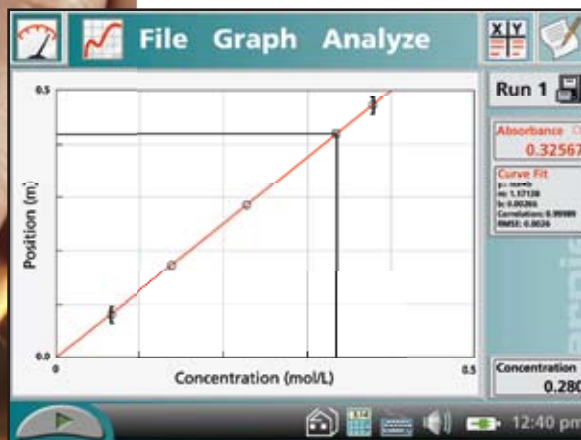
Clinton Kennedy
Science Teacher
Cascade High School
Cascade, Idaho



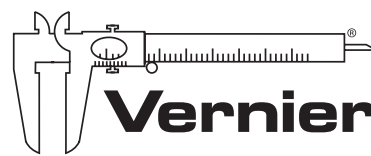
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Conference Program

Conference Highlights *Featured Speakers/Special Events*

Is This Your First NSTA Conference?

Yes, you say? Then you are invited to attend either one of two sessions that are specifically intended for first-time conference attendees. These sessions are both scheduled Thursday (one early morning and one afternoon) in order to help you make the most of your first-time conference experience! Special thanks to Carolina Biological Supply Company for sponsoring the morning session and to GED Testing Service® for sponsoring the afternoon session. See pages 129 and 236 for details.



General Session
Thursday, Mar. 19
11:00 AM–12:30 PM
Mark Plotkin
Ethnobotanist, and
President, Amazon
Conservation Team

Rain Forests, Medicine Men, and Google Earth: Curing the Incurable and Saving the Amazon in Six Dimensions

How can we marry ancient shamanic wisdom to 21st-century technology to find new wonder drugs, protect Mother Nature's greatest creation, and teach this stuff to school kids with ever-shrinking attention spans? (See page 176 for details.)

Wednesday, March 18 (Volume 1)

8:00 AM–4:00 PM NSTA Professional Development Institutes 115–117

Thursday, March 19 (Volume 1)

8:00–9:00 AM	First-Timers' Meeting (Is This Your First NSTA Conference?)	129
8:30 AM–2:00 PM	NSTA International Science Education Day	143
9:00–10:30 AM	Preservice and New Teachers Breakfast (M-1)	144
9:30–10:30 AM	Featured Presentation: Kenneth Wesson	146
10:00–10:05 AM	Ribbon-cutting Ceremony	170
10:05 AM–6:00 PM	Exhibits	173
11:00 AM–12:30 PM	General Session: Mark Plotkin	176
12:30–1:30 PM	Mary C. McCurdy Lecture: Michael A. DiSpezio	186
2:00–4:00 PM	The Planetary Society Lecture: Neil deGrasse Tyson and Bill Nye	226
3:30–4:30 PM	Featured Presentation: Page D. Keeley and Cary Sneider	231
3:30–4:30 PM	First-Timers' Meeting (Conference Tips for First-Timers)	236
6:00 PM–12 Mid	Special Evening Session: A Celebration of Passionate and Noteworthy Long-Term Efforts at Public Education in Science	256

Friday, March 20 (Volume 2)

See Conference Highlights, Volume 2, for page numbers.

7:00–8:30 AM	High School Breakfast (M-3): Don Davis
7:00–8:30 AM	NSTA Dorothy K. Culbert CAG Breakfast (M-2)
8:00 AM–6:00 PM	Informal Science Day
8:30 AM–5:00 PM	Teacher Researcher Day
8:30–9:30 AM	Featured Panel: <i>Science for All Americans</i>
9:00 AM–5:00 PM	Exhibits
9:30–10:30 AM	Featured Presentation: William C. Deese
10:30 AM–12 Noon	Shell Science Seminar: Nancy N. Rabalais
11:30 AM–1:00 PM	Shell Science Seminar: Ivor van Heerden
12 Noon–2:00 PM	NSELA/ASTE Luncheon (M-4): Francis Q. Eberle
12 Noon–2:00 PM	NSTA/NMLSTA Middle Level Luncheon (M-5): Debbie Silver
12:30–1:30 PM	SCST Marjorie Gardner Lecture: Nancy L. Elwess
1:00–2:00 PM	NSTA's Exemplary Science Program (ESP) Symposium I: Grades PreK–4
1:30–3:00 PM	Shell Science Seminar: Thomas J. Carew
1:30–3:00 PM	Shell Science Seminar: Michael Weiss
2:00–3:00 PM	AGU Lecture: Sadredin C. Moosavi
2:00–3:00 PM	NSTA's Exemplary Science Program (ESP) Symposium II: Grades 9–12

Conference Highlights *Featured Speakers/Special Events*

Ribbon-cutting Ceremony

An opening ceremony is scheduled on Thursday at 10:00 AM at the main entrance to the Exhibit Hall.



Field Trip F-3—Bayou Sauvage National Wildlife Refuge

Friday, March 20, continued

- 3:00–4:00 PM NSTA’s Exemplary Science Program (ESP)
Symposium III: Best Practices in Professional Development
- 3:30–4:30 PM Robert H. Carleton Lecture: Bonnie J. Brunkhorst
- 4:00–6:00 PM NSTA’s Exemplary Science Program (ESP)
Symposium IV: Inquiry
- 6:00 PM–12 Mid Special Evening Session: A Stimulating Evening with Eight Extraordinary Scientists and Communicators of Science: Sagan, Bronowski, Gould, Miller, Morrison, Bartlett, Carson, and Herschbach

Saturday, March 21 (Volume 3)

See Conference Highlights, Volume 3, for page numbers.

- 8:00–10:00 AM SESD “Science-Abled” Breakfast (M-6): Patricia D. Davidson
- 7:00 AM–3:30 PM Science Assessment, Linking Science and Literacy, and Science and English Language Learners: What Does Current Research Say About Best Practices? (C-1)
- 8:00 AM–4:00 PM The Centers for Ocean Sciences Education Excellence (COSEE) Program
- 9:00 AM–5:00 PM Exhibits
- 9:00–10:30 AM Shell Science Seminar: Mary H. Manheim
- 10:30 AM–12 Noon Shell Science Seminar: Francis Halzen
- 11:00 AM–12 Noon Paul F-Brandwein Lecture: Cheryl Charles
- 12 Noon–1:30 PM NSTA/SCST College Luncheon (M-7): Dee U. Silverthorn
- 12 Noon–2:00 PM Aerospace Educators Luncheon (M-8): Don Thomas
- 12 Noon–2:30 PM CESI/NSTA Elementary Science Luncheon (M-9):
Larry Lowery
- 1:30–3:00 PM Shell Science Seminar: Charles M. Falco
- 2:00–3:00 PM NSTA/ASE Honors Exchange Lecture: Carolyn Yates
- 3:30–4:30 PM Robert Karplus Lecture: Sakhalin Finnie
- 3:30–4:30 PM Featured Presentation: R. King Milling
- 6:00–6:45 PM Pre-Banquet Reception (M-10)
- 7:00–10:00 PM President’s Banquet—A Celebration of Excellence (M-11):
Philippe Cousteau
- 6:00 PM–12 Mid Special Evening Session: A Stimulating Evening with the Late
Richard P. Feynman

Sunday, March 22 (Volume 3)

See Conference Highlights, Volume 3, for page numbers.

- 7:00–9:00 AM Life Members Buffet Breakfast (M-12)

Conference Program

Conference Strands *Sessions and Events*

The New Orleans Conference Committee has planned the conference around the following four strands, enabling you to focus on a specific area of interest or need. Strand events are identified by icons throughout the daily program.

See the following pages for a list of session and events for each strand.



Science and the Human Spirit

When facing decisions that require knowledge of science and technology, the resilient human spirit seeks understanding and renewal. Human interaction with the environment results in changes in the natural world that impact the human condition and promote awareness of our global interdependency. Effective communication of science results in increased public understanding and an informed citizenry capable of leveraging advances to arrive at acceptable solutions and conclusions.



Research to Practice: The Science Teacher Professional Continuum

Current science education research is providing critical insight into the specific needs of educators at various stages of their professional careers. As a result, the way science educators view the teaching and learning process, implement research-based instruction and assessment strategies, and use tools and resources to improve teaching and learning is changing. New understandings of the importance of formalized programs that prepare mentors, instructional coaches, curriculum specialists, and additional support avenues have clearly illustrated the need to offer practicing educators with the opportunities to engage in dialogue and reflection relative to the teaching and learning process. Effective interventions and strategies based on research can be used to address issues of recruitment, retention, and renewal of teachers of science.



Energy and the Environment: The Natural and Human-designed World

Our society's energy needs are growing at an alarming rate, which has resulted in the consumption of many of our natural resources at an unprecedented pace. The disruption of both coastal processes and Earth's natural climate cycles are but two consequences of this unparalleled demand for energy resources. A 21st-century proactive vision for solutions is required to promote responsible and efficient use of our natural resources while meeting growing energy demands. The development of alternative fuels and heightened conservation efforts, among other practices, will result in a reduction in the use of nonrenewable resources. Today's students are tasked with using scientific knowledge, creativity, engineering skills, and technology to address the need to reduce the severity of societal impacts on our communities and ecosystems. The creation of new careers and skills will be necessary for success in these efforts.



ISTE: Meeting the Needs of the Digital Student

Many students today are natives of digital technology. How can teachers, many of whom are digital immigrants, help students become responsible digital citizens? The understanding and use of technology are critical components of STEM (science, technology, engineering, and mathematics) education. The appropriate use of technology supports the development of such 21st-century skills as real-world applications, cultural sensitivity, creative problem solving, collaboration, and effective communication.

Conference Strands *Sessions and Events*

Science and the Human Spirit

Thursday, March 19

8:00–9:00 AM

Ways of Knowing: Connecting Science and the Human Spirit Through Native Knowledge

8:00 AM–4:30 PM

Short Course: When the Levees Broke: Using EarthCache to Explain Physical Processes (By Ticket: SC-2)

9:30–10:30 AM

Photography and Science: A Way to Enhance Student Engagement

12:30–1:30 PM

Science in a Time of Crisis

2:00–3:00 PM

Sensing, Capturing, and Preserving the Spirit of the Estuary

2:00–5:00 PM

Short Course: “Mohawk Guy” and His Band of Microfossil Friends: What Do They Have to Do with Climate Change and Me? (By Ticket: SC-5)

5:00–6:00 PM

Cotton, Trees, and Livestock: Promoting Awareness of Our Interdependency on the Natural World

Friday, March 20

8:00–9:00 AM

Using Humor to Enhance Scientific Literacy

9:30–10:30 AM

Pads, Pups, and Pods

11:00 AM–12 Noon

Influenza: Fears of an Approaching Pandemic?

2:00–3:00 PM

Step Up to a Symphony of Science

2:00–6:00 PM

Short Course: Putting Science in Context? How Do We Do That? (By Ticket: SC-16)

3:30–4:30 PM

Sharing the Spirit of Stewardship: Writing Green for Kids

5:00–6:00 PM

Saving Our Coast, Our Communities, and Our Homes

Saturday, March 21

8:00–9:00 AM

Growing Environmental Learners Through Cross-Grade-Level Collaboration

9:30–10:30 AM

Environmental Heroes

11:00 AM–12 Noon

Green Teens: Ideas for Action

12:30–1:30 PM

Fly Through the Universe and Bring Real Astronomy Data into Your Classroom

1:00–4:00 PM

Short Course: International Year of Astronomy: Observe, Question, and Explore Our Solar System (By Ticket: SC-22)

3:30–4:30 PM

The Human Spirit, Function, and Artificial Consciousness

Conference Program

Conference Strands *Sessions and Events*

Research to Practice: The Science Teacher Professional Continuum

Thursday, March 19

8:00–9:00 AM

The First-Year Teacher Experience: Stories of Triumph and Challenges

9:30–10:30 AM

Featured Presentation: How Children Learn: Brain Research and Inquiry-based Science (Speaker: Kenneth Wesson)

Traversing the Professional Continuum in Science Teaching

2:00–3:00 PM

Everything You Needed to Know About Professional Development You Learned in Kindergarten

3:30–4:30 PM

Instructional Coaching in an Urban District

Friday, March 20

8:00–9:00 AM

Boston Public Schools: A Science Education Leadership Story

8:15–11:15 AM

Short Course: Turn Maniacs into Brainiacs: Using Brain-based Research to Create an Optimum Learning Environment (By Ticket: SC-10)

9:30–10:30 AM

Using a Student's Individual Strongest Multiple Intelligence Attribute to Plan the Lesson, Teach the Lesson, and Evaluate the Lesson

11:00 AM–12 Noon

Empowering Elementary Teachers to Teach and Do Science

12:30–1:30 PM

What Works in Teaching Science: A Meta-Analysis of Current Research

1:30–5:30 PM

Short Course: Attaining National Board Certification for Professional Teaching Standards in Science (By Ticket: SC-15)

3:30–4:30 PM

Guiding Preservice Teachers' Development of Meaningful Science Investigations for Preschool

5:00–6:00 PM

A Practitioner Resource for Learning Science in Informal Settings

Saturday, March 21

8:00–9:00 AM

A Helping Hand in the Classroom: Study of Teacher-Graduate Fellow Teams in Science Classrooms

8:00–11:00 AM

Short Course: The Young Scientist: Engaging Three- to Five-Year-Old Children in Science (By Ticket: SC-18)

9:30–10:30 AM

The Teacher Researcher: Using the RET Experience to Improve Your Classroom

11:00 AM–12 Noon

Research to Practice

12:30–3:30 PM

Online Science Professional Development—Formula for Success

2:00–3:00 PM

What Research Says to the Science Teacher About Effective Professional Development

3:30–4:30 PM

School Science Leaders: Professional Learning Communities That Work!

Sunday, March 22

9:30–10:30 AM

Lessons Learned Over the Continuum

Conference Strands *Sessions and Events*

Energy and the Environment: The Natural and Human-designed World

Thursday, March 19

8:00 AM–12 Noon

Short Course: Engaging Student Scientists in Climate Change Research: Using GLOBE Program Tools and Resources to Promote Local to Global Student Research on Climate Change (By Ticket: SC-1)

9:30–10:30 AM

Energy: It Depends on Me

12:30–1:30 PM

OOPS: The Green House

2:00–3:00 PM

How Carbon Dioxide Levels Affect Life

Friday, March 20

8:00–9:00 AM

Climate Change Data Here and There

8:00 AM–12 Noon

Short Course: Teaching About Climate Change (By Ticket: SC-8)

9:30–10:30 AM

The Urban Ecosystem Re-examined: A Return to the Forest Where We Live

11:00 AM–12 Noon

Reduce, Reuse, Recycle: How Sustainable Engineering Relates to Energy-related Challenges

12:30–1:30 PM

In a New Light: The Color of Weather and Climate

2:00–3:00 PM

Alternative Energy Sources: Inquiry-based Activities for Science Classrooms

3:30–4:30 PM

Teaching Environmental Science with Case Studies: Agriculture and Renewable Energy

Saturday, March 21

8:00–9:00 AM

Arctic Climate-modeling Project

9:30–10:30 AM

Ethanol: Is It Really a Fuel for the Future?

11:00 AM–12 Noon

From Farm to Table and Beyond—Making Systems Come Alive

12:30–1:30 PM

Hurricane Cycles and Global Warming

2:00–5:00 PM

Short Course: Science of Energy (By Ticket: SC-24)

3:30–4:30 PM

Featured Presentation: America's Energy Coast: An Introduction (Speaker: R. King Milling)

Lessons from the Ice

Sunday, March 22

9:30–10:30 AM

Addressing Societal Issues That Require Understanding of Science: Global Systems and NASA's Digital Earth Watch

11:00 AM–12 Noon

C2S2: Climate Change Student Summit

Conference Program

Conference Strands *Sessions and Events*

ISTE: Meeting the Needs of the Digital Student

Thursday, March 19

8:00–9:00 AM

ISTE: Integrating Technology into the Classroom

9:30–10:30 AM

ISTE: Digitizing the Science Classroom—Preparing Students for the Global Society

12:30–1:30 PM

ISTE: Wikis for Students and Teachers in Science

2:00–3:00 PM

ISTE: Student Voices on Technology in Science

2:00–5:00 PM

Short Course: Real-Time Observations in Radio Astronomy (By Ticket: SC-4)

3:30–4:30 PM

ISTE: Podcasting for Students and Teachers in Science

Friday, March 20

8:00–9:00 AM

ISTE: Emerging Technologies in the Science Classroom

8:30–11:30 AM

Short Course: Building Simple Animations and Simulations Using Freeware (By Ticket: SC-11)

9:30–10:30 AM

ISTE: Using Technology to Break the Traditional Mold of a Laboratory Report

11:00 AM–12 Noon

ISTE: What Should Administrators Know and Be Able to Do with Technology in the Science Classroom?

12:30–1:30 PM

ISTE: For Teachers by Teachers: The Cogs Website and NASA's Virtual Lab

1:30–4:30 PM

Short Course: Using Technology to Teach Science Concepts Through Outdoor Studies (By Ticket: SC-14)

2:00–3:00 PM

ISTE: For Teachers by Teachers: NASA Brings a Standards-based Shuttle

3:30–4:30 PM

Lights! Action! Science!

5:00–6:00 PM

Storycaching GLOBE: iPods, GPS, Data and the GLOBE Project

Saturday, March 21

8:00–9:00 AM

We've Got the Technology, Now What?

8:30–11:30 AM

Short Course: Look What Technology Can Do for Your Classroom: Basics of Video Analysis (By Ticket: SC-19)

9:30–10:30 AM

Robotics in the Elementary School

11:00 AM–12 Noon

Beyond the Central Dogma: Epigenetics

12:30–1:30 PM

Biotechnology in the Classroom

2:00–3:00 PM

Technology Infusion in the Elementary Science Classroom

3:30–4:30 PM

Supporting Science Literacy with 21st-Century Tools

3:30–4:30 PM

NSTA/ISTE: What Should Teachers Be Able to Know and Do with Technology in the Science Classroom?

5:00–6:00 PM

Digital Learning: Does It "Measure Up"?

Sunday, March 22

8:00–9:00 AM

The Digital Evolution and Science Literacy with Virtual Notebooks



Delta Education
...because children learn by doing.®

Welcome to NSTA

See how easy it is to make active learning part of your curriculum!



FOSS Middle School Course:
Chemical Interactions



Delta Science Modules:
Food Chains and Webs



**Seeds of Science/
Roots of Reading™:**
Shoreline Science

Student Reader

2009 Workshop Schedule



Workshops

■ THURSDAY

- 8:30–9:30 What's New in FOSS?
- 10:30–12:00 Taking Science Outdoors with FOSS K–8
- 1:00–3:30 FOSS Chemical Interactions Course for Middle School
- 2:00–3:10 FOSS Materials Management (for District Administrators)

■ FRIDAY

- 8:30–11:30 Using Science Notebooks with FOSS Middle School Courses
- 1:00–2:30 FOSS Assessment—Valuing Academic Progress in Grades 3–6
- 3:30–4:30 Introduction to Planet FOSS for Middle School

■ SATURDAY

- 8:30–11:30 Using Science Notebooks with FOSS Modules K–6
- 12:30–3:00 Explore Weather and Water with FOSS Middle School



Workshops

■ THURSDAY

- 8:00–9:15 Experimental Design
- 10:00–12:00 What's Going on in There?
- 1:00–2:15 Put Some Spark into Science Investigations
- 3:00–4:15 Integrating Science and Literacy—*Grades 5–8*

■ FRIDAY

- 8:00–9:15 Put Some Spark into Science Investigations
- 10:00–11:15 Integrating Science and Literacy—*Grades 1–6*
- 1:00–2:15 Working as One with Hands and Minds



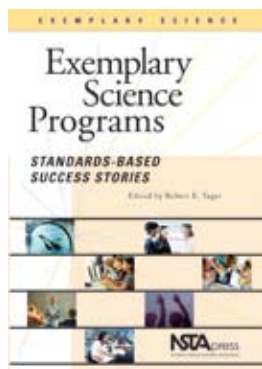
Workshops

■ THURSDAY

- 8:00–10:00 Strategies for EL Learners using an integrated Elementary Science and Literacy program
- 11:00–1:00 Integrating Science and Literacy at the Elementary Level

800-258-1302 • www.deltaeducation.com

 School Specialty
Science



*It Takes ESP to
Develop Exemplary
Science Programs!*

NSTA's Exemplary Science Program (ESP) was initiated to highlight programs that have been proven to produce superior student learning. Five monographs have been produced thus far—PreK–4, 5–8, 9–12, Informal Education, and Professional Development—each detailing exemplary programs selected by a national advisory board of NSES and NSTA leaders. These exemplary programs are shared with attendees at NSTA conferences.

NSTA's Exemplary Science Program (ESP)

Realizing the Visions of the National Science Education Standards

Friday, March 20 • 1:00–6:00 PM • Room 252, Convention Center

Four ESP symposia are offered at the New Orleans conference, each sharing exemplary programs. ESP symposia were organized by Robert E. Yager, 1982–1983 NSTA President and Editor of the NSTA ESP Program.

See the Friday daily program (Vol. 2) for complete descriptions.

Symposium I

1:00–2:00 PM Exemplary Science Programs in Grades PreK–4

Coordinator: Robert E. Yager, The University of Iowa, Iowa City

Creating a Context for Inquiry

The Primary Classroom: Science, Literacy, and Inquiry

Thinking Outside the Box: No Child Left Inside!

Symposium II

2:00–3:00 PM Exemplary Science Programs in Grades 9–12

Coordinator: Robert E. Yager, The University of Iowa, Iowa City

RIP-ing Away Barriers to Science Education

Technology and Cooperative Learning: The IIT Model for Teaching Authentic Chemistry Curriculum

Student Inquiry at the Illinois Mathematics and Science Academy

Stop Talking, Start Listening: Turning Didactic Science Teaching on Its Head

Symposium III

3:00–4:00 PM Exemplary Science Programs—Best Practices in Professional Development

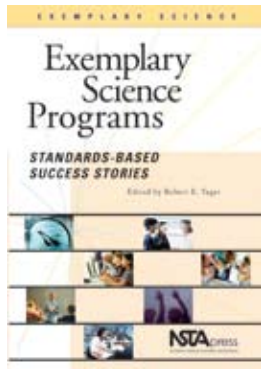
Coordinator: Robert E. Yager, The University of Iowa, Iowa City

Exemplary Science: Best Practice in Science Teaching Today

Bringing School Science to College: Modeling Inquiry in the Elementary Science Methods Course

Knowing and Teaching Science: Just Do It

Hey! What're Ya Thinking? Developing Teachers as Reflective Practitioners



NSTA's Exemplary Science Program (ESP)

Realizing the Visions of the National Science Education Standards

Friday, March 20 • 1:00–6:00 PM • Room 252, Convention Center

Symposium III

4:00–6:00 PM Exemplary Science Programs on Inquiry

Coordinator: Robert E. Yager, The University of Iowa, Iowa City

Future Scientists—Student Outreach Initiative: “Sowing the Seeds of Future Success”

Inquiry: A Challenge for Changing the Teaching of Science in Connecticut

Learning Science with Inquiry in the Clark County School District

Inquiry Is Elementary: A Description of Differing Approaches to Inquiry Within Two Elementary Schools Focusing on Environmental Science and Mathematics and on Mathematics and Children’s Engineering

Science Projects: A Recipe for Successful Inquiry in Eighth-Grade Earth and Space Science

Q200: An Introduction to Scientific Inquiry

Science as Inquiry at Sir Winston Churchill Collegiate and Vocational Institute

Science Is Not a Spectator Sport: Three Principles from 15 Years of Project *Dragonfly*

Student Inquiry and Research: Developing Students’ Authentic Inquiry Skills



NSTA International Science Education Day Conference

Growing Professionally Through International Opportunities: Field Experiences, Collaborations, and Investigations

Thursday, March 19, 8:30 AM–2:00 PM

Napoleon Ballroom, Hilton New Orleans Riverside Hotel



Sandra Zicus

Please stop by the NSTA International Lounge in the Trafalgar Room at the Hilton New Orleans Riverside. The lounge may be used as a place to relax or as a meeting place while you're here at the New Orleans conference. The lounge will be open 10:00 AM–6:00 PM Thursday and 9:00 AM–5:00 PM Friday and Saturday.

NSTA is grateful to Pearson for its sponsorship of the President's International Reception.

On Thursday, March 19, NSTA will hold its fourth International Science Education Day conference at the NSTA national conference in New Orleans. The International Science Education Day conference reflects NSTA's significant commitment to international science education and an increased emphasis on international collaboration. This event is open at no cost to registered conference attendees.

See the daily program for room locations and complete descriptions.

Agenda

Wednesday, March 18

- 6:30–7:30 PM President's International Reception
(La Galerie 5, New Orleans Marriott)
Open to all international visitors and invited guests

Thursday, March 19

- 8:30–9:00 AM Welcome Ceremony/NSTA Conference Orientation
Francis Q. Eberle, Executive Director, NSTA, Arlington, Va.
Norman Lederman, Conference Chair, and Illinois Institute of Technology, Chicago
Marylin Lisowski, Chair, NSTA International Advisory Board, Pittsburgh, Pa.
- 9:00–9:30 AM Plenary Session
International Polar Year: Global Collaboration in Science and Education
Sandra Zicus, University of Tasmania and International Antarctic Institute, Australia
- 9:30–9:45 AM Break
- 10:00 AM–12 Noon Concurrent Sessions (Elementary/Middle Level, Secondary, and College)
- 12 Noon–1:00 PM Poster Session
- 1:00–1:45 PM Panel Discussion
Presider: Norman Lederman, Conference Chair, and Illinois Institute of Technology, Chicago
Teresa Kennedy, The GLOBE Program, University Corporation for Atmospheric Research, Boulder, Colo.
Judith Lederman, Illinois Institute of Technology, Chicago
Marylin Lisowski, Chair, NSTA International Advisory Board, Pittsburgh, Pa.
- 1:45–2:00 PM Closing Remarks

Informal Science Day

Friday, March 20, 8:00 AM–6:00 PM • Carondelet, New Orleans Marriott

Informal Science Day is a full day packed with exciting informal science presentations and activities. Intended to build awareness of the abundance of existing high-quality informal science education methods, resources, and opportunities available to enhance science learning, Informal Science Day is designed to offer a “town square” at which both informal and formal science educators can meet and interact. Participants share best practices in informal science, learn about exciting collaborations happening among informal and formal science organizations, network with colleagues, and dialogue around ideas and innovations. Informal organizations represented include museums, media, after-school programs, university outreach, and others that provide and/or support out-of-school science education.

A variety of breakout presentations have been scheduled throughout the day. Two featured presentations have been scheduled—the first by Judy Scotchmoor of the University of California Museum of Paleontology and the second a newly released report on informal learning from the National Academies of Sciences presented by Andrew W. Shouse and Philip L. Bell. The day culminates with the upbeat Informal Science Share-a-Thon, where attendees can visit with representatives from many informal organizations as they showcase their programs and resources.

See the Friday daily program (Vol. 2) for descriptions.

Agenda

8:00–9:00 AM: Breakout Sessions



Elsa K. Bailey



Judy Scotchmoor

9:30–10:30 AM

Welcome Presentation

Building Bridges Across Science Education

Elsa K. Bailey, NSTA Director, Informal Science, and Elsa Bailey Consulting, San Francisco, Calif.

Featured Presentation

What Are You Doing to Celebrate Science in 2009?

Judy Scotchmoor, Assistant Director, Education and Public Programs, University of California Museum of Paleontology, Berkeley

11:00 AM–12 Noon: Breakout Sessions



Andrew W. Shouse



Philip L. Bell

12 Noon–2:00 PM

Featured Presentation/Brown Bag Lunch

How Students Learn Science When They Are Not in School

Andrew W. Shouse, Associate Director, UW Institute for Science and Mathematics Education, University of Washington, Seattle

Philip L. Bell, Associate Professor of the Learning Sciences, University of Washington, Seattle

2:00–3:00 PM: Breakout Sessions

4:00–6:00 PM: Informal Science Day Share-a-Thon

Teacher Researcher Day

Friday, March 20 • 8:30 AM–5:00 PM • Acadia, New Orleans Marriott



Kathleen Roth

Teacher Researcher Day is open to both new and experienced teacher researchers. Join us for a full day of activities!

Teacher researchers are curious about their students' learning and ask questions to try to better understand what is happening in their classrooms. They collect data such as videotapes of instruction, copies of student work, and their own written reflections. Then they try to make sense out of what they see in the data and use this knowledge to improve their teaching. They also share their findings with colleagues in their schools and elsewhere.

Teacher Researcher Day is for both new and experienced teacher researchers. The full day of activities includes a poster session, an invited presentation, a workshop, presentations on topical issues, and a closing session to make plans for teacher researcher collaborations. These sessions provide opportunities to meet teacher researchers and learn about their studies in a wide variety of contexts.

See the Friday daily program (Vol. 2) for details.

8:30–9:30 AM

Poster Session for Teachers and Teacher Educators Inquiring into Science Learning and Teaching

9:30–11:00 AM

Teacher Researcher Day Featured Presentation
Lenses for Looking at Videos of Science Teaching and Learning
Kathleen Roth, LessonLab Research Institute, Santa Monica, Calif.

11:00 AM–12 Noon

Using Student Discourse to Improve Learning
Teacher Development Through Classroom-based Research

Student Performance in a Freshman Modeling-based Physics Curriculum

Using Teacher Research to Strengthen Science Teaching and Learning

A Partnership for Learning About Elementary Science Teaching

Student Learning in Your Classroom:
Developing a Research Project

12 Noon–12:30 PM

Science Inquiry Group Network

12:30–1:30 PM

Reading Strategies for New Teachers by New Teachers

Effective Use of Performance Assessment in Scientific Inquiry

Using Classroom Inquiry to Explore Student Learning and Motivation

Documenting Student Success

1:30–2:00 PM

Lesson Study as a Pathway for Reflection, Professional Development, and Building Collegiality

Multivariate Analysis of Student Attitude, Motivation, and Predictors of Success in Secondary Science

Engaging Prospective Teachers in Integrating Physics and Literacy Learning

2:00–3:00 PM

How to Conduct Action Research in the Science Classroom

3:00–3:30 PM

Teacher Inquiry Groups: Learning About Learning

3:30–4:30 PM

Teacher as Researcher: Formal Presentations of Teachers' Research

Science in the First Year: The Use of Narratives to Develop a Professional Stance of Teaching Science

4:00–4:30 PM

Information Recall vs. Real Learning

4:30–5:00 PM

Fostering Teacher Researcher Collaborations



As an extension of your classroom, SeaWorld and Busch Gardens offer a wide range of resources, like hands-on field trips and camps, easy-to-use teachers' guides, award-winning DVDs, and one of the world's largest online animal resources: swbg-animals.org.



Join us for an interactive workshop to learn how your class can save wildlife around the world!

Thursday, March 19, 2009
Ernest N. Morial
Convention Center, Room 224
3:30 - 5 p.m.



Be sure to visit our booth in the exhibit hall.

With the help of a few unforgettable animal ambassadors, some expertly-designed teaching tools and some real-world conservation success stories, we'll help you tackle tough subjects like the illegal wildlife trade and endangered species with your students in an engaging, challenging and inspiring way.



NSTA Press Sessions

NSTA Press books offer new classroom ideas and standards-based strategies, from earth science to nanoscience and from preK to college. Join NSTA Press authors for these sessions linked to the topics of their books.

Thursday, March 19

8:00–9:00 AM

Using Forensics: Wildlife Crime Scene (Part 1)
Page 137

9:30–10:30 AM

Using Forensics: Wildlife Crime Scene (Part 2)
Page 162

12:30–1:30 PM

Science as a Vehicle for Language
Development with ELL Students
Page 189

Uncovering Student Ideas with Everyday
Science Mysteries
Page 196

2:00–3:00 PM

Girls in Science: A Framework for Action
Page 216

2:00–5:00 PM

Short Course (SC-6): Picture-Perfect Science
Lessons: Using Children's Books to Guide
Inquiry, Grades K–4 (*Ticket Required*)
Page 227

Friday, March 20

8:00–9:00 AM

A Head Start on Science
Volume 2

8:30–9:30 AM

Poster Session for Teachers and Teacher
Educators Inquiring into Science Learning and
Teaching (Teacher Researcher Day session)
Volume 2

11:00 AM–12 Noon

Bridging the Gap Between Everyday and
Scientific Explanations of Evolution (Informal
Science Day session)
Volume 2

12:30–1:30 PM

Stop Faking It! Finally Understand
CHEMISTRY BASICS So You Can Teach It
Volume 2

1:00–6:00 PM

Exemplary Science Program (ESP) Symposia
Volume 2

2:00–3:00 PM

Stop Faking It! Finally Understand MORE
CHEMISTRY BASICS So You Can Teach It
Volume 2



NSTA Press Sessions

Friday, March 20

3:00–3:30 PM

Teacher Inquiry Groups: Learning About Learning (Teacher Researcher Day session)
Volume 2

3:30–4:30 PM

Help! Is the Safety Doctor in the House?
Volume 2

Professional Development: Using Trends, Practices, and Research to Strengthen Science Teaching and Learning
Volume 2

Stop Faking It! Finally Understand FORCE AND MOTION So You Can Teach It
Volume 2

4:30–5:00 PM

Fostering Teacher Researcher Collaborations
Volume 2

5:00–6:00 PM

Scaffolding Inquiry and Language for English Learners
Volume 2

Laboratory Safety: Let It Be Written, Let It Be Done!
Volume 2

Saturday, March 21

12:30–2:30 PM

Planning Safe, Sustainable, and Flexible Facilities for Inquiry-based Science
Volume 3

1:30–6:00 PM

NSTA Symposium (SYM-5): Energy: Stop Faking It! (*Ticket Required*)
Volume 3

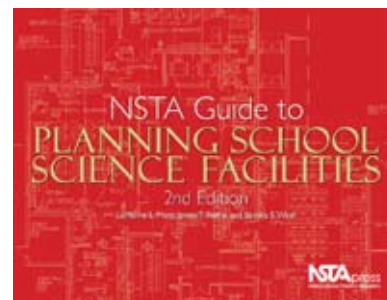
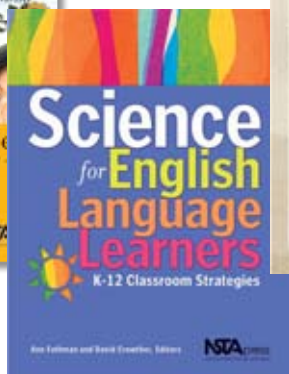
3:30–4:30 PM

Simulating Science: Using Computer simulations to Enhance Elementary and Middle-Level Science Instruction
Volume 3

Sunday, March 22

11:00 AM–12 Noon

Einstein Adds the Literacy Dimension
Volume 3





Isaac Ginis

The Centers for Ocean Sciences Education Excellence (COSEE) Program

Saturday, March 21, 8:00 AM–4:00 PM

Regent, New Orleans Marriott

Since 2002 the Centers for Ocean Sciences Education Excellence (COSEE) have worked to increase understanding of the ocean and its relevance to society. Primarily funded through the National Science Foundation, the COSEE network promotes partnerships between research scientists and educators, disseminates high-quality ocean sciences education resources, and promotes ocean science as a charismatic vehicle for learning at any age.

COSEE concurrent sessions will highlight activities and products designed for classroom science teachers. Participants will leave with links to real-time data, relevant scientific resources, lesson plans, information on regional programs, and connections to a nationwide network of scientists and educators who are dedicated to improving ocean literacy.

A list of COSEE events follows. *See the Saturday daily program (Vol. 3) for details.*

8:00–9:00 AM

COSEE NOW Data Activity—Don't Even "Sink" About It!

9:00–9:30 AM

COSEE-West Opportunities for Teachers and Students in the Online World and Beyond

9:30–10:00 AM

Coastal Trends in Sea Grass

10:30–11:00 AM

From Sea to Inland Sea—COSEE Teachers Exchange Coastlines for Broader Professional Experience

11:00 AM–12 Noon

New Views on Sand: Virtual Samples Bring the World's Beaches to Your Classroom

12 Noon–1:30 PM

COSEE Luncheon

Natural Coastal Hazards and Their Impacts on the Human Condition

Isaac Ginis, Professor of Oceanography, University of Rhode Island, Narragansett

1:30–3:00 PM

The Oceans They Are a-Changin'...How Might This Change You?

3:00–4:00 PM

Sediment—It Ain't Just Dirt



Pamela Blanchard



Robert A. Thomas



Torbjörn E. Törnqvist



Randolph A. McBride

NESTA Earth and Space Science Resource Day: Natural Hazards and the Environment

Saturday, March 21 • 7:00 AM–6:00 PM • Bissonet Room, New Orleans Marriott

The National Earth Science Teachers Association will host a full suite of events at the NSTA conference in New Orleans. On Saturday, March 21, we offer our Earth and Space Science Resource Day. This jam-packed day of professional development starts with a ticketed breakfast and speaker and finishes with the NESTA Annual Membership meeting. We look forward to seeing you on Saturday, as well as at our three share-a-thons and Friends of Earth Science Reception on Friday, March 20. For more information about NESTA and our events at the New Orleans NSTA conference, please visit the NESTA website at www.nestanet.org.

A list of Saturday events follows. *See the Saturday daily program (Vol. 3) for descriptions.*

7:00–9:30 AM NESTA Earth and Space Science Resource Day Breakfast
(Bacchus, New Orleans Marriott)

LSU Coastal Roots Program

Speaker: Pamela Blanchard, Assistant Professor, Science Education, and Director, LSU Coastal Roots Program, Louisiana State University, Baton Rouge

This event was available by ticket through NESTA (by preregistration only).

- 9:30–10:30 AM NESTA Natural Hazards and the Environment Share-a-Thon
- 11:00 AM–12 Noon **Hurricane Katrina's Impact on the Environment of Greater New Orleans: Fears, Concerns, and Prognosis for the Future**
Speaker: Robert A. Thomas, Loyola Chair in Environmental Communication, and Director, Center for Environmental Communication, Loyola University New Orleans
- 12:30–1:30 PM **Coastal Louisiana in a World of Global Change**
Speaker: Torbjörn E. Törnqvist, Associate Professor, Earth and Environmental Sciences, and Director, DOE National Institute for Climatic Change Research Coastal Center, Tulane University, New Orleans, La.
- 2:00–3:00 PM **Geologic Processes of Coastal Louisiana and the Impacts of Hurricanes: Can New Orleans Survive?**
Speaker: Randolph A. McBride, Associate Professor of Geology and Oceanography Undergraduate Coordinator for Geology/Earth Sciences, Dept. of Atmospheric, Oceanic, and Earth Sciences, George Mason University, Fairfax, Va.
- 3:30–4:30 PM NESTA Rock and Mineral Raffle
- 4:30–6:00 PM NESTA Membership Meeting

These events are co-sponsored by the American Geophysical Union, Carolina Biological Supply Co., UCAR, and Windows to the Universe.





Peter Dow



Michael Klentschy

Ticket C-1

On-site registration available: \$295

A daylong conference offering NSF-funded program findings and related research.

Upon purchase of a ticket (C-1), participants may select three breakout sessions that best match their needs and interests.

See the following page for a complete list of breakout sessions.

Science Assessment, Linking Science and Literacy, and Science and English Language Learners: What Does Current Research Say About Best Practices?

A research dissemination conference for grades K–12 Teachers, Administrators, and Professional Development Providers

Saturday, March 21 • 8:00 AM–3:30 PM • Rooms 343–345, Convention Center

The overall objective of this conference is to allow teachers, administrators at school and district levels, and professional development providers to learn about the implications of NSF-funded researchers' work for classroom practice and professional development. The conference includes two plenary sessions that address issues of general interest as well as 11 concurrent small-group sessions relevant to the interests and needs of specific groups, such as elementary teachers, secondary teachers, principals, curriculum coordinators, and professional development providers. Participants may select three breakout sessions.

Agenda

- 7:00–7:55 AM Continental Breakfast
- 8:00–8:15 AM Welcome and Introductions
Francis Q. Eberle, NSTA Executive Director, NSTA, Arlington, Va.
- 8:15–9:00 AM Plenary Session I
Peter Dow, Chairman, First Hand Learning, Inc., Buffalo, N.Y.
Lessons from the Sputnik Era?
The launching of Sputnik in 1957, followed by the National Defense Education Act of 1958, led to an unprecedented national investment in the reform of science and the development of revolutionary new curricula. Today, however, most of the developed world does a better job of teaching science than we do, and our ability to understand and cope with the world around us deteriorates by the day. Are there still educational lessons to be learned from the Sputnik era?
- 9:00 AM–12:15 PM Breakout Sessions
- 12:15–1:00 PM Lunch
- 1:00–2:45 PM Breakout Sessions
- 2:45–3:25 PM Plenary Session II
Michael Klentschy, Former Superintendent of Schools, El Centro, Calif.
Best Practice: How Have Schools Responded to Research Recommendations?
Schools and school districts have responded in a variety of ways to research-based practices in science, including aligning these practices to increasing science content understanding, using or instituting best practices for making science/literacy connections, and providing support to historically under-represented students. We'll look at the most effective district practices.
- 3:25–3:30 PM Closing/Evaluation



Science Assessment, Linking Science and Literacy, and Science and English Language Learners: What Does Current Research Say About Best Practices?

A research dissemination conference for grades K–12 Teachers, Administrators, and Professional Development Providers

Breakout Session C-2 (Room 335)

Aligning Classroom-Based Assessment with High-Stakes Tests

Marian Pasquale, Education Development Center, Inc., Newton, Mass.

Breakout Session C-3 (Room 336)

Implementing Formative Assessment: Belief System Changes Required

Kathy Long, Lawrence Hall of Science, University of California, Berkeley

Breakout Session C-4 (Room 337)

Reading and Writing in the Service of Inquiry-based Science

Gina N. Cervelti, University of Colorado at Boulder
P. David Pearson and **Jacqueline Barber**, Lawrence Hall of Science, University of California, Berkeley
Marco A. Bravo, San Francisco State University, San Francisco, Calif.

Breakout Session C-5 (Room 338)

Research on Effective Science Instruction for English Language Learners

David Crowther, University of Nevada, Reno
Joaquin Vila, Salisbury University, Salisbury, Md.

Breakout Session C-6 (Room 339)

Science IDEAS: Making the Case for Integrating Reading and Writing in Elementary Science as a Key Element in K–12 School Reform

Nancy Romance, Florida Atlantic University, Boca Raton
Michael R. Vitale, East Carolina University, Greenville, North Carolina

Breakout Session C-7 (Room 340)

Supporting and Assessing English Language Learners in Writing Scientific Explanations

Katherine L. McNeill, Boston College, Chestnut Hill, Mass.
Joseph S. Krajcik, University of Michigan, Ann Arbor

Breakout Session C-8 (Room 341)

Talk in the Science Classroom

Karen Worth, **Jeffrey Winkokur**, **Sally Crissman**, and **Martha Winokur**, Educational Development Center, Inc., Newton, Mass.

Breakout Session C-9 (Room 342)

Contextualizing Science Instruction: Making Connections between School Science and Student Knowledge in Culturally and Linguistically Diverse Classrooms

Sara Tolbert, University of California, Santa Cruz
Regina Suriel, University of Georgia, Athens

Breakout Session C-10 (Room 346)

Using the Science Writing Heuristic to Promote Understanding of Science Conceptual Knowledge in Middle School

Brian Hand, The University of Iowa, Iowa City
Jay Staker, Iowa State University, Ames

Breakout Session C-11 (Room 347)

Using Assessment Design as a Model of Professional Development

Paul S. Kuerbis, Colorado College, Colorado Springs

Breakout Session C-12 (Room 349)

From Practice to Research and Back: Perspectives and Tools in Assessing for Learning

Jim Minstrell and **Ruth Anderson**, Facet Innovations, Seattle, Wash.

NSTA Professional Development Institutes



NSTA Professional Development Institutes

Wednesday, March 18, 8:00 AM–4:00 PM

Registration Fee: \$295*

Location: New Orleans Morial Convention Center

Learn from the experts how to design *and* implement high-quality professional development for science teachers. Thirteen professional development institutes are offered at the New Orleans conference. In addition to the full-day session on Wednesday, each institute is followed by selected “pathway” sessions throughout the conference.

***PDIs were available by preregistration only.**

Developed with partial funding from the National Science Foundation.



Inquiring into Inquiry (PDI-1)

Offered by the BSCS Center for Professional Development (www.bscs.org)

Sam Spiegel (sspiegel@bscs.org), **Elizabeth Edmondson** (eedmondson@bscs.org), and **Betty Stennett**, BSCS Center for Professional Development, Colorado Springs, Colo.

Level: General

Location: Room 333, Convention Center

Experience the many facets of the role inquiry plays in student learning and teacher professional development. BSCS, known for the BSCS 5E Instructional Model and inquiry-based instructional materials, will take you through an inquiry experience based on this powerful instructional model.

Pathway Sessions

All sessions are located in Room 333. See daily program for details.

Thursday, March 19

8:00–8:30 AM

What Is Inquiry? Setting the Stage

9:00–10:30 AM

Teaching for Inquiry: Meeting the Goal with Rubrics

11:00 AM–12:30 PM

Doing Science—Inquiry Moves to the Head of the Class!

3:30–5:00 PM

The BSCS 5E Instructional Model

Friday, March 20

8:00–10:00 AM

Can Inquiry Lead to Content Deepening?

11:00 AM–1:00 PM

Inquiry Through the Eyes of an Elementary Learner

2:00–5:00 PM

Classroom Inquiry: A Tool for Reflection

CANCELED

Integrating Science and Engineering Technology (PDI-2)

NSTA Professional Development Institutes

Discussion and Writing in the Inquiry-based Elementary Science Classroom: Critical Partners in the Development of Scientific Reasoning and Conceptual Understanding (PDI-3)

Offered by the Center for Science Education, Education Development Center, Inc. (<http://cse.edc.org>).

Karen Worth (kworth@edc.org) and **Jeff Winokur** (jwinokur@edc.org), Education Development Center, Inc., Newton, Mass.

Martha Heller-Winokur (martha.heller_winokur@tufts.edu), Tufts University, Medford, Mass.

Sally Crissman, TERC, Cambridge, Mass.

Level: Elementary

Location: Room 335, Convention Center

This institute focuses on the development and use of literacy skills in science to foster students' scientific reasoning as they move from direct experience to conceptual understanding. The target audience is upper elementary students (grades 3–5); however, much of the content of the institute can be applied at younger grade levels.

Pathway Sessions

All sessions are located in Room 335. See daily program for details.

Thursday, March 19

8:00–10:00 AM

Connecting Science and Literacy: The Role of Explicit Teaching

11:00 AM–1:00 PM

Linking Science and Literacy Through Nature Journals

1:30–3:30 PM

Expository Writing and Science Notebooks: Documented Success in Increasing Achievement in Expository Writing and Inquiry-based Science in the Elementary Grades

4:00–6:00 PM

Kids Can Argue—Students Using Evidence for Science Arguments

Friday, March 20

8:00–10:00 AM

The Art of Talk and the Power of the Circle

2:00–4:00 PM

Writing in Science Using Firsthand Data

Inquiry-based Mentoring (PDI-4)

Offered by the Center for Science Education, Education Development Center, Inc. (<http://cse.edc.org>)

Marian Pasquale (mpasquale@edc.org), Center for Science Education, Education Development Center, Inc., Newton, Mass.

Vivian Troen, Brandeis University, Waltham, Mass.

Level: Middle Level

Location: Room 336, Convention Center

This model of mentoring uses inquiry as the strategy for integrating science content knowledge, pedagogy, and mentoring skills. Taught to examine their experience, generate alternatives, and evaluate actions, mentors develop problem-solving skills that help them make complex decisions influenced by context.

Pathway Sessions

All sessions are located in Room 336. See daily program for details.

Thursday, March 19

9:30–10:30 AM

Mentoring Beginning Science Teachers in Urban Systems

1:30–3:30 PM

Facilitating the Work of Science Mentors

4:00–6:00 PM

Focusing Observations: Inquiry Criteria for Middle Grades Science Classroom Visits

Friday, March 20

8:00–10:00 AM

Helping Beginning Secondary Science Teachers: Research-based Suggestions for Experienced Teachers and Administrators

11:00 AM–12 Noon

How to Be an Effective Mentor—From the Horse's Mouth

12:30–1:30 PM

Research on Science Mentoring

3:30–5:30 PM

Online Mentoring for Beginning Science Teachers

Conference Program

NSTA Professional Development Institutes

Outdoor Learning: A Path to Science and Literacy (PDI-5)

Offered by First Hand Learning, Inc. (www.firsthandlearning.org).

Mark Baldwin (mbaldwin@rtpi.org), Roger Tory Peterson Institute of Natural History, Jamestown, N.Y.

E. Wendy Saul, University of Missouri-St. Louis

Peter Dow and **Patricia McGlashan** (plmgm@aol.com), First Hand Learning, Inc., Buffalo, N.Y.

Level: Elementary–Middle Level/Informal Education

Location: Room 338, Convention Center

Practice naturalists' techniques to record observations and communicate findings, identify and use different genres of science writing, and learn how to structure outdoor investigations that will provide ongoing and varied opportunities for firsthand learning that promotes skill development.

Pathway Sessions

All sessions are located in Room 338. See daily program for details.

Thursday, March 19

8:00–10:00 AM

Archaeology Indoors and Out

11:00 AM–1:00 PM

Outdoors After School

2:00–3:00 PM

Strategies for Using Writing to Engage High School Students in Science

4:00–5:30 PM

Mapping the School Yard

Friday, March 20

8:00–9:00 AM

After-School Science for Kids

9:30–11:30 AM

Nature Journals and Field Guides: Tools for Linking Science and Literacy

12:30–1:30 PM

Consider the Evidence—Using Student Journals to Drive Instruction

Assessing and Promoting Teachers' Understanding and Skills in Assessment and Instruction for Student Learning (PDI-6)

Offered by FACET Innovations (www.facetinnovations.com)

Jim Minstrell, Facet Innovations, Seattle, Wash.

Level: Middle Level–College/Supervision/Administration

Location: Room 339, Convention Center

Issue-oriented science engages all students in thinking about how science relates to their own personal lives and to societal challenges. Learn specific strategies for integrating scientific issues into science units, analyze and critique model units, develop concrete plans for how to integrate local issues into the science classroom, and learn how to develop a classroom environment for effective use of issues as part of a rigorous and engaging science program.

Pathway Sessions

All sessions are located in Room 339. See daily program for details.

Thursday, March 19

9:30–11:30 AM

Moving Beyond “Probes:” Constructing and Using Elicitation Questions to Diagnose Needs of the Science Class and Inform Teachers of Student Needs

12:30–3:30 PM

Moving from Formative Assessment Results to Appropriate Instructional Actions

4:00–5:00 PM

Creating an Assessment for Learning Perspective

Friday, March 20

9:30–11:30 AM

Questioning Strategies Consistent with Assessment for Learning

12:30–3:30 PM

Using Online Tools to Support Assessment for Learning

NSTA Professional Development Institutes

Knowing What They Know: Writing Assessment Questions That Reveal Student Thinking (PDI-7)

Offered by Horizon Research, Inc. (www.horizon-research.com)

Sean Smith and **Melanie Taylor**, Horizon Research, Inc., Chapel Hill, N.C.

Level: Elementary–High School/Supervision/Administration

Location: Room 342, Convention Center

Learn a process for developing questions that uncover what students really understand about science concepts. Get focused, practical experience applying these item-writing principles by writing and revising assessment items in a collaborative setting.

Pathway Sessions

All sessions are located in Room 342. See daily program for details.

Thursday, March 19

8:00–10:00 AM

Knowing What They Know: The Importance of and Strategies for Eliciting Student Thinking in a Classroom Setting

12:30–3:30 PM

Knowing What They Know: Developing and Using a Framework for Analyzing Student Thinking

Friday, March 20

8:00–11:00 AM

Knowing What They Know: Transferring the Item-writing Workshop to Your School/District, Part 1

11:00 AM–12 Noon

Knowing What They Know: Transferring the Item-writing Workshop to Your School/District, Part 2

12:30–2:30 PM

Knowing What They Know: Analyzing Student Work to Reveal Student Thinking

Issue-oriented Science: Engage, Motivate, and Educate (PDI-8)

Offered by the Science Education for Public Understanding Program (SEPUP) (www.sepuplhs.org), Lawrence Hall of Science

Barbara Nagle, **Sara Dombkowski**, and **John Howarth**, Lawrence Hall of Science, University of California, Berkeley

Kathaleen Burke, Buffalo Science Teachers' Network, Buffalo State College, Buffalo, N.Y.

Level: Middle Level–High School

Location: Room 337, Convention Center

Issue-oriented science engages all students in thinking about how science relates to their own personal lives and to societal challenges. This institute is designed for teachers, science curriculum coordinators, administrators, and other instructional leaders who will explore criteria and approaches for evaluating and developing issue-oriented science lessons and units.

Pathway Sessions

All sessions are located in Room 337. See daily program for details.

Thursday, March 19

8:00–9:00 AM

Developing Literacy and Addressing Content Standards Through Issue-oriented Science

9:30–10:30 AM

Getting Kids Invested with Stories: The Car of the Future

11:00 AM–12 Noon

Integrating Biodiversity Issues into Ecology and Evolution Units

12:30–1:30 PM

Making Connections: Strategies for Sustaining the Project

2:00–3:00 PM

Real-World Science Connections: Scientists as Partners

3:30–4:30 PM

Strategies for Discussion and Debate in the Science Classroom

Friday, March 20

8:00–9:00 AM

Integrating Sustainability into the Science Classroom

9:15–10:45 AM

Using Environmental Issues to Build Students' Scientific Argumentation Skills

11:00 AM–12 Noon

Alternative Energy for Transportation: Hydrogen and Fuel Cells

2:00–3:00 PM

Ethanol: The Cleaner Burning Alternative?

Conference Program

NSTA Professional Development Institutes

Designing Effective Science Instruction: Developing Student Understanding Through Classroom Inquiry, Discourse, and Sense-Making (PDI-9)

Offered by Mid-continent Research for Education and Learning (McREL) (www.mcrel.org)

Anne Tweed and **Sarah LaBounty**, Mid-continent Research for Education and Learning, Denver, Colo.

Level: General

Location: Room 346, Convention Center

Designing Effective Science Instruction is a professional development program designed to improve teachers' ability to plan and deliver effective lessons to diverse student populations. Learn how inquiry, discourse, and sense-making activities in your science classroom translate to student understanding.

Pathway Sessions

All sessions are located in Room 346. See daily program for details.

Thursday, March 19

8:00–9:30 AM

How Do We Know That Students Understand?

10:00 AM–12 Noon

Using a Formative Assessment Process to Determine Evidence of Student Understanding

12:30–2:00 PM

Instructional Technology and Virtual Manipulatives That Support Student Understanding

2:30–4:00 PM

Constructing Understanding Using Visual Tools

Friday, March 20

8:00–9:00 AM

Student-designed Experiments

9:30–11:00 AM

Addressing Student Misconceptions (Preconceptions)

11:30 AM–1:00 PM

Designing Effective Science Instruction: Scientific Discourse in the Classroom

3:30–5:00 PM

Designing Effective Science Lessons: Helping Students Think Scientifically

Linking Scientific Inquiry to Students' Lives Using Geographic Tools and Perspectives (PDI-10)

Offered by the National Geographic Society (www.nationalgeographic.com), Division of Education & Children's Programs

Kathleen Schwille and **Kim Hulse**, Division of Education & Children's Programs, National Geographic Society, Washington, D.C.

Level: Middle Level–High School/Informal Education/Supervision/Administration

Location: Room 347, Convention Center

This institute is intended for teachers of ecology and earth and environmental science, curriculum developers, administrators, and others interested in infusing geographic inquiry into science teaching in grades 5–12. Participants will learn to use geographic skills and perspectives to connect science learning to students' lives and issues in the world.

Pathway Sessions

All sessions are located in Room 347. **Thursday, March 19**

9:00–10:30 AM

Science and Literacy: Science Content with Informational Reading and Writing

11:00 AM–12:30 PM

Crittercam and WildCam: Bringing Exciting NGS Research Tools into the Classroom

1:00–2:30 PM

Deep Dive: Exploring the Oceans from Your Classroom with National Geographic and Google Earth

3:00–4:30 PM

Two Programs Linking Geography and Science Education: Geothentic and Delaware Geography-Health Initiative

5:00–6:00 PM

Help Your Students Find Their Own Walden: Putting Thoreau's Words into Environmental Action

Friday, March 20

8:00–9:30 AM

Connecting Students to Real-World Science Issues with National Geographic's Online Resources

10:00–11:00 AM

Collaborative Mapping and Analysis for Real-World Science Education

NSTA Professional Development Institutes

11:30 AM–12:30 PM

Analyzing Energy Consumption: Individual, School-wide, and Nationally Focused Tools for Bringing Energy into the Classroom

1:30–3:00 PM

The BioBlitz Program—Bringing Science into Your Backyard

3:30–4:30 PM

What Every Science Teacher Should Know About Geography But May Be Afraid to Ask

Coaching as a Path to Reflective Practice in Science (PDI-11)

Offered by South Carolina Department of Education's Mathematics & Science Unit (M&SU) (www.myscmsu.org) in partnership with South Carolina's Coalition for Mathematics & Science (SC-CMS) (www.sccoalition.org).

Nan Dempsey (dempsey@scsc.edu) and members of the Mathematics & Science Unit, South Carolina Dept. of Education, Columbia

Tom Peters (tpeters@clemsun.edu) and members of South Carolina's Coalition for Mathematics & Science iCoach team, Clemson, S.C.

South Carolina science coaches

Level: General

Location: Room 348, Convention Center

Coaching is tangible, dynamic, embedded adult learning within the context of the school day. Experience ways in which planning, feedback, and reflection guided by an experienced coach can maximize personal learning and mediate adult and student thinking.

Pathway Sessions

All sessions are located in Room 348. See daily program for details.

Thursday, March 19

8:00–9:30 AM

Research on the Impact of Coaching in Science

10:00–11:30 AM

The Nuts and Bolts of Building a Science Coaching Initiative, Part 1

12:30–2:00 PM

The Nuts and Bolts of Building a Science Coaching Initiative, Part 2

2:30–4:00 PM

Virtual Strategies for Supporting Science Coaches

Friday, March 20

8:00–10:00 AM

Coaching Basics That Promote Reflective Practice in Science

11:00 AM–1:00 PM

The Secret Lives of Science Coaches

2:00–4:00 PM

Science Coaches Networking Forum

Classroom Strategies for Teaching Inquiry (PDI-12)

Offered by the Exploratorium Institute for Inquiry (www.exploratorium.edu/ifi) and TERC (www.terc.edu)

Lynn Rankin and **Fred Stein**, Exploratorium Institute for Inquiry, San Francisco, Calif.

Susan Doubler and **Sally Crissman**, TERC, Cambridge, Mass.

Level: Elementary/Supervision/Administration

Location: Room 349, Convention Center

This institute is intended for professional developers and teachers interested in deepening their understanding of classroom inquiry and a variety of practical teaching strategies that support students doing inquiry. Experience hands-on inquiries that engage you with questions and support you in the process of investigating questions. Then we'll discuss strategies that you can draw on to support students in this process.

Pathway Sessions

All sessions are located in Room 349. See daily program for details.

Thursday, March 19

8:00–11:00 AM

A Developmental Approach to Extended Guided Inquiry

11:30 AM–1:30 PM

The Young Scientist: Engaging Three- to Five-Year-Old Children in Science Inquiry

2:00–4:00 PM

Bogus Biology: Correcting Errors with Inquiry

CANCELED

Conference Program

NSTA Professional Development Institutes

Friday, March 20

9:30 AM–12:30 PM

Teaching Inquiry-based Earth Science Using Student-generated Field Investigations

2:00–4:00 PM

Using Inquiry to Teach for Understanding

Science for English Language Learners (ELL): Integrating Reading, Writing, Listening, Speaking, and Thinking into the K–8 Classroom (PDI-13)

Offered by the University of Nevada, Reno

David Crowther, University of Nevada, Reno

Level: Elementary–Middle Level/Supervision/Administration

Location: Room 350, Convention Center

This institute will focus on teaching strategies and methods that incorporate language acquisition with science instruction for English language learners (ELL) in the K–8 classroom. We will begin with an overview of research on the ELL population, instruction, and programs available to teachers who have responsibilities for teaching science, followed by guided inquiry activities that model integrated (sheltered instruction) strategies in science, reading, writing, listening, speaking, and thinking.

Pathway Sessions

All sessions are located in Room 350. See daily program for details.

Thursday, March 19

8:00–10:00 AM

Reading and Thinking Strategies for English Language Learners in Science

10:30–11:30 AM

We Do Science Here! The Administrator's Role in a Title 1 (K–5) Science-intensive Public School

12:30–2:30 PM

A Research-based Approach to Instruction for English Learners: Considerations for Reading, Writing, Vocabulary, and Discourse in Science

3:30–5:30 PM

Using the CREDE Five Standards for Effective Pedagogy to Integrate Science Language and Literacy Instruction for English Language Learners

Friday, March 20

11:00 AM–12 Noon

Science Notebooks for English Language Learners

12:30–2:00 PM

Here's a Doable Approach to Differentiation: Strategies for ELL

Building a Professional Learning Community Through Reflective Practice (PDI-14)

Offered by K–12 Alliance/WestEd (www.wested.org/cs/we/view/pj/79)

Kathy DiRanna, Karen Cerwin, Jody Sherriff, and Jo Topps, K–12 Alliance/WestEd, San Francisco, Calif.

Level: Elementary–High School/Supervision/Administration

Location: Room 341, Convention Center

In this institute, we explore what it means to build a professional learning community of reflective practitioners who can, collectively, draw upon their knowledge of science, developmentally appropriate curriculum, instructional strategies, and assessment practices to improve student understanding and achievement.

Pathway Sessions

All sessions are located in Room 341. See daily program for details.

Thursday, March 19

9:30–11:30 AM

A Professional Learning Community: Getting Started

12 Noon–3:00 PM

Build a Professional Learning Community Through Assessment-centered Teaching

3:30–5:30 PM

A Professional Learning Community Strategy: Targeted Interventions Matter

Friday, March 20

8:00–9:00 AM

Lesson Study as a Professional Learning Community: The Teaching Learning Collaborative (TLC)

9:30–11:30 AM

A Professional Learning Community Strategy: Rubric Development/Feedback Loops

12:30–2:30 PM

A Professional Learning Community Strategy: Conceptual Flow to Map Content

NSTA Symposia



NSTA symposia are blended professional development opportunities that include a face-to-face learning opportunity at the conference followed by several online experiences—a discussion listserv and two NSTA Web Seminars—to extend interactivity between the participants and presenters. Symposia attendance requires conference registration.

Graduate credit may also be available. To receive graduate credit, participants must pay a nominal fee and complete an action plan and a lesson plan.

Admission to NSTA symposia is by ticket only. Tickets, if still available, may be purchased at the Ticket Sales Counter in the NSTA Registration Area.

NIH/NSTA Symposium: Exploring Bioethics: A New Model for Classroom Instruction (SYM-1)

Ezekiel Emanuel, NIH Clinical Center, National Institutes of Health, Bethesda, Md.

Millie Solomon (*msolomon@edc.org*), Education Development Center, Inc., Newton, Mass.

Jeanne Chowning (*jchowning@nwabr.org*), Northwest Association for Biomedical Research, Seattle, Wash.

Level: Grades 9–12

Date/time: Thursday, March 19, 1:00–5:30 PM

Location: Room 255, Convention Center

Limit: 80

Registration Fee: \$54

NSTA is partnering with the National Institutes of Health (NIH) to present an exciting symposium for high school–level educators on the topic of bioethics. This minds-on symposium introduces a new approach to exploring bioethics in the high school biology classroom. Participants will experience field-tested lessons that engage students in analyses of some of the most challenging ethical issues raised by recent advances in the life sciences. Topics range from the ethical issues related to genetic testing to the use of performance-enhancing drugs. Leading experts will guide participants as they gain a deeper understanding of the ethical concepts of fairness, respect, weighing harms and benefits, and others. The symposium will also present strategies for facilitating rich ethics discussions in the science classroom.

All participants will receive educational materials from NIH. A drawing for door prizes will take place at the end of the program and refreshments will be provided.

Climate Change/NSTA Symposium: Earth Then, Earth Now: Our Changing Climate (SYM-2)

Karen Flammer and **Leesa Hubbard** (*astropoet@aol.com*), Sally Ride Science, San Diego, Calif.

Steve McNulty (*steve_mcnulty@ncsu.edu*), USDA Forest Service, Asheville, N.C.

Heidi Cullen (*hcullen@climatecentral.org*), Climate Central, Palo Alto, Calif.

Pieter Tans (*pieter.tans@noaa.gov*), NOAA Earth System Research Laboratory, Boulder, Colo.

Level: Grades 5–12

Date/time: Thursday, March 19, 1:30–6:00 PM

Location: Room 256, Convention Center

Limit: 80

Registration Fee: \$54

NSTA is partnering with Sally Ride Science (SRS), NOAA, and the U.S. Forest Service (USFS) to present an exciting symposium on the

Conference Program

NSTA Symposia

topic of global climate change. During this half-day symposium, government agency scientists and education specialists will discuss the basic science behind our understanding of climate change and its global impacts on the atmosphere, ecosystems, and oceans around the world. The presenters will perform activities that enhance participants' knowledge and serve as models for activities that can be done in the classroom. All participants will receive educational materials from SRS-, NOAA-, and USFS-funded programs.

A drawing for door prizes will take place at the end of the program and refreshments will be provided.

FDA/NSTA Symposium: Teach Science Concepts and Inquiry with Food (SYM-3)

FDA Team

Level: Grades 5–8

Date/time: Friday, March 20, 8:00 AM–12:30 PM

Location: Room 255, Convention Center

Limit: 80

Registration Fee: \$54

NSTA is partnering with the Food and Drug Administration (FDA) to present an exciting symposium for middle school educators. When it comes to making science relevant for students, what better way than to apply it to something that is a big and relevant part of their everyday lives—FOOD!? Learn how the FDA tracks foodborne pathogens in an outbreak investigation, the scientific basis for the percent daily values (%DVs) on the Nutrition Facts Label, and much more. FDA experts and master educators will lead participants in activities—some of which are inquiry oriented and hands on—that can be used in the classroom to enable students to experience several of the National Science Education Standards, including those for Life Science (Structure and Function in Living Systems), Science and Technology, and Science in Personal Health and Social Perspectives.

FDA is pleased to provide a stipend of \$60 for full participation in the symposium. All participants will receive educational materials and information about resources that are available at the FDA. A drawing for door prizes will take place at the end of the program and refreshments will be provided.

NOAA/NSTA Symposium: The Heat is On! Climate Change and Coral Reef Ecosystems (SYM-4)

Paulo Maurin, **Tyler Christensen** (tyler.christensen@noaa.gov), **Dwight Gledhill** (dwight.gledhill@noaa.gov), **Karen Palmigiano** (karen.palmigiano@noaa.gov), and **Bruce Moravchik**, NOAA, Silver Spring, Md.

Kelly Drinnen (kelly.drinnen@noaa.gov), Flower Garden Banks National Marine Sanctuary, Galveston, Tex.

Level: Grades 5–12

Date/time: Saturday, March 21, 8:00 AM–12:30 PM

Location: Room 255, Convention Center

Limit: 80

Registration Fee: \$54

NSTA is partnering with NOAA to present this exciting symposium for middle and high school educators. Coral reef ecosystems are heavily impacted by climate change and can be used to illustrate its disastrous effects. While these remarkable systems are robust enough to create structures like the Great Barrier Reef, they can be damaged and destroyed by even small changes in Earth's climate.

Join members of NOAA's Coral Reef Conservation Program, Coral Reef Watch, and National Marine Sanctuaries to learn how to use satellite data to understand and predict coral bleaching events as well as participate in hands-on experiments that illustrate the effects of ocean acidification and help learners understand the structure and biology of a coral polyp. Leave with engaging materials and activities on climate change, ocean acidification, cutting-edge satellite technology, and ocean ecology.

A drawing for door prizes will take place at the end of the program. (www.coralreef.noaa.gov; <http://flowergarden.noaa.gov>)

NSTA Symposia

NSTA Symposium: Energy: Stop Faking It! (SYM-5) (NSTA Press)

Bill Robertson (wrobert9@ix.netcom.com), NSTA Press Author, Woodland Park, Colo.

Level: Grades 3–8

Date/time: Saturday, March 21, 1:30–6:00 PM

Location: Room 255, Convention Center

Limit: 80

Registration Fee: \$54

Confounded by kinetic and potential energy? Suspect that teaching about simple machines isn't really so simple? If you fear the study of energy is beyond you, this entertaining symposium will do more than introduce you to the topic. Focusing on the NSTA Press publication *Energy: Stop Faking It! Finally Understanding Science So You Can Teach It* by Bill Robertson, PhD, this symposium will help you actually understand energy.

The author will share easy-to-grasp explanations of energy basics—kinetic energy, potential energy, and the transformation of energy—and energy as it relates to simple machines, and guide participants through individual and group activities, dialogue, and discussion.

All participants will receive a copy of *Energy: Stop Faking It! Finally Understanding Science So You Can Teach It* and a folder containing symposium information. The second book in the *Stop Faking It* series, *Energy* is written with clarity, creative flair, and special sympathy for adults, science teachers, and parents in search of a stress-free way to learn science basics.

A drawing for door prizes will take place at the end of the program and refreshments will be provided.

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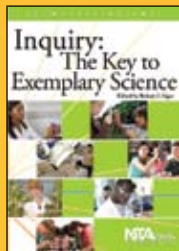
science making it real.

School Specialty Science



Using Science Notebooks in Elementary Classrooms

Grades: K-5
Member: \$19.96
Nonmember: \$24.95



Inquiry: The Key to Exemplary Science

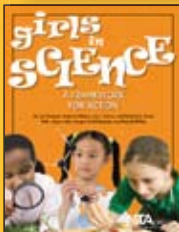
Grades: K-12
Member: \$19.96
Nonmember: \$24.95

College Science Teachers Guide to Assessment

Grades: College
Member: \$20.76
Nonmember: \$25.95

Reforming Secondary Science Instruction

Grades: 6-12
Member: \$19.96
Nonmember: \$24.95



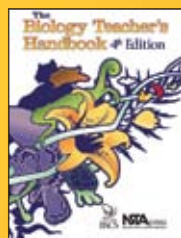
Girls in Science: A Framework for Action

Grades: K-8
Member: \$19.96
Nonmember: \$24.95



40 Inquiry Exercises for the College Biology Lab

Grades: College
Member: \$27.96
Nonmember: \$34.95



Biology Teachers Handbook, 4th Edition

Grades: 9-12
Member: \$23.96
Nonmember: \$29.95

Chemistry Basics: Stop Faking It! Finally Understanding Science So You Can Teach It

Grades: 5-12
Member: \$19.16
Nonmember: \$23.95

A Head Start on Science: Encouraging a Sense of Wonder

Grades: PreK-2
Member: \$22.36
Nonmember: \$27.95

Climate Change From Pole to Pole: Biology Investigations

Grades: 9-College
Member: \$23.96
Nonmember: \$29.95

Teaching Science to English Language Learners: Building on Students' Strengths

Grades: K-8
Member: \$20.76
Nonmember: \$25.95



Earth Science Success: 50 Lesson Plans for Grades 6-8

Grades: 6-9
Member: \$22.36
Nonmember: \$27.95

Everyday Science Mysteries: Stories for Inquiry-Based Science Teaching

Grades: K-8
Member: \$18.36
Nonmember: \$22.95

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Short Courses



Photo courtesy of Christl Whitworth

PARI's Smiley radio telescope can be used via the internet to obtain real-time data for student research.

Admission to NSTA short courses is by ticket only. Tickets, if still available, may be purchased at the Ticket Sales Counter in the NSTA Registration Area.

Engaging Student Scientists in Climate Change Research: Using GLOBE Program Tools and Resources to Promote Local to Global Student Research on Climate Change (SC-1)

Gary Randolph (*randolph@globe.gov*) and **David Smith** (*dasmith@globe.gov*), The GLOBE Program, University Corporation for Atmospheric Research, Boulder, Colo.

Level: Middle Level–High School

Strand: Energy and the Environment: The Natural and Human-designed World

Date/time: Thursday, March 19, 8:00 AM–12 Noon

Location: Ballroom II, Westin

Limit: 99

Registration Fee: \$16

Engage your students in the process of conducting real environmental research, including investigations of climate change. NASA's GLOBE Program includes a suite of research and collaboration tools that help students successfully progress through the process of scientific inquiry on environmental issues such as climate change. Learn to implement GLOBE's Model for Student Scientific Research, which provides friendly resources and methods to help students observe and ask questions about their local environment, form testable hypotheses, design and conduct scientifically sound observational investigations, submit online reports for peer review, and submit a fully developed paper for online publications.

When the Levees Broke: Using EarthCache to Explain Physical Processes (SC-2)

Paul Nagel (*nagelp@nsula.edu*), Louisiana Geography Education Alliance, Northwestern State University, Natchitoches

Jacqueline Mason, Northwestern State University, Natchitoches, La.

Level: General

Strand: Science and the Human Spirit

Date/time: Thursday, March 19, 8:00 AM–4:30 PM

Location: Ballroom I, Westin (8:00 AM–12 Noon); off-site (12 Noon–4:30 PM)

Limit: 47

Registration Fee: \$65

EarthCaching is a way for participants to learn something special about earth science. It allows the integration of earth and space science and geography. The EarthCache demonstrated in this course will describe how Hurricane Katrina influenced changes in the geography of Louisiana and affected the function of the levees built to protect the city from flooding. Participants will use the science process skills of measurement, observation, modeling, and communication with technology, i.e. Global Posi-

CANCELED

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Short Courses

tioning Systems, to determine location and change in geologic features in the Lower Ninth Ward.

Participants will learn about three different forms of EarthCaches: student created, virtual, and field EarthCaches. Each form requires unique methods of interpretation and evaluation. Participants will also learn about the criteria for submission of an EarthCache and examine EarthCache examples in Louisiana and across the nation. Each participant will receive an educator's guide for creation of an EarthCache. (www.earthcache.org)

The Next Big Thing Is Small: Inquiry-based Lessons in Nanoscience (SC-3)

Shanna Daly (sdaly@purdue.edu), **Kelly Hutchinson** (khutchin@purdue.edu), **David Sederberg** (dsederbe@purdue.edu), **Emily Wischow** (ewischow@purdue.edu), and **Lynn Bryan** (lbryan@purdue.edu), Purdue University, West Lafayette, Ind.

Level: Middle Level–High School

Date/time: Thursday, March 19, 8:15–11:15 AM

Location: Terrace, Westin

Limit: 50

Registration Fee: \$16

This short course will feature inquiry-based lessons from the National Center for Learning and Teaching in Nanoscale Science and Engineering (NCLT). Each year the NCLT holds a summer professional development institute that focuses on using inquiry to teach nanoscience, engineering, and technology in the middle school and high school science curricula. Participants will engage in a variety of hands-on activities that highlight different nanoscale phenomena from the summer institute lessons. Featured activities will include self-assembly, nanoscale magnets, quantum dots, biosensors, scanning probe microscopy, nanoscience in everyday life, and size and scale. Additionally, participants will have the opportunity to discuss and brainstorm strategies for implementing nanoscience into their classrooms.

Real-Time Observations in Radio Astronomy (SC-4)

Christi Whitworth (cwhitworth@pari.edu), Pisgah Astronomical Research Institute, Rosman, N.C.

Level: Middle Level–College

Strand: ISTE: Meeting the Needs of the Digital Student

Date/time: Thursday, March 19, 2:00–5:00 PM

Location: Ballroom I, Westin

Limit: 30

Registration Fee: \$85

CANCELED

Come to this course and learn the basics of radio astronomy. Via the internet, train to remotely access a 4.6-meter radio telescope (affectionately known as Smiley) located at the Pisgah Astronomical Research Institute (PARI) near Brevard, North Carolina. The radio telescope detects 21-cm radio waves emitted by hydrogen at the center of our galaxy and its spiral arms, supernova remnants, regions of star formation, and other celestial sources. Make the decisions for your investigation from source selection, pointing the telescope, and taking the measurements. Lesson modules such as “Doppler Shift,” “Mapping Radio Sources,” and “What’s Between the Stars?” have been tested and used effectively with both middle and high school students, providing them with real-time and real-life experiences.

Participants will receive one hour of research time on Smiley to use with their students. The labs and hands-on experience increase students’ information and technology skills while promoting student-directed critical thinking and problem solving. This is accomplished by encountering real-world data and tools and putting them to work for the student. Further training and assistance will require interaction with astronomers and the astronomy community. Most classroom technology initiatives will support the necessary connections needed for this activity in the regular classroom. (www.pari.edu)

“Mohawk Guy” and His Band of Microfossil Friends: What Do They Have to Do with Climate Change and Me? (SC-5)

Sharon K. Cooper (scooper@oceanleadership.org), Consortium for Ocean Leadership, Washington, D.C.

Tina King (tinakingtn@hotmail.com), West Elementary School, Mount Juliet, Tenn.

Bob King (kingwhhs47@hotmail.com), Friendship Christian Schools, Lebanon, Tenn.

Level: Grades 5–12

Strand: Science and the Human Spirit

Date/time: Thursday, March 19, 2:00–5:00 PM

Location: Ballroom II, Westin

Limit: 100

Registration Fee: \$50

Mohawk Guy and his Band of Neogene Planktonic Fossil Foraminifera Friends is an exciting new activity using ancient microfossils from deep ocean sediment cores to learn how they have changed over time. Forams are climate change watchdogs of the environment because, much like canaries in coal mines, forams are sensitive to changes in the environment. Examining their patterns exposes past trends and climate cycles.

Short Courses

The primary goal of this activity is to personalize science and to encourage dialog and active thinking by helping students and teachers see the importance of looking to the past to see patterns and shed light on the current human condition. This is a global issue, and this activity encourages conversation in the classroom to generate discussions on how to find solutions to real-world issues. Participants will learn to use this exciting, multi-part activity to integrate current and authentic data into the classroom, and help their students understand how scientists study climate conditions that existed millions of years ago.

Picture-Perfect Science Lessons: Using Children's Books to Guide Inquiry, Grades K–4 (SC-6) (NSTA Press)

Emily Morgan (emily@pictureperfectscience.com), Picture-Perfect Science, West Chester, Ohio

Karen Ansberry (karen@pictureperfectscience.com), Picture-Perfect Science, Lebanon, Ohio

Level: Grades K–4

Date/time: Thursday, March 19, 2:00–5:00 PM

Location: River Room I/II, Westin

Limit: 40

Registration Fee: \$47

Authors and classroom veterans Karen Ansberry and Emily Morgan know you're short on time...so they've integrated science and reading in a natural way to help you teach both subjects at once. In this dynamic short course you will participate in several model lessons, learn the benefits and cautions of using children's picture books in science, become familiar with the essential features of inquiry and the BSCS 5E model, learn how to incorporate research-based reading comprehension strategies into science inquiry lessons, and receive an annotated bibliography of picture books correlated with the National Science Education Standards.

Third Rock from the Sun + Moon Rocks and Meteorites = Earth and Space Science in Your Classroom (SC-7)

Jaclyn Allen (jaclyn.allen-1@nasa.gov) and **Kay Tobola** (kay.tobola@nasa.gov), NASA Johnson Space Center, Houston, Tex.

Level: Upper Elementary–High School

Date/time: Thursday, March 19, 2:00–5:00 PM

Location: Terrace, Westin

Limit: 60

Registration Fee: \$16

Join NASA scientists as they share how to involve students in NASA's investigation of the solar system using rock and dust

samples of asteroids, comets, the Sun, Earth, and Moon. NASA rock samples provide hands-on classroom connections for earth science through data and analysis activities that compare and contrast the samples with Earth rocks and soils. Participants will be certified to receive lunar and meteorite samples in their classrooms.

This short course will connect the data from the Lunar Reconnaissance Orbiter mission, scheduled to launch April 2009, with real lunar rocks and Earth rocks. Updates will provide current events connections to three other spacecraft from around the world that are orbiting the Moon. The short course will provide science background and mission information interspersed with practical, inexpensive hands-on classroom activities where inquiry and critical thinking are emphasized. Many activities relate to interdisciplinary topics—math, literacy, history, and social perspectives. NASA educator guides, CDs, and posters will be distributed. (<http://ares.jsc.nasa.gov/education/astromaterials.cfm>; <http://lunar.gsfc.nasa.gov>)

Teaching About Climate Change (SC-8)

Lori Dunklin (ldunklin@houstonisd.org), Contemporary Learning Center, Houston, Tex.

Roderick Jones (rjones@houstonisd.org), Madison High School, Houston, Tex.

Carla Hoyer (choyer@houstonisd.org), Waltrip High School, Houston, Tex.

Level: Middle Level–High School

Strand: Energy and the Environment: The Natural and Human-designed World

Date/time: Friday, March 20, 8:00 AM–12 Noon

Location: Terrace, Westin

Limit: 35

Registration Fee: \$64

In this hands-on short course, participants will examine components of a 7E lesson plan that highlights the complex interrelationships between rising carbon dioxide concentration, oceanic pH, mean temperature, oceanic dissolved oxygen content, and poikiotherm metabolic rates. First, participants will generate and analyze graphical CO₂ and O₂ production/consumption data of plants. Second, participants will directly measure the effect of carbon dioxide concentration on aqueous pH. The temperature dependence of pH will be verified experimentally. Using probeware, the relationship between aquatic temperature and dissolved oxygen content will be confirmed to establish the effect of global warming on oceanic ecosystems. Participants will then measure the effect of temperature on the metabolic

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rate (via oxygen consumption and carbon dioxide production) of cold-blooded organisms. Finally, participants will explore an evaluation tool involving the construction of a Venn diagram illustrating the relationships among temperature, carbon dioxide, oxygen, dissolved oxygen, pH, photosynthesis, and cellular respiration. Each participant will receive a CD containing lesson plans, experiments, and student documents.

Our Solar System: An Inquiry Tour (SC-9)

Steve Culivan (stephen.p.culivan@nasa.gov), NASA Stennis Space Center, Stennis Space Center, Miss.

Lisa Brown (lisa.r.brown@nasa.gov) and **Mike McGlone** (michael.a.mcglone@nasa.gov), NASA Johnson Space Center, Houston, Tex.

Les Gold (leslie.j.gold@nasa.gov), NASA Kennedy Space Center, Kennedy Space Center, Fla.

Brian Hawkins (brian.j.hawkins@nasa.gov), NASA Ames Research Center, Moffett Field, Calif.

Level: Elementary–Middle Level

Date/time: Friday, March 20, 8:00 AM–2:30 PM

Location: Imperial, Westin

Limit: 30

Registration Fee: \$21

Our solar system (including the Earth system, the Moon, the Sun, and our place in the universe) is an integral component of the National Science Education Standards in all grade levels. It is also a universal strand included in every state science education standard, framework, and grade-level expectation. This short course begins with activities designed to engage participants as well as assess their preconceptions. Activities, such as a solar system quiz, simple linear distance model, and “drawing the solar system” may be included, and the lesson will continue with an exploration of current information available from NASA missions and scientists. Science and the human spirit of exploration will be used with recent and ongoing missions to present the latest information on the planets and other bodies in the solar system. Activities, such as the radial model of the solar system, Earth-Sun system, and Earth-Moon system will be included, and participants will be engaged in discussions of content standards alignment and pedagogy for the activities presented in the workshop. In addition, participants will be given the opportunity to participate in sustaining support for this topic from the Aerospace Education Services Project.

Turn Maniacs into Brainiacs: Using Brain-based Research to Create an Optimum Learning Environment (SC-10)

Kathy Brandon (kathy.brandon@barksdale.af.mil), STARBASE Louisiana, Barksdale Air Force Base

Level: General

Strand: Research to Practice in the Science Teacher Professional Continuum

Date/time: Friday, March 20, 8:15–11:15 AM

Location: Executive, Westin

Limit: 30

Registration Fee: \$55

Recent understanding of brain research has led to the development of classroom innovations and teaching techniques that are compatible with the brain’s natural learning processes, and has helped to reinforce the use of tried-and-true learning strategies. “Brain-friendly” awareness helps the teacher structure lessons, activities, and the peripheral surroundings to create an optimum learning environment. This paradigm shift, from a focus on the teacher to a focus on the learner, transforms the classroom into a combination of masterfully orchestrated details that enhance learning.

During this course you’ll learn how to enhance students’ attention and retention through dynamic yet simple brain-compatible strategies that work! We’ll focus on classroom structure, management, presentations, student self-awareness, and peripheral factors. Veteran and novice teachers will walk away with a new understanding of their students’ needs, and simple and practical classroom ideas that make a phenomenal difference every day in the learning process. (www.917wg.afrc.mil/units/starbaselouisiana)

Building Simple Animations and Simulations Using Freeware (SC-11)

Mike Wendling (mikebluw@yahoo.com), Holy Trinity Episcopal School, Houston, Tex.

Cheryl Wendling (cherylwendling@yahoo.com), Clear Brook High School, Friendswood, Tex.

Level: Middle Level–High School

Strand: ISTE: Meeting the Needs of the Digital Student

Date/time: Friday, March 20, 8:30–11:30 AM

Location: Salon, Westin

Limit: 20

Registration Fee: \$31

Award-winning teachers Mike and Cheryl Wendling will show how safe (virus-free), simple, free software can be downloaded off the internet and used in inquiry-based classroom activities.

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Some, such as the interactive program Darwin Pond and the interactive models available with Netlogo, are already created and easily accessible for student use in simulating a wide variety of science topics. Others, such as the Beneton GIF Movie Animator, StarLogo, NetLogo, Squeak, etc. (many of which were developed at MIT), can be used to teach easy animation techniques and very basic programming. Please bring your laptop in order to fully participate in this course.

Using Fossils to Address Evolution and the History of Life, Earth, Oceans, and Climate (SC-12)

Robert M. Ross (rmr16@cornell.edu) and **Richard Kissel** (rak256@cornell.edu), Paleontological Research Institution, Ithaca, N.Y.

Michael A. Gibson (mgibson@utm.edu), The University of Tennessee at Martin

Level: Middle Level

Date/time: Friday, March 20, 9:00 AM–12 Noon

Location: River Room I/II, Westin

Limit: 30

Registration Fee: \$40

Fossils, which hold tremendous intrinsic interest for students, can be used in a wide variety of hands-on activities for approaching important topics such as biological evolution, extinction, and environmental change in biology; and geologic time, plate tectonics, and ocean and climate change in earth science. Using activities with Paleozoic and Cenozoic invertebrate fossils, we will show how a variety of fossils from any region can be used to address key concepts in secondary school curricula regarding the history of Earth and life. We will also address how to collect or otherwise access fossil materials for your classroom, and how to use information resources such as www.paleoportal.org. This course will provide a brief teacher-friendly overview of major fossil groups, paleontological concepts, and Earth system events. This course is sponsored by the Paleontological Society and the Paleontological Research Institution, and is supported in part by grants NSF EAR 552201 and NSF DRL 733223.

COSEE: The Oceans, They Are A-Changin': How Might This Affect You? (SC-13)

Liesl Hotaling (lhotaling@thebeaconinstitute.org), The Beacon Institute for Rivers and Estuaries, Beacon, N.Y.

Annette deCharon, Darling Marine Center, University of Maine, Walpole

Janice McDonnell (mcdonnell@marine.rutgers.edu), Institute of Marine and Coastal Sciences, New Brunswick, N.J.

Level: Middle Level–High School

Date/time: Friday, March 20, 1:00–4:00 PM

Location: Ballroom I, Westin

Limit: 35

Registration Fee: \$32

Examining the role of ocean-observing technological advances as a means of understanding coastal change offers a unique and compelling approach to integrate marine science, technology, mathematics, and engineering with history and culture into classroom educational materials. During this course, participants will interact with experts from NASA, NOAA, and other top researchers to learn about research methods and cutting-edge technology employed to study changes in our oceans and coasts.

During the course participants will use materials designed for grades 6–12, developed by the Centers for Ocean Sciences Education Excellence (COSEE) Network. The classroom activities contain exciting applications of online data and use high-quality resources in the context of better understanding an authentic scientific and societal challenge.

In addition, classroom teachers adept with using the materials and information will participate in the course to share their experiences of implementing ocean resources in K–12 classrooms. Participants will leave with links to real-time data, relevant scientific resources, lesson plans, pre-packaged presentations designed for use with students in classrooms, and connections to a nationwide network of scientists and educators focused on improving ocean literacy.

Conference Program

Short Courses

Using Technology to Teach Science Concepts Through Outdoor Studies (SC-14)

Bill Klein (*wjmsklein@aol.com*), Western Iowa Tech Community College, Sioux City, Iowa

Level: Middle Level—College

Strand: ISTE: Meeting the Needs of the Digital Student

Date/time: Friday, March 20, 1:30–4:30 PM

Location: Terrace, Westin

Limit: 60

Registration Fee: \$71

The purpose of this course is to facilitate the learning of science concepts through inquiry and the use of technology. As students study common organisms such as bees, aphids, sunflowers, dandelions, and the agricultural products corn, wheat, peanuts, cotton, and rice, further questions are raised. Answers are pursued through guided inquiry using methods of observation and investigation to reach conclusions. Students can recognize that science is part of their everyday lives. The skills they gain in the process of learning science will benefit them the rest of their lives as they encounter organisms in the natural world as found in lawns, gardens, and waters. Digital microscopes, cameras, and computers are effectively incorporated as tools for recording information and to communicate information and investigations through PowerPoint presentations in classroom versions of science academies. Many handouts, including labs, teaching strategies, alternative methods of assessment, and a CD will be provided.



Attaining National Board Certification for Professional Teaching Standards in Science (SC-15)

Steve Tester, NBCT (*retsetevets@yahoo.com*), Tester Educational Services, Stone Mountain, Ga.

Shireen Samuel Robinson, NBCT (*onefortunate@msn.com*), Baltimore (Md.) City Public Schools

Level: Grades 7–12

Strand: Research to Practice: The Science Teacher Professional Continuum

Date/time: Friday, March 20, 1:30–5:30 PM

Location: River Room I/II, Westin

Limit: 30

Registration Fee: \$45

This short course prepares science teachers (grades 7–12) for the process of obtaining National Board Certification in science. It is an opportunity for science teachers to effectively analyze and improve their classroom practice. We will examine specific

skills and steps necessary for obtaining National Board certification, including how to write the portfolio (descriptive, analytical, and reflective); understanding inquiry; facilitating a whole-class discussion; effective videotaping; appropriate analysis of student work; documenting accomplishments; and preparing for the NBPTS assessment center.

Both presenters hold National Board Certification—Science/Adolescence & Young Adulthood (Steve Tester 2006) and Generalist/Middle Childhood (Shireen Samuel Robinson 2001). Each participant will leave with a notebook filled with information on obtaining National Board Certification in science assembled by the presenters as well as information from the National Board for Professional Teaching Standards.

Putting Science in Context? How Do We Do That (SC-16)

Travis Sandland (*tsandland@smm.org*), **Liesl Chatman, Erin Strauss** (*estrauss@smm.org*), **Sue Meyer** (*smeyer@smm.org*), **Molly Leifeld** (*mleifeld@smm.org*), and **Tony Skauge** (*tskauge@smm.org*), Science Museum of Minnesota, St. Paul

Level: Grades K–16

Strand: Science and the Human Spirit

Date/time: Friday, March 20, 2:00–6:00 PM

Location: Ballroom II, Westin

Limit: 75

Registration Fee: \$31

This session will use a dynamic context-specific hands-on example, modeling dam removal on the Elwha River, to explore the intense historical, social, political, and economic questions and tensions raised by dam removal and will provide an engaging case study of the intersection between science, culture, and society.

Participants will have a chance to experiment with classroom-scale dam-removal models developed by the Science Museum of Minnesota, try out some of the classroom and data collection activities developed to date, and explore the culturally embedded nature of science. This course can serve as an example for how to integrate science content and the nature of science. We will share strategies, challenges, and successes from our own work with teachers on this issue.

Short Courses

Convincing the Policy Makers: The Research Behind Effective Inquiry-based Science Learning in K–16 Classrooms (SC-17)

Pam Blanchard (*pamb@lsu.edu*), **Gayle Glusman** (*gayleglusman@bellsouth.net*), and **Brenda Nixon** (*bnixon@lsu.edu*), Louisiana State University, Baton Rouge

Michael Jabot, SUNY Fredonia, N.Y.

Jim McDonald (*mcdonlit@cmich.edu*), Central Michigan University, Mount Pleasant

Laura Tucker (*ltucker@berkeley.edu*), Lawrence Hall of Science, University of California, Berkeley

Level: General

Date/time: Saturday, March 21, 8:00–11:00 AM

Location: Ballroom I, Westin

Limit: 35

Registration Fee: \$25

How do we justify inquiry-based science teaching to those who question its effectiveness? What can be done to infuse inquiry in the classroom, and how can current research be leveraged to defend inquiry instruction? This short course will address these questions by actively engaging participants in exploring efficacy studies, evidence, and resources that support inquiry learning. Participants will experience various inquiry activities with an emphasis on developing a better understanding of inquiry and its value in the learning process. Short course activities and research studies will be included on a CD and participants will also select a \$20 resource.

The Young Scientist: Engaging Three- to Five-Year-Old Children in Science (SC-18)

Jeff Winokur (*jwinokur@edc.org*) and **Karen Worth** (*kworth@edc.org*), Education Development Center, Inc., Newton, Mass.

Level: PreK–Elementary

Strand: Research to Practice: The Science Teacher Professional Continuum

Date/time: Saturday, March 21, 8:00–11:00 AM

Location: Imperial, Westin

Limit: 25

Registration Fee: \$33

Taking Science to School K–8 includes a synthesis of research on children’s abilities by the time they enter kindergarten. The book makes a strong argument that young children’s capabilities are vastly underestimated. Yet little attention is paid to engaging this potential by providing rich preschool science experiences.

Three- to five-year-old children want to make sense of their environment. They ask questions, explore, and theorize. However, beyond engaging children in isolated hands-on activities, teachers rarely feel confident about their own abilities to help children inquire into these phenomena.

This short course, based on a four-year project funded by NSF, will address how to provide rich and challenging early childhood experiences that engage children in in-depth exploration of science concepts, which can lay a foundation for later science instruction.

Through a brief investigation, participants will be introduced to the nature of science inquiry and instructional strategies that support it. These strategies will be discussed within the context of a teaching framework that encourages children to extend their explorations and deepen their understanding. Participants will view classroom video vignettes and analyze student work samples and other classroom artifacts that emphasize the potential of science experiences to support children’s science learning.

Look What Technology Can Do for Your Classroom: Basics of Video Analysis (SC-19)

Karen Jo Matsler (*kjmatsler@gmail.com*), Dallas Baptist University, Dallas, Tex.

Janie Head (*mhead@lcisd.org*) and **Jill Lewis** (*jlewis@lcisd.org*), Foster High School, Richmond, Tex.

Level: General

Strand: ISTE: Meeting the Needs of the Digital Student

Date/time: Saturday, March 21, 8:30–11:30 AM

Location: River Room I/II, Westin

Limit: 50

Registration Fee: \$45

Technology is embraced by students, yet educators are sometimes hesitant to use it because they are not confident in the classroom. This short course will allow participants time to work with video capture and analysis in an environment that is supportive and nonthreatening. Guided steps and experienced instructors will show participants how to capture their own video and then import it to different kinds of software. Participants will also have time to analyze their data and see the correlations students can make between technology, science, and the classroom. Students love to take videos and they will be engaged when allowed to use the technology they embrace to enhance their learning. Learn how to connect digitally with your students by bringing the REAL world into the classroom with video capture and analysis.

SOLD OUT

Conference Program

Short Courses

DuPont Presents—Exploring the Science and Uses of Disposable Fabrics (SC-20)

Karl L. Johnson, DuPont, Old Hickory, Tenn.

Sue Gleason, Middletown High School, Middletown, Del.

Karen McDermott and **Peggy Vavalla**, DuPont, Wilmington, Del.

Gerber M. Porter, Peabody Magnet High School, Alexandria, La.

Level: Middle Level–High School

Date/time: Saturday, March 21, 9:00 AM–12 Noon

Location: Executive, Westin

Limit: 30

Registration Fee: \$20

Join us and actively investigate familiar nonwoven fabrics using techniques based on industrial standards. These technological methods have been carefully modified for safe investigations in the middle and high school classrooms. Use these classroom-ready activities to explore the macro- and microscopic properties of these useful generic products. Explore properties such as repellency, softness, linting, strength, wicking, and absorbency. Collect data in order to determine which samples are appropriate or not appropriate for a particular task.

In addition to participating in all the lab activities, each participant will receive sample products for future classroom use. Participants will also receive a CD that includes the classroom lesson plans as well as background information. Historical information will be provided to help bring this technology to life in the classroom. The CD will also include micrographs of various materials to help students understand the production and thus the function of a variety of fabrics. Dress comfortably for an active classroom lab experience. Safety gloves and goggles will be available, but feel free to bring your own if you wish.

Science Notebooks: Developing a Deeper Understanding (SC-21)

Trisha Herminghaus (herminghaus_trisha@asdk12.org); **Joanna Hubbard** (hubbard_joanna@asdk12.org), **Judith Onslow** (onslow_judy@asdk12.org), and **Texas Gail Raymond** (raymond_gail@asdk12.org), Anchorage (Alaska) School District

Level: Grades K–12

Date/time: Saturday, March 21, 9:00 AM–4:00 PM

Location: Terrace, Westin

Limit: 50

Registration Fee: \$25

This course for teachers, administrators, and professional developers is based on the work of El Centro School District in

California and the Anchorage School District over the last 10 years. This course blends inquiry and science notebooks while modeling formats for student investigations, recording observations, and inviting thinking and discourse around evidence. Participants will experience an in-depth investigation into science notebooks, as well as a variety of science notebook strategies. The strategies modeled here include self-assessment and ideas for getting started, structuring science lessons, encouraging scientific discourse, examining student work, and summarizing conceptual understanding.

The course provides opportunities to develop skills and apply strategies designed to create a strong understanding of using science notebooks in classroom inquiries. Participants will receive enough background to implement notebooks in their classrooms, or adapt this model for professional development around the use of science notebooks. The K–12 audience provides a basis for rich conversation as teachers look at the progression of skills necessary for students to create useful records of their scientific evidence and ideas.

International Year of Astronomy: Observe, Question, and Explore Our Solar System (SC-22)

Christine Shupla (shupla@lpi.usra.edu), Lunar and Planetary Institute, Houston, Tex.

Jaclyn Allen (jaclyn.allen-1@nasa.gov), NASA Johnson Space Center, Houston, Tex.

Level: Elementary–Middle Level

Strand: Science and the Human Spirit

Date/time: Saturday, March 21, 1:00–4:00 PM

Location: Imperial, Westin

Limit: 30

Registration Fee: \$20

Honoring Galileo's 500th birthday, the content will start with the wonder of observation and proceed to analyses of gathered data. This short course will equip participants with the content background and hands-on activities to carry out an International Year of Astronomy solar system exploration unit in their classrooms. Help your students observe, question, and explore our solar system using spectroscopic and imaging data focusing on the Sun and planets. This short course will share hands-on activities that bridge naked-eye observations to telescopic observations to planetary mission data—highlighting the use of the electromagnetic spectrum.

The activities will be presented through inquiry methodology using NASA mission observation and analysis techniques and data. One set of activities will use computer displays to guide partici-

Short Courses

pants to observe Venus, wonder about its appearance in the night and morning skies, question its phases, inquire, experiment, gather data, and discover more about its orbit. This sequence will bridge content from early observations, understanding, and modeling phases, to robotic missions and their discoveries. A partial activities list includes sky stories, Active Astronomy, current exploration information, Sun spot tracking and solar rotation, Jovian moon mass measurements, and radar mapping of Venus. Participants will receive lots of NASA curricular materials. (<http://solar-system.nasa.gov/educ>; www.astronomy2009.org)

NSELA: Shifting, Melting, Flowing...Investigating Glacier Dynamics Using Real Data in the Classroom (SC-23)

Shelley Olds (educationandoutreach@unavco.org), UNAVCO, Boulder, Colo.

Level: Middle Level–High School

Date/time: Saturday, March 21, 2:00–5:00 PM

Location: River Room I, Westin

Limit: 35

Registration Fee: \$19

Come explore modern technologies used to study glacier dynamics, the role of glaciers within the global climate system, and how glaciers are influenced by climate change. We'll discuss how scientists use high-precision measurement technologies such as the Global Positioning System (GPS) to integrate new discoveries related to glacier and ice sheet movement and other earth science phenomena. We'll engage in a series of activities that use data from GPS to examine how glaciers move and their potential impact on sea level. No previous knowledge about GPS is necessary. You'll leave this course with links to real-world data, relevant scientific resources, and prepackaged lesson plans and presentations designed for use with students in classrooms.

UNAVCO is a nonprofit consortium funded by the National Science Foundation and NASA. As a member of the EarthScope project, UNAVCO is developing free instructional materials to provide secondary-level educators with concrete, problem-based methods to teach their students how earth scientists measure glacier movement and crustal deformation using GPS and how these measurements are important to hazard prediction and infrastructure. (www.unavco.org/cw5/learn/glaciersmove)

Science of Energy (SC-24)

Keith Etheridge (ketheridge@need.org), The NEED Project, East Lansing, Mich.

Level: Elementary–High School

Strand: Energy and the Environment: The Natural and Human-designed World

Date/time: Saturday, March 21, 2:00–5:00 PM

Location: Ballroom II, Westin

Limit: 100

Registration Fee: \$12

This hands-on course provides innovative methods and ideas to make teaching about energy fun and learning about energy exciting. This session contains hands-on activities that meet National Science Education Standards and generate lots of energy in the classroom. Participants will explore forms of energy and energy transformations through center-based experiments on motion and thermal, radiant, and chemical energy. Hands-on activities include collisions with happy/sad balls; stored mechanical energy with a yo-yo; endothermic and exothermic reactions; transforming radiant energy into motion, heat, and electricity with a radiometer, solar panels, and thermometers; storing light with glow toys; thermal energy and motion transformations with rubber bands, live wires, and bi-metal bars; and transforming chemical energy into radiant and electrical energy with light sticks and apple batteries. Participants will leave with sample resources and assessment tools, and confidence to teach energy concepts in their classrooms. (www.need.org)

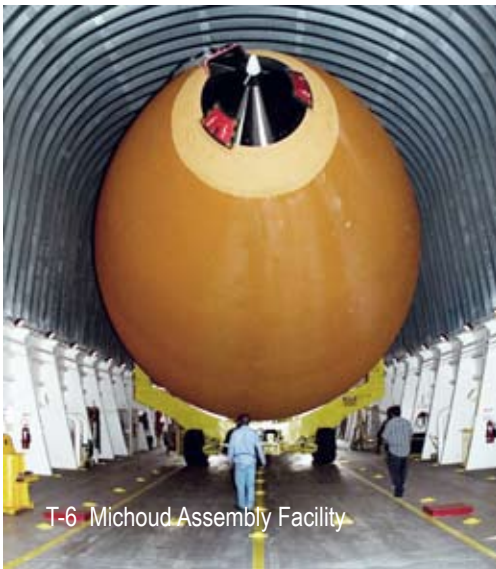
Conference Program

Field Trips



T-1 Audubon Zoo

—Photo courtesy of Audubon Zoo



T-6 Michoud Assembly Facility

—Photo courtesy of Lockheed Martin

Tickets for field trips may be purchased (space permitting) at the Ticket Sales Counter in the NSTA Registration Area. Meet your field trip leader 15 minutes prior to departure time in the lobby outside Exhibit Hall A at the Convention Center (at the beginning of the loop closest to the Hilton).

Behind the Scenes at Audubon Zoo

\$53

T-1 Thursday, March 19 8:00 AM–12:30 PM

One of the country's top-ranked zoos, Audubon Zoo offers an exotic mix of animals from around the globe, engaging natural habitats, lush gardens and resting spots, the mystical Louisiana swamp, and "hands-on" animal encounters. With innovative natural habitat exhibits and an animal collection ranging from the unique white alligators to the highly endangered Amur leopard, Audubon Zoo has become one of the Gulf South's favorite family gathering spots.

Come get a behind-the-scenes look at the inner workings of Audubon Zoo. Take a guided tour and get a sneak peek at the staff areas behind some of our most popular exhibits. We'll also get a look at what it takes to care for all of the animals and meet some special zoo residents. Bring your camera and comfortable walking shoes for this rare opportunity. Some behind-the-scenes areas are not handicapped accessible, but participants with limited mobility should be able to enjoy most of the tour. (www.auduboninstitute.org) (Limit: 53)

Reintroducing Nourishment to Coastal Louisiana: The Davis Pond Freshwater Diversion Structure

\$63

T-2 Thursday, March 19 8:00 AM–12:30 PM

The state of Louisiana is losing 10 square miles of coastal wetlands each year due to natural (sea level rise, subsidence) and man-made (levees, oil, and gas canals) causes. Diverting fresh water into eroded coastal wetlands is one method being used to halt the erosion. Fresh water establishes favorable salinity conditions, improves fish and wildlife production, enhances wetland vegetative growth, and reduces coastal wetland loss.

On this tour of the Davis Pond Freshwater Diversion Project, we'll walk over large culverts that divert the mighty Mississippi's fresh water into the Barataria Basin. Airboats wait at the Highway 90 boat launch to quickly take us to the diversion's ponding area and into Lake Cataouatche. There our guide will discuss ecosystem issues and the benefits of freshwater diversions. Before returning to the boat launch, we'll travel down scenic Cypress Lumber Canal, where old-growth oaks and a cypress swamp have existed for centuries.

Be sure to wear your walking shoes. Sunglasses, sunscreen, and binoculars are also recommended. The trip will be canceled if it rains.

(Limit: 30)

Field Trips

LIGO SEC: Opening New “Eyes” on the Universe \$48

T-3 Thursday, March 18 8:00 AM–1:00 PM
 T-5 Thursday, March 19 11:30 AM–4:30 PM

LIGO Science Education Center (LIGO SEC) is a fun and educational experience for kids of all ages. Located on the site of the Laser Interferometer Gravitational Wave Observatory (LIGO) in Livingston, the center provides an opportunity for visitors to personally explore science concepts such as light, gravity, waves, and interference through professionally designed interactive exhibits that directly relate to the science of the LIGO facility across the street. Thanks to support from the National Science Foundation, the LIGO Science Education Center is quickly becoming a hot spot in Louisiana for educational field trips that support the Louisiana Comprehensive Curriculum and Grade Level Expectations.

Our field trip to the center will include a question and answer session with one of the staff scientists and a tour of the control room. A box lunch is included in the ticket price. (Limit: 50)

Hermann-Grima/Gallier Historic Houses: Adventures in Archaeology \$15

T-4 Thursday, March 18 8:45–10:30 AM

Join us for a special tour of the Hermann-Grimma/Gallier Historic Houses in the French Quarter. Explore the scientific architectural innovation of James Gallier, Jr., at Gallier House and enjoy a stroll through this elegant Victorian home, authentically restored to reflect the taste and lifestyle of a successful urban designer in mid-19th-century New Orleans. Built in 1860, Gallier House is an outstanding example of the accurate and comprehensive historic restoration of one of the loveliest and time-honored landmarks in New Orleans. Experience this wonderfully furnished home with its courtyard garden, elegant carriageway, and slave quarters.

Prior to the Civil War, prosperous Creole families enjoyed an elegant lifestyle in the Vieux Carre. Experience the Golden Age of New Orleans at the meticulously restored Hermann-Grimma House. This handsome 1831 Federal-style mansion with courtyard garden boasts the only horse stable and functional outdoor kitchen in the Quarter. We’ll be guided through each of the rooms to absorb the lifestyle of these wealthy and prominent New Orleans families. (Limit: 43)

How the Space Shuttle External Tank Is Built: A Visit to NASA’s Michoud Assembly Facility \$20

T-6 Thursday, March 19 12 Noon–3:30 PM

Come see how the Space Shuttle’s external fuel tanks are built at the Michoud Assembly Facility (MAF) in eastern New Orleans. Built by Lockheed Martin, these massive tanks take two years to complete. Each colossal orange tank is 15 stories high and 28 feet in diameter, and weighs an incredible 1.7 million pounds when filled with propellants. These propellants ignite the engines that power the shuttle into orbit. About 8 1/2 minutes into ascent, the tank separates from the shuttle, continues halfway around the world (since it is traveling at 17,500 mph), and subsequently breaks apart over the Pacific Ocean.

Owned by NASA, MAF is one of the largest manufacturing plants in the world, with 43 acres under one roof and about 2,400 employees. This is a walking tour, and appropriate footwear is required—no open-toed shoes or sandals. No cameras (including cell-phone cameras), recording devices, firearms, alcohol, or smoking are allowed in the facility. You must be a U.S. citizen to participate; a photo ID is required. Tours will be canceled if the Homeland Security threat advisory is raised to high. (www.lockheedmartin.com/ssc/michoud) (Limit: 33)

New Orleans Glassworks and Printmaking Studio \$25

T-7 Thursday, March 19 12:30–3:30 PM

Experience the origins and historical background of glassblowing, glass casting, glass torch working, and printmaking on this narrated tour of the New Orleans Glassworks and Printmaking Studio. During glassblowing, the properties and the chemistry of the glass will be illustrated through a series of experiments. The awe-inspiring “Prince Rupert’s Drop” turns glass back into its original form of sand, while entertainment is provided by the “Jazzman”—hot molten glass provides the electrical connectivity required to complete the circuit. The uses of glass will be brought up to the modern age of fiber optics via a “fiber optic pull” involving all members of the group.

Next to the glass arena, the scientific glass flame working studio is complemented by the printmaking and book arts studio. We’ll discover the secrets of glass torch working, also known as lampworking, and you can participate in a hands-on experience in glass torch working and create your own colorful design.

In the printmaking studio, we’ll learn about the myriad of hand printmaking processes and the magic of marbled paper. We’ll engage in hands-on activities, and you can make your own unique print to take home as a memento of your visit. (Limit: 50)

Conference Program

Field Trips

Hurricane Katrina: A Private Tour \$40

T-8 Thursday, March 19 1:00–4:00 PM

Learn the history of the original city, the French Quarter, and why it was built at this particular location along the Mississippi River. Our bus will travel through neighborhoods such as Lakeview, Gentilly, New Orleans East, St. Bernard, and the Ninth Ward, and we'll drive past an actual levee that "breached" to see the resulting devastation that displaced hundreds of thousands of U.S. residents.

Our tour guide will share a "local's" chronology of events leading up to Hurricane Katrina and the days immediately following the disaster. We'll also explore the direct connection between America's disappearing coastal wetlands, oil and gas pipelines, levee protection, and hurricane destruction. (www.graylineneworleans.com) (Limit: 100)

Twilight Canoe Trip to Cane Bayou and Lake Pontchartrain \$65

T-9 Thursday, March 19 3:00–9:30 PM

Experience the beauty and abundance of springtime in the Louisiana wetlands as we paddle to the north shore of Lake Pontchartrain along one of the most scenic and unspoiled waterways in the area, which passes through a state park and a national wildlife refuge. We will view upland pine/hardwood forest, cypress swamp remnants, brackish marshes, and beds of submerged aquatic vegetation. At the lake shoreline we'll enjoy a meal of delicious jambalaya and the company of fellow educators and nature lovers. Be sure to bring your binoculars—we're likely to see abundant bird life. Dress comfortably and wear shoes that can get wet. Bring your hat and sunglasses for pre-sunset conditions. Participants should be physically able. (www.pies.uno.edu/education; www.canoeandtrail.com) (Limit: 43)

Bug Hunt at Audubon's Research Center \$35

T-10 Thursday, March 19 6:30–9:30 PM

Join Audubon Insectarium staff entomologists on a fun and fascinating nighttime bug hunt. Find out how Audubon's entomologists collect native Louisiana species for display at the insectarium. We'll take a night hike through the grounds of the Audubon Center for the Research of Endangered Species and assist Audubon entomologists with the capture and identification of various insects and other arthropod species. Bring comfortable shoes and clothing for this excursion and don't forget your camera! This is a night hike over various terrains and is not handicapped accessible. (Limit: 30)

Tulane National Primate Research Center \$28

F-1 Friday, March 20 7:45 AM–12:30 PM

On this visit to one of the country's top nonhuman primate research centers, participants will hear from center scientists and enjoy a walking tour of the grounds. We will first hear a general presentation from the center's director on infectious disease research. Staff from the center's Environmental Enrichment Unit will then speak on the general care and well-being of the nonhuman primate population.

After these presentations, the tour group will be split into two—one group will take a 30-minute walking tour of the center's grounds while the other group will take a van tour of the center's breeding colony, one of the largest in the world. The groups will then switch. All participants will receive several informational brochures and a bag of gift items.

Participants must be 18 years old or older. No photography is allowed. Individuals who use a wheelchair will not be able to participate in the van tour of the breeding colony. (www.tnprc.tulane.edu) (Limit: 30)

Wetlands Watchers Park \$26

F-2 Friday, March 20 8:00 AM–12:30 PM

F-7 Friday, March 20 11:45 AM–4:15 PM

You don't need a boat to explore historic LaBranche Wetlands. Experience Louisiana fauna and flora like nowhere else at St. Charles Parish's Wetland Watchers Park. Expert middle school students will be our guides as we explore the extensive nature trails and have hands-on opportunities with baby alligators and other wetland critters.

Wetland Watchers Park is the result of Hurst Middle School's nationally recognized service-learning project, the LaBranche Wetland Watchers. Working with experts from many agencies, including the University of New Orleans, Louisiana State University, and the Lake Pontchartrain Basin Foundation, students cleaned up trash, planted trees, and became wetland experts so that they could lead other students on their own wetland experiences. In 2004, 28 acres of land were donated to St. Charles Parish in the name of the Wetland Watchers service-learning project for the land to be used for restoration, education, and recreation. LaBranche Wetland Watchers has been featured in documentaries on ABC, CNN, and TBS, as well as in documentaries produced by the George Lucas Education Foundation.

Field Trips

Participants should bring hats and wear comfortable shoes and weather-appropriate clothing. Don't forget your camera! Each visitor will receive an official Wetland Watchers T-shirt and have a chance to sample some genuine Louisiana cuisine! (Limit: 43)

**Bayou Sauvage National Wildlife Refuge Canoe Trip/
UNO's Coastal Education and Research Facility \$44**

F-3 Friday, March 20 8:00 AM–3:00 PM

Located in the New Orleans city limits, Bayou Sauvage National Urban Wildlife Refuge lies on a relict delta lobe of the Mississippi River. The refuge tells a story of geologic change, rapid changes due to human development, and attempts to restore the wetland habitats. These mostly freshwater marshes provide habitat for abundant wildlife and waterfowl as well as help to protect the city of New Orleans from hurricanes. They were ravaged by Hurricane Katrina but are showing signs of recovery. Come see for yourself while canoeing with staff from the University of New Orleans Pontchartrain Institute for Environmental Sciences and the U.S. Fish and Wildlife Service, who will interpret the ecology of the refuge. After our canoe trip, we will enjoy lunch at UNO's nearby new Coastal Wetlands Education and Research Facility, which is located on Chef Menteur Pass. Participants should be physically able. (www.fws.gov/southeastlouisiana; www.pies.uno.edu/education) (Limit: 30)

**Environmental Architecture and Geologic Walking
Tour \$12**

F-4 Friday, March 20 8:15–11:40 AM

Join us for a walk through the historic Vieux Carre (French Quarter) and learn how the founders and their followers adapted their architecture and lifestyle to the heat and humidity (as well as the raucous behavior!) of this great port city, one of the world's most important economic centers. We'll also explore the environmental geological history of the New Orleans region and take a peek at the fossils in marble. Wear comfortable clothes and walking shoes, and bring your umbrella. (Limit: 30)

Audubon Center for the Research of Endangered Species \$35

F-5 Friday, March 20 8:15 AM–12:45 PM

The Audubon Center for the Research of Endangered Species (ACRES), a state-of-the-art laboratory and exotic animal veterinary complex, uses cutting-edge science to help save rare species throughout the world. Located on the grounds of the Freeport-McMoRan Audubon Species Survival Center, ACRES is a 36,000 square-foot facility designed to house scientists whose research programs include studies in reproductive physiology, endocrinology, genetics, embryo transfer, and the expansion of a "frozen zoo" to ensure the future of endangered species through the banking of genetic materials.

The Audubon Nature Institute's only nonpublic research facility, ACRES will open its doors to NSTA members for a behind-the-scenes look at its innovative scientific programs. Participants will get a walking tour of the laboratory facilities, a bus tour of the adjacent Species Survival Center, and a visit from a special ACRES "ambassador." Bring comfortable walking shoes for this rare glimpse of a special facility. (Limit: 80)

Global Green USA: A Visit to the Holy Cross Project Visitor Center \$35

F-6 Friday, March 20 10:15 AM–1:10 PM

Global Green has assembled a highly skilled and dedicated project team of national experts and local professionals with the goal of making green expertise indigenous to New Orleans. Through the Holy Cross Project, Global Green is committed to creating a green model for the development and rebuilding of New Orleans, ensuring the sustainability and long-term affordability of the Holy Cross Project's housing units for residents, and advancing smart solutions to global warming across the country. The project chose to build its green affordable housing development on a site that is immediately adjacent to the Mississippi River in the Lower Ninth Ward. At approximately seven feet above sea level, this half city block is on the highest ground in New Orleans and should, therefore, be safe from future hurricane storm surges.

Take a guided tour of the Holy Cross Project Visitors Center, a LEED-certified, sustainable, net zero electric, energy-efficient home. Various printed materials will be available about this building and all Global Green USA projects here in New Orleans. Enroute to the Visitors Center, our bus will travel through the Lower Ninth Ward, where we will see Make It Right Foundation houses, Preservation Resource Center rebuilds, Habitat for

Conference Program

Field Trips

Humanity homes, and Harry Connick's Musician's Village. Our second stop is the Green Building Resource Center, where you can pick up more information on sustainable architecture. (www.globalgreen.org) (Limit: 30)

Behind the Scenes at Audubon Aquarium of the Americas \$35

F-8 Friday, March 20 12:45–4:15 PM

Looming large against the Mississippi River is the extraordinary Audubon Aquarium of the Americas, one of the top museums of its kind in the U.S. Nearly 600 species—5,000 sea life creatures—live happily in this state-of-the-art facility where visitors can get an upclose look at these fascinating creatures of the ocean. The Caribbean Reef Tunnel, for example, is 30 feet long and allows the visitor a view of Caribbean sea life viewed only by divers. The half-million-gallon Gulf of Mexico exhibit teems with fully grown sharks and undersea life that thrive around the barnacled pilings of a simulated oil rig.

Come get a behind-the-scenes look at the inner workings of Audubon Aquarium of the Americas. Take a guided tour and get a sneak peek at the staff areas behind the Caribbean Tunnel and the Gulf of Mexico shark tank. We'll also get a look at what it takes to feed all of the animals and meet a special aquarium resident! Bring your cameras and comfortable walking shoes for this rare opportunity. Some behind-the-scenes areas are not handicapped accessible, but participants with limited mobility should be able to enjoy most of the tour. (Limit: 40)

Martello Castle and the MRGO with WETMAAP \$33

F-9 Friday, March 20 1:00–5:00 PM

WETMAAP project directors Larry Handley and Catherine Lockwood will be our instructors for this field trip to Martello Castle and other wetland sites. Our trip begins with activities using maps, aerial photography, and satellite imagery. We will then travel by bus to areas east of New Orleans that were impacted by Hurricane Katrina. We will explore the effects of the Mississippi River Gulf Outlet (MRGO) on the eastern coastal marshes in the vicinity of Shell Beach, Delacroix, Lake Borgne, and Martello Castle, and using the existing procedures and techniques of the WETMAAP project (Wetland Education Through Maps and Aerial Photography), we will interpret and assess wetland change.

All participants will receive the materials for WETMAAP's Martello Castle site, including aerial photography, topographic maps, satellite images, exercises, and geographic content information. Visit the WETMAAP website (www.wetmaap.org) for more information on project activities. (Limit: 20)

Bayou Regional FIRST Robotics Competition \$20

F-10 Friday, March 20 1:00–5:15 PM
S-3 Saturday, March 21 8:30 AM–12:45 PM

You are invited to attend the Bayou Regional FIRST Robotics Competition. FIRST (For Inspiration and Recognition of Science and Technology) is a not-for-profit charity with a mission to motivate young people to pursue careers in STEM through a series of robotic competitions for grades K–12 students. The FIRST Robotics Competition is for high school students, and it is anticipated that 55 teams from throughout the country will participate. We will also see demonstrations of the FIRST Lego League program, which is for middle school students, and get a short introduction to all of FIRST's programs.

The rest of the afternoon will be spent meeting the competing students and their mentors, walking through the pits where they are working on their robots, and watching the competition. This is a high-spirited competition that is guaranteed to amaze you—President George H.W. Bush described it as the World Wrestling Federation for kids with brains. Since you will be around students who are working on 120-pound robots, please do not wear sandals or open-toed shoes. Snack bars are available. (www.bayouregional.org; www.usfirst.org) (Limit: 54)

Bringing Nature, Technology, and Students Together at Mandeville's Constructed Wetlands \$34

S-1 Saturday, March 21 8:00 AM–12:30 PM

Joining technology with natural processes, the City of Mandeville's constructed wetlands perform the dual function of cleaning the city's wastewater and providing an attractive habitat for the many birds, reptiles, and mammals that visit it. Come learn how man's ingenuity, nature's resources, and students' curiosity come together to create exciting learning opportunities.

Sample some of the environmental science field trip offerings, conduct water quality tests in a cypress/tupelo swamp, and observe animals that call Mandeville's constructed wetland "home" as you learn how technology joins hands with nature to make a difference in Mandeville. Bring your binoculars! (Limit: 40)

Field Trips

Alligators: Protect, Sustain, and Utilize

\$36

S-2 Saturday, March 21 8:00 AM–1:15 PM

Just about an hour outside of New Orleans, things are even wilder than on Bourbon Street! Experience the life of Louisiana’s most ancient residents—alligators!—at Insta-Gator Ranch & Hatchery. See them in crystal-clear water in the climate-controlled environment of a working alligator farm, home to more than 2,000 gators. Alligator lovers—now you can hold ‘em, feed ‘em and even hatch ‘em. Learn from the experts.

Louisiana farmers have hatched and released into the wilds of Louisiana more alligators than have been handled in all of the rest of the world combined, and Louisiana’s wild alligator population is increasing at a faster rate than anywhere else in the world. This is a direct result of the alligator farmer, whose expertise is world renowned. Learn how Louisianans coexist with alligators better than anyone else on Earth. Our guided tour includes a firsthand account of the Louisiana alligator industry, from hatching to handbag. (Limit: 54)

SOLD OUT

Cajun/Creole Demonstration Cooking Class and Lunch

By Advance Registration Only

S-4 Saturday, March 21 9:30 AM–1:00 PM

“Make your mouth happy!” Welcome to the fun, food, and folklore of the New Orleans School of Cooking. We are located in the heart of the French Quarter, between Decatur and Chartres streets, just three blocks from Jackson Square. Our entertaining class and the Louisiana General Store are located in a renovated molasses warehouse built in the early 1800s.

We will teach you the basics of Louisiana cooking in a way you’ll never forget, with fun as the primary ingredient. Our Creole/Cajun experts will teach you New Orleans specialties such as gumbo, jambalaya, shrimp creole, and pralines, all seasoned with history, tall tales, and trivia. A special meal will be provided for those with allergies. (Limit: 50)

SOLD OUT



Unique opportunity with the San Diego Zoo!

San Diego Zoo Conservation Research is offering high school and middle school life science teachers from around the nation a unique experience in conservation research during the summer of 2009. Spend three days and two nights at our research facility and the San Diego Zoo’s Wild Animal Park, working alongside scientists charged with saving endangered species! The Conservation Research summer institute includes a \$500 stipend. To learn more and to download an application, visit our website: www.zooconservation.org



Conference Program

Meetings and Social Functions

Sunday, March 15

CSSS Meeting
(By Invitation Only)
Balcony L, New Orleans Marriott 2:00–5:00 PM

CSSS Reception
(By Invitation Only)
Balcony M, New Orleans Marriott..... 6:00–8:00 PM

Monday, March 16

CSSS Annual Meeting
(By Invitation Only)
Studio 9/10, Preservation Hall,
New Orleans Marriott..... 7:00 AM–4:30 PM

Tuesday, March 17

CSSS Annual Meeting
(By Invitation Only)
Studio 9/10, Preservation Hall,
New Orleans Marriott..... 7:00 AM–4:30 PM

Wednesday, March 18

CSSS Annual Meeting
(By Invitation Only)
Studio 7/8, Preservation Hall,
New Orleans Marriott..... 7:00 AM–4:30 PM

NSELA Professional Development Institute
(By Registration Through NSELA)
La Galerie 4, New Orleans Marriott 7:30 AM–4:45 PM

National Marine Educators Association Annual Board Meeting
(By Invitation Only)
La Galerie 1, New Orleans Marriott 7:30 AM–5:30 PM

Science Education for Students with Disabilities Pre-conference Meeting
(By Registration Through SEDS)
Windsor, Hilton 8:00 AM–5:00 PM

GEMS Curriculum Overview Seminar
Maurepas, JW Marriott 9:00 AM–12:30 PM

AMSE Board of Directors Meeting, Part 1
(By Invitation Only)
Ascot, Hilton..... 1:00–4:00 PM

NEO-Sphere.org Hands-On Training Workshop for E&O Professionals
Bayside B, Sheraton 1:00–5:00 PM

GEMS Space Science Sequence Seminar
Maurepas, JW Marriott 1:30–5:00 PM

NSELA Committee Meetings
La Galerie 2/3, New Orleans Marriott 5:00–6:00 PM

New Science Teacher Academy Reception and First-Timers Meeting
(By Invitation Only)
Rhythms, Sheraton 5:00–7:00 PM

Alliance of Affiliates Leadership Reception
Sponsored by NSTA
(For CSSS, NSELA, and all NSTA Affiliate Members)
La Galerie 6, New Orleans Marriott 5:30–6:30 PM

President's International Reception
Sponsored by Pearson
(Open to International Visitors and Invited Guests)
La Galerie 5, New Orleans Marriott 6:30–7:30 PM

NSELA/Pearson Reception for the Outstanding Leadership in Science Education Award
(By Invitation Only)
Studios 1–3, Preservation Hall,
New Orleans Marriott..... 6:30–8:30 PM

NMLSTA Board Meeting
Durham, Hilton 7:00–10:00 PM

Thursday, March 19

NSTA Board/Council Kickoff Orientation
(By Invitation Only)
La Galerie 3, New Orleans Marriott 6:45–8:00 AM

New Science Teacher Academy Breakfast
(By Invitation Only)
Waterbury Ballroom, Sheraton 7:30–9:30 AM

NSELA/Pearson Annual Breakfast and Membership Meeting
(By Invitation Only)
La Galerie 2, New Orleans Marriott 7:30–10:00 AM

Meetings and Social Functions

Special Education Advisory Board Meeting Mardi Gras C, New Orleans Marriott..... 8:30–10:30 AM	Professional Development in Science Education Committee Meeting Salon 824, Sheraton 11:00 AM–1:30 PM
Science Safety Advisory Board Meeting Oakley, Sheraton 8:30–10:30 AM	Research in Science Teaching Committee Meeting Ellendale Boardroom, Sheraton..... 11:00 AM–1:30 PM
<i>Science and Children</i> Advisory Board Meeting Bayside B, Sheraton 8:30–10:30 AM	Preschool–Elementary Science Teaching Committee Meeting Bayside B, Sheraton 11:00 AM–1:30 PM
<i>Science Scope</i> Advisory Board Meeting Evergreen, Sheraton 8:30–10:30 AM	Middle Level Science Teaching Committee Meeting Estherwood, Sheraton 11:00 AM–1:30 PM
<i>The Science Teacher</i> Advisory Board Meeting Estherwood, Sheraton 8:30–10:30 AM	NESTA Board of Directors Meeting Napoleon, New Orleans Marriott..... 1:00–5:00 PM
Awards and Recognitions Committee Meeting Lafayette, New Orleans Marriott 8:30–10:30 AM	High School Science Teaching Committee Meeting La Galerie 4, New Orleans Marriott 1:30–4:00 PM
Urban Science Education Advisory Board Meeting Jackson, New Orleans Marriott 8:30–10:30 AM	Retired Members Advisory Board Meeting Jackson, New Orleans Marriott 1:30–4:00 PM
Informal Science Committee Meeting Bacchus, New Orleans Marriott..... 8:30–11:30 AM	Multicultural/Equity in Science Education Meeting Mardi Gras C, New Orleans Marriott..... 1:30–4:00 PM
NSTA International Science Education Day Conference Napoleon Ballroom, Hilton 8:30 AM–2:00 PM	Coordination and Supervision of Science Teaching Committee Meeting Bonaparte, New Orleans Marriott 1:30–4:00 PM
Preservice/New Teachers Breakfast (M-1) <i>Sponsored by Kendall/Hunt Publishing Company</i> (Tickets required; \$12) La Galerie 3, New Orleans Marriott 9:00–10:30 AM	Preservice Teacher Preparation Committee Meeting Bacchus, New Orleans Marriott 1:30–4:00 PM
NSTA International Lounge Trafalgar, Hilton 10:00 AM–6:00 PM	Nominations Committee Meeting Lafayette, New Orleans Marriott 1:30–4:00 PM
AMSE Board of Directors Meeting, Part 2 (By Invitation Only) Ascot, Hilton..... 11:00 AM–1:00 PM	<i>NSTA Reports</i> Advisory Board Meeting Salon 824, Sheraton 1:30–4:00 PM
NSF Research Experiences for Teachers (RET) Network Meeting Ile de France II, JW Marriott 11:00 AM–1:30 PM	Investment Advisory Board Meeting Estherwood, Sheraton 3:00–4:00 PM
College Science Teaching Committee Meeting Jackson, New Orleans Marriott 11:00 AM–1:30 PM	GLBT Focus Group Meeting Oakley, Sheraton 4:00–5:00 PM
	APAST Board Meeting Ascot, Hilton..... 4:00–6:00 PM

Conference Program

Meetings and Social Functions

NSTA/CBC Outstanding Science Trade Books Committee Meeting
Evergreen, Sheraton 4:30–6:00 PM

Research Experience for Teachers (RET) Poster Session/Reception
Ile de France III, JW Marriott 5:00–7:00 PM

CESI Board of Directors Meeting
(By Invitation Only)
Newberry, Hilton 6:00–8:00 PM

Informal Science Reception
Sponsored by SciGirls, DragonflyTV, and Make: (Twin Cities Public Television National Productions)
(By Invitation Only)
St. Charles, New Orleans Marriott 6:00–8:00 PM

Friday, March 20

NSTA Dorothy K. Culbert CAG Breakfast (M-2)
(Tickets required; \$40)
St. Charles, New Orleans Marriott 7:00–8:30 AM

High School Breakfast (M-3)
(Tickets required; \$40)
Maurepas, Sheraton 7:00–8:30 AM

APAST Breakfast
(By Invitation Only)
Belle Chasse, Hilton 7:00–8:30 AM

SEPA Meeting
(By Invitation Only)
Durham, Hilton 7:00–9:00 AM

AMSE Alice Moses Breakfast
(By Invitation Only)
Rosedown, Hilton 7:00–9:00 AM

ASMC Networking Forum
(By Invitation Only)
Ile de France I, JW Marriott 7:00–10:00 AM

Breakfast with Tim Samaras
Sponsored by National Geographic, The JASON Project
(By Invitation Only)
Compass, Hilton 7:30–9:00 AM

Aerospace Programs Advisory Board Meeting
Estherwood, Sheraton 8:30–10:30 AM

NSTA International Lounge
Trafalgar, Hilton 9:00 AM–5:00 PM

ASMC Advisory Board Meeting
(By Invitation Only)
St. Claude, JW Marriott 10:00 AM–3:00 PM

Journal of College Science Teaching Advisory Board Meeting
Estherwood, Sheraton 11:00 AM–1:00 PM

NSELA/ASTE Luncheon (M-4)
(Tickets required; \$55)
St. Charles, New Orleans Marriott 12 Noon–2:00 PM

NSTA/NMLSTA Middle Level Luncheon (M-5)
(Tickets required; \$55)
Rosedown, Hilton 12 Noon–2:00 PM

I Teach Inquiry Network Forum and Reception
(By Invitation Only)
Ile de France I, JW Marriott 12 Noon–5:00 PM

AMSE General Membership Meeting
Room 253, Convention Center 12:15–1:30 PM

Write from the Start Meeting
Evergreen, Sheraton 1:00–2:00 PM

New Science Teacher Academy Conference Discussion Session
(By Invitation Only)
Bayside B, Sheraton 1:00–3:00 PM

NSTA New Member Social
Sponsored by GEICO
(By Invitation Only)
La Galerie 6, New Orleans Marriott 2:00–3:00 PM

Reviewing for NSTA Journals Meeting
Evergreen, Sheraton 2:00–3:00 PM

Science Matters – Building a Presence State Coordinators Annual Meeting
(By Invitation Only)
Bacchus, New Orleans Marriott 2:00–4:00 PM

Meetings and Social Functions

GEMS Network Reception Ile de France II, JW Marriott 2:30–4:30 PM	NESTA Friends of Earth Science Reception La Galerie 6, New Orleans Marriott 6:30–8:00 PM
NMLSTA Ice Cream Social Rosedown, Hilton 3:00–4:30 PM	SCST Social and Poster Session Ile de France I, JW Marriott 7:00–9:30 PM
International Advisory Board Meeting Estherwood, Sheraton 3:00–5:00 PM	Saturday, March 21
SESD Business Meeting Newberry, Hilton 3:00–5:00 PM	NESTA Earth and Space Science Resource Day Breakfast (By ticket through NESTA) Bacchus, New Orleans Marriott 7:00–8:30 AM
SCST Annual Business Meeting Frontenac, JW Marriott 3:30–5:00 PM	NSTA Past Presidents Breakfast (For NSTA Past Presidents Only) Riverview, New Orleans Marriott 7:30–9:00 AM
The Dr. Wendell G. Mohling Chapters and Associated Groups Reception <i>Sponsored by ETA/Cuisenaire</i> (By Invitation Only) La Galerie 6, New Orleans Marriott 3:30–5:00 PM	George Washington Carver Breakfast (By Invitation Only) Rosedown, Hilton 7:30–9:15 AM
ExploraVision Ice Cream Social and Information Session Room 352, Convention Center 4:00–5:00 PM	TAC Members/Associates Meeting (By Invitation Only) Estherwood, Sheraton 8:00–9:00 AM
Retired Members Reception St. Charles, New Orleans Marriott 5:00–6:00 PM	NSTA Recommends Reviewer Coffee/Publisher Meeting (By Invitation Only) Evergreen, Sheraton 8:00–9:00 AM
APAST Social (By Invitation Only) Windsor, Hilton 5:00–7:00 PM	SESD “Science Abled” Breakfast (M-6) (Tickets required; \$40) Newberry, Hilton 8:00–10:00 AM
MSU Teachers in Geosciences Reunion (By Invitation Only) Bayside B, Sheraton 5:00–7:00 PM	Past Presidents Advisory Board Meeting Riverview, New Orleans Marriott 9:00–10:00 AM
NMLSTA Board Meeting (By Invitation Only) Durham, Hilton 5:00–7:00 PM	Research for Classroom Teachers (RAISE) Meeting Windsor, Hilton 9:00 AM–12 Noon
NSTA Student Member and Student Chapter Reception Ile de France II, JW Marriott 6:00–7:00 PM	NSTA International Lounge Trafalgar, Hilton 9:00 AM–5:00 PM
Science Matters – Building a Presence Reception <i>Sponsored by AquaPhoenix Scientific</i> Versailles Ballroom, Hilton 6:00–8:00 PM	NSTA Districts Meet and Greet Acadia, New Orleans Marriott 9:30–10:30 AM
	Climate Literacy Planning Group Meeting Salon 828, Sheraton 10:00 AM–12 Noon

Conference Program

Meetings and Social Functions

Natural Coastal Hazards and Their Impacts on the Human Condition Luncheon

(Available First Come/First Served)

St. Charles, New Orleans Marriott 12 Noon–1:30 PM

NSTA/SCST College Luncheon (M-7)

(Tickets required; \$55)

Orleans, JW Marriott 12 Noon–1:30 PM

Aerospace Educators Luncheon (M-8)

(Tickets required; \$55)

Gallery Blrm., Sheraton 12 Noon–2:00 PM

CESI/NSTA Elementary Science Luncheon (M-9)

(Tickets required; \$55)

Rosedown, Hilton 12 Noon–2:30 PM

Paul F-Brandwein Annual Luncheon

(By Invitation Only)

Newberry, Hilton 12:30–1:30 PM

Development Advisory Board Meeting

(By Invitation Only)

Evergreen, Sheraton 1:30–2:30 PM

Science Matters – Building a Presence: Building the Community Meeting

Bacchus, New Orleans Marriott 2:00–3:00 PM

Alliance of Affiliates (AoA) Meeting

Estherwood, Sheraton 2:30–4:00 PM

NESTA Membership Meeting

Bissonet, New Orleans Marriott 4:30–6:00 PM

Pre-Banquet Reception (M-10)

(Tickets required; \$40)

Versailles Ballroom, Hilton 6:00–6:45 PM

President's Banquet—A Celebration of Excellence (M-11)

(Tickets required; \$55)

Napoleon Ballroom, Hilton 7:00–10:00 PM

Sunday, March 22

Life Members Buffet Breakfast (M-12)

(Tickets required; \$40)

La Galerie 5, New Orleans Marriott 7:00–9:00 AM

NSTA Affiliate Sessions

Alliance of Affiliates (AoA)

Wednesday, March 18

5:30–6:30 PM **Alliance of Affiliates Leadership Reception** *La Galerie 6, New Orleans Marriott*
Sponsored by NSTA
 (For CSSS, NSELA, and All NSTA Affiliate Members)

Thursday, March 19

9:30–10:30 AM **Teaching Without Lecturing: Pedagogy for the 21st Century (SCST)** *Room 252, Convention Center*
 Thomas Lord, Indiana University of Pennsylvania, Indiana

Digital Toolbox for Science Leaders (CSSS) *Room 253, Convention Center*
 Jan McLaughlin, New Hampshire Dept. of Education, Concord

11:00 AM–12 Noon **21st-Century Skills (CSSS)** *Room 252, Convention Center*
 Jan McLaughlin, New Hampshire Dept. of Education, Concord

21st-Century Skills (SCST) *Room 253, Convention Center*
 Thomas Lord, Indiana University of Pennsylvania, Indiana

Friday, March 20

9:30–10:30 AM **Strategies and Resources That Enhance the Science Learning of Students from Under-represented Groups (AMSE)** *Room 252, Convention Center*
 Cherry C. Brewton, Georgia Southern University, Statesboro
 Mary M. Atwater, The University of Georgia, Athens

Web 2.0—Just What Is It? (NMLSTA) *Room 253, Convention Center*
 Dale J. Rosene, Marshall Middle School, Marshall, Mich.
 Annette M. Barzal, NMLSTA, Sharon Center, Ohio
 Jeffrey T. Bradley, Skyline High School, Ann Arbor, Mich.

11:00 AM–12 Noon **21st-Century Skills (NMLSTA)** *Room 252, Convention Center*
 Dale J. Rosene, Marshall Middle School, Marshall, Mich.

21st-Century Skills (AMSE) *Room 253, Convention Center*
 Cherry C. Brewton, Georgia Southern University, Statesboro

Conference Program

NSTA Affiliate Sessions

Alliance of Affiliates (AoA), continued

Saturday, March 21

- 9:30–10:30 AM **Leadership for Science Education (NSELA)** *Room 252, Convention Center*
Brenda S. Wojnowski, Communities Foundation of Texas, Dallas.
Linda Atkinson, University of Oklahoma, Norman
- Get the Scoop (CESI)** *Room 253, Convention Center*
Mary Beth Katz, Alabama Science Teachers Association, Birmingham
Kay A. Warfield, Alabama State Dept. of Education, Montgomery
Alan J. McCormack, San Diego State University, Calif.
- 11:00 AM–12 Noon **21st-Century Skills (CESI)** *Room 252, Convention Center*
Dee Goldston, The University of Alabama, Tuscaloosa
- 21st-Century Skills (NSELA)** *Room 253, Convention Center*
Linda Atkinson, University of Oklahoma, Norman

Sunday, March 22

- 9:30–10:30 AM **Political Activism and Education (ASTE)** *Room 252, Convention Center*
Jon E. Pedersen, University of Oklahoma, Norman
Regina Toolin, University of Vermont, Burlington
- Research into Practice: Frameworks for Sequencing Rigorous and Focused Instructional Sequences (NARST)** *Room 253, Convention Center*
Richard Duschl, Penn State University, University Park, Pa.
- 11:00 AM–12 Noon **21st-Century Skills: An Alliance with Scientific Practices? (NARST)** *Room 252, Convention Center*
Richard Duschl, Penn State University, University Park, Pa.
- 21st-Century Skills (ASTE)** *Room 253, Convention Center*
Jon E. Pedersen, University of Oklahoma, Norman, Okla.

AMSE President

Cherry Brewton

Association for Multicultural Science Education (AMSE)

Wednesday, March 18

- 1:00–4:00 PM **AMSE Board of Directors Meeting, Part 1** *Ascot, Hilton*
(By Invitation Only)

Thursday, March 19

- 11:00 AM–1:00 PM **AMSE Board of Directors Meeting, Part 2** *Ascot, Hilton*
(By Invitation Only)

NSTA Affiliate Sessions

Association for Multicultural Science Education (AMSE), continued

Friday, March 20

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|---------------|---|------------------------------------|
| 7:00–9:00 AM | AMSE Alice Moses Breakfast
(By Invitation Only) | <i>Rosedown, Hilton</i> |
| 12:15–1:30 PM | AMSE General Membership Meeting | <i>Room 253, Convention Center</i> |

Saturday, March 21

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|--------------|--|--|
| 3:30–5:30 PM | Multicultural Science Activities for Urban and Suburban Grades 8–12
Mary M. Atwater and Mario Watkins, The University of Georgia, Athens | <i>Ascot, Hilton New Orleans Riverside</i> |
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Sunday, March 22

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|---------------|---|------------------------------------|
| 9:30–10:30 AM | Biome, Biome...That’s My Home
Ouida M. Robinson, Ashland Elementary School, St. Louis, Mo.
Brenda L. Tyndall, Gateway Middle School, St. Louis, Mo.
Sylvia Johnson, Mark Twain School, St. Louis, Mo. | <i>Room 219, Convention Center</i> |
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ASTE President

Jon Pedersen

Association for Science Teacher Education (ASTE)

Thursday, March 19

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|---------------|---|--------------------------------|
| 8:00–9:00 AM | “Did We Really Go to the Moon?” Teaching Skepticism and Scientific Habits of Mind
Deb Hemler, Fairmont State University, Fairmont, W.V.
Todd Ensign, NASA IV&V Facility, Fairmont, W.V.
Tina J. Cartwright, Marshall University, Huntington, W.V.
Case Study of Scientists Learning to Work in Public School Classrooms
Meta Van Sickle, College of Charleston, S.C. | <i>St. Claude, JW Marriott</i> |
| 12:30–1:30 PM | Information, Networking, and Support for Preservice and New Teachers
Jon Pedersen, University of Nebraska, Lincoln
David A. Wiley, Lenoir-Rhyne University, Hickory, N.C. | <i>St. Claude, JW Marriott</i> |

Conference Program

NSTA Affiliate Sessions

Association for Science Teacher Education (ASTE), continued

2:00–3:00 PM **Inquiry into Practice: Preservice Teachers and the Teaching of Inquiry Science in the Elementary Classroom** *St. Claude, JW Marriott*
Robert Blake, Sarah Haines, and Christina Sues
Towson University, Towson, Md.

Stories in the Continuum: Narratives of Preservice Elementary Teachers Teaching Science in the Elementary Classroom
Robert Blake, Sarah Haines, and Christina Sues,
Towson University, Towson, Md.

3:30–4:30 PM **What Is ASTE?** *St. Claude, JW Marriott*
Jon Pedersen, University of Nebraska, Lincoln
Warren J. DiBiase, The University of North Carolina at Charlotte
Janice Koch, Hofstra University, Hempstead, N.Y.

Friday, March 20

11:00 AM–12 Noon **The Role of Life Experience in an Alternative Math and Science Teacher Preparation Program (ACT!)** *Frontenac, JW Marriott*
Michael E. Beeth, University of Wisconsin Oshkosh,
Oshkosh
Tammy Ladwig, University of Wisconsin-Fox Valley,
Menasha

12 Noon–2:00 PM **NSELA/ASTE Luncheon** *Rosedown, Hilton*
(Ticket required: M-4)
Speaker: Francis Q. Eberle, NSTA Executive Director,
Arlington, Va.

3:30–4:30 PM **Literacy Maps, Search Strategies, and Teacher-reviewed Content** *Ile de France III, JW Marriott*
Robert P. Payo, Sharon Clark, and Susan Van Gundy,
The National Science Digital Library, Boulder, Colo.

Saturday, March 21

9:30–10:30 AM **Let's Explore Early Childhood Science** *Ile de France III, JW Marriott*
Carla C. Johnson, Kimberly Lemon, and Tammy Miller,
University of Cincinnati, Ohio
Paula Schoeff, University of Toledo, Ohio

NSTA Affiliate Sessions

CESI President

Alan J. McCormack

Council for Elementary Science International (CESI)

Thursday, March 19

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|---------------|---|------------------------------------|
| 8:00–9:00 AM | Elementary Science Learning—Research to Practice | <i>Room R07, Convention Center</i> |
| | Thomas E. Keller, National Academy of Sciences, Washington, D.C. | |
| 9:30–10:30 AM | Create Learning and Leadership Communities | <i>Room R07, Convention Center</i> |
| | Barbara Tharp, Baylor College of Medicine, Houston, Tex.
Teresa Phillips and Sandy Antalis, Houston (Tex.) Independent School District | |
| 12:30–1:30 PM | CESI Presents: Everything You Wanted to Know But Were Afraid to Ask About Science Safety and Authentic Assessment | <i>Room R07, Convention Center</i> |
| | Kay Atchison Warfield, Alabama State Dept. of Education, Montgomery
Mary Beth Katz, Alabama Science Teachers Association, Birmingham | |
| 2:00–3:00 PM | It's in the Bag: Children's Literature and Experimental Design | <i>Room R06, Convention Center</i> |
| | Renee G. O'Leary and Margaret S. Dee, Caravel Academy, Bear, Del. | |
| 6:00–8:00 PM | CESI Board of Directors Meeting | <i>Newbury, Hilton</i> |
| | By Invitation Only | |

Friday, March 20

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|------------------|---|--|
| 8:00–10:00 AM | CESI Make and Take for PreK–8 Teachers | <i>Room R08/R09, Convention Center</i> |
| | Mary Beth Katz, Alabama Science Teachers Association, Birmingham, Ala.
Kay A. Warfield, Alabama State Dept. of Education, Montgomery,
Barbara Tharp, Baylor College of Medicine, Houston, Tex.
Heather Whitby, Herod Elementary, Houston, Tex.
Johannes Kepler, Johannes Kepler Project, Charleston, S.C.
Alan J. McCormack, San Diego State University, San Diego, Calif.
Kevin Wise, Southern Illinois University, Carbondale
William J. Sumrall, The University of Mississippi, University, Miss.
Betty Crocker, University of North Texas, Denton | |
| 11:00 AM–12 Noon | Teaching Nature of Science to Young Children | <i>Room R07, Convention Center</i> |
| | Judith S. Lederman and Norman G. Lederman, Illinois Institute of Technology, Chicago | |
| 12:30–1:30 PM | Creativity and Variety in the Science Classroom | <i>Room R07, Convention Center</i> |
| | Hans Persson, University of Stockholm, Sweden | |
| 2:00–3:00 PM | Dumbledore's Transfiguration Class: Science and Magic from Hogwarts Academy | <i>Room R07, Convention Center</i> |
| | Alan J. McCormack, San Diego State University, San Diego, Calif. | |

Conference Program

NSTA Affiliate Sessions

Council for Elementary Science International (CESI), continued

Saturday, March 21

- 12 Noon–2:30 PM **CESI/NSTA Elementary Science Luncheon** *Rosedown, Hilton New Orleans*
(Ticket required: M-9)
Speaker: Larry Lowery, Professor Emeritus, Lawrence Hall of Science, University of California, Berkeley
- 12:30–1:30 PM **Cycles of Life—Beyond Frogs and Butterflies** *Room R07, Convention Center*
Laura D. Skochdopole, KACEE, Manhattan, Kans.
Dee Goldston and Sabrina D. Stanley, The University of Alabama, Tuscaloosa

CSSS President

Jan McLaughlin

Council of State Science Supervisors (CSSS)

Sunday, March 15

- 2:00–5:00 PM **CSSS Meeting** *Balcony L, New Orleans Marriott*
(By Invitation Only)
- 6:00–8:00 PM **CSSS Reception** *Balcony M, New Orleans Marriott*
(By Invitation Only)

Monday, March 16

- 7:00 AM–4:30 PM **CSSS Annual Meeting** *Studio 9/10, P. Hall, New Orleans Marriott*
(By Invitation Only)

Tuesday, March 17

- 7:00 AM–4:30 PM **CSSS Annual Meeting** *Studio 9/10, P. Hall, New Orleans Marriott*
(By Invitation Only)

Wednesday, March 18

- 7:00 AM–4:30 PM **CSSS Annual Meeting** *Studio 7/8, P. Hall, New Orleans Marriott*
(By Invitation Only)

Thursday, March 19

- 8:00–9:00 AM **Inquiry and Good Science Instruction—Are They the Same?** *Mardi Gras F, New Orleans Marriott*
Linda Schoen-Giddings and Kathy B. Ortlund,
South Carolina Dept. of Education, Columbia
- 9:30–10:30 AM **Professional Development and Implementation: A Link for Effective Teaching and Learning** *Mardi Gras F, New Orleans Marriott*
Peter M. Mecca, George Mason High School, Falls Church, Va.
- 12:30–1:30 PM **Science Literacy: Building from Literature Circles to Science Practice** *Mardi Gras F, New Orleans Marriott*
Betsy A. Stefany, The SABENS Group, Hanover, N.H.
Jan McLaughlin, New Hampshire Dept. of Education, Concord

NSTA Affiliate Sessions

Council of State Science Supervisors (CSSS), continued

- 2:00–3:00 PM **Communities of Practice: Connecting Science Frameworks to Informal Science Education Activities** *Mardi Gras F, New Orleans Marriott*
 Betsy A. Stefany, The SABENS Group, Hanover, N.H.
 Jan McLaughlin, New Hampshire Dept. of Education, Concord
- 3:30–4:30 PM **Scratch This! Science and Technology Video Games and Simulations** *Mardi Gras F, New Orleans Marriott*
 Jeffrey Piontek, Hawaii Dept. of Education, Honolulu
- 5:00–6:00 PM **The Web, Wikis, and Podcasting, Oh My! Digital Media in the Classroom** *Mardi Gras F, New Orleans Marriott*
 Jeffrey Piontek, Hawaii Dept. of Education, Honolulu

Friday, March 20

- 8:00–9:00 AM **Chemical-safe Schools—A Federal, State, and Local Perspective** *Regent, New Orleans Marriott*
 Peter J. McLaren, Rhode Island Dept. of Elementary and Secondary Education, Providence
 Eileen Naples, U.S. Environmental Protection Agency, Washington, D.C.
- 9:30–10:30 AM **Advancing Science as Inquiry: Professional Development Tools You Can Use** *La Galerie 6, New Orleans Marriott*
 Deborah L. Tucker, Napa, Calif.
 Marsha S. Winegarner, Florida Dept. of Education, Tallahassee
 Linda K. Jordan, Tennessee Dept. of Education, Nashville

NARST President

Randy Yerrick

National Association for Research in Science Teaching (NARST)

Thursday, March 19

- 8:00–9:00 AM **Retaining Science Teachers in Urban Classrooms** *Rosalie, JW Marriott*
 Carol R. Rinke, Gettysburg College, Gettysburg, Pa.
- 9:30–10:30 AM **Capitalizing on Teacher Expertise: Contemplating Transfer from Professional Development to the Classroom Through Effective Use of Pedagogical Contexts** *Rosalie, JW Marriott*
 Andrea G. Van Duzor, Chicago State University, Chicago, Ill.
- The Role of Educative Curriculum Materials and Professional Development on Teacher Practice and Student Learning**
 Julie Gess-Newsome, Northern Arizona University, Flagstaff
 Janet Carlson, BSCS, Colorado Springs, Colo.

Conference Program

NSTA Affiliate Sessions

National Association for Research in Science Teaching (NARST), continued

- 2:00–3:00 PM **Inspiring Inservice Teachers and Mentoring
Beginning Teachers Through Coteaching** *Rosalie, JW Marriott*
Christina Siry, Manhattanville College, Purchase, N.Y.
Kate Scantlebury, University of Delaware, Newark
- 3:30–4:30 PM **Using a Concept Map to Guide Instruction:
The Impact on Teachers’ Understanding of Evolution** *Rosalie, JW Marriott*
Susan Gomez-Zwiep, California State University, Long Beach
Shawn Holmes, North Carolina State University, Raleigh
- 5:00–6:00 PM **Helping Students Build Understanding of Big
Ideas** *Rosalie, JW Marriott*
Joseph Krajcik and LeeAnn Sutherland, The University
of Michigan, Ann Arbor

Saturday, March 21

- 12:30–1:30 PM **A Project-based Biology Curriculum Impacts
Minority Students’ Achievement and Attitudes
via Teacher Knowledge and Practice** *Rosalie, JW Marriott*
David E. Kanter, Temple University, Philadelphia, Pa.

NMLSTA President

Annette Barzal

National Middle Level Science Teachers Association (NMLSTA)

Wednesday, March 18

- 7:00–10:00 AM **NMLSTA Board Meeting** *Durham, Hilton*

Thursday, March 19

- 8:00–9:00 AM **The Inquiry Carnival: A Potpourri of Activities
to Identify, Discuss, and Define Process Skills
Used in Inquiry-based Science (Part 1)** *Room 353, Convention Center*
MaryLou Lipscomb, Illinois Mathematics and Science Academy, Aurora
- 9:30–10:30 AM **The Inquiry Carnival: A Potpourri of Activities
to Identify, Discuss, and Define Process Skills
Used in Inquiry-based Science (Part 2)** *Room 353, Convention Center*
MaryLou Lipscomb, Illinois Mathematics and Science Academy, Aurora
- 12:30–1:30 PM **CupCave: How an Egg in Vinegar Became the
Anchor for a Unit on Caves** *Room 353, Convention Center*
Holly L. Yoder, Pierre Moran Middle School, Elkhart, Ind.

Friday, March 20

- 9:30–10:30 AM **Say It with Clay** *Room 353, Convention Center*
Tess Ewart, A.I. Root Middle School, Medina, Ohio

NSTA Affiliate Sessions

National Middle Level Science Teachers Association (NMLSTA), continued

11:00 AM–12 Noon	Let’s Explore Middle Level Heredity, Microorganisms, and Space Carla C. Johnson, Kimberly Lemon and Tammy Miller, University of Cincinnati, Ohio Paula Schoeff, University of Toledo, Ohio	<i>Room 353, Convention Center</i>
12 Noon–2:00 PM	NSTA/NMLSTA Middle Level Luncheon (Ticket required: M-5) Speaker: Debbie Silver, Author/Educator/Consultant, Melissa, Tex.	<i>Rosedown, Hilton</i>
3:00–4:30 PM	NMLSTA Ice Cream Social	<i>Rosedown, Hilton</i>
5:00–7:00 PM	NMLSTA Board Meeting (All NMLSTA Members Welcome)	<i>Durham, Hilton</i>

Saturday, March 21

9:30–10:30 AM	Secrets of Fun in Science Rajeev Swami, Central State University, Wilberforce, Ohio Annette M. Barzal, NMLSTA, Sharon Center, Ohio Julie Bellamy, St. Michael School, N. Royalton, Ohio	<i>Room 353, Convention Center</i>
11:00 AM–12 Noon	Let’s Explore Middle Level Magnetism, Electricity, Heat, Light, and Sound, and Earth Science Carla C. Johnson, Kimberly Lemon and Tammy Miller, University of Cincinnati, Ohio Paula Schoeff, University of Toledo, Ohio	<i>Room 353, Convention Center</i>
12:30–1:30 PM	Seeing Things in a Different Light Mildred E. Chamblee, G.P. Babb Middle School, Forest Park, Ga.	<i>Room 353, Convention Center</i>

NSELA President

Linda Atkinson

National Science Education Leadership Association (NSELA)

Wednesday, March 18

7:30 AM–4:45 PM	NSELA Professional Development Institute (By Registration Through NSELA)	<i>La Galerie 4, New Orleans Marriott</i>
5:00–6:00 PM	NSELA Committee Meetings	<i>La Galerie 2/3, New Orleans Marriott</i>
6:30–8:30 PM	NSELA/Pearson Reception for the Outstanding Leadership in Science Education Award	<i>Studios 1–3, P. Hall, New Orleans Marriott</i>

Conference Program

NSTA Affiliate Sessions

National Science Education Leadership Association (NSELA) continued

Thursday, March 19

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|------------------|--|---|
| 7:30–10:00 AM | NSELA/Pearson Annual Breakfast and Membership Meeting
(By Invitation Only) | <i>La Galerie 2, New Orleans Marriott</i> |
| 11:00 AM–12 Noon | Scintillating Science: It's All in Your Head
Tadzia Grandpre, Deanne Erdmann, and Michael Vu,
Baylor College of Medicine, Houston, Tex. | <i>Mardi Gras D, New Orleans Marriott</i> |
| 12:30–1:30 PM | Curriculum Mapping: Analyzing Affective Results
Joyce M. Gleason, Educational Consultant, Punta Gorda, Fla. | <i>Mardi Gras D, New Orleans Marriott</i> |
| 2:00–3:00 PM | The Winds of Change Sweeping Down the Plain
Sharlene Kleine, Janis Slater, and Patricia Turner,
University of Oklahoma, Norman | <i>Mardi Gras D, New Orleans Marriott</i> |
| 3:30–4:30 PM | Meeting NSELA Leaders
Linda Atkinson, University of Oklahoma, Norman
Jerry Valadez, Coalinga-Huron Unified School District,
Coalinga, Calif.
Brenda S. Wojnowski, Communities Foundation of Texas, Dallas | <i>Mardi Gras D, New Orleans Marriott</i> |
| 5:00–6:00 PM | Building Successful Partnerships with Business and Industry to Support Quality Professional Development for K–12 Science Teachers
Jack Rhoton, East Tennessee State University, Johnson City | <i>Mardi Gras D, New Orleans Marriott</i> |

Friday, March 20

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|-----------------|--|--|
| 12 Noon–2:00 PM | NSELA/ASTE Luncheon
(Ticket required: M-4)
Speaker: Francis Q. Eberle, NSTA Executive Director,
Arlington, Va. | <i>St. Charles, New Orleans Marriott</i> |
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NSTA Affiliate Sessions

SCST President

Thomas Lord

Society for College Science Teachers (SCST)

Thursday, March 19

- 8:00–9:00 AM **Authentic Assessment: Using 5E Lesson Plan Development to Evaluate Science Content Learning with Preservice Teachers** *Frontenac, JW Marriott*
 Laura Wheatall, Indiana University of Pennsylvania, Indiana, Pa.
- Becoming an Excellent Science Teacher (BEST): An Online Teacher Preparation Program**
 Julie D. McIntosh and Gwynne Rife, The University of Findlay, Ohio
- Introducing Preservice Teachers to High-Quality K–8 Science Trade Books Through a Mock SB&F Election**
 Daniel T. Gerber, University of Wisconsin-La Crosse
 Eric Brunsell, University of Wisconsin Osh Kosh
- 9:30–10:30 AM **Survey of Student Perceptions of Methods of Content Delivery as Depicted in YouTube Videos** *Frontenac, JW Marriott*
 Brittany Heath, Connie Russell, and Kelly McCoy, Angelo State University, San Angelo, Tex.
- The Effect of Podcasting on Student Performance: The Results of a Multi-Year Study**
 Tarren Shaw and Donald P. French, Oklahoma State University, Stillwater
- An E-book Experience in Introductory Biology and Chemistry**
 Donald P. French and John I. Gelder, Oklahoma State University, Stillwater
 Connie Russell, Angelo State University, San Angelo, Tex.
- 12:30–1:30 PM **Multidisciplinary Team-based Research for Undergraduates: Creative Inquiry** *Frontenac, JW Marriott*
 Jeffrey R. Appling, Clemson University, Clemson, S.C.
- Using Student-developed Podcasts to Educate the Public About the Evolution-Creationism Controversy**
 Jerry A. Waldvogel and Kelly Smith, Clemson University, Clemson, S.C.
- How College Faculty Who Teach Creationism View the “Rules” of Science**
 Michael H. Gipson, Oklahoma Christian University, Oklahoma City
- 2:00–3:00 PM **Student Behavior in Large Lecture Classes** *Frontenac, JW Marriott*
 Marvin Druger, Syracuse University, Syracuse, N.Y.
- No College Student Left Behind—Making Science Come Alive in General Education Courses**
 Kerry L. Cheesman, Capital University, Columbus, Ohio
- Why Aren’t College Professors Anxious to Adopt Inquiry Instruction?**
 Thomas Lord, Tom Melvin, Angelo Manifest, and John Papinchak, Indiana University of Pennsylvania, Indiana, Pa.

Conference Program

NSTA Affiliate Sessions

Society for College Science Teachers (SCST) continued

- 3:30–4:30 PM **Aiding Student Learning via Online Quizzing on Course Management Systems** *Frontenac, JW Marriott*
Anneke M. Metz, Montana State University, Bozeman
- Blended Learning: Results of an Ongoing Study**
Lee E. Hughes, University of North Texas, Denton
- Hybrid Introductory Biology Course: Lessons Learned**
Linda Crow, Lone Star College-Montgomery, Conroe, Tex.
- 5:00–6:00 PM **Student Reflections on the Use of Study Skills in Introductory Science Courses** *Frontenac, JW Marriott*
Kathryn H. Sorenson and Kelly K. McDonald, American River College, Sacramento, Calif.
- One-Stop Shopping: Supporting College Science Students “Beyond the Classroom”**
Claire Sandler, University of Michigan, Ann Arbor
- Assessment of Short- and Long-Term Impacts of Reformed College Science Courses on Students: A National Study of Undergraduate Science Courses**
Dennis W. Sunal and Cynthia S. Sunal, The University of Alabama, Tuscaloosa

Friday, March 20

- 8:00–9:00 AM **Inquiry Physics Learning + Service = Service Learning** *Frontenac, JW Marriott*
Nancy L. Donaldson, Rockhurst University, Kansas City, Mo.
- Making Teaching More Scientific: Evidence Shows the Use of Real-World Research Data Improves Student Learning**
Jacqueline S. McLaughlin, Penn State Lehigh Valley, Fogelsville, Pa.
- Rockin’ ’n’ Rollin’ in New York City—How This City Is Influenced by the Earth Sciences**
Heide Hlawaty, Metropolitan College of New York, N.Y.
- 9:30–10:30 AM **A Theoretical Basis for the Use of Alternative Texts in Nature of Science (NOS) Instruction** *Frontenac, JW Marriott*
Russell Wilke, Angelo State University, San Angelo, Tex.
William J. Straits, California State University, Long Beach
- Promoting Higher-Order Thinking in Freshman-Level Anatomy and Physiology**
Murray S. Jensen, University of Minnesota, Minneapolis
- ChemAssist: A Hands-On Manipulative for Use in the Chemistry Classroom**
Joyce Kulhanek, Olney High School, Olney, Tex.
Diane Booe, Ramirez Elementary School, Pharr, Tex.
Deborah Koeck, Texas State University-San Marcos, San Marcos

NSTA Affiliate Sessions

Society for College Science Teachers (SCST) continued

12:30–1:30 PM **The Marjorie Gardner Lecture: Ancient Maya Skeletons Meet 21st-Century Technology** *Frontenac, JW Marriott*
 Nancy L. Elwess, Plattsburgh State University, Plattsburgh, N.Y.

2:00–3:00 PM **Research in Teaching: An SCST Forum** *Frontenac, JW Marriott*
 Jim Holden, Tidewater Community College, Portsmouth, Va.
 Grace Eason and Mary Schwanke, University of Maine, Farmington

Science Educators and the Quest for Promotion and Tenure

Brian Rybarczyk, The University of North Carolina at Chapel Hill
 Linda Tichenor, University of Arkansas, Fort Smith
 Ted Cox, University of Wisconsin, Superior
 Ann Parsons, University of Wisconsin-Stout, Menomonie

3:30–5:00 PM **SCST Annual Business Meeting** *Frontenac, JW Marriott*

7:00–9:30 PM **SCST Social and Poster Session** *Ile de France I, JW Marriott*

Saturday, March 21

12 Noon–1:30 PM **NSTA/SCST College Luncheon** *Orleans, JW Marriott*
 (Ticket required: M-7)
 Speaker: Dee U. Silverthorn, Senior Lecturer,
 University of Texas at Austin



—Photo courtesy of the Science Museum of Minnesota

Putting Science in Context? How Do We Do That? (SC-16)

7:00 AM–4:30 PM MEETING

CSSS Annual Meeting

(By Invitation Only)

Studio 7/8, Preservation Hall, New Orleans Marriott

7:30 AM–4:45 PM MEETING

NSELA Professional Development Institute

(By Registration Through NSELA)

La Galerie 4, New Orleans Marriott

The National Science Education Leadership Association's Professional Development Institute is specifically designed for the science education leader. Register on-site or at www.nsela.org, or call 928-420-3774.

7:30 AM–5:30 PM MEETING

National Marine Educators Association Annual Board Meeting

(By Invitation Only)

La Galerie 1, New Orleans Marriott

8:00 AM–4:00 PM NSTA PROFESSIONAL DEVELOPMENT INSTITUTES

PDI Inquiring into Inquiry (PDI-1)

(General)

By Preregistration Only

Room 333, Convention Center

Offered by the BSCS Center for Professional Development (www.bsccs.org)

Sam Spiegel (sspiegel@bsccs.org), **Elizabeth Edmondson** (eedmondson@bsccs.org), and **Betty Stennett**, BSCS Center for Professional Development, Colorado Springs, Colo.

For description, see page 70.

PDI Discussion and Writing in the Inquiry-based Elementary Science Classroom: Critical Partners in the Development of Scientific Reasoning and Conceptual Understanding (PDI-3)

(Elementary)

By Preregistration Only

Room 335, Convention Center

Offered by the Center for Science Education, Education Development Center, Inc. (<http://cse.edc.org>).

Karen Worth (kworth@edc.org) and **Jeff Winokur** (jwinokur@edc.org), Education Development Center, Inc., Newton, Mass.

Martha Heller-Winokur (martha.heller_winokur@tufts.edu), Tufts University, Medford, Mass.

Sally Crissman, TERC, Cambridge, Mass.

For description, see page 71.

PDI Inquiry-based Mentoring (PDI-4)

(Middle Level)

By Preregistration Only

Room 336, Convention Center

Offered by the Center for Science Education, Education Development Center, Inc. (<http://cse.edc.org>)

Marian Pasquale (mpasquale@edc.org), Center for Science Education, Education Development Center, Inc., Newton, Mass.

Vivian Troen, Brandeis University, Waltham, Mass.

For description, see page 71.

PDI **Issue-oriented Science: Engage, Motivate, and Educate (PDI-8)**
(*Middle Level–High School*) **By Preregistration Only** Room 337, Convention Center
Offered by the Science Education for Public Understanding Program (SEPUP) (www.sepuplhs.org), Lawrence Hall of Science

Barbara Nagle, Sara Dombkowski, and John Howarth, Lawrence Hall of Science, University of California, Berkeley

Kathaleen Burke, Buffalo Science Teachers' Network, Buffalo State College, Buffalo, N.Y.

For description, see page 73.

PDI **Outdoor Learning: A Path to Science and Literacy (PDI-5)**
(*Elementary–Middle Level/Informal*) **By Preregistration Only** Room 338, Convention Center
Offered by First Hand Learning, Inc. (www.firsthandlearning.org).

Mark Baldwin (mbaldwin@rtpi.org), Roger Tory Peterson Institute of Natural History, Jamestown, N.Y.

E. Wendy Saul, University of Missouri-St. Louis

Peter Dow and **Patricia McGlashan** (plmgm@aol.com), First Hand Learning, Inc., Buffalo, N.Y.

For description, see page 72.

PDI **Assessing and Promoting Teachers' Understanding and Skills in Assessment and Instruction for Student Learning (PDI-6)**
(*Middle Level–College/Supv*) **By Preregistration Only** Room 339, Convention Center
Offered by FACET Innovations (www.facetinnovations.com)

Jim Minstrell, Facet Innovations, Seattle, Wash.

For description, see page 72.

PDI **Building a Professional Learning Community Through Reflective Practice (PDI-14)**
(*Elementary–High School/Supervision*) **By Preregistration Only** Room 341, Convention Center
Offered by K–12 Alliance/WestEd (www.wested.org/cs/we/view/pj/79)

Kathy DiRanna, Karen Cerwin, Jody Sherriff, and Jo Topps, K–12 Alliance/WestEd, San Francisco, Calif.

For description, see page 76.

PDI **Knowing What They Know: Writing Assessment Questions That Reveal Student Thinking (PDI-7)**
(*Elementary–High School/Supv*) **By Preregistration Only** Room 342, Convention Center
Offered by Horizon Research, Inc. (www.horizon-research.com)

Sean Smith and **Melanie Taylor**, Horizon Research, Inc., Chapel Hill, N.C.

For description, see page 73.

PDI **Designing Effective Science Instruction: Developing Student Understanding Through Classroom Inquiry, Discourse, and Sense-Making (PDI-9)**
(*General*) **By Preregistration Only** Room 346, Convention Center

Offered by Mid-continent Research for Education and Learning (McREL) (www.mcrel.org)
Anne Tweed, 2004–2005 NSTA President, and Mid-continent Research for Education and Learning, Denver, Colo.
Sarah LaBounty, Mid-continent Research for Education and Learning, Denver, Colo.
 For description, see page 74.

PDI **Linking Scientific Inquiry to Students' Lives Using Geographic Tools and Perspectives (PDI-10)**

(*Middle Level–High School/Informal/Supv*) **By Prereg. Only** Room 347, Convention Center
 Offered by the National Geographic Society (www.nationalgeographic.com), Division of Education & Children's Programs
Kathleen Schwille and **Kim Hulse**, Division of Education & Children's Programs, National Geographic Society, Washington, D.C.
 For description, see page 74.

PDI **Coaching as a Path to Reflective Practice in Science (PDI-11)**

(*General*) **By Preregistration Only** Room 348, Convention Center
 Offered by South Carolina Department of Education's Mathematics & Science Unit (MSU) (www.myscmsu.org) in partnership with South Carolina's Coalition for Mathematics & Science (SCCMS) (www.sccoalition.org).
Nan Dempsey (dempsey@scsc.edu) and members of the Mathematics & Science Unit, South Carolina Dept. of Education, Columbia
Tom Peters (tpeters@clemsun.edu) and members of South Carolina's Coalition for Mathematics & Science iCoach team, Clemson, S.C.
South Carolina science coaches
 For description, see page 75.

PDI **Classroom Strategies for Teaching Inquiry (PDI-12)**

(*Elementary/Supervision*) **By Preregistration Only** Room 349, Convention Center
 Offered by the Exploratorium Institute for Inquiry (www.exploratorium.edu/ifi) and TERC (www.terc.edu)
Lynn Rankin and **Fred Stein**, Exploratorium Institute for Inquiry, San Francisco, Calif.
Susan Doubler and **Sally Crissman**, TERC, Cambridge, Mass.
 For description, see page 75.

PDI **Science for English Language Learners (ELL): Integrating Reading, Writing, Listening, Speaking, and Thinking into the K–8 Classroom (PDI-13)**

(*Elementary–Middle Level/Supervision*) **By Preregistration Only** Room 350, Convention Center
 Offered by the University of Nevada, Reno
David Crowther, University of Nevada, Reno
 For description, see page 76.

8:00 AM–5:00 PM MEETING

Science Education for Students with Disabilities Pre-Conference Meeting
 (*By Registration Through SEDS*) Windsor, Hilton
 For more information, contact Patricia Davidson at pdavidson@usi.edu.

9:00 AM–12:30 PM MEETING

GEMS Curriculum Overview Seminar

Maurepas, JW Marriott

For additional information, visit www.lhsgems.org.

1:00–4:00 PM MEETING

AMSE (Association for Multicultural Science Education) Board of Directors Meeting, Part 1

(By Invitation Only)

Ascot, Hilton

1:00–5:00 PM MEETING

NEO-Sphere.org Hands-On Training Workshop for E&O Professionals

(For E&O Professionals)

Bayside B, Sheraton

Hands-on introduction to NSF-funded www.NEO-Sphere.org, an interactive online resource for communication, collaboration, and access to resources. Preregistration required; visit <http://tinyurl.com/5vczc4> for details.

1:30–5:00 PM MEETING

GEMS Space Science Sequence Seminar

Maurepas, JW Marriott

For additional information, visit www.lhsgems.org.

5:00–6:00 PM MEETING

NSELA Committee Meetings

La Galerie 2/3, New Orleans Marriott

5:00–7:00 PM RECEPTION

New Science Teacher Academy Reception and First-Timers Meeting

(By Invitation Only)

Rhythms, Sheraton

5:30–6:30 PM RECEPTION

Alliance of Affiliates Leadership Reception Sponsored by NSTA

La Galerie 6, New Orleans Marriott

CSSS, NSELA, and all NSTA Affiliate members—please come enjoy an hour of community, collegiality, and refreshments hosted by NSTA. NSTA will also provide a brief executive summary on the progress of Science Anchors and other critical issues.

6:30–7:30 PM RECEPTION

President’s International Reception

La Galerie 5, New Orleans Marriott

Open to international visitors and invited guests, this reception is graciously sponsored by Pearson.

6:30–8:30 PM RECEPTION

NSELA/Pearson Reception for the Outstanding Leadership in Science Education Award

(By Invitation Only)

Studios 1–3, Preservation Hall, New Orleans Marriott

For additional information, please visit our website at www.nsela.org.

7:00–10:00 PM MEETING

NMLSTA Board Meeting

Durham, Hilton



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Thursday, March 19

	Presentations/Workshops	General Sessions/Special Events	Shell Seminars	Exhibitor Workshops
8:00 AM	First-Timers' Meeting 8:00–9:00 AM Bissonet, New Orleans Marriott			
9:00 AM				
10:00 AM		Featured Presentation 9:30–10:30 AM Room 244/245, Conv. Ctr. Speaker: Kenneth Wesson		
11:00 AM				
12 Noon		General Session 11:00 AM–12:30 PM La Louisiane Blrm. I, Conv. Ctr. Speaker: Mark Plotkin		
1:00 PM		Mary C. McCurdy Lecture 12:30–1:30 PM Room 352, Conv. Ctr. Speaker: Michael A. DiSpezio		
2:00 PM				
3:00 PM		The Planetary Society Lecture 2:00–4:00 PM La Louisiane Blrm. I, Conv. Ctr. Speakers: Neil deGrasse Tyson and Bill Nye		
4:00 PM	First-Timers' Meeting 3:30–4:30 PM Bissonet, New Orleans Marriott	Featured Presentation 3:30–4:30 PM Room 244/245, Conv. Ctr. Speakers: Page Keeley and Cary Sneider		
5:00 PM				
6:00 PM				
7:00 PM		Special Evening Session 6:00 PM–12 Midnight Elmwood, Hilton <i>A Celebration of Passionate and Noteworthy Long-Term Efforts at Public Education in Science</i>		
8:00 PM				

6:45–8:00 AM MEETING

NSTA Board/Council Kickoff Orientation

(By Invitation Only)

La Galerie 3, New Orleans Marriott

7:30–9:00 AM EXHIBITOR WORKSHOPS

Science Kit Presents: Putting the Fun Back in Physical Science —*Science Teaching—* **(Phys)**

(Grades 7–12)

Room 202, Convention Center

Sponsor: Science Kit & Boreal Laboratories

Matt Benware, Science Kit & Boreal Laboratories, Tonawanda, N.Y.

Are you tired of teaching physical science the same old way, and your school doesn't have the funding to afford those expensive curriculum systems? Come explore the Fundamentals of Physics with the folks at Science Kit. Participants will work hands on with the new apparatus system to learn how to teach physics at different levels at the same time. Topics to be covered include mechanics, conservation of energy, gravity, projectile motion, and simple machines. One full Fundamentals of Physics classroom set will be raffled off at the end of the session.

A World in Motion: The Design Experience—JetToy Challenge —*Science Content—* **(Phys)**

(Grades 4–6)

Room 211, Convention Center

Sponsor: SAE International

Julie Nalducci, SAE International, Warrendale, Pa.

SAE International's A World in Motion program is a series of design challenges that incorporates math, science, and technology standards. Students build balloon-powered toy cars with different chassis designs and nozzle sizes that meet specific performance criteria like distance, weight carried, or speed. Jet propulsion, friction, air resistance, and design are core scientific concepts students explore in this challenge. Not only will you learn how to use the materials, you will also learn how to receive a complete set of classroom materials free!

Whiteboards and the Interactive K–8 Science Classroom —*Science Teaching—* **(Gen)**

(Grades K–8)

Room 220, Convention Center

Sponsor: Pearson

Glenn Gordon, Pearson, Upper Saddle River, N.J.

This workshop will provide you with a quick introduction to digital whiteboards, give you some examples of existing whiteboard technology, show you how you can use some of your existing classroom assets with a whiteboard, and give you a chance to share instructional strategies for teaching science through technology.

Ensuring Your Students' Success on the AP* Chemistry Exam —*Science Teaching—* **(Chem)**

(Grades 9–12)

Room 221, Convention Center

Sponsor: Pearson

Ed Waterman, Retired Educator, Fort Collins, Colo.

Join fellow AP* Chemistry teacher and Pearson author Ed Waterman for tips and tools you can use to ensure student success on the AP* Chemistry exam.

Who Infected Whom? Modeling and Applying Cell Biology in Middle School (Bio)

(Grades 6–8)

Room 226, Convention Center

Sponsor: Lab-Aids, Inc.

Mark Koker, Lab-Aids, Inc., Ronkonkoma, N.Y.

Join us and experience a hands-on investigation from the new Issues and Life Science Unit “Cell Biology and Disease.” This investigation helps students build on their understanding of disease transmission as they investigate the outbreak of a disease that has been transmitted by direct human-to-human contact at Salk Junior High. You will develop hypotheses for the pathway of disease transmission and then test these hypotheses by using simulated saliva samples.

7:30–9:30 AM BREAKFAST

New Science Teacher Academy Breakfast

(By Invitation Only)

Waterbury Ballroom, Sheraton

Welcome breakfast for New Science Teacher Academy Fellows.

7:30–10:00 AM BREAKFAST

NSELA/Pearson Annual Breakfast and Membership Meeting

(By Invitation Only)

La Galerie 2, New Orleans Marriott

For additional information, please visit our website at www.nsela.org.

8:00–8:30 AM PRESENTATIONS

SESSION 1

PDI

BSCS Pathway Session: What Is Inquiry? Setting the Stage —Science Teaching— (Gen)

(General)

Room 333, Convention Center

Janet Carlson (jcarlson@bscs.org), BSCS, Colorado Springs, Colo.

If it’s “hands on,” is it inquiry? Is “just reading” the opposite of inquiry? Participants will explore these questions and identify critical features of teaching science as inquiry.

SESSION 2

Science Fair Projects for Elementary Students —Science Teaching— (Gen)

(Elementary)

Room R04, Convention Center

Marline G. Bratzel (mbratzel@7cities.net) and **Debbie A. Quinn** (dquinnnana@yahoo.com), Mesa View Elementary School, Grants, N.Mex.

Many elementary teachers are not prepared to teach the scientific method of problem solving with students conducting an individual science project. We will share strategies and teacher-prepared materials that can enrich the learning experience. A computer disc workbook can be a valuable tool.

SESSION 3

Earth System Science: Problem-based Learning Courses for Teachers Through ESSEA —Professional Development— (Earth)

(Middle Level–High School)

Gallier A/B, Sheraton

Michael R. Witiw (witiwm@spu.edu), Seattle Pacific University, Seattle, Wash.

Barney Peterson (bpeterson@everettsd.org), James Monroe Elementary School, Everett, Wash.

Let's look at NSF-funded, online, problem-based learning courses in Earth system science for middle and high school teachers that are designed to combine content and pedagogy.

8:00–9:00 AM PRESENTATIONS

SESSION 1



The First-Year Teacher Experience: Stories of Triumph and Challenges —Science Teaching— (Gen)

(General)

Room 240/241, Convention Center

Nanette I. Marcum-Dietrich (ndietrich@millersville.edu) and **Oliver Dreon** (odreon@millersville.edu), Millersville University, Millersville, Pa.

Patrisha A. Ross (pross@ucfsd.org), Unionville High School, Kennett Square, Pa.

We have assembled a panel of first-year science teachers from across the country. Come listen as they share their trials and triumphs.

First-Time Attendee Sessions

Is This Your First NSTA Conference?

If your answer is "YES," then please join us at one of two conveniently offered first-time-conference-attendee sessions where we'll walk through the program and you'll learn how to get the most from your conference experience.

Session I

Thursday, March 19

8:00–9:00 AM

New Orleans Marriott
Bissonet

Session II

Thursday, March 19

3:30–4:30 PM

New Orleans Marriott
Bissonet

These sessions are generously supported by Carolina Biological Supply Company and General Educational Development Testing Service (GEDTS).



SESSION 2

ISTE: Integrating Technology into the Classroom

(Gen)

(General)

Room 242, Convention Center

Ben Smith (ben@edtechinnovators.com), Red Lion Area High School, Red Lion, Pa.

Jared Mader (jared@edtechinnovators.com), Red Lion (Pa.) Area School District

The National Education Technology Standards for Students (NETS-S) provide a map for what 21st-century students should be able to do. This session will demonstrate how teachers can effectively integrate technology seamlessly into the science classroom. From the one-computer classroom to a 1:1 situation, you will see how to make use of different technologies. We will share some best practices and handouts with ideas.

SESSION 3

FDA Symposium Follow-Up Session: Elementary-Level Curricula in Food Safety —Science Content—

(Gen)

(Preschool–Middle Level)

Room 257, Convention Center

Laurie A. Hayes (lhayes@cart.org), Center for Advanced Research and Technology, Clovis, Calif.

Discover elementary curricula that promote scientific inquiry and understanding of food safety in public health. All participants will receive a free food safety curriculum kit and Fight BAC! puppet at the end of this session. *Note:* Handouts available to the first 99 participants.

SESSION 4

PDI

LHS Pathway Session: Developing Literacy and Addressing Content Standards Through Issue-oriented Science —Science Content—

(Bio)

(Middle Level–High School)

Room 337, Convention Center

Laura Lenz, Lawrence Hall of Science, University of California, Berkeley

Engage in literacy strategies that work well in issue-oriented science lessons and discuss ways to use these strategies in your secondary science classroom. Examples will include strategies for reading, writing, and discussion.

SESSION 5

Going Global: Teaching with GPS —Science Content—

(Gen)

(Elementary–Middle Level)

Room 344, Convention Center

Elise Spoor, Kathy R. Brandon, Robert Sayers, Laurie Ilgenfritz, and Christy Bucker, STARBASE Louisiana, Barksdale Air Force Base

Pick up background information on GPS technology, experience with handheld units, and practical and relevant applications for GPS within a variety of science content areas.

SESSION 6

NASA Smart Skies: The “Plane” Truth About D=RT —Science Content—

(Phys)

(Middle Level)

Room 354, Convention Center

Gregory W. Condon and **Miriam F. Landesman**, NASA Ames Research Center, Moffett Field, Calif.

Predict the motion of airplanes in real-world scenarios using distance-rate-time relationships. Use a free simulator and proportional reasoning to resolve conflicts by changing speeds or routes.

SESSION 7

Environmental Economics: A School-wide Inquiry-based Curriculum —Science Teaching— (Env)

(Elementary)

Room R01, Convention Center

Chuck G. Tansey (tanseycg@kalamazoo.k12.mi.us) and **Matthew A. Johnson** (johnsonma@kalamazoo.k12.mi.us), Edison Environmental Science Academy, Kalamazoo, Mich.

Learn how to integrate the environment with economics by looking at sample units and lessons from our thematic curriculum. Teach students how to be “green” for profit.

SESSION 8

CESI Session: Elementary Science Learning—Research to Practice —Science Teaching— (Gen)

(Elementary)

Room R07, Convention Center

Tom Keller (tkeller@nas.edu), National Academy of Sciences, Washington, D.C.

Take science to school and...ready, set, science! Join me to review and contextualize the research on science learning in K–8.

SESSION 9

Science/Technology/Society Current Issues—Learn, Think, Vote! —Science Content— (Gen)

(General)

Belle Chasse, Hilton

Debby A. Chessin (dchessin@olemiss.edu), The University of Mississippi, University, Miss.

Enhance students’ understanding of the complex interrelationships between science, technology, and society through case study and role play.

SESSION 10

Magical Mergers —Science Teaching— (Gen)

(General)

Elmwood, Hilton

Pam C. Vaughan (biologyb@hotmail.com), Camden Fairview High School, Camden, Ark.

Jane E. Layman (johnjaney@zoominternet.net), Southmoreland High School, Alverton, Pa.

This nationally recognized teacher-designed curriculum connected chemistry classes to an entrepreneurship and technology classroom across the country through creative problem solving with real-world applications!

SESSION 11

ONPAR: Math and Science Assessments for English Language Learners—A Computer-based Approach (Gen)

(Elementary–High School)

Jasperwood, Hilton

David R. Gabel (dgabel@cal.org) and **Cathy Cameron** (ccameron@cal.org), The Center for Applied Linguistics, Washington, D.C.

These interactive, computer-based test items use animations, 3-D software, and innovative item types to create equitable science assessments for English language learners.

SESSION 12

Family Science Night—Excite Them All! —Science Teaching— (Gen)

(Elementary–High School)

Rosedown, Hilton

Robert T. Jefferson, Jr. (mrtj@yahoo.com), Tantasqua Regional Junior High School, Fiskdale, Mass.

Family science nights engage the entire school community in the thrill of science. An added bonus—everyone learns real science!

SESSION 13 (two presentations)

(General)

Windsor, Hilton

Wild About Science! Meeting Everyday Challenges Through Creative, Nontraditional Methods —Science Content— **(Gen)**

William C. Bowman, Parkway North High School, St. Louis, Mo.

Monica M. Bowman, Ladue Horton Watkins High School, Ladue, Mo.

Discover novel and inexpensive approaches to teaching chemistry, biology, health, and ecology by using household chemicals, toys, glass, games, dirt, soda bottles, balloons... and technology.

HOT Ideas for Summer!

(Gen)

Susan W. Brown (*susanbro@nmsu.edu*), **Laura L. Tomlinson** (*llomas@nmsu.edu*), and

Courtney Harmon (*harmon@nmsu.edu*), New Mexico State University, Las Cruces

Come get HOT new ideas for informal summer camps and formal classrooms that focus on HOT topics that students can't resist—forensics and space!

SESSION 14

Science Misconceptions —Science Teaching—

(Phys)

(High School–College)

Conde, JW Marriott

Mark J. Barry (*barrytutoring@cox.net*), Baton Rouge Manet High School/Cain Center, Baton Rouge, La.

Come learn how to identify and address misconceptions in science.

SESSION 15 (three presentations)

(College)

Frontenac, JW Marriott

SCST Session: Authentic Assessment: Using 5E Lesson Plan Development to Evaluate Science Content Learning with Preservice Teachers —Professional Development— **(Bio)**

Laura Wheatall, Indiana University of Pennsylvania, Indiana

Using inquiry-based lessons developed by preservice teachers allows evaluation of content mastery while building confidence and demonstrating practical application of the information covered in class.

SCST Session: Becoming an Excellent Science Teacher (BEST): An Online Teacher Preparation Program —Professional Development— **(Bio)**

Julie D. McIntosh (*mcintosh@findlay.edu*) and **Gwynne Rife** (*rife@findlay.edu*), The University of Findlay, Ohio

This presentation will provide an overview of an online graduate teacher preparation program designed to train science teachers in pedagogy and content.

SCST Session: Introducing Preservice Teachers to High-Quality K–8 Science Trade Books Through a Mock SB&F Election —Science Teaching— **(Gen)**

Daniel T. Gerber (*gerber.dani@uwlax.edu*), University of Wisconsin-La Crosse

Eric Brunsell, University of Wisconsin Oshkosh

Show preservice teachers that reading about science can be fun! Introduce your science methods students to a Mock Science Books & Films (SB&F) Prize election.

SESSION 16 (two presentations)

(High School–College/Informal Education)

Maurepas, JW Marriott

Simulating Gaming to Stimulate Learning in a Biology Laboratory Course—*Science Teaching*— **(Bio)**

Jonathan Akin (jonathana@nsula.edu) and **Mike Land** (land@nsula.edu), Northwestern State University of Louisiana, Natchitoches

Make science fun and relevant. Engage students in the entire scope and sequence of doing science by using a game-like stimulus—rolling the dice—to determine the course of a laboratory science investigation.

***In vitro* Culture of Freshwater Prawn Embryos for Laboratory Investigations—*Science Content*—** **(Bio)**

Supaporn Porntrai (sporntrai@yahoo.com or psupaporn@sci.ubu.oc.th), Ubon Rajathaneer University, Ubon Ratchathani, Thailand

See how a simple *in vitro* culture method for freshwater prawn embryos allows students to understand more about embryo development and experimental design.

SESSION 17

Four Steps for Improving Inquiry-based Teaching and Learning—*Professional Development*— **(Gen)**

(General)

Orleans, JW Marriott

Jeff C. Marshall (marsha9@clermson.edu), Clemson University, Clemson, S.C.

Special Activities and Events for Preservice and New Teachers

Is This Your First NSTA Conference?

See description on pages 129 and 236

FIRST-TIME ATTENDEE SESSION I

Thursday, March 19
8:00–9:00 AM
Bissonet
New Orleans Marriott

FIRST-TIME ATTENDEE SESSION II

Thursday, March 19
3:30–4:30 PM
Bissonet
New Orleans Marriott

Preservice and New Teachers Breakfast

See description on page 144
Thursday, March 19
9:00–10:30 AM
LA Galerie 3
New Orleans Marriott
Tickets Required (M-1; \$12) and, if still available, must be purchased at the Registration Area before 8:00 PM on Wednesday, March 18.

NSTA Exhibit Hall Booth

Now featuring a special area designated for new and preservice teachers, please join our volunteer docents from the NSTA New Science Teacher Academy as they guide you through the many resources available to members at www.nsta.org.



We'll share practical suggestions for improving inquiry-based teaching and learning, including a rubric to help measure the quality of inquiry being conducted in classrooms.

SESSION 18

NARST Session: Retaining Science Teachers in Urban Classrooms —Professional Development— **(Gen)**

(General)

Rosalie, JW Marriott

Carol R. Rinke (crinke@gettysburg.edu), Gettysburg College, Gettysburg, Pa.

This session describes research conducted with beginning urban science teachers. We'll discuss career trajectories toward either integration or participation.

SESSION 19 (two presentations)

(High School–College)

St. Claude, JW Marriott

ASTE Session: “Did We Really Go to the Moon?” Teaching Skepticism and Scientific Habits of Mind —Science Teaching— **(Earth)**

Deb Hemler (dhemler@fairmontstate.edu), Fairmont State University, Fairmont, W.Va.

Todd Ensign (todd.i.ensign@ivv.nasa.gov), NASA IV&V Facility, Fairmont, W.Va.

Tina J. Cartwright (tina.cartwright@marshall.edu), Marshall University, Huntington, W.Va.

An activity conducted with elementary preservice teachers using a discrepant event to alter science perceptions while conveying lessons about scientific habits of mind will be discussed.

ASTE Session: Case Study of Scientists Learning to Work in Public School Classrooms —Science Education Program— **(Env)**

Meta Van Sickle (vansicklem@cofc.edu), College of Charleston, S.C.

We present descriptive data that suggest that student scientists who visit elementary, middle level, and high school classrooms may impact students' level of interest, problem-solving skills, and memory with regard to science lessons. Graduate students studying fields in science were paired with teachers working in a local county school district as part of a project funded by the National Science Foundation to enhance science education.

SESSION 20

Using Online Resources to Teach About Water's Role in Ecosystems and Society —Science Teaching— **(Env)**

(General)

Balcony K, New Orleans Marriott

David Randle (drandle@amnh.org), American Museum of Natural History, New York, N.Y.

These freely available online resources teach about the physical properties of water, its importance in environmental issues, and the impact it plays in human society. The resources will be organized by a new curriculum developed for the American Museum of Natural History. Leave with a CD of resources.

SESSION 21

Planning Science Instruction Together Results in Success for Students (and Teachers!) —Science Teaching— **(Gen)**

(Elementary/Supervision)

Balcony L, New Orleans Marriott

Adrienne Bledsoe (bledsoea@palmbeach.k12.fl.us), Poinciana Elementary School, Boynton Beach, Fla.

Elementary teachers describe their process for planning multidisciplinary units around

science concepts, involving all instructional staff and resulting in a well-developed, school-wide science-based curriculum.

SESSION 22**Is This Your First NSTA Conference? —Professional Development— (Gen)***(General)**Bissonet, New Orleans Marriott*

Ken Rosenbaum (*krosenbaum@nsta.org*), NSTA Chapter Relations Consultant, Harrods Creek, Ky.

Presider: Theresa Nicely, Senior Coordinator, Chapter Relations, NSTA, Arlington, Va. Feeling overwhelmed by all there is to see and do at an NSTA Conference on Science Education? Join us for an interactive and participatory (fun!) walk through the conference program book. By the end of the session we guarantee you'll know just how to get the most from your conference experience. This event is generously sponsored by Carolina Biological Supply Company.

SESSION 23**Going Global: Exploring Biodiversity on Your School Yard and Beyond —Science Teaching— (Gen)***(General)**La Galerie 1, New Orleans Marriott*

Jennifer Fee (*jms327@cornell.edu*), Cornell University, Ithaca, N.Y.

Citizen science provides an ideal way to engage kids in inquiry, data collection and exploration, and the science process. Find out how students can use their local data and our global biodiversity and multimedia databases to answer their own questions about birds and the environment.

SESSION 24 (two presentations)*(General)**La Galerie 6, New Orleans Marriott*

Presider: Janice Koch (*janice.koch@hofstra.edu*), Hofstra University, Hempstead, N.Y.

Online Science Professional Development —Professional Development— (Gen)

Robert V. Steiner (*rsteiner@amnh.org*), American Museum of Natural History, New York, N.Y.

Susan Van Gundy (*vangundy@ucar.edu*), NSTA Director, District XIV, and The National Science Digital Library, Boulder, Colo.

Howard Lurie (*howard_lurie@wgbh.org*), WGBH Teachers' Domain, Boston, Mass.

This panel on online science professional development examines a variety of programs, opportunities, and challenges.

Trends in Online Science Professional Development —Professional Development— (Gen)

Robert V. Steiner (*rsteiner@amnh.org*), American Museum of Natural History, New York, N.Y.

Come get an overview of emerging areas in the online professional development of teachers of science, including blended learning, Web 2.0, and an array of tools and resources.

SESSION 25 (two presentations)*(General)**Mardi Gras D, New Orleans Marriott*

Presider: Mari Butler, Endicott College, Beverly, Mass.

Understanding the Role of Nuclear Energy in the Fight Against Global Climate Change (Env)

Matthew M. Staffier (*mstaffie@endicott.edu*), Endicott College, Beverly, Mass.

Let's review the pros and cons of nuclear energy and evaluate what logical role nuclear power should play in America's future energy portfolio.

How Muddy Is the Muddy River? —Professional Development— (Env)

Patreka J. Wood (*pwood2@boston.k12.ma.us*), Boston (Mass.) Public Schools

Use equipment and online databases provided by Boston College's Urban Ecology Institute to teach your students about the growing field of urban ecology. Show your students how to develop a research question and use water quality test kits on a body of water near your school.

SESSION 26

CSSS Session: Inquiry and Good Science Instruction—Are They the Same? —Science Teaching— (Gen)

(Supervision/Administration)

Mardi Gras F, New Orleans Marriott

Linda Schoen-Giddings (*lschoen@ed.sc.gov*) and **Kathy B. Ortlund** (*kortlund@ed.sc.gov*), South Carolina Dept. of Education, Columbia

What are the elements of good science instruction? How do you identify a good inquiry lesson? Join us as we address these questions.

SESSION 27

Engineering Education in Today's Classroom —Science Education Program— (Gen)

(Middle Level—College)

Mardi Gras G/H, New Orleans Marriott

Rosemary G. Aguilar (*aguilar@smu.edu*), Southern Methodist University, Dallas, Tex.

Discover a curriculum that gives students the opportunity to think and act like engineers and to solve and design engineering solutions for real-world problems.

SESSION 28

MOSART: Assessing the Effects of Professional Development on Teacher Pedagogical Knowledge —Professional Development— (Phys)

(Middle Level—College/Supervision)

Regent, New Orleans Marriott

Philip M. Sadler, Harold P. Coyle, and Jaimie Miller (*jlmiller@cfa.harvard.edu*), Harvard-Smithsonian Center for Astrophysics, Cambridge, Mass.

Presider: Harold P. Coyle

Researchers will share findings of NRC standards-based assessments of MSP programs related to teachers' understanding of student misconceptions and their effects on student learning.

SESSION 29

AMSTI: Alabama's Statewide Initiative for Science Education Reform —Science Teaching— (Gen)

(General)

St. Charles, New Orleans Marriott

Judy A. Reeves (*judyreevesala@gmail.com*), Alabama Dept. of Education, Montgomery

Imagine giving teachers intensive training in inquiry, providing all materials and supplies for students, and sending specialists to help in the classroom—that's AMSTI!

SESSION 30

NASA: Bring NASA Science into Your Classroom! (Earth)

(General)

Bayside A, Sheraton

John Ensworth (*john_ensworth@strategies.org*), NASA/IGES, Arlington, Va.

Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, Mass.
Learn about NASA's Science Mission Directorate (SMD) and how to navigate the many NASA SMD sessions for earth/space, physics, chemistry, biology, and general science teachers.

SESSION 31

Innovative Technology in Science Instruction (ITSI) —Science Content— (Gen)
(Middle Level–High School) Edgewood A/B, Sheraton

Carolyn J. Staudt (carolyn@concord.org), **Cynthia McIntyre** (cmcintyre@concord.org), and **Ed Hazzard** (ehazzard@concord.org), The Concord Consortium, Concord, Mass.
ITSI has created numerous activities for grades 7–12 science classrooms using probes and open-source models that teachers can customize with a simple online authoring system.

SESSION 32

Developing Science Teacher Leadership —Science Teaching— (Gen)
(Middle Level–High School) Maurepas, Sheraton

Michael H. Tally (mtally@wcpss.net), Wake County Public School System, Raleigh, N.C.
Manley Midgett (manley.midgett@teacheracademy.org), North Carolina Teacher Academy, Morrisville
Come learn how to develop science teacher leadership in the following areas: curriculum, assessment, learning and teaching, and equity.

SESSION 33

The Biology Behind the 2008 AP Free-Response Questions (Bio)
(High School) Napoleon A3, Sheraton

John Lepri (jjlepri@uncg.edu), University of North Carolina at Greensboro
Franklin Bell (bellf@mercersburg.edu), Mercersburg Academy, Mercersburg, Pa.
This discussion with the AP Biology Development Committee will focus on common student misconceptions and methods for helping students avoid these mistakes.

SESSION 34

Winds, Water, and Storms, Oh, My! What's the Deal with Hurricanes? —Science Content— (Earth)

(Middle Level–High School) Napoleon B3, Sheraton
John G. Hehr (jghehr@uark.edu) and **Lynne H. Hehr** (lhehr@uark.edu), University of Arkansas, Fayetteville

What's going on with the weather in the Atlantic Basin during hurricane season? What's happening? What's being forecast and why? Join us for this content-driven session with loads of information and a classroom resource—packed CD.

SESSION 35

What You Need to Know to Teach About Ice and Snow: The History of Winter Project —Science Content— (Earth)

(General) Napoleon C1, Sheraton

Kenneth J. Harasty (kenharasty@yahoo.com), Clarksville, Pa.
Frida Shroyer (fshroyer@yahoo.com), Hutchison High School, Fairbanks, Alaska
Dan Arnold, Laurel Highlands High School, Uniontown, Pa.
Allen Lunsford (allen.w.lunsford@nasa.gov), NASA Goddard Space Flight Center, Greenbelt, Md.

Presider: Kenneth J. Harasty

Winter will never stop your students from participating in outdoor field activities after they learn about the ice and snow inquiry activities of the History of Winter Project.

SESSION 36

WorldWide Telescope: A Revolutionary Digital Teaching Tool —*Science Teaching—* (Earth)

(Informal Education)

Napoleon D3, Sheraton

Lisa Dettloff (ldettloff@nuevaschool.org), The Nueva School, Hillsborough, Calif.

Curtis Wong (curtis.wong@microsoft.com), Microsoft, Redmond, Wash.

Presider: Lisa Dettloff

WorldWide Telescope is a revolutionary portal to the universe. Journey freely through the far reaches of space using this amazing free classroom tool.

SESSION 37

The “Green” Root Beer Laboratory™ —*Science Content—* (Bio)

(Middle Level–High School)

Rhythms III, Sheraton

James H. Wandersee, Louisiana State University, Baton Rouge

Renee Clary (rclary@geosci.msstate.edu), Mississippi State University, Mississippi State, Miss.

Use our sealed-system approach that gives students a taste of sustainable biotechnology after inquiry into its plant-derived ingredients and yeast!

SESSION 38

Detecting, Diagnosing, and Coping with Students’ Chemistry and Physics Misconceptions —*Professional Development—* (Chem)

(High School)

Salons 817 & 821, Sheraton

Bettina Dembek (bdembek@edc.org), Education Development Center, Inc., Newton, Mass.

Learn to use and analyze open-ended questions to uncover students’ misconceptions. Explore strategies that help students reach a solid and deeper understanding of the concepts.

SESSION 39

Physics at the Movies: Part 2 —*Science Teaching—* (Phys)

(Middle Level–High School)

Salons 825 & 829, Sheraton

Thomas E. Lynch (tlynch@obenschools.org), Oyster Bay-East Norwich Central School District, Oyster Bay, N.Y.

Participants will learn how to import movie clips, edit those clips, and then use them in PowerPoint for science lessons. Example clips will be shown.

SESSION 40

A Demo a Week Makes Science Class the Peak —*Professional Development—* (Chem)

(Elementary–High School)

Southdown, Sheraton

Vinay Dulip (vdulip@yahoo.com), **Sean Mapa**, **Jason D. Elizalde**, **Joanna Pitman**, **Milan Patel**, **Parmveer Singh**, and **Robyn Polanco**, Foy H. Moody High School, Corpus Christi, Tex.

Here are more than 25 easy-to-do demonstrations that use locally available materials. These demonstrations include fun materials such as bubbles, slime, balloons, and invisible glue.

8:00–9:00 AM WORKSHOPS


Ways of Knowing: Connecting Science and the Human Spirit Through Native Knowledge —Science Teaching— (Gen)
(General)
Room 238, Convention Center
Hyacinth Schaeffer (*hyacinths@sciencealberta.org*), Science Alberta Foundation, Calgary, Alta., Canada

Experience the Ways of Knowing program, which consists of hands-on and digital resources that engage students in the science behind traditional knowledge through authentic, meaningful contexts.

Science Plus Math Equals Outdoor Learning! —Science Teaching— (Gen)
(Elementary–Middle Level)
Room 252, Convention Center
Steve Rich (*bflywriter@comcast.net*), Georgia Dept. of Education, Atlanta

Use the school yard as a place to focus on math and science with trade books and natural items. Free seeds and lesson ideas.

Hopping into Math and Science Integration —Science Content— (Bio)
(Elementary–Middle Level)
Room 254, Convention Center
Reeda L. Hart and **Betty Stephens**, Northern Kentucky University, Highland Heights

Presider: Dale Elifrits, Northern Kentucky University, Highland Heights

NSTA Student Member Events

Thursday, March 19

De-cookbooking Science Activities: A Recipe for Success

9:30–10:30 AM

 New Orleans Marriott
Bissonet

NSTA Student Chapter Session: Becoming a Leader in the Profession

12:30–1:30 PM

 JW Marriott New Orleans
Ile de France III

Getting Connected: NSTA Student Chapter ITV Meetings

3:30–4:30 PM

 New Orleans Marriott
Mardi Gras A/B

Friday, March 20

NSTA Student Chapter Faculty Advisor Roundtable

8:00–9:00 AM

 JW Marriott New Orleans
Ile de France II

NSTA Student Chapter Action Session

9:30–10:30 AM

 JW Marriott New Orleans
Ile de France II

Motivating College Students to Be Science Teachers:
Starting an NSTA Student Chapter

11:00 AM–12 Noon

 JW Marriott New Orleans
Ile de France II

Saturday, March 21

Starting an NSTA Student Chapter: Student and Faculty Perspectives

9:30–10:30 AM

 New Orleans Marriott
Jackson

Join us and participate in hands-on classes that integrate math and science; review geometry while learning about animal adaptations; and experience data collection, mean, mode, and median while learning about food chains. Free CD of integrated lesson plans.

Westward Bound: A Journey Across the Curriculum Using Math, Science, and Technology —*Science Education Program*— (Gen)

(Elementary–Middle Level)

Room 343, Convention Center

Therese Casoria (casoriat1966@optonline.net) and **Suzanne M. Caravousanos** (suesee2@aol.com), Leo F. Giblyn Elementary School, Freeport, N.Y.

Participants will work together to design and construct a covered wagon that meets established criteria and discover how MST lessons can enhance every curriculum.

Become an Environmental Investigator and Lead Your Students to an Understanding of Environmental Stewardship —*Science Content*— (Gen)

(Preschool–Middle Level)

Room 345, Convention Center

Ruth Ruud (ruth.ruud@yahoo.com), NSTA Awards and Recognition Chair, Fairview, Pa.

Sally E. Bell (sebell048@comcast.net), Educational Consultant, Blue Springs, Mo.

Investigate environmental issues using hands-on interdisciplinary activities that integrate literacy, math, social studies, and science. Walk away with a unit that can be used throughout the school year.

NMLSTA Session: The Inquiry Carnival: A Potpourri of Activities to Identify, Discuss, and Define Process Skills Used in Inquiry-based Science (Part 1) —*Science Teaching*— (Gen)

(Middle Level)

Room 353, Convention Center

MaryLou Lipscomb (lipscomb@imsa.edu), Illinois Mathematics and Science Academy, Aurora

A brief overview of process skills needed for inquiry-based science provides background for participants to engage in a variety of activities designed to increase skill awareness. See page 156 for Part 2.

Dancing with the Stars: Using a Kinesthetic Approach to Teaching Astronomy Concepts in Grades 4–9 —*Science Teaching*— (Earth)

(Elementary–Middle Level)

Room 356, Convention Center

Timothy F. Slater (timslaterwyo@gmail.com) and **Stephanie J. Slater** (sslaterwyo@gmail.com), University of Wyoming, Laramie

Cherilynn A. Morrow (cmorrow@gsu.edu), Georgia State University, Atlanta

Let us introduce you to engaging classroom-ready lessons emphasizing kinesthetic learning for astronomy that really work. Detailed handouts provided.

Bats: Myth vs. Reality —*Science Teaching*— (Env)

(Middle Level)

Room 357, Convention Center

Amy Westby (amyw@worldstrides.org), WorldStrides, Charlottesville, Va.

Encourage hands-on classroom learning through an interactive presentation using live bats. Topics include bat anatomy, ecosystem development, field research and technology, and conservation.

Blown Away by Weather —Science Content— (Earth)

(Elementary)

Room R03, Convention Center

Wendy J. Shelden (*shelden.wendy@brevardschools.org*), Ralph Williams Elementary School, Viera, Fla.

Michelle J. Ferro (*ferro.michelle@brevardschools.org*), West Melbourne School for Science, West Melbourne, Fla.

Nancy G. Rehwoldt (*rehwoldt.nancy@brevardschools.org*), Surfside Elementary School, Satellite Beach, Fla.

Come build components of a weather station, track hurricanes, and become a meteorologist-in-training. Handouts provided.

Inquiry Activities Integrating Science and Mathematics —Professional Development— (Gen)

(Elementary)

Room R05, Convention Center

David A. Wiley (*david.wiley@lr.edu*), NSTA Director, Preservice Teacher Preparation, and Lenoir-Rhyne University, Hickory, N.C.

Engage in selected activities that stimulate inquiry in science and mathematics using an integrated approach. We'll also share related children's literature.

Nature 101: Simple Ways to Create Nature Journal Entries —Science Teaching— (Bio)

(Elementary–Middle Level)

Room R06, Convention Center

Amy G. Ouchley (*biouchley@yahoo.com*), Delta Regional Educators' Academy (DREAM), Monroe, La.

Using magnifiers and notebooks, we'll examine an array of organisms found in Louisiana, including crawfish, lichens, Spanish moss, acorns, ferns, and fungi.

A Coherent Approach to Energy in High School Physics —Science Content— (Phys)

(High School–College)

Ile de France III, JW Marriott

Larry Dukerich (*ldukerich@mac.com*), Arizona State University, Tempe

Learn a coherent way to represent energy storage and transfer in high school physics.

Learning to “Converse” with Phenomena of Nature: Developing, Classifying, and Answering Investigative Science Questions in the K–8 Classroom —Science Teaching— (Gen)

(Elementary/Supervision)

Balcony J, New Orleans Marriott

Rebecca E. Dyasi, Long Island University, Brooklyn, N.Y.

Hubert M. Dyasi, Yonkers, N.Y.

Using common materials, participants will raise, analyze, and classify their science-oriented questions; transform one unproductive question to productive; and use available materials to answer it.

Science Inquiry with the Scope On A Rope —Science Teaching— (Gen)

(Informal Education)

Balcony M, New Orleans Marriott

Adrienne S. Lopez (*alopez@lsu.edu*), Louisiana State University, Baton Rouge

Use the Scope On A Rope to conduct inquiry activities in life, earth, and physical sciences tied to the national standards at each grade level.

Fossil Fuels to Products —Science Teaching—

(Env)

(Middle Level–High School)

Balcony N, New Orleans Marriott

Hallie Mills (hmills@need.org), The NEED Project, Manassas, Va.

Learn about exploration, production, refining, chemical manufacturing, transportation, marketing, and the use of petroleum, natural gas, and their products in the industrial sector with hands-on activities.

NMEA Session: Whale of a Share-a-Thon —Science Content—

(Bio)

(Elementary–High School)

Carondelet, New Orleans Marriott

Eric Simms, Scripps Institution of Oceanography, La Jolla, Calif.

Sharon H. Walker, J.L. Scott Marine Education Center, Ocean Springs, Miss.

Johnette Bosarge, National Marine Educators Association, Ocean Springs, Miss.

David Christopher (dchristopher@aqua.org), National Aquarium in Baltimore, Md.

Courtney Thompson (thompson@ripleys.com), Ripley's Aquarium of the Smokies, Gatlinburg, Tenn.

Diana Payne (diana.payne@uconn.edu), University of Connecticut-Avery Point, Groton

H. Thaxter Tewksbury and **Lauren Rader** (lrader@oceanology.org), Project Oceanology, Groton, Conn.

Becky J. Cox, The University of Tennessee, Martin

Justine Glynn (justine@gmri.org), Gulf of Maine Research Institute, Portland

Pam Stryker (pstryker@texas.net), Barton Creek Elementary School, Austin, Tex.

Joan Turner (jturner@disl.org), Dauphin Island Sea Lab, Dauphin Island, Miss.

Jim Wharton (jimwharton@mote.org), Mote Marine Laboratory, Sarasota, Fla.

Sarah Richards (srichards@saintannsny.org), Saint Ann's School, Brooklyn, N.Y.

Presider: Eric Simms

Come join the National Marine Educators for a whale of a share-a-thon. Formal and informal marine science educators from aquariums, federal agencies, research facilities, and classrooms will share activities and programs. Come for the activities, stay for the fun, learn about our organization. Presenters will offer “make and take” activities, lesson ideas, and available programs in the marine sciences. Free posters, CDs, and other marine-related items! This share-a-thon will be followed by a whole day of sessions focusing on marine science.

Cooking with the Standards: Take-Home Labs for Students and Their Families —Science Teaching—

(Gen)

(General)

La Galerie 5, New Orleans Marriott

Diane D. Walker (dwalker@nmsu.edu), New Mexico State University, Las Cruces

Christina N. Dragon (cdragon@email.smith.edu), Smith College, Northampton, Mass.

These hands-on activities and demonstrations of safe, conceptually rich labs can easily be done at home. Handouts.

Climate Change: Classroom Tools to Explore the Past, Present, and Future —Science Content—

(Env)

(Middle Level–High School)

Mardi Gras E, New Orleans Marriott

Sandra Henderson, Lisa Gardiner, Roberta M. Johnson (rmjohnsn@ucar.edu),

Randy M. Russell, and **Becca Hatheway** (hatheway@ucar.edu), University Corporation for Atmospheric Research, Boulder, Colo.

Explore the scientific foundations of what we know about climate change through hands-on and data-rich classroom activities. Handouts provided.

NASA: Solving the Mysteries in the Heart of a Supernova Explosion —Science Teaching— (Earth)*(Middle Level–College)**Borgne, Sheraton***Daryl Taylor** (daryl@darylspace.com), Greenwich High School, Greenwich, Conn.

This exciting set of standards-based activities uses NASA mission science to teach students about magnetism and the life cycles of stars. Design your own pulsar using the *Supernova Educators Guide*.

GLOBE at Night: Students as Citizen-Scientists Shedding Light on Light Pollution —Science Teaching— (Env)*(Informal Education)**Napoleon B1, Sheraton***Constance E. Walker** (cwalker@noao.edu) and **Robert T. Sparks**, National Optical Astronomy Observatory, Tucson, Ariz.

Presider: Constance E. Walker

Raise student awareness of the impact of artificial lighting on local environments by involving them as citizen-scientists in the IYA 2009 dark-skies program GLOBE-at-Night.

Science Literacy in the ELL Classroom —Science Teaching— (Gen)*(High School)**Napoleon B2, Sheraton***Glenda S. Pepin** (rockygsp@mac.com), Clemson University, Clemson, S.C.

Learn strategies used in Los Angeles ELL science classrooms to make meaning of dense text, build meaningful definitions for vocabulary, and develop writing skills in a low-risk setting.

How Multiple Theories Shaped an English Language Skills Development Program for Teachers and ELL Students —Science Teaching— (Earth)*(General)**Napoleon C2, Sheraton***Minna Palaquibay** and **Jay Holmes**, American Museum of Natural History, New York, N.Y.

Presider: Hudson Roditi (hroditi@amnh.org), American Museum of Natural History, New York, N.Y.

Learn how various theoretical perspectives (research on science learning, ELL strategies, and museum learning theories) informed development and evaluation of a sixth-grade earth science initiative in New York City.

**Using Forensics: Wildlife Crime Scene (Part 1) —Science Content— (Gen)***(Informal Education)**Napoleon D1&2, Sheraton***Laura M. Arndt** (lauraarndt@earthlink.net), Nature Connections, Franktown, Colo.

Try out this NSTA curriculum that trains student detectives in forensic lab procedures so they can solve a wildlife crime. This session is facilitated by the author. See page 162 for Part 2.

Making Meaning of Science Investigations with Online PlantingScience Mentors —Science Content— (Bio)*(Middle Level–High School)**Rhythms II, Sheraton***Claire Hemingway** (chemingway@botany.org), Botanical Society of America, St. Louis, Mo.

Discover a collaborative online scientific learning community that supports student research teams and builds inquiry skills.

Adapting Labs for a Physics First Program —Science Teaching— (Phys)
(High School) *Salons 816 & 820, Sheraton*
Elise B. Burns, Northern Highlands Regional High School, Allendale, N.J.
Learn how to effectively adapt several common labs to fit the background and abilities of ninth graders.

8:00–9:00 AM EXHIBITOR WORKSHOP

Bio-Rad Genes in a Bottle™ Kit —Science Teaching— (Bio)
(Grades 6–10) *Room 230, Convention Center*
Sponsor: Bio-Rad Laboratories
Stan Hitomi (*professional_development@bio-rad.com*) and **Kirk Brown** (*professional_development@bio-rad.com*), Bio-Rad Laboratories, Hercules, Calif.
Can I see your DNA? Introduce your students to molecular biology with their own DNA. In this hands-on workshop you will extract the DNA from your own cheek cells and then watch it precipitate. Bring only your imagination and take home your own DNA—in a necklace!

8:00–9:15 AM EXHIBITOR WORKSHOP

Experimental Design —Science Content— (Gen)
(Grades 1–6) *Room 208, Convention Center*
Sponsor: Delta Education/School Specialty Science
Tom Graika, Consultant, Lemont, Ill.
Johanna Strange, Consultant, Richmond, Ky.
Having trouble getting students ready for science fairs? Learn how to take students from guided investigations to open inquiries. This strategy helps students develop investigative questions, learn the process of experimental design, and implement the scientific method. Delta products will be featured and teacher resources provided.

8:00–9:30 AM PRESENTATIONS

SESSION 1

PDI

McREL Pathway Session: How Do We Know That Students Understand? —Science Teaching— (Gen)
(General) *Room 346, Convention Center*
Bj Stone (*bstone@mcrel.org*), Mid-continent Research for Education and Learning, Denver, Colo.
Learn how to make decisions during your instructional planning about what students should understand about the science content and how you will know that they have understood. Planning templates and examples provided.

SESSION 2

PDI

SC Pathway Session: Research on the Impact of Coaching in Science —Professional Development— (Gen)
(General) *Room 348, Convention Center*
Rhett Nettles (*rnettles@bdmsu.com*), South Carolina Mathematics & Science Unit, Summerville

Nan Dempsey (dempsey@scsc.edu), South Carolina Mathematics & Science Unit, Duncan

Find out why leaders in science education see coaching as a promising professional development strategy. We'll identify, explain, and explore data related to the effectiveness of coaching in improving instruction and increasing student achievement.

8:00–9:30 AM EXHIBITOR WORKSHOPS

Chemistry and the Atom —Science Content—

(Chem)*(Grades 6–College)*

Room 210, Convention Center

Sponsor: CPO Science/School Specialty Science

Erik Benton, Patsy Eldridge, and Scott Eddleman, CPO Science/School Specialty Science, Peabody, Mass.

The discoveries of the structure of the atom and the periodic table are great detective stories. Our understanding of matter is so abstract that students have a hard time making sense of these concepts. Participants will experience innovative activities that give students with different learning styles opportunities to grasp atomic structure and the periodic table.

Inquiry Investigations™ Biotechnology Curriculum Modules and Kits —Science Content—

(Gen)*(Grades 7–10)*

Room 213, Convention Center

Sponsor: Frey Scientific/School Specialty Science

Ken Rainis and Sarah Forst, Frey Scientific/School Specialty Science, Bristow, Va.

With our new Inquiry Investigations™ biotechnology series, students learn foundational analysis skills that help them understand foundational science concepts. See how program software allows the preparation of web-based content along with individualized assessment. Participants will compare both virtual and actual gel electrophoretic separations and conduct a DNA chip investigation. Receive resource materials.

Biology with Vernier —Science Teaching—

(Bio)*(Grades 9–College)*

Room 222, Convention Center

Sponsor: Vernier Software & Technology

Mike Collins (info@vernier.com) and **Robyn Johnson** (info@vernier.com), Vernier Software & Technology, Beaverton, Ore.

Experiments such as transpiration, cell respiration, and EKG from our popular *Biology with Vernier* and *Advanced Biology with Vernier* lab books will be performed in this hands-on workshop. You will be able to try these experiments using LabQuest as a stand-alone device and on a computer. Experiments are appropriate for introductory, AP, IB, and college courses.

8:00–10:00 AM PRESENTATIONS

SESSION 1

PDI

EDCi Pathway Session: Connecting Science and Literacy: The Role of Explicit Teaching —Science Teaching—

(Gen)*(Elementary)*

Room 335, Convention Center

Martha Heller-Winokur (martha.heller_winokur@tufts.edu), Tufts University, Medford, Mass.

Jeff Winokur (jwinokur@edc.org), **Sally Crissman**, and **Karen Worth** (kworth@edc.org), Education Development Center, Inc., Newton, Mass.

We will share ways to use mini lessons to support the connection between inquiry science and literacy instruction at the upper elementary level.

SESSION 2

PDI **FHL Pathway Session: Archaeology Indoors and Out** —*Science Education Program*— (Gen)

(Elementary–Middle Level)

Room 338, Convention Center

Peter Dow (peterbdow@gmail.com), First Hand Learning, Inc., Buffalo, N.Y.

Evidence changes when one moves from simulated archaeology indoors to shovel and screen procedures outdoors. A community center in Buffalo tried both approaches.

SESSION 3

PDI **HRI Pathway Session: Knowing What They Know: The Importance of and Strategies for Eliciting Student Thinking in a Classroom Setting** —*Science Teaching*— (Gen)

(Elementary–High School)

Room 342, Convention Center

Sean Smith and **Melanie Taylor** (mtaylor@horizon-research.com), Horizon Research, Inc., Chapel Hill, N.C.

In this session participants will learn about effective strategies and resources for eliciting student thinking. The session will also provide time for participants to practice developing their own prompts.

SESSION 4

PDI **UNV Pathway Session: Reading and Thinking Strategies for English Language Learners in Science** —*Professional Development*— (Gen)

(General)

Room 350, Convention Center

Bernadette Musetti (bmusetti@kennesaw.edu), Watkinsville, Ga.

Tom Brown (tbrown@kennesaw.edu), Kennesaw State University, Kennesaw, Ga.

We will demonstrate interactive strategies designed to promote contextualization, comprehension, and critical thinking in science classrooms with English language learners, while highlighting the alignment of lesson content and language objectives.

8:00–10:00 AM EXHIBITOR WORKSHOP

Seeds of Science/Roots of Reading: Strategies for EL Learners Using an Integrated Elementary Science and Literacy Program —*Science Education Program*— (Gen)

(Grades 2–4)

Room 212, Convention Center

Sponsor: Delta Education/School Specialty Science-Seeds

Jacqueline Barber, Jennifer Tilson, Traci Wierman, Jonathan Curley, Suzanna J. Loper, and Carrie Strohl, Lawrence Hall of Science, University of California, Berkeley

Staff of the Seeds of Science/Roots of Reading program will share strategies for addressing the needs of English learners. This workshop includes strategies for teaching science vocabulary and facilitating participation in scientific discussions. Learn how to capitalize on the rich context of science to further students' language development and science understanding.

8:00–10:30 AM **EXHIBITOR WORKSHOP**

Bio-Rad—Determine Your Genotype with PCR —Science Teaching— (Bio)

(Grades 9–College)

Room 229, Convention Center

Sponsor: Bio-Rad Laboratories

Essy Levy (*essy_levy@bio-rad.com*) and **Sherri Andrews** (*sherri_andrews@bio-rad.com*), Bio-Rad Laboratories, Hercules, Calif.

Finally, a wet lab to apply Hardy-Weinberg! Learn how trace amounts of DNA are used by forensic scientists to identify genetic ancestry. In this hands-on workshop you will extract the DNA from your own cheek cells (or hair follicles) and use the polymerase chain reaction (PCR) and gel electrophoresis to identify inherited variations in your own genotype at the PV92 locus. Learn how to apply DNA fingerprinting to test Hardy-Weinberg equilibrium theory within your own classroom population—and how to go online to compare your classroom results to population data around the world. This workshop uses Bio-Rad’s PV92 PCR Informatics kit. Learn key background and how to prep the lab (AP Biology Lab 8). Do exactly what your students will do.

8:00–11:00 AM **PRESENTATION**

SESSION 1



Exploratorium Pathway Session: A Developmental Approach to Extended Guided Inquiry —Science Teaching— (Gen)

(General)

Room 349, Convention Center

Bernie Zubrowski (*bzubrowski@edc.org*), Education Development Center, Inc., Newton, Mass.

Participants will experience hands-on activities from one published curriculum module as a concrete context for promoting a discussion about extended guided inquiry and as a way of modeling a significant change in the traditional conception of the learning cycle.

8:00 AM–12 Noon **SHORT COURSE**



Engaging Student Scientists in Climate Change Research: Using GLOBE Program Tools and Resources to Promote Local to Global Student Research on Climate Change (SC-1) (Env)

(Middle Level–High School)

Tickets Required; \$16

Ballroom II, Westin

Gary Randolph (*randolph@globe.gov*) and **David Smith** (*dasmith@globe.gov*), The GLOBE Program, University Corporation for Atmospheric Research: Boulder, Colo.

For description, see page 81.

8:00 AM–4:30 PM **SHORT COURSE**



When the Levees Broke: Using EarthCache to Explain Physical Processes (SC-2) (Earth)

(General)

Tickets Required; \$65

Ballroom I, Westin

Paul Nagel (*nagelp@nsula.edu*), Louisiana Geography Education Alliance, Northwestern State University, Natchitoches

Jacqueline Mason, Northwestern State University, Natchitoches, La.

For description, see page 81.

8:15–11:15 AM **SHORT COURSE**

The Next Big Thing Is Small: Inquiry-based Lessons in Nanoscience (SC-3)

(Gen)

(Middle Level–High School)

Tickets Required; \$16

Terrace, Westin

Shanna Daly (*sdaly@purdue.edu*), **Kelly Hutchinson** (*khutchin@purdue.edu*), **David Sed-erberg** (*dsederbe@purdue.edu*), **Emily Wischow** (*ewischow@purdue.edu*), and **Lynn Bryan** (*lbryan@purdue.edu*), Purdue University, West Lafayette, Ind.

For description, see page 82.

8:30–9:00 AM **PRESENTATION**

SESSION 1

Human Models of Energy: A Kinesthetic Approach —Science Content— (Phys)

(Middle Level–High School)

Salon 828, Sheraton

Walter L. Crooks, Langston Charter Middle School, Greenville, S.C.

Learn how you can integrate kinesthetic activities into your teaching of distance-time graphs, light, and sound. These activities incorporate technology, graphing, and mathematics into a largely kinesthetic context.

8:30–9:30 AM **EXHIBITOR WORKSHOP**

What’s New in FOSS? —Science Content—

(Gen)

(Grades K–6)

Room 209, Convention Center

Sponsor: Delta Education/School Specialty Science-FOSS

Linda De Lucchi and **Larry Malone**, Lawrence Hall of Science, University of California, Berkeley

Here’s your chance to hear from the developers about new resources that have been added to the Full Option Science System program for grades K–6—Alternative Modules, Science Notebooks folio, FOSS at Home folios, benchmark assessments, outdoor extensions, new website features, and more. Sample materials will be distributed.

8:30–10:30 AM **MEETINGS**

Urban Science Education Advisory Board Meeting

Jackson, New Orleans Marriott

Awards and Recognitions Committee Meeting

Lafayette (41st floor), New Orleans Marriott

Special Education Advisory Board Meeting

Mardi Gras C, New Orleans Marriott

Science and Children Advisory Board Meeting

Bayside B, Sheraton

The Science Teacher Advisory Board Meeting

Estherwood, Sheraton

Science Scope Advisory Board Meeting

Evergreen, Sheraton

Science Safety Advisory Board Meeting

Oakley, Sheraton

8:30–11:30 AM MEETING

Informal Science Committee Meeting

Bacchus, New Orleans Marriott

8:30 AM–2:00 PM NSTA INTERNATIONAL SCIENCE EDUCATION DAY

Growing Professionally Through International Opportunities: Field Experiences, Collaborations, and Investigations

Napoleon Ballroom, Hilton

The International Science Education Day conference reflects NSTA's significant commitment to international science education and an increased emphasis on international collaboration. This event is open at no cost to registered conference attendees.

- 8:30–9:00 AM Welcome Ceremony/NSTA Conference Orientation
Francis Q. Eberle, Executive Director, NSTA, Arlington, Va.
Norman Lederman, Conference Chair, and Illinois Institute of Technology, Chicago
Marylin Lisowski, Chair, NSTA International Advisory Board, Pittsburgh, Pa.
- 9:00–9:30 AM Plenary Session (p. 144)
International Polar Year: Global Collaboration in Science and Education
Sandra Zicus, University of Tasmania and International Antarctic Institute, Australia
- 9:30–9:45 AM Break
- 10:00 AM–12 Noon Concurrent Sessions (Elementary/Middle Level, Secondary, and College) (p. 171)
- 12 Noon–1:00 PM Poster Session (p. 182)
- 1:00–1:45 PM Panel Discussion (p. 202)
Presider: Norman Lederman, Conference Chair, and Illinois Institute of Technology, Chicago
Teresa Kennedy, The GLOBE Program, University Corporation for Atmospheric Research, Boulder, Colo.
Judith Lederman, Illinois Institute of Technology, Chicago
Marylin Lisowski, Chair, NSTA International Advisory Board, Pittsburgh, Pa.
- 1:45–2:00 PM Closing Remarks

9:00–9:30 AM NSTA INTERNATIONAL DAY PLENARY SESSION

International Polar Year: Global Collaboration in Science and Education (Gen)

(General)

Napoleon Ballroom, Hilton

Speaker: **Sandra Zicus** (sandra.zicus@utas.edu.au), Project Officer, International Antarctic Institute, Co-Chair, International Polar Year Education, Outreach, and Communications Subcommittee, and University of Tasmania, Australia

Representing International Polar Year, Dr. Sandra Zicus will provide an overview of the project and the many benefits of educational programs that focus on international collaborations within the science education community.

Sandra Zicus has more than 20 years' experience in science and environmental education. She has worked with researchers, teachers, students, nongovernmental organizations and resource management agencies in Australia, the United States, Indonesia, the Philippines, Bolivia, Costa Rica and Mexico.

After receiving a PhD in geography from the University of Hawaii, Zicus moved to Australia and worked at the University of Queensland for three years before relocating to Tasmania. She is involved in Antarctic research and education through her position as project officer for the International Antarctic Institute and her role as co-chair of the IPY Education, Outreach, and Communications subcommittee.

9:00–10:00 AM PRESENTATION

SESSION 1

NMEA Session: How Can Satellites and a Poop-sniffing Dog Help Us Find Right Whales? —Science Teaching— (Gen)

(Informal Education)

Carondelet, New Orleans Marriott

Justine Glynn (justine@gmri.org) and **Andy Pershing** (apershing@gmri.org), Gulf of Maine Research Institute, Portland

Intrigue your students with these videos, images, ideas, and internet resources about using common science tools in new and different ways.

9:00–10:30 AM PRESERVICE AND NEW TEACHERS BREAKFAST

(Tickets Required; \$12)

Ticket M-1

La Galerie 3, New Orleans Marriott

Learn the latest techniques for the science classroom while networking with other teachers new to the profession. This event is graciously sponsored by Kendall/Hunt Publishing Company. *Note:* Tickets will be provided only to preservice teachers or teachers with up to five years of teaching experience.

Tickets, if still available, must be purchased at the NSTA Registration Area before 8:00 PM on Wednesday, March 18.

9:00–10:30 AM PRESENTATIONS

SESSION 1

PDI BSCS Pathway Session: Teaching for Inquiry: Meeting the Goal with Rubrics
—Professional Development— (Gen)

(General)

Room 333, Convention Center

Jane Larson (jl Larson@bscs.org) and **Meridith Bruozas** (mbruozas@bscs.org), BSCS, Colorado Springs, Colo.

Learn about a valuable classroom observation rubric for assessing the extent of teaching for inquiry. Consider how the rubric can be used in your classroom to improve science teaching and learning.

SESSION 2

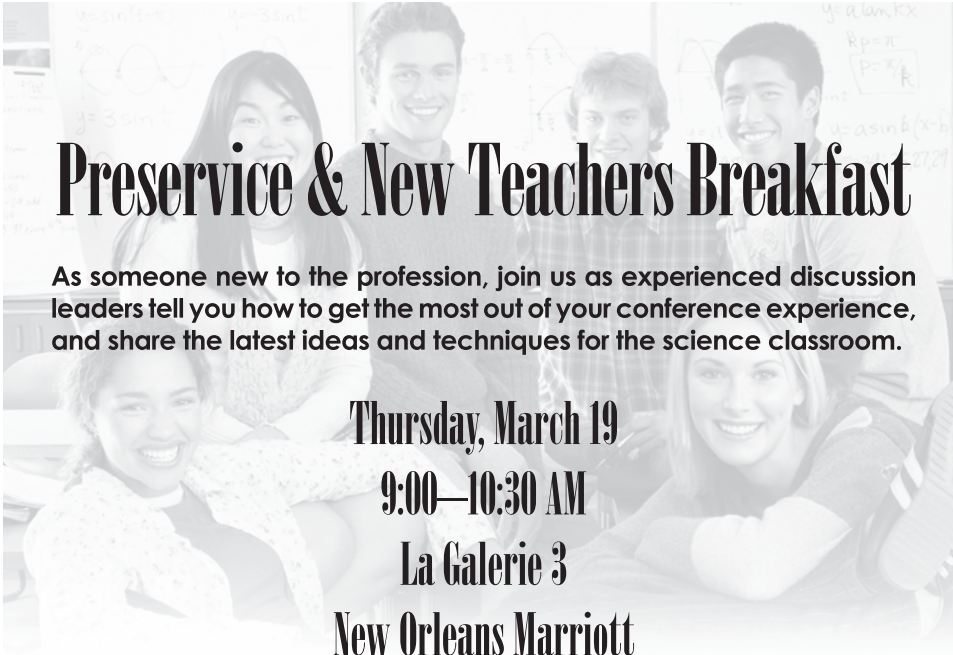
PDI NGS Pathway Session: Science and Literacy: Science Content with Informational Reading and Writing —Science Content— (Phys)

(Elementary)

Room 347, Convention Center

Carl Benoit (cbenoit@ngsp.com), National Geographic School Publishing, Evanston, Ill.

See firsthand how solid science content can be used in conjunction with reading informational text and model writing steps.



Preservice & New Teachers Breakfast

As someone new to the profession, join us as experienced discussion leaders tell you how to get the most out of your conference experience, and share the latest ideas and techniques for the science classroom.

Thursday, March 19
9:00–10:30 AM
La Galerie 3
New Orleans Marriott

Tickets Required (M-1; \$12 on-site) and, if still available, must be purchased at the Registration Area by 8:00 PM on **Wednesday, March 18**.

This event is generously sponsored by Kendall/Hunt Publishing Company.

9:30–10:30 AM **FEATURED PRESENTATION**



How Children Learn: Brain Research and Inquiry-based Science **(Bio)**

(General)

Room 244/245, Convention Center



Speaker

Kenneth Wesson

Educational Consultant, Neuroscience, and
Vice President, International and Western Divisions
Delta Education/School Specialty Science
San Jose, Calif.

kenawesson@aol.com

Presider: Debra Carroll (*debracarroll@bellsouth.net*), Science
Consultant and LSTA Board Member, Lafayette, La.

If it's your job to develop the mind, shouldn't you know how the brain works? While there is no profession more noble than educating young minds to their fullest developmental potential, preschool to university-level faculty members seldom receive any professional preparation on "how the brain works." Today, we describe the human mind as the brain at work and we are finally acknowledging the role of the brain in the process of learning. Moreover, cognitive neuroscience is being recognized for its foundational role in effective instruction. Just as modern medicine produced more successful outcomes once it became more grounded in biological science, a scientifically supported framework that integrates brain science in instructional procedures will increasingly influence successful educational practices. It has been said that knowledge and information will double every 73 days by the year 2020. Factual information increases rapidly and is quickly outdated. However, the reliable principles of neuroscience will survive all tests of time. This presentation will highlight those principles in the contemporary context of education.

Kenneth Wesson works as an educational consultant for preschool through university institutions and organizations. An expert on the neuroscience of learning and methods for creating classrooms and learning environments that are "brain-considerate," Wesson regularly addresses psychological, medical, and educational associations, as well as parenting organizations, on establishing "brain-considerate" learning environments. In addition to his seminars on learning, Wesson also speaks on the topics of brain development, diversity in learning, the neuropsychology of prejudice, curriculum development, and how children learn. He is also frequently asked to serve as an expert witness in court cases involving brain trauma and memory.

9:30–10:30 AM **PRESENTATIONS**

SESSION 1



Photography and Science: A Way to Enhance Student Engagement —*Science Teaching*— **(Phys)**

(General)

Room 238, Convention Center

Fred R. Myers (*myersf@glastonburyus.org*), Glastonbury (Conn.) Public Schools

Photos of ordinary objects and beautiful scenes can be used to illustrate principles of science, particularly physical science. I'll share instructional strategies.



SESSION 2

Energy: It Depends on Me —Science Teaching—

(Env)

(Elementary–High School)

Room 239, Convention Center

Emily Lambert and **Lisa D. Tatum**, Lost Mountain Middle School, Kennesaw, Ga.

Presider: Jaime Tanner, Lost Mountain Middle School, Kennesaw, Ga.

Introduce students to alternative energy options and let them be the judge. Provide differentiated and hands-on opportunities for students to research and present energy options.



SESSION 3

Traversing the Professional Continuum in Science Teaching —Professional Development—

(Gen)

(General)

Room 240/241, Convention Center

Diane Salmon (dsalmon@nl.edu) and **Vito M. Dipinto** (vdipinto@nl.edu), National-Louis University, Wheeling, Ill.

Presider: Diane Salmon

This presentation includes analysis of classroom decision-making processes of two middle school science teachers at distinct career points. We'll also discuss implications for professional development.



SESSION 4

ISTE: Digitizing the Science Classroom—Preparing Students for the Global Society

(Gen)

(General)

Room 242, Convention Center

Ben Smith (ben@edtechinnovators.com), Red Lion Area High School, Red Lion, Pa.

Jared Mader (jared@edtechinnovators.com), Red Lion (Pa.) Area School District

Today's students are innovative and understand how to communicate and collaborate in their personal lives. We'll show you how to capitalize on these characteristics and bring your classroom into the 21st century by putting your curriculum into students' hands the way they live their lives. Students already have the toys—come see how to put them to use.

SESSION 5

AoA Session: Teaching Without Lecturing: Pedagogy for the 21st Century (SCST) —Science Content—

(Gen)

(College)

Room 252, Convention Center

Thomas Lord (trlord@iup.edu), SCST President, and Indiana University of Pennsylvania, Indiana

Move your teaching from telling students what they need to know to pass science to helping them discover what they need to know to pass science.

SESSION 6

AoA Session: Digital Toolbox for Science Leaders (CSSS) —Science Teaching—

(Gen)

(General)

Room 253, Convention Center

Jan McLaughlin (jmclaughlin@ed.state.nh.us), CSSS President, and New Hampshire Dept. of Education, Concord

To meet the needs of digital kids, science leaders and teachers must become familiar with and use some of the amazing tools available. Also, our “toolbox” needs to include items that make our work easier and what we do more accessible to all learners.

SESSION 7

FDA Symposium Follow-Up Session: Outbreak Investigations —Science Content— (Gen)

(General)

Room 257, Convention Center

Sherrri McGarry, U.S. Food and Drug Administration, College Park, Md.

Learn how FDA investigates outbreaks of foodborne illnesses. All participants will receive a free outbreak classroom exercise. *Note:* Handouts available to the first 99 participants.

SESSION 8

PDI

EDCm Pathway Session: Mentoring Beginning Science Teachers in Urban Systems —Professional Development— (Gen)

(Middle Level)

Room 336, Convention Center

David Radford (dradford@uab.edu), The University of Alabama at Birmingham

Teachers and university faculty will share three years of data that compare three mentoring models for supporting beginning teachers in urban classrooms.

SESSION 9

PDI

LHS Pathway Session: Getting Kids Invested with Stories: The Car of the Future —Science Content— (Gen)

(Middle Level–High School)

Room 337, Convention Center

Charles J. Hill (chill@edc.org), Education Development Center, Inc., Newton, Mass.

Using an example involving hybrid cars to teach energy transformations, participants will see how being invested in a story facilitates the learning process.

SESSION 10 (two presentations)

(Elementary–Middle Level)

Room 345, Convention Center

Integrated Problem-based Learning Units for Building Science Literacy —Science Content— (Gen)

Kimberley L. Chandler (klchan@wm.edu), College of William and Mary, Williamsburg, Va.

Explore science problem-based learning (PBL) units that were developed by the Center for Gifted Education at the College of William and Mary. The units were developed around a framework that integrates content, process, and concept emphases, and include a reasoning model and a vocabulary web.

Using Nonfiction Trade Books as a Model for Student Presentations of Science Inquiry Projects —Science Teaching— (Gen)

Nicole J. Glen (nglen@bridgew.edu), Bridgewater State College, Bridgewater, Mass.

Elementary students can showcase results from inquiry projects by modeling the voice and organization that authors of nonfiction books use to present scientific information.

SESSION 11

Immersion in Science for Elementary Teachers: Learning Science Through Scientific Investigations That Promote an Understanding of the Nature of Science —Professional Development— (Phys)

(Elementary)

Room R03, Convention Center

Don DeRosa (donder@bu.edu), **Peter Garik** (garik@bu.edu), and **Andrew Duffy** (aduffy@bu.edu), Boston University, Boston, Mass.

Join us as we describe the content and impact of two courses for elementary teachers—Immersion in Green Energy and Immersion in Geometrical Optics.

SESSION 12

CESI Session: Create Learning and Leadership Communities —Professional Development— (Gen)

(Elementary)

Room R07, Convention Center

Barbara Tharp (*btharp@bcm.edu*), Baylor College of Medicine, Houston, Tex.

Teresa Phillips (*tphillip@houstonisd.org*), Houston (Tex.) Independent School District

How do you create a safe, effective, engaging learning environment for elementary science teachers? Join us as we share strategies that work!

SESSION 13

Sci-Casting: Podcasting in the Science Classroom —Science Teaching— (Gen)

(Elementary–High School)

Elmwood, Hilton

Robert T. Jefferson, Jr. (*mrrtj@yahoo.com*), Tantasqua Regional Junior High School, Fiskdale, Mass.

Add a WOW factor to your classroom with podcasting. Come learn why podcasting is useful and how you can make best use of it in the classroom.

SESSION 14

Teaching with Online Simulations—Gizmos! —Science Content— (Gen)

(Elementary–High School)

Jasperwood, Hilton

Diane L. Kasparie, Quincy Notre Dame High School, Quincy, Ill.

ExploreLearning offers research-proven, interactive math and science simulations for students in grades 3–12. Gizmos are attention-grabbing hands-on explorations that make learning motivating and fun!

SESSION 15

Restructuring Forensics-based Activities to Promote Deeper Levels of Understanding for Students —Science Teaching— (Gen)

(Middle Level–College)

Oak Alley, Hilton

Jerrid W. Kruse (*jerridkruse@gmail.com*), Iowa State University, Sioux City

While forensic activities may motivate students, they're often based on step-by-step instructions. Find out how restructuring activities leads to deeper understanding of fundamental concepts.

SESSION 16

Differentiation in Middle School Science —Science Teaching— (Gen)

(General)

Windsor, Hilton

Amy J. Smith and **Lori J. Hrinko** (*lhrinko@ccps.org*), North East Middle School, North East, Md.

Presenter: Beth Hudson, North East Middle School, North East, Md.

Come see some activities and learn some tried-and-tested methods of differentiation used in our middle school science curriculum.

SESSION 17

The Physics of the Vertical Jump and 40-Yard Dash —Science Teaching— (Phys)

(High School–College)

Conde, JW Marriott

Paula L. Davis (*pdavis@waynesville.k12.mo.us*), Waynesville High School, Waynesville, Mo.

Learn how students can apply physics concepts for motion in one direction, free fall, and energy to analyze vertical jump and hang time for several test groups. We'll also look at the

application of physics concepts for impulse-momentum and power to analyze the 40-yard dash.

SESSION 18 (three presentations)

(High School–College)

Frontenac, JW Marriott

SCST Session: Survey of Student Perceptions of Methods of Content Delivery as Depicted in YouTube Videos —Science Teaching— (Gen)

Brittany Heath and **Connie Russell**, Angelo State University, San Angelo, Tex.

We will share results of a survey that students and faculty completed after viewing three YouTube videos depicting aspects of student information processing, teaching, and learning.

SCST Session: The Effect of Podcasting on Student Performance: The Results of a Multi-Year Study —Science Teaching— (Bio)

Tarren Shaw (starren@okstate.edu) and **Donald P. French** (dfrench@okstate.edu), Oklahoma State University, Stillwater

Biology students were tracked with a computer program that monitored individual podcast use, exam responses, and responses to an attitudinal survey regarding study habits and podcasting.

SCST Session: An E-book Experience in Introductory Biology and Chemistry —Science Teaching— (Gen)

Donald P. French (dfrench@okstate.edu), Oklahoma State University, Stillwater

Connie Russell, Angelo State University, San Angelo, Tex.

Come see how we used a state-of-the-art electronic textbook to teach and get students to read!

SESSION 19 (two presentations)

(High School–College)

Maurepas, JW Marriott

Building and Selecting for Survival: Teaching Protein Synthesis and Natural Selection as One Integrated Topic —Science Teaching— (Bio)

Mike Tveten (mtveten@pima.edu), Pima Community College, Tucson, Ariz.

Learn how to integrate these concepts for the high school or college biology classroom. Lecture, lab, and other hands-on activities will be demonstrated. Handouts provided.

An Inquiry-based Approach to Learning About Enzymes —Science Teaching— (Bio)

Watcharee Ketpichainarong (au1216@hotmail.com), Institute for Innovation and Development of Learning Process, Mahidol University, Bangkok, Thailand

Economical household materials were used to develop an IBL enzyme investigation with the aim of enhancing students' understanding of enzyme activity concepts.

SESSION 20 (two presentations)

(General)

Orleans, JW Marriott

Using Scientific Controversies —Science Content— (Gen)

Gregory L. Macklem (gmacklem@nd.edu), University of Notre Dame, Ind.

Learn how different scientific controversies can help students learn the content of science as well as the nature of science.

Questions and Claims Evidence: How to Get Science Argument Working in Your Classroom —Science Teaching— (Gen)

Jay W. Staker (jstaker@iastate.edu), Iowa State University, Ames

Brian Hand (*brian-hand@uiowa.edu*), University of Iowa, Iowa City

Bring the Science Writing Heuristic (SWH) into your classroom and enhance student learning. The SWH process is based on writing, reading, and argumentation experiences that are connected to student classroom experiences.

SESSION 21 (two presentations)

(General)

Rosalie, JW Marriott

NARST Session: Capitalizing on Teacher Expertise: Contemplating Transfer from Professional Development to the Classroom Through Effective Use of Pedagogical Contexts —Professional Development— (Chem)

Andrea G. Van Duzor (*agay@csu.edu*), Chicago State University, Chicago, Ill.

A qualitative case study of a chemistry professional development course for elementary teachers examines how using pedagogical contexts in professional development can encourage and reveal teachers' thinking about transfer.

NARST Session: The Role of Educative Curriculum Materials and Professional Development on Teacher Practice and Student Learning —Professional Development— (Bio)

Julie Gess-Newsome (*julie.gess-newsome@nau.edu*), Northern Arizona University, Flagstaff

Janet Carlson (*jcarlson@bscs.org*), BSCS, Colorado Springs, Colo.

Educative curriculum materials support teacher learning, classroom practice, and student achievement. Find out more about these materials and the tools used to measure teacher growth and student learning.

SESSION 22

Teach About Climate Change Now! Using the Free Online Data and Education Resources from NOAA and NSTA —Science Education Program— (Env)

(General)

Balcony I, New Orleans Marriott

Bruce Moravchik (*bruce.moravchik@noaa.gov*) and **Peggy L. Steffen** (*peg.steffen@noaa.gov*), NOAA National Ocean Service, Silver Spring, Md.

Take home online data and resources from NOAA and NSTA, including the Climate Literacy Essential Principles. Don't leave the conference without attending this session!

SESSION 23

Exploring the Watershed-Ocean Connection and Conservation Action Using a Web-based, Interactive Application —Science Content— (Env)

(General)

Balcony L, New Orleans Marriott

Bruce D. Campbell (*bcampbell@theoceanproject.org*), The Ocean Project, Providence, R.I.

Join me for this “test-drive” introduction to a new open-access application for learning about, exploring, and taking action to conserve our blue planet through watershed-ocean visualization.

SESSION 24

Become a “Teacher at Sea” with NOAA Scientists —Professional Development— (Gen)

(General)

Balcony M, New Orleans Marriott

Kirk Beckendorf (*kirk.beckendorf@noaa.gov*), NOAA, Washington, D.C.

NOAA’s Teacher-at-Sea Program provides teachers with the opportunity to sail on a NOAA vessel while conducting oceanographic, surveying, or fisheries research.

SESSION 25 (two presentations)

(General)

La Galerie 1, New Orleans Marriott

The Multiple Dimensions of Scientific Inquiry in the PreK–12 School Setting —Science Teaching— (Gen)

Carol Ann Brennan (carolb@hawaii.edu) and **Francis M. Pottenger III**, University of Hawaii, Honolulu

Learn how to transform your science class into an authentic research community by using multiple inquiry modes characteristic of research in the natural sciences.

Let’s Look at How Science REALLY Works! —Science Content— (Gen)

Judy Scotchmoor (jscotch@berkeley.edu), University of California Museum of Paleontology, Berkeley

The scientific method is misrepresented in textbooks. Science is nonlinear, dynamic, and creative. Learn how to integrate the real process of science into your teaching.

SESSION 26

Using Strand Maps —Science Content— (Gen)

(General)

La Galerie 6, New Orleans Marriott

Ted Willard (twillard@aaas.org), AAAS Project 2061, Washington, D.C.

Learn how to interpret the progression of understanding maps in AAAS Project 2061’s *Atlas of Science Literacy* and how to use maps in your work.

SESSION 27

Collaborative Coaching and Learning Models in Boston Public Schools Science —Professional Development— (Gen)

(Elementary–High School)

Mardi Gras A/B, New Orleans Marriott

Karen Ziminski (kziminski@boston.k12.ma.us), Edwards Middle School, Boston, Mass.

Erin Hasimoto-Martell (ehashimoto@boston.k12.ma.us), Nathan Hale Elementary School, Boston, Mass.

Darren T. Wells (dwells@boston.k12.ma.us), Timilty Middle School, Roxbury, Mass.

Discover a model of collaborative coaching and learning cycles that provides a way for teachers, at any level of their career, to work with other science teachers toward the common goal of improving classroom instruction as well as furthering their own knowledge through educational inquiry.

SESSION 28

CSSS Session: Professional Development and Implementation: A Link for Effective Teaching and Learning —Professional Development— (Gen)

(General)

Mardi Gras F, New Orleans Marriott

Peter M. Mecca (meccap@fccps.org), George Mason High School, Falls Church, Va.

Professional development should emphasize science content knowledge and knowledge about curriculum, instruction, and assessment. It should be continuous, include feedback, and be focused on student achievement.

SESSION 29

Strategic Formative Assessment Through Interpretive Portraiture —Professional Development— (Gen)

(General)

St. Charles (41st Floor), New Orleans Marriott

Richard A. Frazier (frazier@ucmo.edu), University of Central Missouri, Warrensburg
Understanding students' thinking is by far the most important assessment for a teacher who plans and teaches strategically. Learn a technique for teaching by listening.

SESSION 30 (two presentations)

(Middle Level—High School)

Bayside A, Sheraton

Quantum Dots in the Secondary Classroom —Science Teaching— (Gen)

Emily D. Wischow (ewischow@purdue.edu), **Shanna R. Daly** (sdaly@purdue.edu), **Kelly M. Hutchinson** (khutchin@purdue.edu), and **David Sederberg** (dsederbe@purdue.edu), Purdue University, West Lafayette, Ind.

Discover the nanoscale phenomenon of quantum dots and learn how this topic can be integrated into the secondary science classroom.

How Big Was It? The Impact of Nanotechnology on Everyday Life —Science Teaching— (Gen)

Kelly A. Houser (kellyah82@aol.com), Richard J. Murphy School, Dorchester, Mass.
Lillian M. Houser (lilhouser@aol.com), Retired Educator, Cleveland Heights, Ohio

Build your content knowledge and your teaching skills through NSTA's Online Learning Center

- **Convenience** – NSTA's Learning Center allows teachers to access course opportunities whenever they can find the time.
- **Accessibility** – NSTA's Learning Center allows teachers to access excellent and engaging science content any time of the day or night—24/7—to fit their schedule.
- **Fully Customized** – NSTA's Learning Center allows every teacher to evaluate their content and science teaching skills and choose a path designed specifically for their needs.
- **Accountability** – NSTA's Learning Center allows every teacher to manage their professional development, plan the training they receive, track their experience, and receive certification for their accomplishment.
- **Research-Based and Proven** – NSTA's Learning Center courses have shown to significantly improve teacher science content knowledge and science-teaching confidence.*

To view, try, and buy individual resources visit: <http://learningcenter.nsta.org/>

To purchase unlimited access to the NSTA Learning Center for your school or district contact us at: 1-800-722-6782 or sales@nsta.org

*Formative Research conducted by external experts to ensure scientific accuracy and credibility. Research Results to be published in an upcoming article in the Journal of Science Education and Technology titled "Evaluation of Online, On-Demand Science Professional Development Materials Involving Two Different Implementation Models"



Students compare household products of yesterday and today and discuss how large they were and how small they have become.

SESSION 31

Connecting Classrooms and Communities in the 21st Century —Science Education Program— (Gen)

(High School)

Edgewood A/B, Sheraton

Kathe Blue-Hetter (hetter@aaps.k12.mi.us) and **Peter Pasque**, Skyline High School, Ann Arbor, Mich.

Find out how we integrated our LEED-certified school and STEM components into Place-Based Education.

SESSION 32 (two presentations)

(Middle Level–College)

Gallier A/B, Sheraton

Empowering Teachers with University Support for Enhanced Student Learning —Science Teaching— (Chem)

Andrea C. Burrows (andrea.burrows@uc.edu), **Michael Starr** (starmj@email.uc.edu), **Carol Clinton** (carol.clinton@earthlink.net) and **Ted Fowler** (ted.fowler@uc.edu), University of Cincinnati, Ohio

The NSF-funded Project STEP will be used to show teachers the who, what, when, where, why, and how of middle/high school to university connections.

Porting Lessons from a Research Experience for Teachers into Middle and High School Classrooms —Professional Development— (Chem)

Allison L. Antink (aantink@iit.edu) and **Margaretann G. Connell** (mgconnell@gmail.com), Illinois Institute of Technology, Chicago

We'll discuss a research experience for teachers that focuses on the perspectives, needs, and backgrounds that informed the cooperative development of lessons derived from the experience.

SESSION 33

Integrating Robotics into Your Science Curriculum —Science Education Program— (Gen)

(Middle Level–High School)

Maurepas, Sheraton

Nicole G. Magee, Stevenson Middle School, Houston, Tex.

Cheryl Willis, Houston (Tex.) Independent School District

Learn strategies for teaching STEM concepts using robotics. We'll look at the application of these methods to meet national standards for science, technology, and mathematics.

SESSION 34 (two presentations)

(General)

Napoleon A1&2, Sheraton

Promoting Professional Growth with New Technologies: A Biology Teacher in Action —Professional Development— (Bio)

George C. Reese (reese@uiuc.edu), University of Illinois at Urbana-Champaign, Champaign

James Schreiner (jschreiner@bbchs.k12.il.us), Bradley Bourbonnais Community High School, Bradley, Ill.

Using new digital technologies like probeware, teachers can grow professionally as they see student learning styles in greater detail. We'll present case studies from the biology classroom.

Using Blogs to Promote Science Literacy —Science Teaching— (Bio)
Stacy C. Baker (stacycbaker@gmail.com), Mount Pisgah Christian School, Alpharetta, Ga.
 Easily create a student-run blog that will enable students to share science news, communicate ideas, and discover their passion for biology.

SESSION 35

The Biotechnology Classroom —Science Teaching— (Bio)
 (High School) Napoleon A3, Sheraton
Gary Turner (cturn78@eq.edu.au), Queensland Dept. of Education, Training, and the Arts, Maroochydore, Queensland, Australia
 The Biotechnology Classroom project engages students in experiments from plant tissue culture to cloning genes; all within their own school laboratories.

SESSION 36

Student Misconceptions in Astronomy: How Do We Address Them? —Science Teaching— (Earth)
 (General) Napoleon C1, Sheraton
James T. McDonald (jim.mcdonald@cmich.edu), Central Michigan University, Mount Pleasant
 Learn about student misconceptions regarding the solar system, galaxies, and the universe. Take home a DVD and handouts.

SESSION 37

Surprise! You're Teaching Chemistry! —Science Teaching— (Chem)
 (Elementary–High School) Salons 817 & 821, Sheraton
James S. Kopchains (j.kopchains@lycos.com), Flushing High School, New York, N.Y.
 Demonstrations that catch students by surprise lead to student questions and present effective openings for learning to take place. We'll look at some "surprising" demos and how teachers can turn them to their advantage.

SESSION 38

The Alternative Energy Grant Project at Streamwood High School —Science Teaching— (Phys)
 (Elementary–High School) Salons 825 & 829, Sheraton
Gregory E. Reiva (gereiva@aol.com), **Eliezer Colon** (eliezercolon@u-46.org), and **Jeanette Hubiak** (jeanettehubiak@u-46.org), Streamwood High School, Streamwood, Ill.
 The Alternative Energy Grant Project is an innovative inquiry-based approach to learning science. The project promotes cutting-edge green technologies as a means to both create and to save energy.

SESSION 39 (two presentations)

(General) Salon 828, Sheraton
The Psychology of Physics —Professional Development— (Phys)
Dan Carroll (thedancarroll@hotmail.com), Yorktown High School, Arlington, Va.
 From Maslow to Piaget, our understanding of physics mirrors theories of cognitive development. Skeptical? Come to this session and be surprised!

Tablet PCs in the Mathematics Classroom (Phys)
Carla Romney (romney@bu.edu), Boston University, Boston, Mass.
 Explore the use of Tablet PCs as a teaching and learning tool for pre-calculus and calculus, focusing on applications in physics.

SESSION 40

Nanotechnology: The Next Industrial Revolution —Science Teaching— (Gen)

(Middle Level—High School)

Southdown, Sheraton

Jeanine Gelhaus, Medford Area Middle School, Medford, Wis.

Andrew Greenberg (greenberg@chem.wisc.edu), University of Wisconsin-Madison

Learn how to integrate nanotechnology into biology, space science, forensic science, health, environmental science, language arts, math, social studies, physical science, and chemistry. We'll share a sample curriculum.

9:30–10:30 AM WORKSHOPS

Introduction to Heredity: What Traits Do I Have and Where Do They Come From? —Science Content— (Bio)

(Elementary—Middle Level)

Room 254, Convention Center

Louisa A. Stark (louisa.stark@utah.edu), University of Utah, Salt Lake City

Introduce basic concepts about traits, inheritance, and DNA while integrating math and graphing. I'll share five student and three take-home family activities—all in English and Spanish.

Hands-On Science Using Technology —Science Content— (Gen)

(Middle Level)

Room 343, Convention Center

Nannette Delcambre (nannette@vrml.k12.la.us), Erath Middle School, Erath, La.

Fran B. Granger (fgranger@vrml.k12.la.us), Forked Island/East Broussard Elementary School, Abbeville, La.

Sabrina Zaunbrecher, Gueydan High School, Gueydan, La.

Experience the learning style of the 21st-century student. “Wow” your science students using probes, digital scopes, and sensors.

NMLSTA Session: The Inquiry Carnival: A Potpourri of Activities to Identify, Discuss, and Define Process Skills Used in Inquiry-based Science (Part 2) —Science Teaching— (Gen)

(Middle Level)

Room 353, Convention Center

MaryLou Lipscomb (lipscomb@imsa.edu), Illinois Mathematics and Science Academy, Aurora

Through discussion of process skills used in the inquiry activities in Part 1 (page 134), participants will develop a common interpretation of the skills. Handouts include activities.

Technology in the Classroom: Interpreting Speed Graphs Using Motion Sensors —Science Education Program— (Phys)

(Middle Level)

Room 354, Convention Center

Karen C. MacAulay (kmacaulay@watertown.k12.ma.us) and **Elizabeth Kaplan** (ekaplan@watertown.k12.ma.us), Watertown Middle School, Watertown, Mass.

Students learn to create and read a distance/time graph with a motion sensor and their own bodies.

Looking at Earth from Space —Science Teaching— (Earth)

(Elementary—Middle Level)

Room 356, Convention Center

Julie Miller (jmillerirc@olatheschools.com), Sally Ride Science, Olathe, Kans.

This workshop presents activities from two inquiry-based programs that study Earth from space: NASA's ISS EarthKAM and Sally Ride Science's EarthScope.

Playing with Ecosystem Science: Informal Modeling Games to Explore the Delicate Balance (Env)

(Middle Level/Informal Education) Room 357, Convention Center

Lisa Gardiner and **Sandra Henderson**, University Corporation for Atmospheric Research, Boulder, Colo.

Learn games that model living components, nutrient cycles, and human impacts on ecosystems. Expand student content knowledge through inquiry. Handouts provided!

A Primary After-School Science Enrichment Program and Its Impact on Science Attitudes and Understanding in Children —Science Teaching— (Gen)

(Elementary) Room R02, Convention Center

Donna Kaufman (dkaufman04@hotmail.com), Louisa May Alcott School, Chicago, Ill.

We will share the mechanics, sources of support, hands-on activities, and preliminary data identified in an after-school science enrichment program.

Chemistry + Engineering + Problem Solving = NEW, FREE Resources from PBS's FETCH! —Science Teaching— (Gen)

(Elementary) Room R04, Convention Center



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Thursday March 19, 2009	
11:30–12:30	NSTA Learning Center
1:00–1:30	Costa Rica Field Study
2:30–3:00	NSTA Learning Center
3:00–3:30	Siemens We Can Change the World Challenge
Friday March 20, 2009	
10:00–10:30	NSTA Learning Center
11:00–11:30	Science Program Improvement Review (SPIR)
2:30–3:00	NSTA Learning Center
1:00–1:30	Costa Rica Field Study
Saturday March 21, 2009	
11:30–Noon	NSTA Membership
2:00–2:30	NSTA Sci-Links
2:30–3:00	NSTA Learning Center

* Attendees will receive a gift. Limited seats available.

Susan E. Buckey (*susan_buckey@wgbh.org*), WGBH Educational Foundation, Boston, Mass.

Try new chemistry, engineering, and habitat activities from the latest *FETCH!* activity guide and let Ruff Ruffman issue the day's challenge in your classroom.

Using Trade Books to Teach the Nature of Science to K–4 Learners —Science Content— **(Gen)**

(Elementary)

Room R05, Convention Center

Sophia J. Sweeney (*ssweene@uark.edu*), University of Arkansas, Fayetteville

Teach elements of the nature of science, including the role of creativity and perseverance, to K–4 learners through beautifully illustrated, high-quality science trade books.

Improving Student Understanding of Graphical Data —Science Teaching—

(Gen)

(General)

Belle Chasse, Hilton

Michael Bowen, Mount Saint Vincent University, Halifax, N.S., Canada

Tony W. Bartley (*abartley@lakeheadu.ca*), Lakehead University, Thunder Bay, Ont., Canada

We will provide a booklet, *Developing Your Students' Data Literacy*, outlining data analysis issues and providing tips and ideas on how to address them.

A Coherent Approach to Energy in High School Chemistry —Science Content—

(Chem)

(High School–College)

Ile de France III, JW Marriott

Raymond F. Howanski, Ridley High School, Folsom, Pa.

Larry Dukerich (*ldukerich@mac.com*), Arizona State University, Tempe

Learn a coherent way to represent energy storage and transfer in high school chemistry.

Cuttin' Up with Learning Games —Science Teaching—

(Gen)

(Elementary–Middle Level/Supervision)

Balcony J, New Orleans Marriott

Rosemary Martin (*ssibastrop@gmail.com*), Bastrop, Tex.

Lingo-Bingo, Tic-Tac-Toe, Opposites, and other learning delights link essential vocabulary and concepts. Come see ways to make learning memorable and receive a CD of resources.

Perspectives on Transportation Fuels —Science Teaching—

(Env)

(Middle Level–High School)

Balcony N, New Orleans Marriott

Hallie Mills (*hmills@need.org*), The NEED Project, Manassas, Va.

Explore the economic and environmental advantages and disadvantages of conventional and alternative transportation fuels such as petroleum, ethanol, electricity, biodiesel, compressed natural gas, and propane.

De-cookbooking Science Activities: A Recipe for Success —Science Content—

(Gen)

(Elementary–High School)

Bissonet, New Orleans Marriott

Deborah L. Hanuscin, Kaitlin Lonsway (*kolwc6@mizzou.edu*), **Jessica Johnson, Andi Strackeljahn, Kayla Murphy, Katie Lonergan, Aaron Sickel, and Melissa Weber**, University of Missouri, Columbia

Join members of the University of Missouri NSTA Student Chapter in a share-a-thon of science inquiry with a side dish of fun!

The Brain on Science —Science Teaching—

(Gen)

(General)

La Galerie 5, New Orleans Marriott

Carolyn A. Hayes (*caahayes@sbcglobal.net*), Indiana University School of Medicine, Indianapolis

Learn how discoveries in cognitive neuroscience are applied to the NSES science teaching standards and the three principles on how students learn science.

Effective Science Instruction: Recognizing It When You See It —Science Teaching—

(Gen)

(Supervision/Administration)

Mardi Gras D, New Orleans Marriott

Carolyn Landel (*carolyn.landel@wwu.edu*) and **Shannon Warren** (*shannon.warren@wwu.edu*), Western Washington University, Bellingham

Marion Evenson and **Cindy Tjoelker**, Nooksack Valley Elementary School, Everson, Wash.

Learn how to use a classroom observation and self-reflection tool that describes effective science instruction based on the key findings from *How People Learn*.

Smithsonian Science: How Marine Science Research and Marine Conservation Efforts Work Together to Save Coastal Ecosystems —Science Content—

(Env)

(Elementary–High School)

Mardi Gras E, New Orleans Marriott



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Stanley Heckadon (*heckadons@si.edu*), Smithsonian Tropical Research Institute, Washington, D.C.

Presider: Maureen Kerr, Smithsonian National Air and Space Museum, Washington, D.C.

Learn about coastal ecosystem research at the Smithsonian Tropical Research Institute and how the institute is using this research to encourage marine conservation.

Examining Student Learning Through Curriculum Topic Study (CTS) and Classroom Action Research —Professional Development— (Gen)

(General)

Mardi Gras G/H, New Orleans Marriott

Joyce Tugel, Maine Mathematics and Science Alliance, Augusta

I will share a classroom action research process guided by CTS, a powerful way for teachers to learn more about students' misconceptions related to curriculum standards.

Technology: The Link That Binds Math and Science —Science Content— (Chem)

(Middle Level–High School)

Bayside C, Sheraton

Greg Dodd (*gbdodd@verizon.net*), George Washington High School, Charleston, W.Va.

Rosalie Rhodes (*rrhodes@kcs.kana.k12.wv.us*), Kanawha County Schools, Charleston, W.Va.

Presider: Rosalie Rhodes

These hands-on activities integrate mathematics and science using the multiple representations provided by technology, allowing students to truly understand science concepts through active links between data and graphical representations. Handouts!

EARTHTIME: How Old Is Earth and How Do We Know? —Professional Development— (Earth)

(Middle Level–High School)

Borgne, Sheraton

Meg John, Denver Museum of Nature & Science, Denver, Colo.

Linda Block-Gandy, Teach Tech, Inc., Lafayette, Colo.

These activities are based on a collaborative research project between the Denver Museum of Nature & Science and the Massachusetts Institute of Technology. The research uses radiometric dating of zircon crystals, found in interbedded ash layers, to precisely date sedimentary rock.

Make It Happen with Electrophoresis —Science Teaching— (Gen)

(High School)

Napoleon B1, Sheraton

Bridgette L. Davis, Parker M. Nelson (*parker.nelson@usm.edu*), and **Sherry S. Herron** (*sherry.herron@usm.edu*), The University of Southern Mississippi, Hattiesburg

This easy, low-cost method simulates the identification of sickle-cell anemia by means of a student-made electrophoresis chamber.

Raising Critical Thinking in AP Science with Student-centered Teaching —Professional Development— (Gen)

(High School)

Napoleon B2, Sheraton

Kristen R. Dotti (*kristen_dotti@yahoo.com*), Christ School, Arden, N.C.

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Decoding Starlight—From Pixels to Images —Science Content— (Earth)
(General) *Napoleon C2, Sheraton*

Donna L. Young (donna.young@tufts.edu), The Wright Center for Science Education, Tufts University, Medford, Mass.

Pamela Perry (pperry@lewistonpublicschools.org), Brunswick, Maine

Experience data and image processing with actual data from the Chandra X-ray Observatory and learn how “false colors” are used to produce images of supernovae.

Build Your World: Large-Scale Topographic Models (Earth)
(Middle Level–High School) *Napoleon C3, Sheraton*

David Thesenga (david.thesenga@jfcds.org), Lake Forest Country Day School, Lake Forest, Ill.

Learn how to build a large-scale (six feet to room-sized) 3-D model of topography to better illustrate geographical and geological concepts.



Using Forensics: Wildlife Crime Scene (Part 2) —Science Content— (Gen)
(Informal Education) *Napoleon D1&2, Sheraton*

Laura M. Arndt (lauraarndt@earthlink.net), Nature Connections, Franktown, Colo.

Investigate a wildlife crime in this NSTA curriculum by piecing together clues from a crime report, interviews, and forensic evidence. This session is facilitated by the author. Part 1 (page 137) is not a prerequisite.

Using Science to Empower Students —Science Teaching— (Bio)
(General) *Rhythms II, Sheraton*

Pamela A. Koch (pkoch@tc.edu), Teachers College, Columbia University, New York, N.Y.

Darlene Beal (darlene_beal@pvusd.net), Linscott Charter School, Watsonville, Calif.

Discover ways students can collect and use data about eating, exercise, and food available in their communities to improve their quality of life.

Testing the Anti-microbial Properties of Silver Nanoparticles —Science Teaching— (Bio)
(General) *Rhythms III, Sheraton*

Joe Muskin (jmuskin@uiuc.edu) and **Matthew Ragusa** (mtragusa@gmail.com), University of Illinois, Urbana

Janet Wattnem (jwattnem@ms.k12.il.us), Mahomet-Seymour CUSD #3, Mahomet, Ill.

Many products now integrate silver nanoparticles to generate antimicrobial surfaces. Come make silver nanoparticles using a quick, simple, and safe procedure and test their effectiveness.

Mystery Mechanisms —Science Teaching— (Phys)
(General) *Salons 816 & 820, Sheraton*

Barbara Taragan (bjtarag@earthlink.net), P.S.146 The Brooklyn New School, Brooklyn, N.Y.

Gary Benenson (benenson@ccny.cuny.edu), City College of New York, N.Y.

Alberto Camacho (zjazzzone@aol.com), P.S. 42 Claremont Community School, Bronx, N.Y.

Maureen Boler (maureenboler@juno.com), P.S. 17 Henry D. Woodworth School, Brooklyn, N.Y.

Analyze animated toys whose mechanisms are hidden and then create your own “MechAnimation.” Learn how the lesson-study approach led to the development of these materials.

9:30–10:45 AM EXHIBITOR WORKSHOP

Bio-Rad—From Biodefense to HIV: Applications of ELISA —*Science Teaching—*
(Bio)

(Grades 7–College)

Room 230, Convention Center

Sponsor: Bio-Rad Laboratories

Stan Hitomi (professional_development@bio-rad.com) and **Kirk Brown** (professional_development@bio-rad.com), Bio-Rad Laboratories, Hercules, Calif.

Are you positive? Explore HIV/AIDS and other infectious diseases with this topical hands-on classroom lab for biology, physiology, and health science courses. The highly specific nature of antibodies has been harnessed to develop tests for almost any biological molecule that elicits an immune response. ELISA assays provide rapid detection of disease-causing agents such as those found in HIV, anthrax, and mad cow disease.

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9:30–11:00 AM EXHIBITOR WORKSHOPS

WARD's Presents: Delve into Dissection

(Bio)

(Grades 8–12)

Room 202, Convention Center

Sponsor: WARD's Natural Science

Tim Montondo, WARD's Natural Science, West Henrietta, N.Y.

Make the most out of specimen dissection with expert techniques and tips from teachers just like you. Discover responsible procedures for introducing dissection with grades 8–12 students, following safety protocols, and properly disposing of specimens. Each participant will be offered the opportunity to dissect one of several different specimens, including frogs, rabbits, pigs, and rats.

Promote Inquiry Using Demonstrations —Science Teaching—

(Chem)

(Grades 9–12)

Room 204/205, Convention Center

Sponsor: Flinn Scientific, Inc.

Irene Cesa, Flinn Scientific, Inc., Batavia, Ill.

Looking for ways to incorporate more inquiry-based experiments in your chemistry classroom? Asking questions is the heart of inquiry, and there is no better way to get students to ask questions than by presenting exciting, engaging demonstrations! Join us as we present classic demonstrations and describe a series of inquiry-based activities that are based on those demonstrations. We will model the inquiry process, sharing a strategy that allows you to easily develop safe, meaningful inquiry labs on a variety of topics.

A World in Motion: The Design Experience—Skimmer Challenge —Science Content—

(Phys)

(Grades 4–6)

Room 211, Convention Center

Sponsor: SAE International

Julie Nalducci, SAE International, Warrendale, Pa.

SAE International's A World in Motion program is a series of design challenges that incorporates math, science, and technology standards. Students construct paper sailboats and test the effects of different sail shapes, sizes, and construction methods to meet specific performance criteria. Friction, forces, effect of surface area, and design are some of the physical phenomena students encounter. Learn how to use the materials and how to receive a complete set of classroom materials free!

Introduction to Wisconsin Fast Plants

(Bio)

(Grades K–12)

Room 215, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Students can actively take part in science with new hands-on activities using Wisconsin Fast Plants®. These minuscule and quick-growing plants are ideal classroom tools for exploring environmental effects, variation, life cycle, and nutrient cycling. Participants work with hands-on activities involving planting and pollinating seeds. Free materials.

DNA Necklaces with Double-Helix Models

(Bio)

(Grades 9–12)

Room 216, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Explore new hands-on techniques for teaching DNA science to your students. Participants first extract actual DNA from their own cheek cells. They then transfer the isolated DNA to

pendant tubes, which are fashioned into wearable necklaces! Finally, participants construct a DNA double-helix model using color-coded plastic pieces.

Math Out of the Box®—Numbers Game!

(Gen)

(Grades K–5)

Room 217, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Describe patterns in the world around us through various representations of numbers using addition, subtraction, multiplication, division, fractions, decimals, and probability. Math Out of the Box® is an inquiry-based math curriculum developed at Clemson University. Participants experience interactive lessons from the program’s Developing Number Concepts strand.

Forensic Fun with the Masterpiece Mystery —Science Teaching—

(Gen)

(Grades 6–8)

Room 220, Convention Center

Sponsor: Pearson

Chuck McMillan, Huron, Mich.

Whodunit? Come find out! Work your way through the Masterpiece Mystery from Prentice Hall’s new *Middle School Forensics* book. You’ll investigate the clues and eliminate suspects until you find the art thief.

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Ecology and Evolution of Infectious Disease —Science Teaching— (Bio)

(Grades 9–12)

Room 221, Convention Center

Sponsor: Pearson

Joe Levine, Concord, Mass.

Bird flu, Mad-Cow Disease, and the West Nile virus appear out of nowhere, demonstrating that relationships between hosts and pathogens are dynamic and changing and are driven by ecological and co-evolutionary forces. Grab students' attention and demonstrate the value of evolutionary and ecological concepts with stories of ongoing research in this thrilling field.

Alphas, Betas, Gammas, Oh My! —Science Content— (Gen)

(Grades 6–12)

Room 225, Convention Center

Sponsor: EnergySolutions Foundation

Pearl Wright (pwright@energysolutionsfoundation.org), EnergySolutions Foundation, Salt Lake City, Utah

This workshop will present lesson plans, labs, and presentations that are intended as teaching aids for the discussion of radiation and energy with an emphasis on nuclear energy. This information can be used to increase science processing skills and science literacy. The lesson plans and labs were created by a number of expert educators for use in junior high and high school classrooms to teach concepts related to energy.

Fast and Furious Force and Motion (Phys)

(Grades 6–9)

Room 226, Convention Center

Sponsor: Lab-Aids, Inc.

Mark Koker, Lab-Aids, Inc., Ronkonkoma, N.Y.

This new middle level unit from SEPUP's Issues and Physical Science course lets students study core force and motion concepts using a scenario of a family who has just survived a serious car accident and is in the market for a safer car. Students learn about Newton's laws, balanced and unbalanced forces, speed and acceleration, friction, and collisions. They then apply this knowledge in practical terms to understand braking distance, safe driving, and SUV-type rollovers. Join us for a hands-on look at measuring speed, motion graphs, and circular motion.

EDVOTEK Biotechnology—Biotechnology on a Budget —Science Teaching— (Bio)

(Grades 6–College)

Room 228, Convention Center

Sponsor: EDVOTEK

Jack Chirikjian (info@edvotek.com), EDVOTEK, Rockville, Md.

Bring DNA, genetics, and biotechnology to life in your classroom with exciting, affordable, and ready-to-use activities, including genetics games, DNA extraction, spooling, and DNA electrophoresis using fluorescent dyes. Participants are automatically entered into a raffle for a FREE classroom electrophoresis setup (a \$500 value)!

Building Inquiry with a Human Approach —Science Content— (Bio)

(Grades 10–12)

Room 231, Convention Center

Sponsor: Kendall/Hunt Publishing Co.

Paul Beardsley, BSCS, Colorado Springs, Colo.

Inquiry can be thought of as a continuum. When students first experience inquiry, they

need guidance to help them ask appropriate, testable questions; collect evidence; and analyze data. As students gain experience and confidence, they ask more appropriate questions and improve their skills at forming explanations. When students understand the essential features of inquiry, they can conduct an independent inquiry. *BSCS Biology: A Human Approach* is designed to help students understand biology concepts through the use of inquiry-based activities and constructivist learning strategies. As students move through this curriculum, they transition from activities that explicitly guide their inquiry to doing their own inquiry. Along their journey, students learn how asking questions, conducting experiments, gathering data, forming explanations, relating explanations to other applications, and communicating their explanations are valuable skills that help them evaluate science-related issues that are part of everyday life.

Experience Digital Physics Curricula

(Phys)

(Grades 9–College)

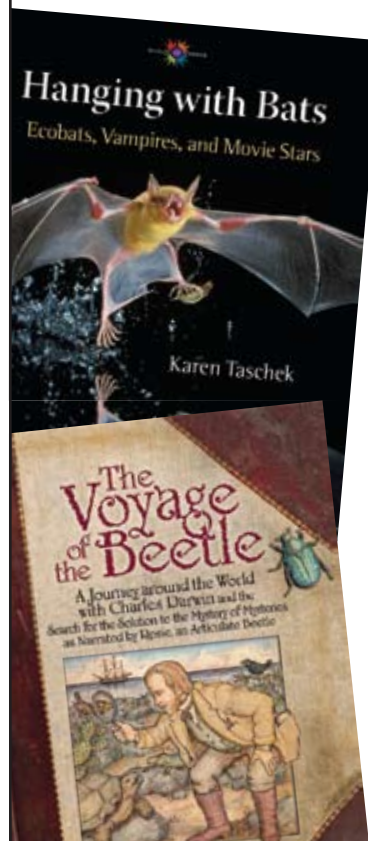
Room 232, Convention Center

Sponsor: Kinetic Books

Mark Bretl (markb@kbooks.com), Kinetic Books, Seattle, Wash.

Learn how a fully integrated digital physics curriculum can aid your instruction. Application of multiple learning styles and inquiry-based learning in a self-paced package provides students with experimentation and involvement. Join us for an overview of the design and use of our products along with many subject highlights.

Science Books for Grades 4 - 9 & Teacher Resources



- Death Stars, Weird Galaxies, and a Quasar-Spangled Universe: The Discoveries of the Very Large Array Telescope
- The Colorado Plateau: A Geologic History
- Global Health Narratives: A Reader for Youth
- A Field Guide to the Plants and Animals of the Middle Rio Grande Bosque
- Field Guide to the Sandia Mountains
- Mountain Wildflowers of the Southern Rockies: Revealing Their Natural History
- Amphibians and Reptiles of New Mexico
- Clem: The Story of a Raven
- Cranes—The Noblest Flyers: In Natural History and Cultural Lore
- The Day the Sun Rose Twice: The Story of the Trinity Site Nuclear Explosion, July 16, 1945
- The Paleontology of New Mexico
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**Educational Gaming in Science: Shifting the Paradigm —Science Teaching—
(Gen)**

(Grades 3–5)

Room 235, Convention Center

Sponsor: Tabula Digita

Nt Etuk (nt@tabuladigita.com), Tabula Digita, New York, N.Y.

At least 93% of U.S. K–12 students play videogames. Math has capitalized, with Tabula Digita math games more than DOUBLING score increases on district exams...it's time for science. Education is about to become very cool—let the games begin!

**Learning Chemistry with Software for Molecular-Level Visualization —Profes-
sional Development—
(Chem)**

(Grades 9–College)

Room 236, Convention Center

Sponsor: Wavefunction, Inc.

Paul Price (sales@wavefun.com), Wavefunction, Inc., Irvine, Calif.

Do you see students struggle with the key concepts of molecular science? Would you like to engage your students with state-of-the-art simulations that are scientifically sound? Attend this hands-on workshop using notebook computers and learn how to remove misconceptions and teach more effectively. Free take-home CD with select demonstrations.

9:30–11:30 AM PRESENTATIONS

SESSION 1

PDI

**FI Pathway Session: Moving Beyond “Probes:” Constructing and Using Elicitation Questions to Diagnose Needs of the Science Class and Inform Teachers of Student Needs —Assessment—
(Phys)**

(General)

Room 339, Convention Center

Jim Minstrell (jimminstrell@facetinnovations.com) and **Ruth Anderson** (randerson@facetinnovations.com), FACET Innovations, Seattle, Wash.

Eric Magi (ericm@spokaneschools.org), Spokane (Wash.) Public Schools

Participants will experience elicitation questions that can be used to open up the issues in the next sub-unit of science content. Elicitation questions can help the teacher get the “lay of the land” in terms of specific sorts of initial understandings that students exhibit before instruction. For students, the related discussion can begin to give them an idea of what they are going to need to understand.

SESSION 2

PDI

**WestEd Pathway Session: A Professional Learning Community: Getting Started
—Professional Development—
(Gen)**

(General)

Room 341, Convention Center

Karen Cerwin (kcerwin@wested.org), WestEd, Santa Ana, Calif.

Overcome inertia! Learn strategies to set a professional learning community in motion in your department or grade level using successful professional development activities.

9:30 AM–12:30 PM PRESENTATION

SESSION 1

Digital Scaffolding for Engineering Design —Science Content— (Phys)
 (Elementary–High School) Room 334, Convention Center

David Crismond (dcrismond@ccny.cuny.edu), City College of New York, N.Y.

Craig Adams (dsteinho@columbia.k12.mo.us) and **Doug Steinhoff** (dsteinho@columbia.k12.mo.us), Jefferson Junior High School, Columbia, Mo.

Presider: Doug Steinhoff

Learn some classroom-tested approaches that use digital audio and video for scaffolding students' engineering design thinking and for doing design-based formative assessment.

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10:00–10:05 AM EXHIBITS OPENING/RIBBON-CUTTING CEREMONY

NSTA Exhibits Entrance, Hall B1, Convention Center

Presider: Page Keeley, NSTA President, and Maine Mathematics and Science Alliance, Augusta

Welcoming Remarks: Supriya Jindal, First Lady of Louisiana, Baton Rouge

Musical Entertainment: New Orleans Center for Creative Arts (NOCCA) Jazz Ensemble under the direction of Michael Peller, Music Department Chair and jazz instructor

Special Guests: Page Keeley; First Lady Supriya Jindal; John Whitsett, NSTA Retiring President, and Fond du Lac (Wis.) School District; Pat Shane, NSTA President-Elect, and The University of North Carolina at Chapel Hill; Alan McCormack, President-Elect, CESA President, and San Diego State University, San Diego, Calif.; Charlotte Bihm, President, Louisiana Science Teachers Association, and St. Landry Parish School Board, Opelousas; Francis Q. Eberle, Executive Director, NSTA, Arlington, Va.; Jean May-Brett, Chairperson, NSTA New Orleans National Conference on Science Education, and Louisiana Dept. of Education, Baton Rouge; Brenda Nixon, Program Coordinator, NSTA New Orleans National Conference on Science Education, and Louisiana State University, Baton Rouge; Paul Johnson, Local Arrangements Coordinator, NSTA New Orleans Conference on Science Education, and Terrebonne Parish School District, Houma, La.; Rick Smith, Director, Advertising and Sales, NSTA, Arlington, Va.

10:00–11:30 AM PRESENTATION

SESSION 1

PDI

SC Pathway Session: The Nuts and Bolts of Building a Science Coaching Initiative, Part 1 —Professional Development— **(Gen)**

(General)

Room 348, Convention Center

Nan Dempsey and **Betty Hadden** (*haddenb@scsc.edu*), South Carolina Mathematics & Science Unit, Duncan

Thinking of coaching as a strategy to improve science instruction? Wondering what steps to take next? Join the South Carolina Department of Education's Mathematics & Science Unit in a conversation about lessons we've learned in designing, implementing, and refining our K–8 coaching initiative.

10:00–11:30 AM EXHIBITOR WORKSHOPS

Optics with Light and Color —Science Content— **(Bio)**

(Grades 6–12)

Room 210, Convention Center

Sponsor: CPO Science/School Specialty Science

Erik Benton, **Patsy Eldridge**, and **Scott Eddleman**, CPO Science/School Specialty Science, Peabody, Mass.

This workshop provides an overview of the new CPO Light and Color kit. Participants will engage in a hands-on investigation of the concepts of optics, color mixing, and how the human eye works using our new LED lights, laser, and both convex and concave lenses.

Introducing Inquiry Investigations™: Hands-On Inquiry Activities Focusing on Technology —Science Content— **(Gen)**

(Grades 7–10)

Room 213, Convention Center

Sponsor: Frey Scientific/School Specialty Science

Ken Rainis and **Sarah Forst**, Frey Scientific/School Specialty Science, Bristow, Va.

Explore the new hands-on, active learning science modules and kits geared for students in grades 7–10. See how technology and inquiry help students understand essential science content in these areas: Forensics, Physical Science, Cellular World, Biotechnology, Genetics, Life’s Kingdoms, Environmental Issues and Solutions, Chemistry, Earth’s Resources, and Human Biology.

Chemistry with Vernier —Science Teaching— **(Chem)**

(Grades 9–College)

Room 222, Convention Center

Sponsor: Vernier Software & Technology

Jack Randall (info@vernier.com) and **Dan Holmquist** (info@vernier.com), Vernier Software & Technology, Beaverton, Ore.

Experiments such as acid-base titration and Boyle’s law from our popular *Chemistry with Vernier* and *Advanced Chemistry with Vernier* lab books will be performed in this hands-on workshop. Conduct these experiments using LabQuest as a stand-alone device and on a computer. Try SpectroVis, our new low-cost spectrophotometer. Experiments are appropriate for introductory, AP, IB, and college courses.

10:00 AM–12 Noon NSTA INTERNATIONAL DAY CONCURRENT SESSIONS

Concurrent Session 1a: Elementary/Middle Level

(Elementary/Middle Level)

Norwich, Hilton

Presider: Judith Lederman, Illinois Institute of Technology, Chicago

This concurrent session will feature papers from international science educators at the elementary and middle levels that focus on science education projects that involve international collaborations or are conducted at the international level.

Science Teacher Professional Development

Ming jun Su, Kaohsiung County, Taiwan

“Plasma Phase” for Middle School Students

Taha Massalha, Academic College for Education in Israel, Haifa

Rachel Abadi, Levinsky College of Education & Kibbutzim College, Tel-Aviv, Israel

Science Education in a Transforming Nation–Bulgaria

James Hollenbeck, Indiana University Southeast, New Albany

How Can Science Help Students Improve on Computation?

Sencer M. Corlu and **Mehmet C. Ayar**, Texas A&M University, College Station

Aylin Kaya, Süleyman Şah İlköğretim Okulu, Istanbul, Turkey

Ilkay Duygu Aksoy, Erenköy Işık İlköğretim Okulu, Istanbul, Turkey

Concurrent Session 1b: Secondary/College

(High School–College)

Newberry, Hilton

Presider: Teresa Kennedy, The GLOBE Program, University Corporation for Atmospheric Research, Boulder, Colo.

This concurrent session will feature papers from international science educators at the secondary and college levels that focus on science education projects that involve international collaborations or are conducted at the international level.

An Introduction to Global Inquiry and Investigation: We Invite You to Join NSTA in Costa Rica Summer 2009

Sandy Doss, Holbrook Travel, Gainesville, Fla.

Marylin Lisowski, Pittsburgh, Pa.

The GLOBE Program Around the World

Teresa Kennedy, University Corporation for Atmospheric Research, Boulder, Colo.

Michael Odell, University of Texas, Tyler

Paul Ruscher, Florida State University, Tallahassee

IPY (International Polar Year) Polar Oceans Day

Louise T. Huffman, ANDRILL, Naperville, Ill.

Jean Pennycook, Fresno (Calif.) Unified School District

Elena Sparrow, Institute of Arctic Research, University of Fairbanks, Alaska

Janet Warburton, Arctic Research Consortium of the United States, Fairbanks, Alaska

Sandra Zicus, International Antarctic Institute, Hobart, Australia

Frank Niepold, NOAA, Silver Spring, Md.

Rhian Salmon, IPY International Programme Office, Cambridge, U.K.

Concurrent Session 1c: Secondary/College

(High School–College)

Durham, Hilton

Presider: Norman Lederman, Illinois Institute of Technology, Chicago

This concurrent session will feature papers from international science educators at the secondary and college levels that focus on science education projects that involve international collaborations or are conducted at the international level.

Student Collaboration Through Field Studies in South China and Vermont

Peter Lynch, Green Across the Pacific, Inc., Shoreham, Vt.

From Akron Ohio to Cape Town, South Africa

Steven L. Frantz, Julia Moyer, Katelyn Jefferys, Ashley Falls, and Elizabeth Price,

Roswell Kent Middle School, Akron, Ohio

Field Experiences in the Galapagos and Central America

Bruce A. Calhoun, Save The Rainforest, Inc., Las Cruces, N.Mex.

The Importance of International Collaboration via the ICUC

Carlos Castro-Acuña, National Autonomous University of Mexico, Mexico City

10:00 AM–12 Noon PRESENTATION

SESSION 1

PDI

McREL Pathway Session: Using a Formative Assessment Process to Determine Evidence of Student Understanding —*Science Content*— (Gen)

(General)

Room 346, Convention Center

Anne Tweed (*atweed@mcrel.org*), 2004–2005 NSTA President, and Mid-continent Research for Education and Learning, Denver, Colo.

Bj Stone (*bstone@mcrel.org*), Mid-continent Research for Education and Learning, Denver, Colo.

Using a formative assessment process will help participants gather evidence of student learning that can be used to inform instruction and adapt to the learning needs of students. You will learn about a feedback process and formative assessment strategies that will close your students' learning gap. Handouts provided.

10:00 AM–12 Noon EXHIBITOR WORKSHOP

What's Going On in There? —*Science Teaching*— (Gen)

(General)

Room 208, Convention Center

Sponsor: Delta Education/School Specialty Science

John J. Cafarella (*syyentz@ptd.net*), Consultant, Nashua, N.H.

This workshop covers inquiry science for administrators. Learn how to support and evaluate an inquiry-based science program and what to look for while observing a lesson. We'll look at the use of inquiry skills, content, notebooking, and assessment while engaging in interactive, inquiry-based activities.

10:00 AM–6:00 PM MEETING

NSTA International Lounge

Trafalgar, Hilton

Please stop by the NSTA International Lounge to relax or meet colleagues while you're here at the NSTA New Orleans National Conference on Science Education.

10:05 AM–6:00 PM EXHIBITS

Hall B1, Convention Center

Come see the most up-to-date science textbooks, software, equipment, and other teaching materials. Some exhibitors will offer materials for sale.

10:30–11:30 AM PRESENTATION

SESSION 1

PDI

UNV Pathway Session: We Do Science Here! The Administrator's Role in a Title 1 (K–5) Science-intensive Public School —*Professional Development*— (Gen)

(General)

Room 350, Convention Center

Wendy Roselinsky (*roselinsky@interact.ccsd.net*), Clark County School District, Las Vegas, Nev.

Lori A. Fulton (*fultola@interact.ccsd.net*), Jay Jeffers Elementary School, Las Vegas, Nev. Learn how we have been able to encourage science instruction despite the pressures of NCLB in a Title I school with very high ELL and LEP populations. We will share our success, test scores, and vision so that other schools may learn from our experiences. Teaching science every day in every grade has been our motto for success.

10:30 AM–12 Noon EXHIBITOR WORKSHOP

Taking Science Outdoors with FOSS K–8 —Science Content— (Env)
(Grades K–8) Room 209, Convention Center

Sponsor: Delta Education/School Specialty Science-FOSS

Joanna Snyder and **Erica Beck Spencer**, Lawrence Hall of Science, University of California, Berkeley

Learn about the ground-breaking work done by the Boston Schoolyard Initiative (BSI) and other projects extending the FOSS curriculum to teaching and learning outside. We'll share effective strategies to engage children in powerful science learning experiences in their own school yard and local outdoor environment. Sample materials will be distributed.

11:00 AM–12 Noon PRESENTATIONS

SESSION 1

AoA Session: 21st-Century Skills (CSSS)—Science Teaching— (Gen)
(General) Room 252, Convention Center

Jan McLaughlin (*jmclaughlin@ed.state.nh.us*), CSSS President, and New Hampshire Dept. of Education, Concord

Join the Council of State Science Supervisors for an open conversation—time to share research, teaching strategies, materials, and ideas surrounding important 21st-century understandings and behaviors.

SESSION 2

AoA Session: 21st-Century Skills (SCST) —Science Content— (Gen)
(College) Room 253, Convention Center

Thomas Lord, SCST President, and Indiana University of Pennsylvania, Indiana

Join the Society for College Science Teachers for an open conversation—time to share research, teaching strategies, materials, and ideas surrounding important 21st-century understandings and behaviors.

SESSION 3

FDA Symposium Follow-Up Session: Nutrition —Science Content— (Bio)
(General) Room 257, Convention Center

Crystal Rasnake, U.S. Food and Drug Administration, College Park, Md.

Learn how to use the Nutrition Facts Panel to teach your students to make healthier food choices.

SESSION 4

PDI **LHS Pathway Session: Integrating Biodiversity Issues into Ecology and Evolution Units —Science Content—** **(Bio)**
(Middle Level–High School) *Room 337, Convention Center*
Sara Dombkowski (*sdombkowski@berkeley.edu*), Lawrence Hall of Science, University of California, Berkeley
 Participate in activities that integrate issues related to biodiversity into standards-based units at the high school level. Take home classroom-tested strategies to use in your biology or environmental science classroom.

11:00 AM–12 Noon **WORKSHOPS**

NMEA Session: Fishin’ for Math —Science Content— **(Bio)**
(Elementary–Middle Level/Informal Education) *Carondelet, New Orleans Marriott*
Courtney Thompson (*thompson@ripleys.com*) and **Megan Ennes** (*ennes@ripleys.com*), Ripley’s Aquarium of the Smokies, Gatlinburg, Tenn.
 Get students excited about math and science using creative hands-on activities. We’ll share lessons and examples.

NSELA Session: Scintillating Science: It’s All in Your Head —Science Content— **(Bio)**
(Middle Level–High School) *Mardi Gras D, New Orleans Marriott*
Tadzia Grandpre (*grandpre@bcm.edu*), **Deanne Erdmann** (*derdmann@bcm.edu*), and **Michael Vu** (*mv12@bcm.edu*), Baylor College of Medicine, Houston, Tex.
 Virtually every function, from breathing to creating memories, is controlled by the brain. Learn content and activities that explore this amazing part of the body.

11:00 AM–12 Noon **EXHIBITOR WORKSHOP**

Immersive Space Science Curriculum: “Moon Phases” in a Full-dome Classroom **(Earth)**
(Grades K–12) *Booth No. 1133, Exhibit Hall, Convention Center*
 Sponsor: Spitz, Inc.
David H. Bradstreet (*dbradstr@eastern.edu*), Eastern University, St. Davids, Pa.
Scott Huggins (*shuggins@spitzinc.com*), Spitz, Inc., Chadds Ford, Pa.
 Dr. David H. Bradstreet presents an immersive “Phases of the Moon” lesson, using the dome environment to visualize motions of the moon in a fun, engaging lesson. The *Spitz Full-dome Curriculum* uses original 3-D visualization as a completely new way to teach challenging space science concepts.

11:00 AM–12:30 PM GENERAL SESSION

Rain Forests, Medicine Men, and Google Earth: Curing the Incurable and Saving the Amazon in Six Dimensions (Gen)

(General)

La Louisiane Ballroom I, Convention Center



Speaker

Mark Plotkin

Ethnobotanist and President

Amazon Conservation Team

Arlington, Va.

mplotkin@amazonteam.org

Presider and Introduction of Speaker: Page Keeley, NSTA President, and Maine Mathematics and Science Alliance, Augusta

Platform Guests: Mark Plotkin; Page Keeley; John Whitsett, NSTA Retiring President, and Fond du Lac (Wis.) School District; Pat Shane, NSTA President-Elect, and The University of North Carolina at Chapel Hill; Alan McCormack, President-Elect-Elect, CESI President, and San Diego State University, San Diego, Calif.; Charlotte Bihm, President, Louisiana Science Teachers Association, and St. Landry Parish School Board, Opelousas, La.; Melissa Miller, NSTA Director, District VII, and Lynch Middle School, Farmington, Ark.; Randy Johnson, NSTA Treasurer, and Gering High School, Gering, Neb.; Francis Q. Eberle, Executive Director, NSTA, Arlington, Va.; Jean May-Brett, Chairperson, NSTA New Orleans National Conference on Science Education, and Louisiana Dept. of Education, Baton Rouge; Brenda Nixon, Program Coordinator, NSTA New Orleans National Conference on Science Education, and Louisiana State University, Baton Rouge; Paul Johnson, Local Arrangements Coordinator, NSTA New Orleans National Conference on Science Education, and Terrebonne Parish School District, Houma, La.

Despite millions spent on rain forest conservation, the pace of Amazonian destruction has accelerated. Not only are we witnessing the destruction of plant and animal species, but scores of tribal societies face imminent destruction as well. Why have so many conservation programs failed? What novel approaches offer the greatest hope? And how can we marry ancient shamanic wisdom to 21st-century technology to find new wonder drugs, protect Mother Nature's greatest creation, and teach this stuff to school kids with ever-shrinking attention spans?

*Renowned ethnobotanist Mark J. Plotkin is an expert on rain forest ecosystems in the Neotropics and an advocate for tropical rain forest conservation. While working on his PhD at Tufts University, he completed a handbook for the Tirio people of Suriname detailing their medicinal plants. He went on to do research at Harvard, where he documented the use made by Native American tribes of medicinal plants unknown to Western science, just at the moment when traditional shamanic wisdom was disappearing from tribal cultures. His book *Tales of a Shaman's Apprentice* (1993) has been translated into five languages and formed the basis of the IMAX film *Amazon*, which was nominated for an Academy Award.*

In 1995 Plotkin and prominent Costa Rican conservationist Liliana Madrigal formed the Amazon Conservation Team to foster partnerships with indigenous groups to protect their culture in Suriname, Colombia, and Brazil. Plotkin is the recipient of numerous awards, including the Roy Chapman Andrews Society Distinguished Explorer Award (2004). In March 2008, Plotkin and Madrigal were among those chosen as "Social Entrepreneurs of the Year" by the Skoll Foundation.

11:00 AM–12:30 PM PRESENTATIONS

SESSION 1**PDI**

BSCS Pathway Session: Doing Science—Inquiry Moves to the Head of the Class!
—*Science Teaching*— **(Gen)**

*(General)**Room 333, Convention Center*

Anne Westbrook (awestbrook@bscs.org), BSCS, Colorado Springs, Colo.

Inquiry is an important set of understandings and skills, but it is often placed in the background in science instruction. In this session participants will have the opportunity to take part in activities that move inquiry to the head of the class!

SESSION 2**PDI**

NGS Pathway Session: Crittercam and WildCam: Bringing Exciting NGS Research Tools into the Classroom —*Science Content*— **(Env)**

*(Middle Level)**Room 347, Convention Center*

Kim Hulse (khulse@ngs.org), National Geographic Society, Washington, D.C.

Teach about animal habitats and behaviors from the animal's point of view. Thrilling footage and hands-on activities bring science to life in your classroom.

11:00 AM–1:00 PM MEETING

AMSE (Association for Multicultural Science Education) Board of Directors Meeting, Part 2

*(By Invitation Only)**Ascot, Hilton*

11:00 AM–1:00 PM PRESENTATIONS

SESSION 1**PDI**

EDCi Pathway Session: Linking Science and Literacy Through Nature Journals
—*Science Teaching*— **(Bio)**

*(Elementary–Middle Level)**Room 335, Convention Center*

Mark Baldwin (mbaldwin@rtpi.org), Roger Tory Peterson Institute, Jamestown, N.Y.

Three easy-to-learn, easy-to-teach methods introduce your science students to nature journals as a tool for linking inquiry-based science to literacy.

SESSION 2**PDI**

FHL Pathway Session: Outdoors After School —*Science Education Program*— **(Gen)**

*(Elementary–Middle Level)**Room 338, Convention Center*

William Rogers (billroger@gmail.com), First Hand Learning, Inc., Buffalo, N.Y.

Science Firsthand-Partners in Discovery is a project that gives urban youth both an adult mentor and time after school for exploring scientifically.

11:00 AM–1:00 PM EXHIBITOR WORKSHOP

Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level —Science Content— (Gen)

(Grades 3–4)

Room 212, Convention Center

Sponsor: Delta Education/School Specialty Science-Seeds

Jacqueline Barber, Jennifer Tilson, Traci Wierman, Jonathan Curley, Suzanna J. Loper, and Carrie Strohl, Lawrence Hall of Science, University of California, Berkeley
Learn about a new integrated science and literacy program that is designed for the 21st-century classroom. Science and literacy standards are addressed simultaneously, supporting findings that students learn more science when inquiry is supported by reading and writing. This workshop features new units for grades 3–4.

11:00 AM–1:30 PM MEETINGS

NSF Research Experiences for Teachers (RET) Network Meeting

Ile de France II, JW Marriott

College Science Teaching Committee Meeting

Jackson, New Orleans Marriott

Preschool–Elementary Science Teaching Committee Meeting

Bayside B, Sheraton

Research in Science Teaching Committee Meeting

Ellendale Boardroom, Sheraton

Middle Level Science Teaching Committee Meeting

Estherwood, Sheraton

Professional Development in Science Education Committee Meeting

Salon 824, Sheraton

11:30 AM–1:00 PM EXHIBITOR WORKSHOPS

Visualizing the Invisible with Your Students —Science Content— (Gen)

(Grades K–4)

Room 202, Convention Center

Sponsor: Science Kit & Boreal Laboratories

Patty Muscatello (pmuscatello@vwreducation.com), Science Kit & Boreal Laboratories, Tonawanda, N.Y.

Join me as I present visual hands-on activities to help your young students understand the type of “issues” that can affect their health. We will actively explore these issues in a fun, hands-on, scientific way.

Differentiated Science Instruction for Diverse Learners —Science Content—

(Gen)

(Grades 3–8)

Room 204/205, Convention Center

Sponsor: Millmark Education

Candy Carro (*ccarro5566@aol.com*), Tangier Smith, Mastic Beach, N.Y.

ConceptLinks makes it easy to teach challenging middle grades science content by providing an alternative to “one size fits all” textbooks. Come learn about effective strategies to support and engage ALL students while helping them master key standards-based science concepts. All participants will receive free sample materials and handouts!

A World in Motion: The Design Experience—JetToy Challenge —Science Content— **(Phys)**

(Grades 4–6)

Room 211, Convention Center

Sponsor: SAE International

Julie Nalducci, SAE International, Warrendale, Pa.

SAE International’s A World in Motion program is a series of design challenges that incorporates math, science, and technology standards. Students build balloon-powered toy cars with different chassis designs and nozzle sizes that meet specific performance criteria like distance, weight carried, or speed. Jet propulsion, friction, air resistance, and design are core scientific concepts students explore in this challenge. Not only will you learn how to use the materials, you will also learn how to receive a complete set of classroom materials free!

Take the Leap: Carolina’s Perfect Solution® Frog Dissection **(Bio)**

(Grades 9–12)

Room 215, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Frogs are ideal specimens for introducing basic human anatomy and body systems. Experience Carolina’s Perfect Solution® frogs, the most lifelike and safest preserved frog specimens available. Participants practice basic classroom dissection techniques and explore the anatomy and physiology of the frog. Free dissection supplies and door prizes.

Introduction to Electrophoresis **(Bio)**

(Grades 9–12)

Room 216, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Explore the basics of electrophoresis. Separate brightly colored dyes on agarose gels to determine which dyes are present in an unknown mix. Gels are run using economical, sturdy gel boxes that can be powered by inexpensive power supplies or batteries. Participants will load their own gels and perform electrophoresis.

Building Blocks of Science®: Measure It! **(Gen)**

(Grades 3–5)

Room 217, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Explore measurement concepts through various activities from the Measure It! unit. Activities focus on the metric system and also cover concepts of time, temperature, force, volume, and mass. Building Blocks of Science® helps students develop a solid foundation in science, meeting standards in areas not currently covered by inquiry-based curricula.

Virtual ChemLab: Bring Students’ Lab Experience to a New Level! No Goggles Required! —Science Teaching— **(Chem)**

(Grades 9–12)

Room 220, Convention Center

Sponsor: Pearson

Brian Woodfield, Brigham Young University, Provo, Utah

Come see a one-of-a-kind demonstration of Pearson's Virtual ChemLab, developed with Professor Brian Woodfield. Dr. Woodfield will demo real labs and procedures virtually and show how they support inquiry-based learning and help students develop critical-thinking skills in the chemistry classroom.

The New Edition of *Conceptual Physics* —Science Teaching— (Phys)

(Grades 9–12)

Room 221, Convention Center

Sponsor: Pearson

Paul Hewitt, City College of San Francisco, Calif.

Peter Hopkinson, Vancouver Community College, Vancouver, B.C., Canada

The 2009 Edition of *Conceptual Physics* still puts concepts in the “front seat,” but the back seat is now chock-full of problem sets for advanced students, including trig. We'll discuss how this new approach can serve ninth-grade as well as eleventh-grade students, and how this new edition is one “for all seasons.”

Streaming Your Secondary Science Needs —Science Content— (Gen)

(Grades 6–College)

Room 224, Convention Center

Sponsor: Ambrose Video Publishing

Allen Dohra (aldohra@hotmail.com), Ambrose Video Publishing, New York, N.Y.

Ambrosecigital.com is a new streaming and download site that offers one-year video and video clip streaming licenses to all faculty and students at a school or campus for as little as \$1.99. Learn how to stream James Burke's *Connections* or Bronowski's *Ascent of Man*, and hundreds more.

Galileo's Skies (Earth)

(General)

Room 225, Convention Center

Sponsor: Starry Night Education

Herb Koller (hkoller@starrynight.com), Starry Night Education, Edina, Minn.

Come see how Starry Night High School and Starry Night Middle School not only provide a complete package for teaching astronomy, but also easily depict events far in the past. In this session we'll simulate the skies seen by Galileo 400 years ago and re-create the views that changed astronomy forever.

A Natural Approach to Chemistry (Chem)

(Grades 9–12)

Room 226, Convention Center

Sponsor: Lab-Aids, Inc.

Tom Hsu, Author, Andover, Mass.

Join author Tom Hsu for a special preview and hands-on examination of selected laboratory activities from his new high school book *A Natural Approach to Chemistry*. This workshop takes a fresh look at how chemistry is used today, in and out of the laboratory. Experiments have been developed to allow the program to do real, quantitative chemistry using only non-toxic chemicals that are easy to dispose of. Fume hoods are not required and open flames are not used. Selected lab activities will feature an innovative new probeware system that is rugged, simple to use, and makes accurate, quantitative measurements accessible to all students. Selected labs and other program materials will be provided for all participants. This workshop is suitable for all high school chemistry teachers.

EDVOTEK Biotechnology—Teaching DNA Forensics —Science Teaching— (Bio)

(Grades 6–College)

Room 228, Convention Center

Sponsor: EDVOTEK

Jack Chirikjian (info@edvotek.com), EDVOTEK, Rockville, Md.

Learn how to teach students the core concept of molecular biology with fun pre-lab exercises and a hands-on experiment to increase comprehension. This workshop will introduce applications of DNA analysis using restriction enzymes and PCR specifically designed for general and upper-level biology. Participants are automatically entered into a raffle for a FREE classroom electrophoresis setup (a \$500 value)!

GIS: Painting an Environmental Picture

(Env)

(Grades 7–College)

Room 231, Convention Center

Sponsor: Forestry Suppliers, Inc.

Debra Raddin, Janet Ort, and Taylor Steele, Forestry Suppliers, Inc., Jackson, Miss.

Let us introduce you to inquiry-based environmental data gathering relative to soil, water, and atmospheric composition by which GIS applications can be completed. GLOBE protocols included.

Integrating Video Games and Core Curriculum with The JASON Project—Science Teaching—

(Env)

(Grades 6–9)

Room 232, Convention Center

Sponsor: The JASON Project

Bill Jewell (bjewell@jason.org) and **Marjee Chmiel** (mchmiel@jason.org), Digital Media and Technology, Ashburn, Va.



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Jay McTighe, co-author of the *Understanding by Design* series

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While many educators have expressed interest in using video games to teach, few games have been designed as core curriculum with the educator in mind. This workshop illustrates The JASON Project's Operation Resilient Planet video game, a 3-D standards-based game designed to be integrated directly into the middle school ecology curriculum.

Bringing Science to Life with 3-D Printing and Design (Gen)

(General)

Room 235, Convention Center

Sponsor: Dimension 3D Printing

Jesse Roitenberg (jroitenberg@stratasys.com), Dimension 3D Printing, Eden Prairie, Minn.

For engineers, architects, and others engaged in design, 3-D printing is a critical step in the process. Students pursuing these fields need to understand this technology. This presentation will demonstrate how the 3-D printing experience prepares design students—rapidly bringing their concepts to life.

Teaching AP Chemistry with Molecular-Level Visualization and Simulation Tools —Professional Development— (Chem)

(Grades 9–College)

Room 236, Convention Center

Sponsor: Wavefunction, Inc.

Paul Price (sales@wavefun.com), Wavefunction, Inc., Irvine, Calif.

Widely recognized as a powerful teaching tool, molecular modeling is now a common component of introductory chemistry classes at the college level. Join us for this hands-on workshop using notebook computers and learn how to integrate state-of-the-art modeling into your teaching of AP chemistry. Free take-home CD with select demonstrations.

11:30 AM–1:30 PM PRESENTATION

SESSION 1

PDI

Exploratorium Pathway Session: The Young Scientist: Engaging Three- to Five-Year-Old Children in Science Inquiry —Science Teaching— (Gen)

(General)

Room 349, Convention Center

Jeff Winokur (jwinokur@edc.org) and **Karen Worth** (kworth@edc.org), Education Development Center, Inc., Newton, Mass.

We will explore strategies for engaging three- to five-year-olds in authentic science inquiry and look at similarities and differences between inquiry at this and other age levels.

12 Noon–1:00 PM NSTA INTERNATIONAL DAY POSTER SESSION

Napoleon Ballroom, Hilton

Presider: Norman Lederman, Illinois Institute of Technology, Chicago

An opportunity to have focused, unrestricted interactions with your science teaching colleagues from around the world. Posters representing all grade levels will focus on projects that provide teaching and learning opportunities at the international level.

International Baccalaureate Middle School Program: Approaches to Learning in Science

John Romanowicz and **Brendan Miller**, International School of Amsterdam, Amstelveen, Netherlands

What Do Students Misunderstand About Galileo's Experiment at the Leaning Tower of Pisa?

Yun-Ju Chiu, Chang Gung University, Taoyuan, Taiwan

Learning How to Do Science By the Decomposition of Vitamin C

Denise Curi, Colegio Bandeirantes, Sao Paulo, Brazil

Science Wizard: Experimental and Didactic Models as a Teaching Tool for Mexican Biology Mentors

Julio Valdez-Niebla, Leonel Fierro-Gaxiola, Jesus Armando Gamez-Wilson, Guadalupe Duarte-Galvan, and Cuitlahuac Peiro-Lopez, Centro de Ciencias de Sinaloa, Mexico

Using Technology-enhanced Instruction to Support Inquiry Skills in an Internet-based High School in Northern Canada

Anthony W. Bartley, John Friesen, Marc Higgins, and Wayne Melville, Lakehead University, Thunder Bay, Ont., Canada

Structural Equation Modeling of Relationships Among Affecting Factors and Professional Competences of Science Teachers: Taiwan's Perspective

Ming-Liang Lin and Jeng-Fung Hung, National Kaohsiung Normal University, Kaohsiung County, Taiwan

Ming-Jun Su, Shu-Te University, Kaohsiung County, Taiwan

Research-based Experiences of an International Mathematics and Science Teacher

Sencer M. Corlu, Texas A&M University, College Station

Melike Kara, Bogazici University, Istanbul, Turkey

Teaching the International Year of Astronomy: Techniques and Resources

James G. Manning, Suzanne Gurton, and Tim Slater, Astronomical Society of the Pacific, San Francisco, Calif.

Tim Spuck, Oil City Area Senior High School, Oil City, Pa.

Mary Dussault, Harvard-Smithsonian Center for Astrophysics, Cambridge, Mass.

Denise Smith, Space Telescope Science Institute, Baltimore, Md.

Bringing Psychology Research to the High School Level

Beatriz Camargo Kohlbach, Colegio Bandeirantes, Sao Paulo, Brazil

Teaching Biotechnology in Grades 10–11 with an Interdisciplinary Project That Includes E-Learning Technology

Ana Cristina Palma Camargo, Colegio Bandeirantes, Sao Paulo, Brazil

How to Teach Physics to Athlete Students

Jang Jenq Chern, Kaohsiung Municipality Tsoying Senior High School, Tsoying District, Kaohsiung, Taiwan

Ming jun Su, Shu-Te University, Kaohsiung County, Taiwan

Integrating Chemistry Lab Classes with Prevention of Drug Use and Abuse

Denise Curi, Colegio Bandeirantes, Sao Paulo, Brazil

Learning Effect of an Internet Interactive Computer-assisted Instruction for a Biostatistics Chapter (T Distribution)

Lai-Chu See, Chang Gung University, Kweisan, Taiwan

Contemporary Issues, the Media, and Science Education

Wayne Melville and **Anthony Bartley**, Lakehead University, Thunder Bay, Ont., Canada

Molly Weinburgh, Texas Christian University Fort Worth

Integrative Approach in Teaching/Learning Science in Junior High Schools and in Colleges

Rachel Abadi, Levinsky College of Education & Kibbutzim College, Tel-Aviv, Israel

Taha Massalha, The Academic Arab College for Education in Israel, Haifa

Glenna Pearson, West Boylston (Mass.) Schools

12 Noon–1:30 PM EXHIBITOR WORKSHOPS

Chemistry and the Data Collector —Science Content—

(Chem)

(Grades 5–12)

Room 210, Convention Center

Sponsor: CPO Science/School Specialty Science

Erik Benton, **Patsy Eldridge**, and **Scott Eddleman**, CPO Science/School Specialty Science, Peabody, Mass.

Use CPO's new data collector with temperature and pressure probes to investigate Boyle's law in a hands-on activity. Log changing temperature digitally and watch the data collector graph your data in real time to pinpoint the exact freezing point of a delicious treat as it experiences a dramatic phase change.

K–8 Science with Vernier —Science Teaching—

(Gen)

(Grades K–8)

Room 222, Convention Center

Sponsor: Vernier Software & Technology

David Carter (info@vernier.com) and **Don Volz** (info@vernier.com), Vernier Software & Technology, Beaverton, Ore.

In this hands-on workshop you will learn how easy it is for your students to collect temperature data, heart rates, magnetic field data, and more. Try experiments from our popular *Elementary Science with Vernier* and *Middle School Science with Vernier* lab books using LabQuest or our low-cost line of Go! products on a computer.

12 Noon–3:00 PM PRESENTATION

SESSION 1

PDI

WestEd Pathway Session: Build a Professional Learning Community Through Assessment-centered Teaching —Assessment—

(Gen)

(General)

Room 341, Convention Center

Jo Topps (jtopps@wested.org), WestEd, Santa Ana, Calif.

Melissa Smith (melissa.smith@leusd.k12.ca.us), K–12 Alliance, Santa Ana, Calif.

Go beyond the grade book! Learn a process that includes designing a unit assessment plan, analyzing student work for patterns, and modifying instruction based on students' work.

12:30–1:00 PM PRESENTATIONS

SESSION 1

A Thirsty World: Can Science Solve Global Water Conflicts? —Professional Development— (Env)

(Middle Level)

Room 357, Convention Center

Annette N. Matzner (amatzner@norwoodschool.org), Norwood School, Bethesda, Md.

Using hands-on activities, online databases, and a UN-style summit meeting, students see water conflicts through the perspective of water-stressed countries around the world.

SESSION 2

The Science/Technology Connection —Science Teaching— (Gen)

(Elementary)

Room R04, Convention Center

Ana L. Delgado (anadel22@yahoo.com), **Laurie A. Romero**, and **Sandra L. Flores**, Presa Elementary School, El Paso, Tex.

This session demonstrates how easily technology can be implemented into the elementary science curriculum through the use of digital microscopes, iMovie, and internet graphing tools.

SESSION 3

Taking a Stand on Environmental Issues —Science Content— (Env)

(General)

Balcony I, New Orleans Marriott

LeAnn Carter (nlcarter78@gmail.com), **Debby A. Chessin** (dchessin@olemiss.edu), and **Angela Rutherford** (araines@olemiss.edu), The University of Mississippi, University, Miss.

We'll share strategies and activities to get your students actively involved in the current environmental issues your community is facing.

SESSION 4

A Hands-On Approach to the Periodic Table —Science Teaching— (Chem)

(Middle Level–High School)

Gallier A/B, Sheraton

Elizabeth M. Potter (epotter@gmail.com), Lakes Community High School, Lake Villa, Ill.

Explore the periodic table as a way to teach students about the nature of science without losing important content about the periodic table.

12:30–1:30 PM **MARY C. McCURDY LECTURE**

Brainsense: Learning About the Brain Through Puzzles, Activities, and Optical Illusions (Gen)

(General)

Room 352, Convention Center



Speaker

Michael A. DiSpezio

Author and Global Educator

North Falmouth, Mass.

icaris@aol.com

Presider: Norma Guillory (norma.guillory@cpsb.org), LSTA Past President, and Calcasieu Parish Schools, Lake Charles, La.

Do you want to become a more powerful thinker? Would you like to discover how the latest brain research can improve your processing power? Well, here's your chance. Join Michael as he unwraps the mystery of this incredible organ using an assortment of mind-twisting puzzles, optical illusions, 3D magic, and stimulating activities. From understanding perception to learning how to maintain a brain-friendly environment, you'll experience how today's understanding of the brain emerges through the mechanics of these inexpensive and easy-to-share experiences.

Michael works with the National Geographic JASON Project as writer, online curriculum architect, content specialist, and broadcast talent for 60 live satellite broadcasts. He spent his graduate years at Woods Hole and worked as a research assistant to the Nobel laureate Albert Szent-Györgyi. After leaving the marine science laboratory and his post as a night school instructor at the Boston University School of Nursing, Michael spent eight years teaching a variety of elementary, middle, and high school science subjects. Moving from the classroom, he focused his attention on the development of educational materials, including authoring and co-authoring textbooks and trade books.

Michael's work goes beyond the borders of the standard classroom. He trained Arab educators in the Middle East as part of the Peace Accord. He also attended the Daytime Emmy Awards for his work on the Emmy-nominated show The Science of HIV. He has written and developed curricula for a variety of organizations, including the PBS series Scientific American Frontiers, Discover Magazine, The Weather Channel, Discovery Channel, and Children's Television Workshop.

Michael has hosted or co-hosted 60 live broadcasts of the National Geographic JASON Project, reaching millions of students worldwide. As part of his association with Houghton Mifflin Harcourt Publishers, he has worked intensively with the New York City Department of Education. In addition to designing and presenting an assortment of inquiry-based workshops, he has hosted dozens of web-based professional development videos that are accessible by the city's teachers.

12:30–1:30 PM **PRESENTATIONS**

SESSION 1



Science in a Time of Crisis —Science Education System—

(Gen)

(Elementary–High School)

Room 238, Convention Center

Alan W. Fortescue (afortescue@earthwatch.org), Earthwatch Institute, Maynard, Mass.

It is important to tie research to social action. Teachers returning from field research pro-

grams on climate change talk about how to use scientific investigation as a means for instilling a sense of community involvement and civic duty into programs.

SESSION 2



OOPS: The Green House —Science Content—

(Env)

(Middle Level)

Room 239, Convention Center

Shannon Fulmer Wigley (*sfwigley@yahoo.com*), Our Lady of Perpetual Help School, Belle Chasse, La.

The Office of Officially Prepared Solutions (OOPS) has been commissioned to build a home that is “off the grid.” “The Green House” is an exciting interdisciplinary unit designed for middle school students.

SESSION 3



ISTE: Wikis for Students and Teachers in Science

(Gen)

(General)

Room 242, Convention Center

Ben Smith (*ben@edtechinnovators.com*), Red Lion Area High School, Red Lion, Pa.

Jared Mader (*jared@edtechinnovators.com*), Red Lion (Pa.) Area School District

Hands on—come set up your wiki! Learn how to create and maintain a wiki, including adding images, links, and audio. Return to your classroom with a resource already in place to be used with your science curriculum and instructional strategies.



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SESSION 4

FDA Symposium Follow-Up Session: Dreaming at the Frontiers of Bioscience: Five Technologies That Will Change Your Life—Stay Tuned! —Science Content— (Bio)

(General)

Room 257, Convention Center

Suf Alkhalidi (*sufian@alkhalidi@fda.hhs.gov*), U.S. Food and Drug Administration, College Park, Md.

Learn cutting-edge technologies used to study foodborne pathogens and advance scientific capabilities. These technologies may have a huge impact not only on our daily lives, but also on the future generation of your students. Yes, an exciting time of scientific achievements is ahead of us.

SESSION 5

PDI

LHS Pathway Session: Making Connections: Strategies for Sustaining the Project —Science Content— (Gen)

(Middle Level—High School)

Room 337, Convention Center

Heather Johnson (*h-johnson@northwestern.edu*), Northwestern University, Evanston, Ill.
Daniel Edelson, National Geographic Society, Washington, D.C.

While students benefit from project-based science, teaching it can be challenging. We'll share instructional strategies that keep the science meaningful and sustain student motivation.

SESSION 6

Chicago Public Schools' Cluster 4 Middle Grade Project: Year One Lessons Learned —Science Education Program— (Gen)

(Middle Level)

Room 345, Convention Center

Chandra James, Chicago (Ill.) Public Schools

Gina Grant (*glgrant1@cps.k12.il.us*), Medill Training Center, Chicago, Ill.

This session will outline the strategies, key components, research data, and current state of the Cluster 4 Middle Grade Project.

SESSION 7 (two presentations)

(Preschool—Elementary)

Room R01, Convention Center

Camping with the Fishies —Science Teaching— (Bio)

M'Adele S. Carson (*carsonm@mail.santarosa.k12.fl.us*), Bennett Russell Elementary School, Gulf Breeze, Fla.

Charlene Mauro (*mauroc@mail.santarosa.k12.fl.us*), Navarre High School, Navarre, Fla.

Learn about an effective, inquiry-based, fun-filled marine day camp for elementary students. Take home a curriculum overview and a long list of references.

Becoming Butterflies: Making Metamorphosis Meaningful to Young Children —Science Teaching— (Bio)

Paige V. Baggett (*pbaggett@usouthal.edu*), **Edward L. Shaw, Jr.** (*eshaw@usouthal.edu*), and **Rebecca M. Giles** (*rgiles@usouthal.edu*), University of South Alabama, Mobile

Discover ways to illustrate the life cycle of a butterfly using a variety of creative activities incorporating visual arts, music, movement, and science.

SESSION 8

CESI Session: CESI Presents: Everything You Wanted to Know But Were Afraid to Ask About Science Safety and Authentic Assessment —Assessment— (Gen)

(Preschool—Middle Level)

Room R07, Convention Center

Kay Atchison Warfield (*kaw@alsde.edu*), Alabama State Dept. of Education, Montgomery

Mary Beth Katz (*mbkatz@bellsouth.net*), Alabama Science Teachers Association, Birmingham

Join us for roundtable topics addressing concerns of K–8 teachers. Make your classroom safe and learn nontraditional methods to evaluate students.

SESSION 9

Why Won't Jane Compute? Using the New IES Frameworks to Promote the Talents of Girls in Your Science Classroom —Science Teaching— (Gen)
(Elementary–High School) Elmwood, Hilton

Nancy N. Heilbronner (*nancy.heilbronner@uconn.edu*), University of Connecticut, Storrs
Learn how to use the new Institute of Education Science (IES) frameworks to improve girls' interest and performance in your classroom.

SESSION 10 (two presentations)

(General)

Jasperwood, Hilton

Graphic Analysis —Science Content— (Gen)

Gordon L. Wells (*gordon.wells@ovu.edu*), Ohio Valley University, Vienna, W.Va.

Computer graphics programs will be used to analyze data. We'll graph student data and determine the equation for the best fit line. Handouts provided.

Mathematics Anxiety in the Science Classroom (Gen)

DesLey V. Plaisance (*desley.plaisance@nicholls.edu*), Nicholls State University, Thibodaux, La.

What is math anxiety? Do you know a student with math anxiety? Wonder how you can help? If you want answers to these questions, attend this session.

SESSION 11

Educational Outreach: A Roundtable —Professional Development— (Gen)
(General) Oak Alley, Hilton

J. Katie Rasmussen (*jrasmussen@amnh.org*), American Museum of Natural History, New York, N.Y.

Christine Nassar (*chnassar@mcps.com*), Mobile (Ala.) County Public Schools

Susan Van Gundy (*vangundy@ucar.edu*), NSTA Director, District XIV, and The National Science Digital Library, Boulder, Colo.

Zipporah Miller (*zmiller@nsta.org*), Associate Executive Director, Professional Programs and Conferences, NSTA, Arlington, Va.

This panel will share strategies, potential pitfalls, and lessons learned in educational outreach to science teachers, with a focus on using the web for dissemination.

SESSION 12

Science as a Vehicle for Language Development with ELL Students —Science Teaching— (Gen)
(General) Rosedown, Hilton

Lori A. Fulton (*fultola@interact.ccsd.net*), **Wendy Roselinsky** (*roselinsky@interact.ccsd.net*), **Emily Poeltler**, **Christina Guasto**, and **Jessica Shane** (*jshane@interact.ccsd.net*), Jay Jeffers Elementary School, Las Vegas, Nev.

David T. Crowther (*crowther@unr.edu*), University of Nevada, Reno

Learn some effective ELL strategies for science instruction at the elementary level.

SESSION 13

Outstanding Science Trade Books 2008: NSTA/Children's Book Council Selections —Science Teaching— **(Gen)**

(Elementary–High School)

Windsor, Hilton

Patricia Bricker (*bricker@email.wcu.edu*), Western Carolina University, Cullowhee, N.C.

Donna L. Knoell (*dknoell@sbcglobal.net*), Educational Consultant, Shawnee Mission, Kans.

Kristin T. Rearden (*krearden@utk.edu*), University of Tennessee, Knoxville

Len Sharp (*wsharp1@twcny.rr.com*), LeMoyne College, Syracuse, N.Y.

Diana Wiig (*dwiig@uwyo.edu*), University of Wyoming, Rock Springs

Nancy Chesley (*nchesley@mmsa.org*), Maine Mathematics and Science Alliance, Augusta

Suzanne Flynn (*suzannemflynn@earthlink.net*), Cambridge College, Cambridge, Mass.

Carrie Launius, Lindbergh School District, St. Louis, Mo.

Presider: Meg Beade, The Children's Book Council, New York, N.Y.

Looking for excellent science books? Every year the NSTA Outstanding Science Trade Books committee reads hundreds of books and identifies the best for its annual list. Committee members will present selection criteria and 2008 favorites.

SESSION 14

Edgy Science 2 —Science Content— **(Phys)**

(High School–College/Informal Education)

Conde, JW Marriott

Randall H. Landsberg (*randy@oddjob.uchicago.edu*), University of Chicago, Ill.

Kenneth Cecire (*ken.cecire@hamptonu.edu*), Hampton University, Hampton, Va.

Christopher M. Smith (*csmith@ctbp.ucsd.edu*), University of California San Diego, La Jolla

From brains to the Big Bang—take a crash course in forefront science with the NSF Physics Frontier Centers. We'll share hands-on activities and summer opportunities.

SESSION 15 (three presentations)

(General)

Frontenac, JW Marriott

SCST Session: Multidisciplinary Team-based Research for Undergraduates: Creative Inquiry —Science Teaching— **(Gen)**

Jeffrey R. Appling (*jappling@clemsun.edu*), Clemson University, Clemson, S.C.

Creative inquiry is the term applied to a new undergraduate research initiative at Clemson University. An analysis of the first three years of the program will be presented.

SCST Session: Using Student-developed Podcasts to Educate the Public About the Evolution-Creationism Controversy —Science Teaching— **(Bio)**

Jerry A. Waldvogel (*waldvoj@clemsun.edu*) and **Kelly Smith** (*kcs@clemsun.edu*), Clemson University, Clemson, S.C.

Learn about a creative inquiry project where college students use podcasts to improve the quality of the public debate over evolution and creationism.

SCST Session: How College Faculty Who Teach Creationism View the “Rules” of Science **(Bio)**

Michael H. Gipson (*mike.gipson@oc.edu*), Oklahoma Christian University, Oklahoma City

Join me as I share results of interviews with faculty who teach creationism at various religiously affiliated colleges and discover how they view the basic principles of science.

SESSION 16**Chemistry Q&A Videos —Science Content—****(Chem)***(High School–College)**Orleans, JW Marriott*

Vincent P. Giannamore (vincent.giannamore@nicholls.edu), Nicholls State University, Thibodaux, La.

Presider: Jeremy J. Wessel, Nicholls State University, Thibodaux, La.

Learn about a growing library of YouTube videos that explain answers to exam-style questions. We'll share strategies for motivating students to watch/learn or create their own videos.

SESSION 17**ASTE Session: Information, Networking, and Support for Preservice and New Teachers****(Gen)***(General)**St. Claude, JW Marriott*

Jon Pedersen (jep@unl.edu), ASTE President, and University of Nebraska, Lincoln

David A. Wiley (david.wiley@lr.edu), NSTA Director, Preservice Teacher Preparation, and Lenoir-Rhyne University, Hickory, N.C.

Come network with other preservice teachers, new teachers, and science educators as we talk about issues of importance to you.

SESSION 18 (two presentations)*(General)**Balcony K, New Orleans Marriott***A Coral Reef in Your Class: A Hands-On Teaching and Student Research Tool —Science Education Program—****(Env)**

Jon L. Swanson (jswanson@eosmith.org), Edwin O. Smith High School, Storrs, Conn.

Learn about pressures on wild reef ecosystems and coral biology, reef aquarium set-up/maintenance basics, and ways to incorporate coral aquaculture research into your classroom.

Inland Natural Disasters vs. Students and Schools: Who Wins? —Science Teaching—**(Env)**

Karen R. Wright, Calumet High School, Calumet, Okla.

Make natural disasters your co-teacher in the classroom. Co-designed, tested, and enjoyed by students!

SESSION 19 (two presentations)*(General)**Balcony L, New Orleans Marriott***Pete Seeger: Savior of the Hudson —Science Teaching—****(Env)**

Dan Carroll (thedancarroll@hotmail.com), **Mike Zito** (michael_zito@apsva.us), **Steve Papelian** (steven_papelian@apsva.us), and **Alan Beland** (kickthesky@hotmail.com), Yorktown High School, Arlington, Va.

Come join the Yorktown Yahoos in a rollicking musical tribute to Pete Seeger and the environmental movement that saved the Hudson River.

A Tale of Two Classes—Rural and Urban: Sharing Environmental Challenges —Science Content—**(Env)**

Christy Heid (heid@chatham.edu) and **Barbara Biglan** (biglan@chatham.edu), Chatham University, Pittsburgh, Pa.

Second graders in rural and urban schools conduct environmental foot-printing activities. Each class prepares and then shares a local problem. Urban-rural challenges are explored online.

SESSION 20

Differentiated Biotechnology for the 21st Century —Science Content— (Bio)

(Middle Level–High School/Supervision)

Balcony M, New Orleans Marriott

Andrea R. Cooney (andrea.cooney@ops.org) and **Elaine Westbrook** (elaine.westbrook@ops.org), Omaha North High Magnet School, Omaha, Neb.

Learn how curriculum from Beyond the Central Dogma Institute, directed by Nobel Prize winner Mario Capecchi, can be incorporated into innovative biotechnology curriculum programs.

SESSION 21

Problem-based Learning Across the Curriculum —Science Teaching— (Gen)

(General)

La Galerie 1, New Orleans Marriott

Joel Gluck (jglucl@aol.com), **Jackie FitzGerald** (jfitzg@verizon.net), and **John Santangelo** (jsantangelo13@verizon.net), NEL-CPS Construction Career Academy, Cranston, R.I.

We will discuss an interdisciplinary approach to problem-based learning in an inclusion setting.

SESSION 22

Integrated Science and Literacy —Science Teaching— (Gen)

(Elementary–Middle Level/Supervision)

La Galerie 6, New Orleans Marriott

Karie Gladis (kgladis@tcmpub.com), Teacher Created Materials, Huntington Beach, Calif.

Explore techniques that build literacy skills through the discoveries of science. We'll share strategies that will change the way you teach science concepts.

SESSION 23

Science Coaching: Improving Student Achievement Through Teacher/Science Coach Collaboration —Science Teaching— (Gen)

(General)

Mardi Gras A/B, New Orleans Marriott

Carolyn Landel (carolyn.landel@wwu.edu), Western Washington University, Bellingham

Learn the results of a Washington State pilot program that provided professional development for a cadre of science coaches and teamed them with science teachers across the state.

SESSION 24

NSELA Session: Curriculum Mapping: Analyzing Affective Results —Science Education Program— (Gen)

(General)

Mardi Gras D, New Orleans Marriott

Joyce M. Gleason (joycegle@earthlink.net), Educational Consultant, Punta Gorda, Fla.

After a review of the mapping process, we'll discuss the consequences of curriculum mapping on teachers and classrooms.

SESSION 25

CSSS Session: Science Literacy: Building from Literature Circles to Science Practice —Science Teaching— (Gen)

(General)

Mardi Gras F, New Orleans Marriott

Betsy A. Stefany, The SABENS Group, Hanover, N.H.

Jan McLaughlin (jmclaughlin@ed.state.nh.us), CSSS President, and New Hampshire Dept. of Education, Concord

This workshop will demonstrate how science teachers can collaborate with other domains using digital tools to improve science practice and interest.

SESSION 26**Teaching Science to Elementary School Teachers —*Science Teaching*— (Gen)***(Elementary/Supervision)**Regent, New Orleans Marriott***Heidi Gold-Dworkin** (*dr_heidi@little-scientists.com*), Little Scientists, Woodbridge, Conn.**Susan Cusato** (*cusatos1@southernct.edu*), Southern Connecticut State University, New Haven

University faculty will explain new methods to train elementary school teachers to be effective science resources in their schools. This education process is designed to increase teachers' competency in science content. The curriculum is aligned with state and national elementary science standards.

SESSION 27 (two presentations)*(Elementary–High School)**Bayside A, Sheraton***The Dognapping Case: A Hands-On Forensics Experience and Experiment for Grades 4–12 —*Professional Development*— (Chem)**

Paula B. McDonald (*pmcdon@mcneese.edu*), **Richard E. Donahoe** (*rdonahoe@mcneese.edu*), and **Alicia Courville** (*acourville@mcneese.edu*), McNeese State University, Lake Charles, La.

Students perform a series of forensics tests on various samples to identify one of four suspects who kidnapped a dog.

The Secret in the Cellar: A Written-in-Bone Forensic Case from the Colonial Chesapeake —*Science Content*— (Gen)**Laurie Carlton** (*lcarlton@ppsh.org*), Belle Chasse High School, Belle Chasse, La.

Try solving the extraordinary forensic case of a recently discovered 17th-century body using 11 online activities.

SESSION 28**Using Assessment Results to Drive Curriculum Reform and Professional Development at the Middle School Level —*Assessment*— (Gen)***(Middle Level–High School)**Edgewood A/B, Sheraton***Bonnie L. Arons-Polan** (*baronspolan@boston.k12.ma.us*), Boston Public Schools, Dorchester, Mass.

Presenter: Suzanne Gill, Boston Public Schools, Dorchester, Mass.

The Boston Public Schools Science Department used the Nancy Love model to inform science instruction and professional development. We'll present a description of the process and results.

SESSION 29 (two presentations)*(Informal Education)**Maurepas, Sheraton***Digital Ocean Data for the Digital Student: The NOAA Ocean Data Education Project —*Science Content*— (Env)**

Kenneth S. Casey (*kenneth.casey@noaa.gov*) and **Michiko Martin** (*michiko.martin@noaa.gov*), NOAA, Silver Spring, Md.

The NOAA Ocean Data Education Project makes digital ocean data available to you and your digital students.

Digital Tools for Digital Natives: Mining Ocean and Climate Data from NOAA
—*Science Teaching*— (Env)

Peggy L. Steffen (peg.steffen@noaa.gov) and **Bruce Moravchik** (bruce.moravchik@noaa.gov), NOAA National Ocean Service, Silver Spring, Md.

NOAA provides rich websites and real-time data to give your students access to oceans, weather, and climate information. Learn about these resources and classroom strategies.

SESSION 30 (two presentations)

(General)

Napoleon A1&2, Sheraton

Do Birds Have Belly Buttons? Kids Answer the Funniest Questions! —*Science Teaching*— (Bio)

Jennifer Fee (jms327@cornell.edu), Cornell University, Ithaca, N.Y.

Students engaged in the Cornell Lab of Ornithology's Citizen Science projects ask and answer their own questions about birds, often through experiments (Will a stuffed cat scare birds away? Does playground noise affect birds? Will feeder color change the number of birds that visit?). We collect and publish these scientific reports, and have noticed stumbling blocks students face as they undertake original research. I'll give you a copy of the latest *Classroom BirdScope* publication, discuss these challenges, and share new supports we've developed.

Celebrate Urban Birds: Connecting People with Nature in Urban Settings —*Science Teaching*— (Bio)

Jennifer Fee, Cornell Lab of Ornithology, Ithaca, N.Y.

Receive and discuss a free bilingual kit designed to engage urban residents in science, nature, art, and community building through inquiry-based citizen science focused on birds.

SESSION 31

Teaching About Nature of Science, Models, and DNA —*Science Content*— (Bio)

(Middle Level–College)

Napoleon A3, Sheraton

Renee S. Schwartz (r.schwartz@wmich.edu) and **Brandy Skjold** (brandy.pleasants@wmich.edu), Western Michigan University, Kalamazoo

These classroom-tested lessons integrate teaching about nature of science, scientific models, and DNA structure.

SESSION 32

When Google Doesn't Know: How to Make Your Colleagues Your Greatest Resource! —*Professional Development*— (Earth)

(High School)

Napoleon B3, Sheraton

Bettina Dembek (bdembek@edc.org), Education Development Center, Inc., Newton, Mass.

Gain a better understanding of science concepts that you are teaching your students by learning how to connect with experts and colleagues nationwide.

SESSION 33

Finding Earth Science Data Relevant to You, Your Students, and Your Curriculum —*Science Teaching*— (Earth)

(Middle Level–College)

Napoleon C1, Sheraton

Tamara S. Ledley (tamara_ledley@terc.edu), TERC, Cambridge, Mass.

Anupma Prakash (prakash@gi.alaska.edu), University of Alaska, Fairbanks

Learn how to use DataSheets (http://serc.carleton.edu/usingdata/browse_sheets.html) to find the earth science data you need to help your students conduct thought-provoking investigations.

SESSION 34

Motivating Lab Activities That Bring Real-World Problem Solving into Your Classroom —Science Teaching— (Bio)

(High School)

Rhythms I, Sheraton

J. Greg Ulmer and **Carolyn Ulmer**, Fort Zumwalt South High School, St. Peters, Mo. Experience successful lab activities that teach students to use real-world skills, inquiry, and technology to solve real-world science problems. These labs are guaranteed to motivate all levels of science students.

SESSION 35

Using Student Work to Develop Teaching Strategies for Open-Response Questions on Standards-based Testing —Assessment— (Chem)

(Middle Level–High School)

Salons 817 & 821, Sheraton

Michael G. Terkla (mterkla@boston.k12.ma.us), The English High School, Jamaica Plain, Mass.

Inclusion teachers have measured the effectiveness of various learning strategies on students' answers to open-response questions as part of an action research plan.

SESSION 36

Teaching Students to Think as Engineers —Science Teaching— (Phys)

(Middle Level–High School)

Salon 828, Sheraton

Kiza Armour (karmour@pittsfield.k12.nh.us), Pittsfield Middle High School, Pittsfield, N.H.

Explore specific ways to focus and assess student inquiry, teach students to meaningfully discuss peer experiments, and integrate authentic engineering experiences into your curriculum.

SESSION 37

Best Practices in Molecular Biology: Better Transformations, Faster Gels, Stronger Science —Science Content— (Bio)

(High School–College)

Southdown, Sheraton

Simon Holdaway (holdaway.simon@gmail.com), The Loomis Chaffee School, Windsor, Conn.

Let us introduce you to a method to link three molecular biology labs (transformations, restriction digests, gel electrophoresis) into a single cohesive unit using new, and faster, reagents and techniques.

12:30–1:30 PM **WORKSHOPS**

Empowering Parents in STEM: Family Science Night Activities at School —Science Content— (Gen)

(Preschool–Middle Level)

Room 252, Convention Center

Leigh Gostowski (gostowsk@mtsu.edu), **Linda A. Gilbert**, and **Kim Cleary Sadler** (ksadler@mtsu.edu), Middle Tennessee State University, Murfreesboro

Join the EEC Project, an informal science program in Tennessee, as it launches Family Science Night, and participate in some fun, easy, and inexpensive activities you can do at your own school!

Soar Through the Solar System —Science Education Program— (Earth)

(Elementary)

Room 343, Convention Center

Julie E. Taylor (julie_taylor@eee.org), Solar System Educator, Victorville, Calif.

In this fast-paced hands-on workshop you'll learn how to scale the solar system in correct size, distance, and volume using materials found in the kitchen.



Uncovering Student Ideas with Everyday Science Mysteries —Science Content— (Gen)

(Elementary–Middle Level)

Room 344, Convention Center

Joyce Tugel, Maine Mathematics and Science Alliance, Augusta

Richard Konicek (konmor@comcast.net), University of Massachusetts, Amherst

Presider: Page Keeley (pkeeley@mmsa.org), NSTA President, and Maine Mathematics and Science Alliance, Augusta

Science stories can engage all students, elicit ideas encountered in the K–8 curriculum, and provide an entry into inquiry.

NMLSTA Session: CupCave: How an Egg in Vinegar Became the Anchor for a Unit on Caves —Science Teaching— (Earth)

(Middle Level)

Room 353, Convention Center

Holly L. Yoder (hyoder@elkhart.k12.in.us), Pierre Moran Middle School, Elkhart, Ind.

Discover how the simple “egg in vinegar” lab became the basis for a cave formation unit. Build a cave and word wall and incorporate literature, too.

Gadgets and Gizmos in the Kitchen: Technology in Everyday Science —Science Teaching— (Phys)

(Elementary–Middle Level)

Room 354, Convention Center

Richard A. Frazier (frazier@ucmo.edu), University of Central Missouri, Warrensburg

Gadgets and gizmos help students explore and appreciate big ideas in science in the comfort of the kitchen. Science in the kitchen makes science real.

How Do We Know? Using the Electromagnetic Spectrum to Map the Universe —Science Content— (Earth)

(Preschool–Middle Level)

Room 356, Convention Center

Linda L. Smith (lsmith@paulsboro.k12.nj.us), Loudenslager Elementary School, Paulsboro, N.J.

Create a scale model of the universe, catch a light ray in a tube, detect EMS radiation using everyday materials, and then take home a NASA CD and handouts.

Physics Is Elementary —Science Content— (Phys)

(Elementary)

Room R03, Convention Center

Nathan Heiselt (nericheiselt@bagley.msstate.edu), **H. Teresa Carter** (reccarter@hotmail.com), and **Sonya Smith** (sc54msu@hotmail.com), Mississippi State University, Mississippi State, Miss.

Amy Cummins (amyscummins@hotmail.com), Lee Middle School, Columbus, Miss.

Gloria Seward (gseward99@yahoo.com or gseward@neshoba.k12.ms.us), Neshoba Central Elementary School, Philadelphia, Miss.

Come get hands-on inquiry activities for teaching physics in the elementary school in this share-a-thon!

Squeezing in Science During the Elementary Day —Science Teaching— (Gen)
(Elementary) *Room R05, Convention Center*

Dawn M. Hudson (*dhudson@paulding.k12.ga.us*), Paulding County Schools, Dallas, Ga.
Tom Brown, Kennesaw State University, Kennesaw, Ga.

Join a successful group of educators who have received numerous MSP (Math Science Partnership) grants for developing teacher leaders in elementary science through the use of hands-on experiments, finding time to teach science in an elementary setting and beginning stages of inquiry. Teacher leaders in the MSP group will also be presenting practical advice with plenty of hands-on activities.

NSTA Student Chapter Session: Becoming a Leader in the Profession —Professional Development— (Gen)

(General) *Ile de France III, JW Marriott*

Bambi Bailey (*bambi_bailey@uttyler.edu*), The University of Texas at Tyler

Kate A. Baird (*kabaird@iupuc.edu*), Indiana University-Purdue University, Columbus

Participate in a round-robin of leadership activities, including personality inventories, problem-solving activities, and collaborative explorations of leadership.

Cuttin' Up in Earth Science —Science Teaching— (Earth)

(Elementary–Middle Level/Supervision) *Balcony J, New Orleans Marriott*

Rosemary Martin (*ssibastrop@gmail.com*), Bastrop, Tex.

Earth science have you exasperated? Come see how these activities and manipulatives can support your students in learning concepts. Door prizes, CDs, and fun!

Hands-On Environmental Science Activities That Are Inquiry Based —Science Content— (Env)

(Elementary–High School) *Balcony N, New Orleans Marriott*

Mary Louise Bellamy (*mlbellam@unity.ncsu.edu*), North Carolina State University, Raleigh

Engage in inquiry activities based on cutting-edge research conducted by scientists at the NSF Center for Environmentally Responsible Solvents and Processes.

NMEA Session: Understanding Sustainable Seafood—Good for You and Good for the Oceans —Science Content— (Env)

(Middle Level–High School) *Carondelet, New Orleans Marriott*

Mary C. Whaley and **Lacey Moore** (*lmoore@mbayaq.org*), Monterey Bay Aquarium, Monterey, Calif.

Investigate fishy ocean issues! Explore Monterey Bay Aquarium's Seafood Watch program and experience student activities that explore good choices for people and oceans.

The Biotech Revolution Comes to Your Classroom —Science Content— (Bio)

(Informal Education) *La Galerie 5, New Orleans Marriott*

Karen Kalumuck (*karenk@exploratorium.edu*), The Exploratorium, San Francisco, Calif.

We'll use simple materials to model the research techniques that have revolutionized our understanding of biology, including the use of genomics in diagnostics and therapeutics.

Global Connections: Forests of the World —Professional Development— (Env)

(General) *Mardi Gras E, New Orleans Marriott*

Al Stenstrup and **Kathy McGlaufflin** (*kmcglauflin@plt.org*), American Forest Foundation, Washington, D.C.

The forests of the world are changing. Project Learning Tree has completed Global Connections: Forest of the World, a new set of secondary activities that explores this vital component of Earth's natural systems. Participants will receive the module and poster.

Data-driven Inquiry Lessons for Chemistry —Professional Development—

(Chem)

(High School)

Bayside C, Sheraton

Chris Kennedy (*kennedy_c@bellsouth.net*), Hiram High School, Hiram, Ga.

These inquiry-based, student-focused activities are designed to be conducted in a 45-minute chemistry class. Electronic copies of resources will be provided.

Dive In with Physical Models: Explore the Unique Properties of Water and How Water Influences Protein Folding —Science Content—

(Bio)

(High School–College)

Borgne, Sheraton

Tim Herman (*herman@msoe.edu*), **Shannon Colton** (*colton@msoe.edu*), **Margaret Franzen** (*franzen@msoe.edu*), **Karen DeBoer** (*deboerk@kmsd.edu*), and **Mark Hoelzer** (*hoelzer@msoe.edu*), Center for BioMolecular Modeling, Milwaukee School of Engineering, Milwaukee, Wis.

Explore how magnetic water molecules teach the physical and chemical properties of water and how these principles are used to understand protein folding.

Differentiate! What? When? Where? How? —Science Teaching—

(Gen)

(Middle Level–High School)

Napoleon B1, Sheraton

Terri G. George (*terri.george@henry.k12.ga.us*), Henry County Schools, McDonough, Ga.

Nancy Adgate (*nadgate@henry.k12.ga.us*), Dutchtown Middle School, Hampton, Ga.

Amber Henry Godbee (*amber.henry@henry.k12.ga.us*), Ola Middle School, McDonough, Ga.

Terry Belflower (*tbelflow@doe.k12.ga.us*), Georgia Dept. of Education, Atlanta

Learn some strategies for differentiating in a middle or high school classroom.

Using Assessment to Improve Learning: Good Learning Questions —Professional Development—

(Gen)

(High School)

Napoleon B2, Sheraton

Douglas A. Buchanan (*dbucha5913@aol.com*), University of Edinburgh, Scotland

Explore best practice in formative assessment and the use of questions to promote thinking, discussion, and learning.

Plate Tectonics: An Introduction with Activities and 3-D Models —Science Content—

(Earth)

(Middle Level–High School)

Napoleon C2, Sheraton

Christine V. McLelland (*cmcllland@geosociety.org*) and **Gary B. Lewis**, Geological Society of America, Boulder, Colo.

We'll look at the history and evidence for plate tectonics. Take home a CD with activities and 3-D models for students to construct.

Modeling the Sun, Earth, and Moon Relationship —Professional Development—

(Earth)

(Middle Level–High School)

Napoleon C3, Sheraton

David M. Trant, Lincoln (Mass.) Public Schools

Discover hands-on lessons and manipulatives that teach the relationships between the Sun, Earth, and Moon. Take home handouts and performance task assessment options.

OPTICS MAGIC! Classroom Activities in Light and Color —Science Content—

(Phys)

(Informal Education)

Napoleon D1&2, Sheraton

Judith F. Donnelly (jdonnelly@lasertechonline.org), Three Rivers Community College, Norwich, Conn.

Nancy J. Magnani (nmagnani@eastconn.org), EastCONN, Willimantic, Conn.

Captivate your students with light! Proven lessons and hands-on activities introduce absorption, reflection, refraction, the color spectrum, and polarization. Curriculum resources provided for all participants.

Bugs and Scrubs: Hands-On Activities to Teach Disease Concepts —Science Content—

(Bio)

(Middle Level–High School)

Rhythms II, Sheraton

Kerry A. Donahue (kdonahue@curenet.org), **Sarah J. Berke** (sberke@curenet.org), and **Julie A. Potter**, BioBus Educational Programs, New Haven, Conn.

Come learn hands-on experiments, online resources, and virtual activities to teach fundamental and novel disease concepts. Classroom-ready activities will be presented.

Classroom Creatures: Using Live Organisms to Teach Difficult Lessons —Science Teaching—

(Bio)

(Middle Level–College)

Rhythms III, Sheraton

William Todd Callan (william.callan@nn.k12.va.us), Woodside High School, Newport News, Va.

Gretchen H. McConnell (ghmcco@wm.edu), College of William and Mary, Williamsburg, Va.

Come learn classroom techniques that will help to engage and teach students with lessons like genetics, evolution, protein synthesis, cladistics, and scientific investigation.

Teaching the Small-Particle Model of Matter: An Inquiry Approach —Science Teaching—

(Phys)

(General)

Salons 816 & 820, Sheraton

Cody Sandifer (csandife@towson.edu), Towson University, Towson, Md.

This session focuses on inquiry activities and computer simulations that help students develop a better understanding of small-particle phenomena. Bring your wireless-ready laptop if you have one.

12:30–2:00 PM PRESENTATIONS

SESSION 1

PDI

McREL Pathway Session: Instructional Technology and Virtual Manipulatives That Support Student Understanding —Science Content—

(Gen)

(General)

Room 346, Convention Center

Anne Tweed (atweed@mcrel.org), 2004–2005 NSTA President, and Mid-continent Research for Education and Learning, Denver, Colo.

Learn how to incorporate technology-based inquiry learning tools, such as virtual manipulatives, into high-quality science instruction. Used correctly, technological simulations intel-

lectually engage students and provide opportunities for them to use evidence-based data to support their understanding of science concepts.

PDI SESSION 2
SC Pathway Session: The Nuts and Bolts of Building a Science Coaching Initiative, Part 2 —Professional Development— (Gen)

(General) Room 348, Convention Center

Nan Dempsey (dempsey@scsc.edu) and **Betty Hadden** (hadden@scsc.edu), South Carolina Mathematics & Science Unit, Duncan

Dorothy Earle, South Carolina Coalition for Mathematics & Science, Greenville

Thinking of coaching as a strategy to improve science instruction? Wondering what steps to take next? Join us in a conversation about lessons we've learned in designing, implementing, and refining our K–8 coaching initiative.

12:30–2:30 PM PRESENTATION

PDI SESSION 1
UNV Pathway Session: A Research-based Approach to Instruction for English Learners: Considerations for Reading, Writing, Vocabulary, and Discourse in Science —Professional Development— (Gen)

(General) Room 350, Convention Center

Marco Bravo (mbravo@scu.edu), Santa Clara University, Santa Clara, Calif.

This session shares practices that have been proven to scaffold the language needs of English learners in science. These include dealing with the linguistic blindspots (e.g., dual meaning words in science, idiomatic expressions) that often derail English learners' science understandings. We share approaches to deal with these issues instructionally.

12:30–3:30 PM PRESENTATIONS

PDI SESSION 1
FI Pathway Session: Moving from Formative Assessment Results to Appropriate Instructional Actions —Assessment— (Phys)

(General) Room 339, Convention Center

Ruth Anderson (ruthanderson@facetinnovations.com) and **Jim Minstrell** (jimminstrell@facetinnovations.com), FACET Innovations, Seattle, Wash.

Eric Magi (eric@spokaneschools.org), Spokane (Wash.) Public Schools

What do teachers do after they receive the results of the probe, elicitation question, or other formative assessment? This session will take participants from having formative assessment data to planning and deciding what actions to do to address the results.

PDI SESSION 2
HRI Pathway Session: Knowing What They Know: Developing and Using a Framework for Analyzing Student Thinking —Science Teaching— (Gen)

(Elementary–High School) Room 342, Convention Center

Sean Smith and **Melanie Taylor** (mtaylor@horizon-research.com), Horizon Research, Inc., Chapel Hill, N.C.

This session will focus on the importance of having a framework for analyzing student work related to specific science concepts.



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Friday, March 20th - Room 218

- 8:00-9:00 - Tough Topics in Middle School Science: Earth Science
- 9:30-10:30 - Tough Topics in Physics: Conservation of Energy
- 11:00-12:00 - Tough Topics in Middle School Science: Life Science
- 12:30-1:30 - Tough Topics in Physics: Ohm's Law
- 2:00-3:00 - Tough Topics in Middle School Science: Physical Science
- 3:30-4:45 - Technology and National Board Certification for Accomplished Teachers

Friday, March 20th - Room 219

- 8:00-9:00 - Tough Topics in Chemistry: States of Matter
- 9:30-10:30 - Tough Topics in Biology: Enzymes
- 11:00-12:00 - Tough Topics in Earth Science: Understanding Weather with GIS
- 12:30-1:30 - Tough Topics in Biology: Cell Respiration
- 2:00-3:00 - Tough Topics in Chemistry: Determining the Concentration of a Solution: Beer's Law
- 3:30-4:30 - Tough Topics in Environmental Science: Field Data Collection

Friday, March 20th - Rm 244/245

- 5:00-6:30 - PASCO Presents the **7th Annual Just Physics** Evening

Saturday, March 21st - Room 218

- 8:00-9:00 - Tough Topics in Earth Science: Plate Tectonics with GIS
- 9:30-10:30 - Tough Topics in Physics: Archimedes' Principle

Saturday, March 21st - Room 219

- 8:00-9:00 - Tough Topics in Chemistry: Gas Laws
- 9:30-10:30 - Tough Topics in Biology: Diffusion/Osmosis



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1:00–1:30 PM PRESENTATION

SESSION 1

Thinking and Writing About Science —Professional Development— (Gen)
(General) *Magnolia, Hilton*

Ronald L. Towery, Mark A. McJunkin, and Greg B. Meeks, Arkansas State University, State University, Ark.

Brandi Russom, Green County Tech-Oak Grove Middle School, Paragould, Ark.

Focus on the use of content-writing strategies to promote student thinking, problem solving, and comprehension of science texts.

1:00–1:45 PM NSTA INTERNATIONAL DAY PANEL DISCUSSION

(General)

Napoleon Ballroom, Hilton

Teresa Kennedy, The GLOBE Program, University Corporation for Atmospheric Research, Boulder, Colo.

Judith Lederman, Illinois Institute of Technology, Chicago

Marylin Lisowski, Chair, NSTA International Advisory Board, Pittsburgh, Pa.

Presider: Norman Lederman, Illinois Institute of Technology, Chicago

This concluding session will engage scholars from each of the educational levels regarding common issues that cut across grade levels when designing and implementing teaching and learning activities at the international level. Both benefits and obstacles will be addressed. This discussion will provide maximum interaction between the panel and audience.

1:00–2:15 PM EXHIBITOR WORKSHOPS

Put Some Spark into Science Investigations —Science Content— (Gen)
(Grades 3–8) *Room 208, Convention Center*

Sponsor: Delta Education/School Specialty Science

Tom Graika, Consultant, Lemont, Ill.

Johanna Strange, Consultant, Richmond, Ky.

Using the science topics of magnetism and electricity, learn how to turn guided investigations into challenge investigations and open inquiries. These strategies will help your students become independent thinkers and inquirers. Participants will receive a complimentary resource packet and related Delta products.

Bio-Rad pGLO™ Bacterial Transformation Kit —Science Teaching— (Bio)
(Grades 7–12) *Room 230, Convention Center*

Sponsor: Bio-Rad Laboratories

Stan Hitomi (*professional_development@bio-rad.com*) and **Kirk Brown** (*professional_development@bio-rad.com*), Bio-Rad Laboratories, Hercules, Calif.

Genetic engineering has led to a phenomenal explosion of new health treatments, agricultural applications, and environmental solutions. In this hands-on workshop you will create your own genetically modified organisms and designer proteins and explore the mechanisms of gene expression and genetic selection. You will transform bacteria with a bioluminescent jellyfish gene that codes for Green Fluorescent Protein (GFP). Learn key background and

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how to prep the lab (AP Biology Lab 6). Do exactly what your students will do. All participants will receive a free UV pen light and DVD with step-by-step pGLO lab preparation instructions.

1:00–2:30 PM PRESENTATION

SESSION 1

PDI

NGS Pathway Session: Deep Dive: Exploring the Oceans from Your Classroom with National Geographic and Google Earth —Science Content— (Earth)

(Informal Education)

Room 347, Convention Center

Ford Cochran (fcochran@ngs.org), National Geographic Society, Washington, D.C.

Take the plunge! New 3-D virtual globes and other rich-media resources make it possible for teachers and students to plumb ocean depths as never before.

1:00–2:30 PM EXHIBITOR WORKSHOP

Inquiry Investigations™ Forensics Science Curriculum Module and Kits —Science Content— (Gen)

(Grades 7–10)

Room 213, Convention Center

Sponsor: Frey Scientific/School Specialty Science

Ken Rainis and Sue Forst, Frey Scientific/School Specialty Science, Bristow, Va.

With our new Inquiry Investigations™ forensics series, students learn foundational analysis skills that help them solve multifaceted cases. See how program software allows the preparation of web-based content, along with individualized assessments. Participants will perform skill-based investigative techniques and case investigations, and receive a program resource CD and correlations.

1:00–3:30 PM EXHIBITOR WORKSHOP

Bio-Rad—Characterize a Novel Gene with GAPDH PCR —Science Teaching— (Bio)

(Grades 9–College)

Room 229, Convention Center

Sponsor: Bio-Rad Laboratories

Essy Levy (essy_levy@bio-rad.com) and **Sherri Andrews** (sherri_andrews@bio-rad.com), Bio-Rad Laboratories, Hercules, Calif.

How do you clone a gene when you don't know the DNA sequence? Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) is a vital metabolic enzyme involved in one of the most basic biological processes—glycolysis in respiration. Start with the plant species of your choice and characterize its GAPDH genes. In this workshop you will extract the plant DNA and then use degenerate and nested PCR primers to amplify the highly conserved GAPDH gene as the first step toward cloning.

1:00–5:00 PM MEETING

NESTA Board of Directors Meeting

Napoleon, New Orleans Marriott

For additional information, visit nestanet.org.

1:00–5:30 PM **NSTA SYMPOSIUM**

NIH/NSTA Symposium: Exploring Bioethics: A New Model for Classroom Instruction (SYM-1) (Bio)

(Grades 9–12) **Tickets Required; \$54** Room 255, Convention Center

Ezekiel Emanuel (eemanuel@mail.cc.nih.gov), NIH Clinical Center, National Institutes of Health, Bethesda, Md.

Millie Solomon (msolomon@edc.org), Education Development Center, Inc., Newton, Mass.

Jeanne Chowning (jchowning@nwabr.org), Northwest Association for Biomedical Research, Seattle, Wash.

For description, see page 77.

1:30–2:30 PM **PRESENTATION**

SESSION 1

NMEA Session: From Local to EXtreme Environments (FLEXE): Promoting Earth Systems Science Literacy —Science Content— (Earth)

(Middle Level–High School) Carondelet, New Orleans Marriott

Eric Simms, Scripps Institution of Oceanography, La Jolla, Calif.

Presider: Sue Ottersen (sue2ottesen@aol.com), Butler Educational Complex, Bossier City, La.

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1:30–3:00 PM EXHIBITOR WORKSHOPS

ScholAR Chemistry Demonstrations

(Chem)

(Grades 7–12)

Room 202, Convention Center

Sponsor: Sargent-Welch

Mark Meszaros, Sargent-Welch, West Henrietta, N.Y.

Generate excitement by demonstrating key chemical concepts in your classroom. Come see how easy it is to set up and perform seven different chemical demonstrations using ScholAR Chemistry kits. Join in the discussion on how to use demonstrations more effectively in the classroom.

Hands-On Integrated Science Activities for Middle School —Science Teaching—

(Gen)

(Grades 6–8)

Room 204/205, Convention Center

Sponsor: Flinn Scientific, Inc.

Janet Hoekenga, Flinn Scientific, Inc., Batavia, Ill.

Hands-on science leads to minds-on learning! Flinn Scientific presents relevant and age-appropriate activities for middle school—integrating life, earth, and physical science topics. Participants will perform and observe experiments designed to capture the curiosity and engage the energy of adolescent students. Handouts provided for all activities.

A World in Motion: The Design Experience—Skimmer Challenge —Science Content—

(Phys)

(Grades 4–6)

Room 211, Convention Center

Sponsor: SAE International

Julie Nalducci, SAE International, Warrendale, Pa.

SAE International's A World in Motion program is a series of design challenges that incorporates math, science, and technology standards. Students construct paper sailboats and test the effects of different sail shapes, sizes, and construction methods to meet specific performance criteria. Friction, forces, affect of surface area, and design are some of the physical phenomena students encounter. Learn how to use the materials and how to receive a complete set of classroom materials free!

Hands-On Standards in Science

(Gen)

(Grades K–5)

Room 214, Convention Center

Sponsor: ETA/Cuisenaire

Sara D. Moore (smoore@etacuisenaire.com), ETA/Cuisenaire, Vernon Hills, Ill.

Learn strategies for teaching scientific inquiry and process skills during hands-on lessons. Activities that connect rich science content to important science skills ensure student mastery of science in engaging and effective ways. Teacher support as well as student resources will be shared and discussed.

Exploring Feline Anatomy with Carolina's Perfect Solution® Cats

(Bio)

(Grades 9–College)

Room 215, Convention Center

Sponsor: Carolina Biological Supply Co.

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Above and Beyond with Carolina™ AP® Biology Series: Explore the Options! (Bio)

(Grades 10–12)

Room 216, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Help your students grasp AP® Biology concepts with Carolina™AP® Biology kits! Sample the hands-on activities from five of the twelve AP® Biology labs. Previous experience not necessary! Free product samples and literature.

Addressing Difficult Physical Science Standards for Grades 1–3 (Chem)

(Grades 1–3)

Room 217, Convention Center

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

The GEMS® unit Matter capitalizes on primary students’ natural curiosity and helps them learn to think critically, gather evidence, and apply this evidence to expand their knowledge. Focusing on the three basic states of matter—solid, liquid, and gas—students define and understand these properties, then apply their learning to classify “challenging substances.”

TEACHERS IN GEOSCIENCES

Mississippi State University offers a unique and exciting M.S. degree program through distance learning— the **Teachers in Geosciences** (TIG) program. Students who successfully complete this two-year, 12-course, 36-hour curriculum are awarded an M.S. degree in Geosciences. The core courses in meteorology, geology, hydrology, oceanography, planetary science and environmental geoscience are taught via the internet. Over 300 students from across the country and around the world are enrolled.



Arizona field course.

Program highlights include:

- DVD lectures created by Geoscience faculty
- course materials presented online
- Master of Science degree earned in two years
- little time spent away from home (8-10 days in the field)
- MSU in-state tuition rate offered to all students

GEOSCIENCES DISTANCE LEARNING PROGRAMS

www.msstate.edu/dept/geosciences/distance.html

Mississippi State University is fully accredited by the Southern Association of Colleges and Schools (SACS). Prospective students should check with the Department of Education in their states for local certification policies.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation or group affiliation, age, disability, or veteran status.



Mississippi State
UNIVERSITY

Division of Academic Outreach
Continuing Education

Meet the Untamed Science Crew and Put Your Own Video Camera to Work in Your Science Classroom —*Science Teaching*— (Gen)

(Grades 6–12)

Room 220, Convention Center

Sponsor: Pearson

Rob Nelson, Untamed Science, Oregon, Wis.

Join the Untamed Science crew as they discuss how the video revolution is motivating today's science students. Rob Nelson and his ecogeek colleagues will demonstrate how teachers and students can successfully make their own science videos. They'll also invite teachers with video experience to join the Untamed Science crew.

Understanding and Teaching the Science of Climate Change —*Science Teaching*— (Bio)

(Grades 9–12)

Room 221, Convention Center

Sponsor: Pearson

Joe Levine, Concord, Mass.

Global warming is an important interdisciplinary topic that blends ecology with earth science. Because of this complexity, global warming and its effects are poorly understood by the public and mass media, and are subject to politicization. This talk presents a strategy to help students understand the rigorous science behind the headlines.

Aha!Science: A Unique Instructional Model for Web-delivered Science Curriculum (Gen)

(Grades 3–5)

Room 224, Convention Center

Sponsor: Learning.com

Damaris Means, Learning.com, Portland, Ore.

Learn how this web-delivered supplemental science curriculum effectively improves conceptual science learning and builds foundational skills for our youngest science learners. Aha!Science by Learning.com incorporates the most current research into how technology supports student learning, going beyond structural simulations to experiential learning in virtual environments, engaging students in understanding through application.

Make Safety a Habit! Flinn Scientific Workshop —*Science Teaching*— (Chem)

(Grades 7–12)

Room 225, Convention Center

Sponsor: Flinn Scientific, Inc.

Irene Cesa, Flinn Scientific, Inc., Batavia, Ill.

Join us for simple, practical, effective solutions to increase safety awareness and improve safety in the science classroom. If you have questions about how to get students to comply with safety rules—or how to get action from your administrator—this workshop will help you solve your safety problems. Issues to be discussed include the right-to-know laws and teacher liability; lab ventilation; purchase, storage, and disposal of chemicals; chemical inventory; spill control; and more.

CSI: Climate Status Investigations —*Science Content*— (Env)

(Grades 5–12)

Room 226, Convention Center

Sponsor: The Keystone Center

Wendi Liles (wliles@keystone.org) and **Larry Jozwik** (ljozwik@keystone.org), The Keystone Center, Keystone, Colo.

Introduce your middle- and high school-level students to the topic of global climate change through the use of nonbiased, hands-on, interdisciplinary lessons and activities. Provide new ways of thinking about this topic through an exploratory, interdisciplinary curriculum

module developed by The Keystone Center in partnership with the U.S. Department of Energy and the National Energy Technology Laboratory.

Smithsonian Science: How Satellite Imagery Helps Us Understand Our Planet
—*Science Content*— **(Earth)**

(Grades 6–12)

Room 228, Convention Center

Sponsor: Smithsonian Institution

Maureen Kerr and **Andrew Johnston**, Smithsonian National Air and Space Museum, Washington, D.C.

Discover how Smithsonian scientists use satellite images to study changes on Earth and learn how your students can do the same. Find out where to get the images and how to help your students interpret them. We'll provide resources and classroom activities.

GIS for Earth Science Inquiry —*Science Content*— **(Earth)**

(Grades 3–College)

Room 231, Convention Center

Sponsor: ESRI

Joseph Kerski (jkerski@esri.com), ESRI, Redlands, Calif.

Roger T. Palmer (roger@gisetc.com), GISetc, Dallas, Tex.

Explore how and why GIS (geographic information systems) and other geospatial technologies (GPS and remote sensing) are essential in earth science education and careers. Investigate local to global topics via practical classroom activities supporting science standards and inquiry. Receive free GIS software and classroom resources. For more information, see <http://edcommunity.esri.com>.

Living by Chemistry: Create a Table! **(Chem)**

(Grades 9–11)

Room 232, Convention Center

Sponsor: Key Curriculum Press

Jeffrey Dowling (jdowling@keypress.com) and **Ladie Malek** (lmalek@keypress.com), Key Curriculum Press, Emeryville, Calif.

The periodic table is a wonderful resource, but to students it can be a static chart on the wall. Participate in a card sort activity that introduces the periodic table through guided inquiry. Participants will receive a deck of cards and an overview of the Living By Chemistry curriculum.

The iPlant Collaborative: Integrating Plant Science, Mathematics, and Computer Science **(Bio)**

(General)

Room 235, Convention Center

Sponsor: iPlant Collaborative

Lisa Howells (lhowells@email.arizona.edu), iPlant Collaborative, Tucson, Ariz.

The iPlant Collaborative is developing software tools to address grand challenge questions in plant biology. These tools, along with real-time data, will be available to scientists, educators and students alike. Come discover opportunities to access the tools and data and participate in groundbreaking research!

Learning Chemistry with Software for Molecular-Level Visualization —*Professional Development*— **(Chem)**

(Grades 9–College)

Room 236, Convention Center

Sponsor: Wavefunction, Inc.

Paul Price (sales@wavefun.com), Wavefunction, Inc., Irvine, Calif.

Do you see students struggle with the key concepts of molecular science? Would you like to

engage your students with state-of-the-art simulations that are scientifically sound? Attend this hands-on workshop using notebook computers and learn how to remove misconceptions and teach more effectively. Free take-home CD with select demonstrations.

1:30–3:30 PM PRESENTATION

SESSION 1

PDI **EDCi Pathway Session: Expository Writing and Science Notebooks: Documented Success in Increasing Achievement in Expository Writing and Inquiry-based Science in the Elementary Grades —*Science Teaching*—** **(Gen)**

(Elementary)

Room 335, Convention Center

Betsy Rupp Fulwiler (brfulwiler@seattleschools.org), Seattle (Wash.) Public Schools

Through mini-lessons and discussion, learn research-based strategies for using word banks, graphic organizers, and writing frames to increase student achievement in science and expository writing.

1:30–3:30 PM WORKSHOP

PDI **EDCm Pathway: Facilitating the Work of Science Mentors —*Professional Development*—** **(Gen)**

(Middle Level)

Room 336, Convention Center

Marian Pasquale, Education Development Center, Inc., Newton, Mass.

This session provides resources and support for science specialists to prepare middle grades mentors. Using EDC's guide, case studies, and videos, participants practice mentoring strategies.

1:30–3:30 PM EXHIBITOR WORKSHOP

Chemical Interactions Course for Middle School —*Science Content*— **(Chem)**

(Grades 7–8)

Room 209, Convention Center

Sponsor: Delta Education/School Specialty Science-FOSS

Larry Malone, Linda De Lucchi, and Teri Dannenberg, Lawrence Hall of Science, University of California, Berkeley

Join FOSS developers to learn how FOSS introduces the fundamental concepts in chemistry for grades 7–8. We'll investigate substances to learn about properties of matter, the particulate nature of matter, changes in matter, and energy interaction and transfer. Student books and course CD-ROMs will be distributed.

1:30–4:00 PM MEETINGS

Preservice Teacher Preparation Committee Meeting

Bacchus, New Orleans Marriott

Coordination and Supervision of Science Teaching Committee Meeting

Bonaparte, New Orleans Marriott

Retired Members Advisory Board Meeting

Jackson, New Orleans Marriott

Nominations Committee Meeting

Lafayette (41st floor), New Orleans Marriott

High School Science Teaching Committee Meeting

La Galerie 4, New Orleans Marriott

Multicultural/Equity in Science Education Committee Meeting

Mardi Gras C, New Orleans Marriott

NSTA Reports Advisory Board Meeting

Salon 824, Sheraton

1:30–6:00 PM NSTA SYMPOSIUM

Climate Change/NSTA Symposium: Earth Then, Earth Now: Our Changing Climate (SYM-2) (Earth)

(Grades 5–12)

Tickets Required; \$54

Room 256, Convention Center

Karen Flammer and Leesa Hubbard (*astro poet@aol.com*), Sally Ride Science, San Diego, Calif.

Steve McNulty (*steve_mcnulty@ncsu.edu*), USDA Forest Service, Asheville, N.C.

Heidi Cullen (*hcullen@climatecentral.org*), Climate Central, Palo Alto, Calif.

Pieter Tans (*pieter.tans@noaa.gov*), NOAA Earth System Research Laboratory, Boulder, Colo.

For description, see page 77.

2:00–2:30 PM PRESENTATIONS

SESSION 1

(Preschool/Elementary)

Room R01, Convention Center

Nature Journeys with Young Children —Science Content— (Env)

M. Susan McWilliams (*smcwilliams@unomaha.edu*), University of Nebraska at Omaha

Explore three class stories of nature-oriented, project-based curricula for young children—nature journaling, musical instruments from natural materials, and worm discoveries.

SESSION 2

Teachers as Field Scientists—Does Their Experience Make a Difference to Their Students? —Science Teaching— (Bio)

(High School–College/Informal Education)

Ile de France III, JW Marriott

Sherry S. Herron (*sherry.herron@usm.edu*), The University of Southern Mississippi, Hattiesburg

Presider: Jill Maroo, The University of Southern Mississippi, Hattiesburg

Let us introduce you to a summer field biology course for secondary teachers at sites in Florida and its impact on classroom teaching during the following school year.

SESSION 3

Teaching About Climate Change —Science Teaching— (Env)

(Middle Level–College)

Balcony L, New Orleans Marriott

Rebecah Davis (*rebecahd@stanford.edu*), Stanford University, Stanford, Calif.

Get some ideas for bringing current environmental research to the classroom. We'll focus on an inquiry-based climate change curriculum developed by scientists, educators, and educational researchers at Stanford University.

SESSION 4

Science Teachers as Mentors: Lessons from a PAESMEM Awardee —*Science Teaching*— (Gen)

(Middle Level—College/Supervision)

Regent, New Orleans Marriott

Monica R. Sylvain (msylvai@lsu.edu), Louisiana State University, Baton Rouge

We'll look at effective research-based mentoring practices that have contributed to the entry and progression of women and minorities in the sciences.

2:00–3:00 PM PRESENTATIONS

SESSION 1



Everything You Needed to Know About Professional Development You Learned in Kindergarten —*Professional Development*— (Gen)

(General)

Room 240/241, Convention Center

Karen J. Matsler (kjmatsler@gmail.com), Dallas Baptist University, Dallas, Tex.

What did you learn in kindergarten that can be applied to professional development? Share everything, play fair, don't hit, and clean up your mess..

SESSION 2



ISTE: Student Voices on Technology in Science (Gen)

(General)

Room 242, Convention Center

Ben Smith (ben@edtechinnovators.com), Red Lion Area High School, Red Lion, Pa.

Jared Mader (jared@edtechinnovators.com), Red Lion (Pa.) Area School District

Join the International Society for Technology in Education (ISTE) in a unique panel discussion. Teachers will be joined virtually by their students to discuss and demonstrate best practices on using technology in the science classroom. Take a peak into what students think about the use of technology in the classroom. During the discussion, panelists will explore the current research on technology in education, demonstrate how to create tech-savvy opportunities with limited resources, and explain the impact technology has on teaching and learning. This session will include Q&A involving both teachers and students.

SESSION 3

Inquiring About Drug Abuse...Without Using Drugs —*Science Content*— (Bio)

(Middle Level)

Room 254, Convention Center

Anne Westbrook (awestbrook@bscs.org), BSCS, Colorado Springs, Colo.

Drug abuse education frequently overlooks how drugs change brain function. Come see how students can apply inquiry and critical thinking to learn the science of drug abuse and addiction.

SESSION 4

FDA Symposium Follow-Up Session: CDER Education on Safe Use of Medicine —*Science Content*— (Gen)

(General)

Room 257, Convention Center

Ellen Frank (ellen.frank@fda.hhs.gov), U.S. Food and Drug Administration, College Park, Md.

The U.S. Food and Drug Administration’s Center for Drug Evaluation and Research (CDER) will highlight their ongoing consumer and health professional education campaigns. These campaigns focus on the safe and effective use of medicines. In addition, FDA’s website has information available to download and reprint to educate the public on topics that include reading the drug facts label, buying drugs online, the benefits and risk of medicine, giving medicines to children, abuse of pain medicines, antibiotic resistance, and much more.

SESSION 5

PDI **LHS Pathway Session: Real-World Science Connections: Scientists as Partners —Science Content—** **(Gen)**

(Middle Level–High School) *Room 337, Convention Center*

David Slavsky (*dslavsk@luc.edu*) and **Hethyr Anderson**, Loyola University, Chicago, Ill.

Learn about specific ways scientists have collaborated with Chicago teachers, providing additional content background and insights into how scientists approach scientific problems and socio-scientific issues.

SESSION 6

PDI **FHL Pathway Session: Strategies for Using Writing to Engage High School Students in Science —Science Teaching—** **(Env)**

(Elementary–Middle Level/Informal Education) *Room 338, Convention Center*

Diane Miller (*dmiller@slsc.org*), Saint Louis Science Center, St. Louis, Mo.

Examine multiple writing strategies that build interest and understanding in science content among high school students. We’ll review student blogs, Instructables, tags, journals, webpage designs, posters, and newspaper articles.

SESSION 7

Don’t Be Afraid of Science—Have Fun! —Science Teaching— **(Gen)**

(Preschool–Middle Level) *Room 345, Convention Center*

Carol L. Haas (*clhorange@aol.com*), St. Joseph Catholic School, Winter Haven, Fla.

Enhance your science program with these great hands-on activity ideas. My elementary students learn science that prepares them to thrive in high school and college and to become tomorrow’s scientists.

SESSION 8

Blogging for Differentiation —Science Teaching— **(Gen)**

(General) *Elmwood, Hilton*

Biz Duval (*duvalb@clarke.k12.ga.us*), Classic City Performance Learning Center, Athens, Ga.

Learn how to use blogs in the science classroom to enable differentiation.

SESSION 9 (two presentations)

(General) *Jasperwood, Hilton*

Recognition and Use of Symbols in Science Teaching —Science Teaching— **(Gen)**

John Trowbridge, Southeast Louisiana University, Hammond

Readers of science materials often encounter symbols. An understanding of these symbols is a type of literacy that needs to be developed in science learners.

Graphically Organized Notes: Getting Students to Take Responsibility for Their Learning —Science Teaching— (Gen)

Carrie-Anne Sherwood (*csherwood@codmanacademy.org*), Codman Academy Charter Public School, Dorchester, Mass.

I will share successful techniques for note taking and keeping track of science facts that are easily accessible to all students.

SESSION 10 (two presentations)

(General)

Magnolia, Hilton

Engaging Students with High-quality Science Trade Books —Science Education Program— (Gen)

Eric Brunsell, University of Wisconsin Oshkosh

Tim Gerber (*gerber.dani@uwlax.edu*), University of Wisconsin-La Crosse

Show students that reading about science can be fun! Learn how to implement a mock *Science Books & Films* Prize competition at your school.

Making a Precise Ruler Up to 0.1mm —Science Education Program— (Gen)

Youngseok Jhun (*jhunys@paran.com*), Seoul National University of Education, Seoul, Korea

Myon U. Lee (*leemaner@cnue.ac.kr*), Chunchon National University of Education, Chunchon-si, Gangwon-do, Korea

Young Joon Shin (*yjshin@ginue.ac.kr*), Gyeongin National University of Education, Incheon, South Korea

Bongwoo Lee (*peaklee@dreamwiz.com* or *peak@dankook.ac.kr*), Dankook University, Yongin, Korea

Make a precise ruler with a paper and experience an inquiry process to find the principles of presenters' newly invented rulers.

SESSION 11

It's Magic! No, It's Science! —Professional Development— (Gen)

(General)

Oak Alley, Hilton

Arthur W. Bowman (*awbowman@nsu.edu*), Norfolk State University, Norfolk, Va.

Explore a variety of science phenomena that can transform you into a virtual science wizard. Dazzle your students and cover all standards!

SESSION 12

TECC (Technology Education for Children Council) —Science Content— (Gen)

(General)

Windsor, Hilton

Terri E. Varnado (*terri_varnado@ncsu.edu*), North Carolina State University, Raleigh

Presider: Joanne Hubbard, Anchorage (Alaska) School District

Facilitate science and technology integration in the elementary school classroom. We'll share activities, resources, cool tools, and techno tips for children's engineering, design technology, and problem solving.

SESSION 13

Connecting Undergraduates to the Enterprise of Science Through Inquiry —Professional Development— (Phys)

(College)

Conde, JW Marriott

Deborah L. Hanuscin (*hanuscind@missouri.edu*), **Steve Witzig** (*sbwitzig@mizzou.edu*), and

Laura M. Veverka (*lmvd41@umkc.edu*), University of Missouri, Columbia

Learn how science faculty in a variety of disciplines have transformed “cookbook” labs to engage students in meaningful inquiries that mirror authentic science.

SESSION 14 (three presentations)

(General)

Frontenac, JW Marriott

SCST Session: Student Behavior in Large Lecture Classes —Science Teaching— (Gen)

Marvin Druger (mdruger@syr.edu), 1994–1995 NSTA President, and Syracuse University, Syracuse, N.Y.

We’ll examine how student behavior issues can be effectively handled in the classroom.

SCST Session: No College Student Left Behind—Making Science Come Alive in General Education Courses —Professional Development— (Gen)

Kerry L. Cheesman (kcheesma@capital.edu), Capital University, Columbus, Ohio

General education courses are not students’ favorites, yet some courses fill quickly. What are the ways we can reach the nonscience student population in these courses?

SCST Session: Why Aren’t College Professors Anxious to Adopt Inquiry Instruction? —Science Teaching— (Gen)

Thomas Lord (trlord@iup.edu), SCST President, and Indiana University of Pennsylvania, Indiana

Inquiry instruction has been found to be far superior to didactic instruction, yet most college science professors in the nation’s universities do not use it. We’ll look at why.

SESSION 15

Bioinformatics in Your Classroom —Professional Development— (Bio)

(High School–College)

Maurepas, JW Marriott

Bruce Nash (nash@cshl.edu), Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.

We’ll share free, easily accessible computer tools and databases to introduce bioinformatics investigations into your biology teaching.

SESSION 16

Keeping Up with the Jetsons: Creating Technology-rich Activities in Science and Mathematics Through Japanese Lesson Study —Professional Development— (Gen)

(General)

Orleans, JW Marriott

Pasquale Frisketti (pfrisketti@hamden.org) and **Betsy Carter** (bcarter@hamden.org), Hamden (Conn.) Public Schools

Elementary and middle school science and mathematics teachers use the Japanese lesson study research process to create, evaluate, and revise technology-rich lessons.

SESSION 17

NARST Session: Inspiring Inservice Teachers and Mentoring Beginning Teachers Through Coteaching —Professional Development— (Gen)

(Elementary–High School/Supervision)

Rosalie, JW Marriott

Christina Siry, Manhattanville College, Purchase, N.Y.

Kate Scantlebury (kscantle@udel.edu), University of Delaware, Newark

Coteaching provides professional development opportunities for elementary, middle, and high school science teachers through collaborations with student and inclusion teachers.

SESSION 18 (two presentations)

(Elementary)

St. Claude, JW Marriott

ASTE Session: Inquiry into Practice: Preservice Teachers and the Teaching of Inquiry Science in the Elementary Classroom —Science Teaching— (Gen)

Robert Blake (rblake@towson.edu), **Sarah Haines** (shaines@towson.edu), and **Christina Suess** (csuess1@students.towson.edu), Towson University, Towson, Md.

Learn how preservice elementary teachers articulate the assortment of inquiry science definitions into their own classroom practice.

ASTE Session: Stories in the Continuum: Narratives of Preservice Elementary Teachers Teaching Science in the Elementary Classroom —Science Teaching— (Gen)

Robert Blake (rblake@towson.edu), **Sarah Haines** (shaines@towson.edu), and **Christina Suess** (csuess1@students.towson.edu), Towson University, Towson, Md.

Look at how writing, sharing, and discussing their teaching experiences helps preservice elementary teachers to reconceptualize the teaching of science.

SESSION 19

Water: H₂O = Life —Science Content— (Gen)

(General)

Balcony K, New Orleans Marriott

Nora Bynum and **David Randle** (drandle@amnh.org), American Museum of Natural History, New York, N.Y.

Presider: Rosamond Kinzler, American Museum of Natural History, New York, N.Y.

A scientist and an educator from the American Museum of Natural History provide insight into the scientific, social, and environmental aspects of water.

SESSION 20

6.5 Billion Reasons to Build Population Literacy —Science Content— (Env)

(Middle Level–College)

Balcony N, New Orleans Marriott

David R. Stronck (david.stronck@csueastbay.edu), California State University-East Bay, Hayward

I'll share innovative, interdisciplinary activities on past, present, and projected population trends and their environmental and social impacts.

SESSION 21

Girls in Science: A Framework for Action —Science Teaching— (Gen)

(General)

La Galerie 1, New Orleans Marriott

Katherine Nielsen (katherine.nielsen@ucsf.edu), University of California, San Francisco

Kimberly D. Tanner (kdtanner@sfsu.edu), San Francisco State University, San Francisco, Calif.

Liesl Chatman and **Erin Strauss** (estrauss@smm.org), Science Museum of Minnesota, St. Paul

We'll share practical strategies for engaging all students in science and introduce you to *Girls in Science: A Framework for Action* from NSTA Press.

SESSION 22

Thinking Like Scientists: Using the Nature of Science as a Metacognitive Tool —Science Teaching— (Gen)

(Middle Level–College)

La Galerie 6, New Orleans Marriott

Erin E. Peters (epeters1@gmu.edu), George Mason University, Fairfax, Va.



Teachers can expand students' ability to think scientifically by prompting them to address metacognitive issues linked to the nature of science.

SESSION 23

Navigating the Text: Literacy Strategies in the Science Classroom —*Science Teaching*— (Gen)

(General)

Mardi Gras A/B, New Orleans Marriott

Cheryl Wegscheid (*cherylwgscheid@yahoo.com*), Westchester Academy for International Studies, Houston, Tex.

Lynn Ketcham (*lketcham@pasadenaisd.org*), Keller Middle School, Pasadena, Tex.

Practice several pre-reading, during-reading and post-reading strategies you can implement in your classroom to increase your students' engagement with and comprehension of informational text. Leave with tools you can use to help all of your diverse learners.

SESSION 24

NSELA Session: The Winds of Change Sweeping Down the Plain —*Professional Development*— (Gen)

(General)

Mardi Gras D, New Orleans Marriott

Sharlene Kleine (*skleine@ou.edu*), **Janis Slater** (*jslater@ou.edu*), and **Patricia Turner**, University of Oklahoma, Norman

Enabling teachers to improve their practice is a daunting challenge. Join us as we share peaks and pitfalls of our experience in working with preK–8 science teachers.

SESSION 25

CSSS Session: Communities of Practice: Connecting Science Frameworks to Informal Science Education Activities —*Science Education System*— (Gen)

(General)

Mardi Gras F, New Orleans Marriott

Betsy A. Stefany, The SABENS Group, Hanover, N.H.

Jan McLaughlin (*jmclaughlin@ed.state.nh.us*), CSSS President, and New Hampshire Dept. of Education, Concord

We will demonstrate the connection between informal science participation and documentation skills for practicing technical writing skills.

SESSION 26 (two presentations)

(Middle Level–High School)

Bayside A, Sheraton

Using Formative and Summative Assessments to Enhance Student Learning —*Assessment*— (Gen)

Scott D. Robinson (*scottdr@hawaii.edu*) and **Jon Yoshioka** (*jonyoshi@hawaii.edu*), University of Hawaii at Manoa

Enhance student learning with research-based formative and summative assessments by prospective and beginning science teachers.

Admit and Exit Slips: Simple, Ongoing, Formative Assessment for Effective Science Lessons —*Science Teaching*— (Gen)

Malcolm S. Cheney (*chenymac@comcast.net*), Retired Educator, Windsor, Conn.

I'll share practical examples of admit slips and exit slips, the research base for their use, and variations on the process.

SESSION 27

Get the FACTs! Grades 6–12 Strategy Harvest —Assessment— (Gen)

(Middle Level–High School)

Edgewood A/B, Sheraton

Joyce Tugel and **Mary Dunn**, Maine Mathematics and Science Alliance, Augusta

Formative Assessment Classroom Techniques (FACTs) are powerful ways to collect and use student learning data. We'll model a variety of FACTs useful in grades 6–12.

SESSION 28 (two presentations)

(General)

Maurepas, Sheraton

Earth System Science for the Middle School —Science Content— (Earth)

Kate Van Baren (vanbaren@earthlink.net) and **LeeAnn Kuhne**, Onteora Middle School, Boiceville, N.Y.

These activities on Earth system science that can be integrated into any middle level science curriculum.

Climate Secrets in the Cores —Science Content—

(Earth)

John R. Sode (jsode@socket.net), Marshfield High School, Marshfield, Mo.

Much of Earth's climatic history is written in ocean cores. Learn how to read this history and connect your classroom directly to the cores through web-based activities and lessons.

SESSION 29 (two presentations)

(General)

Napoleon A3, Sheraton

The Future of Coral Reefs: How Climate Change Is Impacting the Ocean Environment —Professional Development— (Bio)

Thomas H. Nassif, Carnegie Institution of Washington, D.C.

Learn how global warming is impacting coral reefs, why they are critical to supporting marine organisms, and what is being done to conserve these habitats.

NOAA's Project NEMO: Easy Ways to Teach Marine Science Without Extensive Resources or a Background in Marine Science —Science Teaching— (Bio)

Laura A. Oremland (laura.oremland@noaa.gov), National Marine Fisheries Service, Silver Spring, Md.

Learn unique ways to teach marine science to high school students without requiring extensive resources, a background in marine science, or close proximity to the ocean.

SESSION 30

Common Mistakes in General Chemistry Teaching —Science Content— (Chem)

(Middle Level–College)

Napoleon B3, Sheraton

Peter P. Chang (peterpchang@hotmail.com), Jackson State University, Jackson, Miss.

Many basic chemistry concepts are vulnerable to misinterpretation because of mistakes made by professionals, including authors of chemistry textbooks. Expose these common mistakes by our fellow chemistry educators and improve the outcome of chemistry education.

SESSION 31

Using Technology to Promote Science Learning and Cultural Exchange in Diverse High Schools —Science Teaching— (Earth)

(General)

Napoleon C1, Sheraton

Barry Fried (bfried@schools.nyc.gov) and **Honora Dash** (hdash@schools.nyc.gov), John Dewey High School, Brooklyn, N.Y.

Instructional technology helps engage students in the learning process by providing authentic

science learning experiences and cultural exchange through design projects, remote sensing, and real-time data analysis.

SESSION 32

Earth System Science Education Alliance —Professional Development— (Earth)
(Elementary–High School) Napoleon D3, Sheraton

Robert Myers (bob_myers@strategies.org) and **Theresa Schwerin** (theresa_schwerin@strategies.org), Institute for Global Environmental Strategies, Arlington, Va.

Lynn Susan Blaney, ESSEA/IGES, Broomfield, Colo.

K–12 teachers—take home inquiry-based earth science lessons and activities to use immediately. Higher education educators—learn how to participate in this teacher professional development program.

SESSION 33

CRLS Climate Change Year —Science Teaching— (Bio)
(High School) Rhythms I, Sheraton

Sarah J. Colby (scolby@cpsd.us), Cambridge Rindge & Latin School, Cambridge, Mass.

As a school-wide, multifaceted, interdisciplinary endeavor, our urban school took on the issue of climate change during the 2008–2009 school year. Components included developing a cross-discipline curriculum for our Climate Change Day and a Climate Forum involving all 1,600 students and 50 professionals from our community.

SESSION 34

The Three-Phase Learning Model = A Learning Cycle Approach —Professional Development— (Chem)
(Middle Level–High School) Salons 817 & 821, Sheraton

Clifford Sampson, Appleby College, Oakville, Ont., Canada

A hands-on experiment followed by a virtual experiment has been shown to enhance learning. Discover a novel and innovative learning model that incorporates a virtual experiment.

SESSION 35 (two presentations)

(General) Salon 828, Sheraton

Presider: Catherine Charnawskas Jasionowicz, Rochester College, Rochester Hills, Mich.

Cheap Labs for the Physical Sciences —Professional Development— (Phys)

Catherine Charnawskas Jasionowicz, Rochester College, Rochester Hills, Mich.

Margaret Milligan (milliga9@msu.edu), Oak Park High School, Oak Park, Mich.

What school district has money for labs anymore? Come learn about mini-labs, demos, and take-home labs that cost less than \$20!

Electromagnetic Spectrum in 3-D —Science Teaching— (Phys)

Ginger J. Butcher (vbutter@hq.nasa.gov), NASA Goddard Space Flight Center, Greenbelt, Md.

New NASA videos use 3-D technology to help students visualize the EM spectrum and its use for studies of Earth and outer space.

SESSION 36

Training Teachers While Teaching Students AP® Biology —Professional Development— (Bio)

(Middle Level–College/Supervision) Southdown, Sheraton

Jewel J. Reuter (jewelreuter@earthlink.net), Louisiana Virtual School, Baton Rouge

Rima S. Duhon (rima.duhon@la.gov), Louisiana Dept. of Education, Baton Rouge
Explore Louisiana's USDOE-funded APIP hybrid online learning model for AP[®] Biology that includes teaching students and training teachers simultaneously in a virtual/face-to-face environment.

2:00–3:00 PM WORKSHOPS



Sensing, Capturing, and Preserving the Spirit of the Estuary —Science Teaching— (Env)

(Middle Level–High School)

Room 238, Convention Center

Susan M. Testroet-Bergeron (susan@btnep.org), Barataria-Terrebonne National Estuary Program, Thibodaux, La.

Mary Banbury, Southeastern Louisiana University, Hammond

Sue Ellen Lyons (slyons@holycrossstigers.com), Holy Cross School, New Orleans, La.

Marian Brister Martinez (meddykay@sbcglobal.net), Pleiades Illustration Co., Mission, Tex.

Learn how to use the arts to educate grades 5–12 students about ecology.



How Carbon Dioxide Levels Affect Life —Science Content— (Env)

(High School)

Room 239, Convention Center

Carla L. Hoyer (choyer@houstonisd.org) and **Deborah Campbell** (dcampbel@houstonisd.org), Waltrip High School, Houston, Tex.

Lori D. Dunklin (ldunklin@houstonisd.org), Contemporary Learning Center, Houston, Tex.

Presider: Carla L. Hoyer

Increase engagement in and understanding of the complex role of carbon dioxide in ecosystem dynamics through hands-on activities. Take home a CD containing lesson plans and documents.

Learning with the Brain in Mind! —Science Teaching— (Gen)

(General)

Room 252, Convention Center

Kirsten S. Smith (ksmith@lps.org) and **Sara Yendra** (syendra2@unl.edu), Lincoln (Neb.) Public Schools

Ron Bonnstetter (rjb@unl.edu), University of Nebraska, Lincoln

A must attend for everyone who wants to understand student learning, emotions, and motivations—plus ways to incorporate all of this into your teaching on Monday!

Reflections on Teaching Middle School Science Through Hands-On Fun —Science Teaching— (Gen)

(Middle Level/Informal Education)

Room 343, Convention Center

Kevin M. McShane (kevinmmcshane@yahoo.com), Profile School, Bethlehem, N.H.

Elana M. Riffle (eriffle@jcdsri.org), Jewish Community Day School of Rhode Island, Providence

Presider: Paul Williams (paulw@together.net), Retired Teacher/Science Consultant, Lower Waterford, Vt.

Join us for an hour of engaging activities, demonstrations, and reflection. Leave with a pile of great labs/activities for middle school students.

Physical Science: Combining Inquiry, Literacy, and Brain Research —Science Teaching— (Chem)

(Elementary–Middle Level)

Room 353, Convention Center

Wayne Snyder (wsnyder@caltech.edu), Claremont Graduate University, Claremont, Calif.

Rosalie Estrada (restrada@hlpusd.k12.ca.us), Orange Grove Middle School, Hacienda Heights, Calif.

Presider: Mehri Fadavi (mfadavi@jsums.edu), Jackson State University, Jackson, Miss.

Using the Matter standards for a framework, participate in several hands-on activities that demonstrate how to incorporate inquiry, literacy, and the role of the brain into teaching and learning.

Dr. Skateboard’s Action Science —Science Content— (Phys)

(Middle Level)

Room 354, Convention Center

William H. Robertson (robertson@utep.edu), The University of Texas, El Paso

Mary Beth Harper (meharper@episd.org), El Paso (Tex.) Independent School District

Dr. Skateboard’s Action Science is a middle school curriculum that uses video and classroom activities while focusing on physical science in skateboarding and BMX.

Middle School: Energy Flowing Through the Cycles —Science Content— (Earth)

(Middle Level)

Room 356, Convention Center

Ross Ann Hill (rahill@idalouisd.net), Idalou Middle School, Idalou, Tex.

Melissa Duncan (mduncan@lubbockisd.org), Cavazos Middle School, Lubbock, Tex.

Earth’s cycles will be explored using fun activities, games, and resources. We will provide resources to effectively teach carbon, lunar, nitrogen, rock, and water cycles.

Changing Climate, Changing World —Science Content— (Env)

(Middle Level/Informal Education)

Room 357, Convention Center

Lisa Gardiner, Sandra Henderson, Roberta M. Johnson (rmjohnsn@ucar.edu), **Randy**

M. Russell, and Becca Hatheway (hatheway@ucar.edu), University Corporation for Atmospheric Research, Boulder, Colo.

Explore some of the impacts that climate change is having on the Earth system through hands-on classroom activities. Handouts provided.

Family Science Night Fun! —Science Content— (Chem)

(Elementary)

Room R02, Convention Center

Joyce Feltz, Miami University, Middletown, Ohio

Family Science Nights promote greater science understanding and positive parental involvement in schools. Get all this for pennies with these fun activity ideas.

CESI Session: It’s in the Bag: Children’s Literature and Experimental Design —Science Teaching— (Gen)

(Preschool/Elementary)

Room R06, Convention Center

Renee G. O’Leary and **Margaret S. Dee** (drpeggydee@comcast.net), Caravel Academy, Bear, Del.

During this K–3 workshop, participants will learn to use children’s literature and a bag of everyday materials to develop hands-on science lessons. Handout.

Learning to Think Like an Engineer...from Kindergarten On! —Professional Development— (Gen)

(Elementary)

Room R07, Convention Center

Macon A. Beck, Purdue University, West Lafayette, Ind.

Presider: Jose Duenas, Purdue University, West Lafayette, Ind.

INSPIRE is enabling kids and teachers to develop engineering habits of mind. Come learn why and how engineering is being incorporated into the elementary classroom.

Connecting Science, Mathematics, and Data Collection Technology in Teaching Methods Courses for Elementary Education Students —Science Teaching—

(Gen)

(General)

Balcony J, New Orleans Marriott

Irina Lyublinskaya (*lyublinskaya@mail.csi.cuny.edu*), College of Staten Island, N.Y.

These inquiry-based lab activities address core NSES content standards and integrate science and data collection technology with mathematics.

Using Formative Assessment in the Classroom to Make Students Responsible for Their Own Learning —Assessment—

(Gen)

(Middle Level–High School/Supervision)

Balcony M, New Orleans Marriott

Michelle Kutch (*michelle.kutch@bsd.k12.de.us*), Springer Middle School, Wilmington, Del.

Presider: Michael Gliniak (*michael.gliniak@bsd.k12.de.us*), Springer Middle School, Wilmington, Del.

Experience formative assessments that can be used immediately in the classroom. These strategies help you make informed decisions and demystify learning for students.

A Peek at The Private Eye®: The ALAHASP Experience —Science Teaching—

(Gen)

(General)

Mardi Gras G/H, New Orleans Marriott

Beverly B. Radford (*bevrad@uab.edu*) and **Joan Dawson** (*jdawson@uab.edu*), The University of Alabama at Birmingham

Our teachers have their students thinking like scientists, with simple tools and key questions from The Private Eye® process. Take home ideas to finish the year right!

Chemical Nomenclature Rummy: Naming Compounds and Ion Combination Rules

(Chem)

(Middle Level–High School)

Bayside C, Sheraton

Mark Greenman (*greenman.mark@marbleheadschoools.org*), Marblehead (Mass.) Public Schools

This student-centered fun activity teaches basic rules for ion combinations and naming compounds. I'll share templates for game pieces and game cards.

Keeping Our Body Systems Healthy —Science Teaching—

(Bio)

(General)

Borgne, Sheraton

Pamela A. Koch (*pkoch@tc.edu*), Teachers College, Columbia University, New York, N.Y.

Darlene Beal (*teacherdarlene3@yahoo.com*), Linscott Charter School, Watsonville, Calif.

Heart disease is the number one killer in the United States. Learn creative ways to engage students in understanding the science behind healthy hearts.

Brown Bag Innovation —Science Teaching—

(Gen)

(High School)

Napoleon B1, Sheraton

Susan Poland (*spoland@dysart.org*), Dysart High School, El Mirage, Ariz.

Experience a quick hands-on project that can be done in one class period and take home a handout with additional inexpensive activities. These projects are designed to promote problem solving, creative and critical thinking, and team building.

Astrobiology: An Integrated Science Curriculum That Captures Students' Interest —Science Content— (Gen)

(High School)

Napoleon B2, Sheraton

Jeffrey F. Lockwood (jeff_lockwood@terc.edu), TERC, Cambridge, Mass.

Is there life elsewhere in the universe? Astrobiology has the power to stimulate students' interest in science. Learn hands-on, inquiry-based activities that exemplify how an astrobiology curriculum can be used to teach integrated science.

NASA: Exploring the Boundary of Our Solar System with Visually Impaired and Dyslexic Students —Science Teaching— (Earth)

(Middle Level–High School/Informal Education)

Napoleon C2, Sheraton

Lindsay M. Bartolone (lbartolone@adlerplanetarium.org), Adler Planetarium and Astronomy Museum, Chicago, Ill.

Learn how to explore the solar system boundary with your students, especially students with visual impairment and dyslexia. NASA's Interstellar Boundary Explorer (IBEX) mission provides unique, free resources.



Come to FLINN SCIENTIFIC'S *Morning of Chemistry*

Seeing is Believing— Make the Invisible Visual in Chemistry!

By Jamie Benigna, The Roeper School, Birmingham, MI

Flinn Scientific's *Morning of Chemistry* for 2009 is a must-SEE event! Use these eye-catching chemical demonstrations to help your students visualize the invisible processes between atoms and molecules. As chemists, we envision the world as a constant interaction between particles; now you can use simple, visually-engaging demonstrations to make atomic processes more apparent.

Jamie's creative demonstrations make abstract concepts come to life! Discover how to help your students understand the delicate dance of atoms and molecules in the world around us. Come to Flinn Scientific's *Morning of Chemistry* and see for yourself—Seeing is Believing! Handouts will be provided.

Friday, March 20, 2009 • 10:00 a.m. – 11:30 a.m.

Room 244/245, Ernest N. Morial Convention Center

Plan Now to Attend Flinn's *Morning of Chemistry*.

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Exploring Sea Floor Spreading with Data from the Integrated Ocean Drilling Program (IODP) —Science Content— **(Earth)**

(Middle Level—High School)

Napoleon C3, Sheraton

Barbara J. Simon-Waters, East Carteret High School, Beaufort, N.C.

“The Race Is On...with Sea Floor Spreading!” is an activity that was developed during the School of Rock 2007, a teacher workshop of the Deep Earth Academy.

Easy GPS in the Classroom —Science Content—

(Gen)

(Informal Education)

Napoleon D1&2, Sheraton

Laura L. Tomlinson (*llomas@nmsu.edu*), **Susan Brown** (*susanbro@nmsu.edu*), and **Courtney M. Harmon** (*harmon@nmsu.edu*), New Mexico State University, Las Cruces

Use a handheld GPS unit to navigate your way through fun-filled activities that lead to scientific discoveries.

Investigative Plant Cases and Innovative Technology in the Classroom —Science Content— **(Bio)**

(Middle Level—High School)

Rhythms II, Sheraton

Ethel Stanley (*stanley@beloit.edu*), Beloit College, Beloit, Wis.

Margaret Waterman (*mwaterman@semo.edu*), Southeast Missouri State University, Cape Girardeau

Toni Lafferty (*toni.lafferty@gmail.com*), C.H. Yoe High School, Cameron, Tex.

Investigate contemporary plant biology through cases developed collaboratively by high school teachers using seed technology, online remote sensing, and forensics resources.

Hatching Inquiry Through NestWatch —Science Teaching—

(Bio)

(General)

Rhythms III, Sheraton

Jennifer Fee (*jms327@cornell.edu*) and **Tina B. Phillips** (*cbp6@cornell.edu*), Cornell University, Ithaca, N.Y.

Anyone can monitor nests, and it's a rewarding way to get involved in scientific research! In this interactive workshop we'll introduce participants to the Cornell Lab of Ornithology's newest project—NestWatch. This project and the BirdSleuth curriculum provide educators with a fantastic way to reach students through meaningful local study. How can you teach science, math, and technology—and meet inquiry standards—by monitoring bird nests? Come find out!

2:00–3:15 PM EXHIBITOR WORKSHOP

Streamlining FOSS Materials Management (for District Administrators) —Science Teaching— **(Gen)**

(Elementary/Supervision)

Room 212, Convention Center

Sponsor: Delta Education/School Specialty Science-FOSS

Steve Mitchell, Lawrence Hall of Science, University of California, Berkeley

A successful FOSS experience depends on a fully supplied kit of materials. After two uses, most consumable materials have to be replenished and permanent equipment must be inventoried. Learn how to eliminate the time and cost of managing materials! A new program from Delta Education offers a complete service to meet your needs.

2:00–3:30 PM EXHIBITOR WORKSHOPS

Genetics: The Crazy Traits Game —Science Content— (Bio)
(Grades 5–8) Room 210, Convention Center

Sponsor: CPO Science/School Specialty Science

Patsy Eldridge and **Julie Proudfoot**, CPO Science/School Specialty Science, Nashua, N.H.

Learn hands-on strategies for teaching genetics and natural selection as you flip coins representing the alleles of the parent generation and determine the traits for an offspring. Participants learn how the genetic makeup of the parents, along with chance, determines the traits of offspring.

Environmental Science with Vernier —Science Teaching— (Env)
(Grades 6–12) Room 222, Convention Center

Sponsor: Vernier Software & Technology

Gretchen Stahmer DeMoss (info@vernier.com) and **Don Volz** (info@vernier.com), Vernier Software & Technology, Beaverton, Ore.

Engage your students with our newest lab book, *Investigating Environmental Science Through Inquiry*. In this hands-on workshop you will learn how to collect environmental data using Vernier's new rugged and versatile LabQuest interface. See the new USB Vernier GPS sensor and learn how to map your sampling sites with Google Maps or GIS software.

2009 Paul F-Brandwein Lecture



**Cheryl Charles, President & CEO
Children & Nature Network**

**The Ecology of Hope: Building a Movement
To Reconnect Children and Nature**

Sat., March 21, 11am, Rm. 352, Conv. Ctr.

**A Brandwein Medal will be
presented to Dan Bisaccio
Director of Science Education
Brown University
Providence, Rhode Island**



2:00–4:00 PM THE PLANETARY SOCIETY LECTURE

Why We Need to Study Earth from Space

(Earth)

(General)

La Louisiane Ballroom I, Convention Center



Speaker

Neil deGrasse Tyson

President of the Board of Directors,
The Planetary Society,
Astrophysicist, Author, and
Host, PBS *NOVA scienceNow*
New York, N.Y.

Speaker

Bill Nye

Vice President, The Planetary Society
Scientist, Author, and Host, The
Science Channel's *100 Greatest Discoveries*
Seattle, Wash.

Earth's climate is undergoing profound changes. Scientists are studying rising temperatures, shifting weather patterns, and how animals are adapting to altered ecosystems. How interconnected are these changes? How interconnected should our response to them be? Space offers a planetary-wide perspective of the challenges we face, and space observations of Earth will play a significant role in helping us to meet those challenges. Join Bill Nye the Science Guy and Neil deGrasse Tyson of the Hayden Planetarium of the American Museum of Natural History for a fascinating and lively discussion of "Why We Need to Study Earth from Space." Visit The Planetary society's website at planetary.org.

Neil deGrasse Tyson—*A childhood glimpse of the Moon through binoculars helped steer Neil deGrasse Tyson toward his lifelong passion for science, space exploration, and unraveling the universe's far-flung mysteries. Eventually, that closer look at another world also led Tyson to his role on The Planetary Society's board of directors, serving first as vice president for three years and now as chairman of the board. An astrophysicist with the American Museum of Natural History and the Frederick P. Rose Director of the Hayden Planetarium, Tyson focused his early research primarily on stellar evolution and galactic structure. He appears as the on-camera host of the PBS NOVA spin-off NOVA scienceNow and recently hosted the four-part television series Origins on PBS.*

Bill Nye—*As a student at Cornell University, Bill Nye the Science Guy® was introduced to the wonders of astronomy in a class taught by Carl Sagan himself, one of the original founders of The Planetary Society. So, for Nye it was like coming full circle to join the Society's board of directors and later to become the organization's newest vice president. Scientist, comedian, teacher, and author, Nye became a household name with his innovative, fast-paced television series Bill Nye the Science Guy. His latest TV program, 100 Greatest Discoveries, airs in eight installments on the Science Channel.*

2:00–4:00 PM PRESENTATION

SESSION 1



Exploratorium Pathway Session: Bogus Biology: Correcting Errors with Inquiry (Bio)
—*Science Teaching*—

(General)

Room 349, Convention Center

Karen Kalumuck, The Exploratorium, San Francisco, Calif.

We will address fundamental concepts discovered through inquiry-based explorations. These concepts include genetic inheritance patterns, neurosciences (receptors), enzyme activity, and inquiry and the scientific method.

2:00–5:00 PM SHORT COURSES



Real-Time Observations in Radio Astronomy (SC-4) (Earth)

(Middle Level–College)

Tickets Required; \$85

Ballroom I, Westin

Christi Whitworth (cwhitworth@pari.edu), Fagan Astronomical Research Institute, Rosman, N.C.

For description, see page 82.



“Mohawk Guy” and His Band of Microfossil Friends: What Do They Have to Do with Climate Change and Me? (SC-5) (Env)

(Grades 5–12)

Tickets Required; \$50

Ballroom II, Westin

Sharon K. Cooper (scooper@oceanleadership.org), Consortium for Ocean Leadership, Washington, D.C.

Tina King (tinakingtn@hotmail.com), West Elementary School, Mount Juliet, Tenn.

Bob King (kingwhhs47@hotmail.com), Friendship Christian Schools, Lebanon, Tenn.

For description, see page 82.



Picture-Perfect Science Lessons: Using Children’s Books to Guide Inquiry, Grades K–4 (SC-6) (Gen)

(Grades K–4)

Tickets Required; \$47

River Room I/II, Westin

Emily Morgan (emily@pictureperfectscience.com), Picture-Perfect Science, West Chester, Ohio

Karen Ansberry (karen@pictureperfectscience.com), Picture-Perfect Science, Lebanon, Ohio

For description, see page 83.

Third Rock from the Sun + Moon Rocks and Meteorites = Earth and Space Science in Your Classroom (SC-7) (Earth)

(Upper Elementary–High School)

Tickets Required; \$16

Terrace, Westin

Jaclyn Allen (jaclyn.allen-1@nasa.gov) and **Kay Tobola** (kay.w.tobola@nasa.gov), NASA Johnson Space Center, Houston, Tex.

For description, see page 83.

2:30–3:00 PM **PRESENTATIONS**

SESSION 1

Forestry Certification as a Conservation Tool: A Guatemalan Case Study (Env)
(General) *Balcony I, New Orleans Marriott*

Julianne Schrader (*jschrader@ra.org*) and **Maria Ghiso** (*mghiso@ra.org*), Rainforest Alliance, New York, N.Y.

Al Stenstrup (*astenstrup@forestfoundation.org*), American Forest Foundation, Washington, D.C.

Looking for tools from Rainforest Alliance and Project Learning Tree to teach your students about sustainable forestry? Learn about communities in Guatemala's Mayan Biosphere Reserve that protect the forest by sustainably harvesting wood and palms and pioneering a carbon program.

SESSION 2

“The Secret of Seminole Landfill” and Other Stories: Problem-based Learning in the Chemistry Classroom —Science Teaching— (Chem)

(High School)

Gallier A/B, Sheraton

Kathryn H. Zuehlke (*kathryn_h_zuehlke@fc.dekalb.k12.ga.us*), Chamblee High School, Atlanta, Ga.

Engage your students with the chemistry of landfills, beaches, and food. The author presents principles of PBL and shares cases to use in your classroom.

2:30–3:30 PM **PRESENTATION**

SESSION 1

NMEA Session: Armada Project: Teacher Research Experiences in Tropical Ocean Ecosystems—Linking Research Experiences from Three Seas to the Classroom —Professional Development— (Env)

(Middle Level–High School)

Carondelet, New Orleans Marriott

Beth Jewell, West Springfield High School, Springfield, Va.

Heather Judkins (*judkins@mail.usf.edu*), Seminole High School, Seminole, Fla.

Morgan Hardwick-Witman, Smithfield High School, Smithfield, R.I.

Presider: Morgan Hardwick-Witman

Learn about current research practices in tropical ocean ecology from Armada Project teachers who will share activities related to their research.

2:30–4:00 PM **PRESENTATIONS**

SESSION 1

PDI

McREL Pathway Session: Constructing Understanding Using Visual Tools —Science Teaching— (Gen)

(General)

Room 346, Convention Center

Bj Stone (*bstone@mcrel.org*), Mid-continent Research for Education and Learning, Denver, Colo.

Research indicates that development of visual representations enhances student understanding of content. Learn more about graphic organizers, models, thinking maps, pictures, and other strategies that help students understand content.

PDI **SESSION 2**
SC Pathway Session: Virtual Strategies for Supporting Science Coaches—Professional Development—(Gen)
(General) *Room 348, Convention Center*
Tom Peters (*tpeters@clemsun.edu*), South Carolina Coalition for Mathematics & Science, Clemson
Dorothy Earle, South Carolina Coalition for Mathematics & Science, Greenville
 How do you make the success of science coaches a virtual certainty? We'll share key strategies for promoting professional growth and reflective practice with limited face-to face interaction.

2:45–4:45 PM EXHIBITOR WORKSHOP

Bio-Rad—What's Next After pGLO™ Bacterial Transformation?—Science Teaching—(Bio)
(Grades 7–12) *Room 230, Convention Center*
 Sponsor: Bio-Rad Laboratories
Stan Hitomi (*professional_development@bio-rad.com*) and **Kirk Brown** (*professional_development@bio-rad.com*), Bio-Rad Laboratories, Hercules, Calif.
 Don't stop at cloning the gene—identify the protein responsible for the green fluorescence! Take white and green colonies from your transformed plates, prepare sample lysates, and identify the pGLO protein on SDS-PAGE gels. DNA > RNA > PROTEIN > TRAIT — Green Fluorescence!

3:00–4:00 PM MEETING

Investment Advisory Board Meeting

Estherwood, Sheraton

3:00–4:00 PM EXHIBITOR WORKSHOP

Immersive Space Science Curriculum: “Coordinates” in a Full-dome Classroom (Earth)
(Grades K–12) *Booth No. 1133, Exhibit Hall, Convention Center*
 Sponsor: Spitz, Inc.
David H. Bradstreet (*dbradstr@eastern.edu*), Eastern University, St. Davids, Pa.
Scott Huggins (*shuggins@spitzinc.com*), Spitz, Inc., Chadds Ford, Pa.
 Dr. David H. Bradstreet presents an immersive “Coordinates” lesson using the dome environment to communicate degrees, altitude, azimuth, and other concepts in a fun, engaging lesson. The *Spitz Full-dome Curriculum* uses original 3-D visualization as a completely new way to teach challenging space science concepts.

3:00–4:15 PM EXHIBITOR WORKSHOP

Integrating Science and Literacy: Grades 5–8 —Science Content— (Gen)
(Grades 5–8) Room 208, Convention Center

Sponsor: Delta Education/School Specialty Science

Tom Graika, Consultant, Lemont, Ill.

Johanna Strange, Consultant, Richmond, Ky.

Participate in a Delta Science Module activity and learn to use some new Delta products to extend science knowledge and skill into literacy in order to improve students' reading and language arts performance. Participants receive a complimentary resource packet and related Delta product.

3:00–4:30 PM PRESENTATION

SESSION 1

PDI

NGS Pathway Session: Two Programs Linking Geography and Science Education: Geothentic and Delaware Geography-Health Initiative (Gen)

(Middle Level–High School) Room 347, Convention Center

Kim Hulse (khulse@ngs.org), National Geographic Society, Washington, D.C.

Aaron Doering (adoering@umn.edu), University of Minnesota, Minneapolis

Peter W. Rees (rees@udel.edu), University of Delaware, Newark

Learn about two new research projects that engage students in authentic learning environments and allow them to be part of solutions to real-world problems.

3:00–4:30 PM EXHIBITOR WORKSHOP

A Closer Look at Biology, Chemistry, and Earth Science Virtual Labs —Science Content— (Gen)

(Grades 7–10) Room 213, Convention Center

Sponsor: Frey Scientific/School Specialty Science

Ken Rainis and **Sarah Forst**, Frey Scientific/School Specialty Science, Bristow, Va.

Learn how virtual labs constitute a “laboratory experience” while exploring unique, object manipulative, network-capable virtual labs for general and AP subjects. Perform actual lab investigations onscreen and view, record, analyze, and report results. Ideas to create custom web content and individualized assessment will be provided. Participants will receive various software samplers.

3:30–4:00 PM PRESENTATION

SESSION 1

Biology Bob: Cajun Critters —Science Content— (Bio)
(Elementary–Middle Level) Room R06, Convention Center

Robert M. Everett (everett@mail.ucf.edu), University of Central Florida, Orlando

This year, Biology Bob's focus is on Cajun critters: snakes, frogs, turtles, alligators, and crayfish. Bring your singing voices—Biology Bob encourages participation!

3:30–4:30 PM **FEATURED PRESENTATION****Science Anchors: A Vision for Clear, Coherent, and Manageable Standards****(Gen)***(General)**Room 244/245, Convention Center*

Speaker
Page Keeley
 NSTA President, and
 Senior Science Program Director
 Maine Mathematics and Science
 Alliance
 Augusta, Maine



Speaker
Cary Sneider
 Science Anchors Consultant, and
 Associate Research Professor
 Portland State University
 Portland, Ore.
csneider@mos.org

There is broad consensus in the science education community that we must address the issues of coherence, articulation, and the sheer number of standards, as well as how to use the existing body of research concerning what is most important to teach and when and how to teach it. To meet this challenge, NSTA is leading an initiative to develop Science Anchors—a set of tools to assist educators in developing and using a set of core standards that address the big ideas in science and avoid the problem of the “mile high, inch deep” K–12 science curriculum. This session will provide an overview of the Science Anchors initiative, including the history of the project, the progress of the work to date, a sample glimpse of “Anchors,” and implications for science educators at all levels ranging from practitioners to policy makers.

Page Keeley—*Page Keeley began her one-year term as president of the National Science Teachers Association on June 1, 2008. In addition to having taught science for 15 years at the middle and high school levels, Keeley has worked as a research assistant in immunogenetics at the Jackson Laboratory, served as a science literacy leader in the Project 2061 Professional Development Program, and worked as an adjunct instructor at the University of Maine. Since 1996 Keeley has been employed at MMSA, focusing on program design, professional development, and publications in the areas of teacher leadership, science instruction, standards, mentoring and new teacher support, and formative assessment.*

Cary Sneider—*Cary Sneider has taught science at the middle and high school levels in Maine, California, Costa Rica, and Micronesia. He is currently associate research professor at Portland State University in Portland, Oregon, where he teaches courses in research methodology for teachers in master’s degree programs. He also serves as a consultant for the Office of the Superintendent for Public Instruction in the state of Washington, where he facilitated revision of the state’s K–12 science education standards. He is currently co-chair of the planning committee to develop the NAEP Technology Framework.*

3:30–4:30 PM PRESENTATIONS



SESSION 1

Instructional Coaching in an Urban District —Science Education System— (Gen)
(General) Room 240/241, Convention Center

Crystal A. Carroum and **Tanisha B. Owens**, Dallas (Tex.) Independent School District

Considering instructional coaching? Participate in a lively panel discussion with instructional supervisors, coaches, and teachers who have implemented a coaching model in an urban district.



SESSION 2

ISTE: Podcasting for Students and Teachers in Science (Gen)
(General) Room 242, Convention Center

Ben Smith (ben@edtechinnovators.com), Red Lion Area High School, Red Lion, Pa.

Jared Mader (jared@edtechinnovators.com), Red Lion (Pa.) Area School District

Hands on—come create your own podcasts! Learn the details of publishing and subscribing to podcasts and gain new ideas for using podcasting in your classroom. Participants will create a podcast and post it to a wiki during this session.

SESSION 3

FDA Symposium Follow-Up Session: Foodborne Outbreak Investigation (Bio)
(General) Room 257, Convention Center

Sherri McGarry, U.S. Food and Drug Administration, College Park, Md.

Hear how FDA investigates outbreaks of foodborne pathogens.



SESSION 4

LHS Pathway Session: Strategies for Discussion and Debate in the Science Classroom —Science Teaching— (Bio)

(Middle Level–High School) Room 337, Convention Center

Heather Maciejewski, Native American Magnet School, Williamsville, N.Y.

Tammy Martin (tam@sciencepro@aol.com or tmartin@buffaloschools.org), Buffalo (N.Y.) Public Schools

Engage in tested strategies you can use in your classroom to encourage evidence-based discussion and debate of societal issues related to life and environmental science.

SESSION 5

Free-nology —Science Teaching— (Gen)
(Elementary–Middle Level) Room 344, Convention Center

Nathaniel Haeck (nch5204@fc.dekalb.k12.ga.us), Fernbank Science Center, Atlanta, Ga.

Reach for the digital student. Join me for this informative session focusing on free science materials for K–12 teachers. Handouts.

SESSION 6

Bounce and Bend: Reflection and Refraction of Light —Science Content— (Phys)

(Middle Level) Room 345, Convention Center

Meera Chandrasekhar, University of Missouri, Columbia

Becky Litherland (slitherland@pkwy.k12.mo.us), Parkway School District, St. Louis, Mo.

Hands-on activities introduce students to concepts and measurements on how light bounces

and bends. Developed with NSF funding, these activities include experimental design, measurements, and projects. Handouts!

SESSION 7 (two presentations)

(Middle Level)

Room 357, Convention Center

NOAA WaterWays: Project-based Learning for Middle School —Science Teaching— **(Env)**

Peggy L. Steffen (peg.steffen@noaa.gov), NOAA National Ocean Service, Silver Spring, Md.

Hilarie Davis, Technology for Learning Consortium Inc., North Kingstown, R.I.

Problem-based learning challenges offer an effective vehicle for students to use real-time data in the middle school classroom, tying together state and national standards and ocean and climate literacy principles.

WaterLife: Serious Science Games —Science Content— **(Env)**

Peggy L. Steffen (peg.steffen@noaa.gov) and **Marina Kraus** (marina.kraus@noaa.gov), NOAA National Ocean Service, Silver Spring, Md.

Interactive simulations can help teachers engage digital students with science content. See how NOAA has translated estuary science into a serious game.

SESSION 8

Virtual Presence in the Classroom —Science Teaching—

(Gen)

(General)

Elmwood, Hilton

Maryann C. Scholl, University of Rhode Island, Narragansett

David Zoglio (zog4252@yahoo.com), Classical High School, Providence, R.I.

Using high-speed internet videoconferencing technology as an innovative learning opportunity allows students in the classroom to virtually participate with scientists in the field.

SESSION 9 (two presentations)

(General)

Jasperwood, Hilton

Science 2.0 —Science Teaching—

(Gen)

Marie Searce (mscearce@mac.com), Science Teacher, Upper Darby, Pa.

Explore Web 2.0 tools (wikis, blogs, RSS, and social networking sites) to facilitate student engagement and inquiry with science content and process.

GIS in the Science Classroom: Latest Research and Practical Applications —Professional Development— **(Gen)**

Jeffrey W. Crews (jeff.crews@umontana.edu), The University of Montana, Missoula

Suzie Flentie (sflentie@midrivers.com) and **Kala Flentie** (sflentie@midrivers.com), Lewistown Junior High School, Lewistown, Mont.

Get a practical look at a three-year geospatial technologies professional development project. We'll share research results, curriculum resources generated, and a teacher perspective.

SESSION 10

How to Travel the World on Someone Else's Money: NSTA Reports —Professional Development— **(Gen)**

(General)

Magnolia, Hilton

Dwight D. Sieggreen (sieggdrw@northville.k12.mi.us), Hillside Middle School, Northville, Mich.

Discover professional development opportunities from NOAA, NASA, the Fulbright Memorial Fund, COSEE, and others.

SESSION 11 (two presentations)

(General)

Oak Alley, Hilton

Nanoscience and Societal Impacts —Science Teaching—

(Gen)

Kelly M. Hutchinson (*khutchin@purdue.edu*), **Lynn A. Bryan** (*labryan@purdue.edu*), **Shanna R. Daly** (*sdaly@purdue.edu*), **David Sederberg** (*dsederbe@purdue.edu*), and **Emily Wischow** (*ewischow@purdue.edu*), Purdue University, West Lafayette, Ind.

Come participate in experiments with nano products, an investigation of a nanotube-based space elevator model, and a debate on the health impacts of nanotechnology.

Teaching Locally, Thinking Globally —Professional Development—

(Gen)

Samantha Dassler Barlow (*missdassler@yahoo.com*), James B. Hunt, Jr. Institute for Educational Leadership and Policy, Durham, N.C.

Find out how to travel the world with researchers and bring real science to your students. We'll look at selected teacher-researcher professional development programs.

SESSION 12 (two presentations)

(General)

Windsor, Hilton

Using What You've Got! How to Ask Excellent Questions and Get Even Better Answers from All Students —Science Teaching—

(Gen)

Tricia Easterling (*easterling@radford.edu*) and **Greg Sherman** (*gs Sherman2@radford.edu*), Radford University, Radford, Va.

Everyday toys and games make fantastic opportunities to get students thinking about difficult ideas. Using fun, concrete items allows students to explain their understanding of scientific concepts while giving teachers a glimpse into potential misconceptions.

"If You Want Your Children to Be Intelligent, Read Them Fairy Tales"—Albert Einstein —Professional Development—

(Gen)

Tricia Easterling (*easterling@radford.edu*), Radford University, Radford, Va.

Read to my students? You have got to be kidding! People of all ages like to be read to...even your students. This session will demonstrate strategies for incorporating key vocabulary into your science lessons through exceptional picture books.

SESSION 13 (two presentations)

(High School—College/Informal Education)

Conde, JW Marriott

Multidisciplinary Approach to Teaching Physics —Professional Development—

(Phys)

Eugene de Silva and **Chasity Long**, Lincoln Memorial University, Harrogate, Tenn.

Discover a novel approach to science teaching. Highlighting life skills that can be learned through the physical sciences generates greater interest in the sciences among learners. We will also look at the inclusion of research-based teaching and the multidisciplinary approach to tackling problems in science.

Einstein in Hollywood: Capturing the Scientific Minds of Young Movie Buffs —Science Content—

(Phys)

Chadwick Young (*chadwick.young@gmail.com*), Nicholls State University, Thibodaux, La.

Jamie E. Guillot, Central Lafourche High School, Raceland, La.

Explore methods of teaching physics through the use of movie clips. Take home DVDs of the movie clips and supporting materials.

SESSION 14 (three presentations)

(College)

Frontenac, JW Marriott

SCST Session: Aiding Student Learning via Online Quizzing on Course Management Systems (Bio)

Anneke M. Metz (anneke@montana.edu), Montana State University, Bozeman

Do students cheat on, or benefit from, weekly online quizzes in large biology lecture courses? Quiz access and performance data yield some surprising insights.

SCST Session: Blended Learning: Results of an Ongoing Study —Science Teaching— (Bio)

Lee E. Hughes (lhughes@unt.edu), University of North Texas, Denton

Blended learning combines face-to-face and online teaching strategies. We'll look at results of an ongoing study on a blended-format freshman biology course for majors.

SCST Session: Hybrid Introductory Biology Course: Lessons Learned —Science Content— (Bio)

Linda Crow (lcrow@lonestar.edu), Lone Star College-Montgomery, Conroe, Tex.

I will share a hybrid version of an introductory nonmajors biology course and resulting suggestions for use. Lecture time was decreased by one hour and replaced by online activities.

SESSION 15

Sense in Molecules —Professional Development— (Bio)

(High School–College)

Maurepas, JW Marriott

Bruce Nash (nash@cshl.edu), Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y.

Learn how your students can use DNA to predict their ability to taste a bitter substance and then test the relationship between phenotype and genotype.

SESSION 16 (two presentations)

(General)

Orleans, JW Marriott

Incorporating Family Science in a University Science Methods Course —Science Teaching— (Gen)

Donna B. Gee (donna.gee@angelo.edu), Angelo State University, San Angelo, Tex.

University students collaborate with their peers and local school staff to plan and implement a family science night.

Creating an Informed Citizenry One Family at a Time —Science Teaching— (Gen)

Hudson Roditi (hroditi@amnh.org) and **Jay Holmes** (jholmes@amnh.org), American Museum of Natural History, New York, N.Y.

Urban Advantage, which supports science learning in informal settings, provides professional development for students and families to supplement students' success in science projects.

SESSION 17

NARST Session: Using a Concept Map to Guide Instruction: The Impact on Teachers' Understanding of Evolution —Professional Development— (Bio)

(General)

Rosalie, JW Marriott

Susan Gomez-Zwiep (sgomezwp@csulb.edu), California State University, Long Beach

Shawn Holmes, North Carolina State University, Raleigh

A concept map was used to plan instruction, identify misconceptions, and structure assessment for a teacher inservice that blended evolution and inquiry. Impact is discussed.

SESSION 18

ASTE Session: What Is ASTE?

(Gen)

(General)

St. Claude, JW Marriott

Jon Pedersen (*jep@unl.edu*), ASTE President, and University of Nebraska, Lincoln

Warren J. DiBiase, The University of North Carolina at Charlotte

Janice Koch (*janice.koch@hofstra.edu*), Hofstra University, Hempstead, N.Y.

Learn about the Association for Science Teacher Education as you network with members and hear what exciting things this organization is doing for science teacher education.

SESSION 19

The Integration of Science, Math, and Literature: Enhancing the Spirit of Every Child —Professional Development—

(Gen)

(General)

Balcony J, New Orleans Marriott

Sally C. Mayberry, Florida Gulf Coast University, Fort Myers

This session will introduce effective examples of children's literature to promote the integration of science content, math content, and literature using a problem-solving approach.

SESSION 20

Bringing Science to Life —Science Content—

(Env)

(Middle Level–High School)

Balcony L, New Orleans Marriott

Barbara R. Pietrucha (*bpietrucha418@aol.com*), Earth/Environmental Science Educator, Bradley Beach, N.J.

Harriett Wegmeyer, Nutrients for Life Foundation, Washington, D.C.

Are you looking for an exciting, fun way to teach about plants and soil science that uses real-life experiences? Come explore solutions and experiences related to feeding the world now and in the future. Standards-based student and teacher materials will be distributed to all participants.

SESSION 21

Conference Tips for First-Timers

(Gen)

(General)

Bissonet, New Orleans Marriott

Ken Rosenbaum (*krosenbaum@nsta.org*), NSTA Chapter Relations Consultant, Harrods Creek, Ky.

Presider: Theresa Nicely, Senior Coordinator, Chapter Relations, NSTA, Arlington, Va.

This session identifies the must see's and do's for your first conference experience. This event is graciously sponsored by GED Testing Service®.

SESSION 22 (two presentations)

(General)

La Galerie 1, New Orleans Marriott

Investigating and Evaluating the International Year of the Reef —Science Teaching—

(Gen)

Brian J. Plankis (*plankisb@gmail.com*) and **Eric Borneman** (*eborneman@uh.edu*), University of Houston, Tex.

A University of Houston and Reef Stewardship Foundation collaboration used the IEEIA model to investigate high school students' environmental and ocean literacy and the International Year of the Reef.

View National Parks in Your Class —Science Teaching— (Gen)
Kristen M. Lucke, University of Colorado-Denver, Lakewood
 “Views of the National Parks,” a free program from the National Park Service, uses technology to bring national parks right into the classroom.

SESSION 23

Women Engineers Solve Energy Problems —Professional Development— (Gen)
 (General) *La Galerie 6, New Orleans Marriott*
Betty Preece (*bpreece@fit.edu*), Science Education Consultant, Indialantic, Fla.
 Join women engineers as they describe skills for careers that will produce engineering solutions to energy problems. A hands-on activity illustrates these skills.

SESSION 24 (two presentations)
 (General)

Mardi Gras A/B, New Orleans Marriott
Getting Connected: NSTA Student Chapter ITV Meetings (Gen)
Laura Youngblood, Murray State University, Murray, Ky.
 Want to hear about some exciting ITV experiences? Come learn how our NSTA student chapter has organized and hosted ITV meetings with other student chapters.

NSTA Chapters and Associated Groups Events

Friday, March 20th

Dorothy K. Culbert Chapters and Associated Groups Breakfast

7:00–8:30 AM
 New Orleans Marriott
 St. Charles
 Ticket Required (M-2; \$40 on-site)
 This event is a great way for NSTA chapters and associated groups leaders to kick off their conference experience!

The Dr. Wendell G. Mohling Chapters and Associated Groups Reception

3:30–5:00 PM
 New Orleans Marriott
 La Galerie 6
By invitation only.
 This fun-filled event permits chapters and associated groups leaders to recognize achievements and milestones. This event is graciously sponsored by ETA/Cuisenaire.



Exploring, Describing, and Modifying Preservice Elementary Teachers' Conceptions About Electricity —*Science Teaching*— (Gen)

Debbie K. Jackson (*d.jackson1@csuohio.edu*) and **Robert L. Ferguson** (*r.l.ferguson1@csuohio.edu*), Cleveland State University, Cleveland, Ohio

If given a light bulb, a wire, and a battery, how well can our elementary education students make a circuit? Come learn the answer to this question.

SESSION 25

NSELA Session: Meeting NSELA Leaders (Gen)

(General)

Mardi Gras D, New Orleans Marriott

Linda Atkinson, NSELA President, and University of Oklahoma, Norman

Jerry Valadez, Coalinga-Huron Unified School District, Coalinga, Calif.

Brenda S. Wojnowski (*bwojnowski@cftexas.org*), Communities Foundation of Texas, Dallas

As the National Science Education Leadership Association celebrates 50 years, key leaders share successful strategies about leadership in science education. Please join us.

SESSION 26

CSSS Session: Scratch This! Science and Technology Video Games and Simulations —*Professional Development*— (Gen)

(General)

Mardi Gras F, New Orleans Marriott

Jeffrey Piontek (*jeff_piontek@notes.k12.hi.us*), Hawaii Dept. of Education, Honolulu

Learn to use Scratch, an open-source development tool created by the MIT media lab, and develop your own simulations and games related to science concepts and standards.

SESSION 27

Integrating Modern Research Practices into the Science Curriculum —*Professional Development*— (Gen)

(Middle Level–College)

St. Charles (41st Floor), New Orleans Marriott

Danielle T. Moore (*damitchell@dallasisd.org*), Molina High School/Oak Ridge Associated Universities, Dallas, Tex.

Destiny Evans (*destiny.evans@aliefisd.net*), Elsie Ninth Grade Center/Oak Ridge Associated Universities, Houston, Tex.

Kathy White (*kathy.white@mnps.org*), Cohn Alternative Learning Center/Cohn Adult High School, Nashville, Tenn.

Jeanine Siebold (*jeanine.siebold@mnps.org*), East Literature Magnet High School/Oak Ridge Associated Universities, Nashville, Tenn.

Presider: Larry Burney, Molina High School, Cedar Hill, Tex.

Learn how to enhance science instruction through collaboration with leaders in the scientific community and leaders of science education.

SESSION 28

Planting the Seeds for Science Fair: Using Fast Plants to Teach Statistics and Methodology of a Research Project —*Science Teaching*— (Gen)

(Middle Level–High School)

Edgewood A/B, Sheraton

Linda K. Messina, St. Joseph's Academy, Baton Rouge, La.

Presider: Aimee Phebus, St. Joseph's Academy, Baton Rouge, La.

Come see a demonstration on using Fast Plants to design different scientific investigations, collect data, generate graphs, perform statistics, draw conclusions, and write a paper in APA format.

SESSION 29 (two presentations)*(Middle Level–High School)**Gallier A/B, Sheraton***Capture Students' Attention by Creating Content-related Movie Trailers —Science Teaching—** **(Chem)****Allison B. Radtke**, Central Catholic High School, Morgan City, La.

Build excitement about upcoming lessons by creating your own content-related movie trailers. Teacher-created trailers are a great way to introduce chapters or to summarize.

Using Technology in the Science Classroom —Science Teaching— **(Chem)****Gina S. Oldendorf** (*chemteacher55@gmail.com*), St. Charles Catholic High School, LaPlace, La.

Let's take a journey into technology. Lots of ideas and lesson plans to turn your chemistry or physics classroom into technology central!

SESSION 30**Expanding the Box: Reaching All Students Through Differentiated Instruction —Science Teaching—** **(Gen)***(Middle Level–High School)**Maurepas, Sheraton***Pamela E. Harman** (*pharman@hoover.k12.al.us*), Spain Park High School, Hoover, Ala.

Learn how to determine the personality and learning/presenting modality of students and how to tailor instruction for all students. This presentation is a must for beginning teachers and for those who wish to better reach each student.

SESSION 31**Creating a Culture of Inquiry —Science Teaching—** **(Bio)***(General)**Napoleon A1&2, Sheraton***Janet Carlson** (*jcarlson@bscs.org*) and **Paul Numedahl** (*pnumedahl@bscs.org*), BSCS, Colorado Springs, Colo.

“Inquiry” means different things to different people. Learn how professional development can overcome teachers' misconceptions surrounding inquiry and promote a classroom culture of inquiry.

SESSION 32**Population Ecology—Wolf vs. Moose** **(Bio)***(General)**Napoleon A3, Sheraton***Sylvia J. Tufts** (*stufjs@ix.netcom.com*), Retired Educator, Flossmoor, Ill.

Explore the ecological relationship between the wolf and moose populations at Isle Royal National Park, an island ecosystem.

SESSION 33**International Interactions in Physics: Real and Virtual —Science Teaching—** **(Phys)***(General)**Napoleon B3, Sheraton***Kris Whelan** (*kkwhelan@lbl.gov*), Lawrence Berkeley National Laboratory, Berkeley, Calif.**Kenneth Cecire** (*ken.cecire@hamptonu.edu*), Hampton University, Hampton, Va.

We will share programs that enable students/teachers to interact with their international counterparts.

SESSION 34

The Interactive Whiteboard and Cornell Notes in Science Teaching —*Science Education Program*— **(Earth)**

(General)

Napoleon CI, Sheraton

Martin Diesterhaft (*diesterhm@aol.com*), West Mecklenburg High School, Charlotte, N.C.

An electronic curriculum based on guided Cornell notes and an interactive whiteboard is the basis for an innovative approach to multilevel earth science instruction.

SESSION 35

Free Cruises—The Real Deal: Become a Cruise Ship Science Lecturer —*Professional Development*— **(Bio)**

(General)

Rhythms I, Sheraton

Mark Harris (*maharris@dsdmail.net*), Layton High School, Layton, Utah

Have you ever wondered how to cruise the world for free? Do you enjoy sharing your passion? I do it and you can, too.

SESSION 36 (two presentations)

(Middle Level–High School)

Salons 825 & 829, Sheraton

Teaching AP Physics “Sideways”?—A Recursive Approach —*Science Teaching*— **(Phys)**

Stephen P. Schuh, The Indiana Academy for Science, Mathematics, and Humanities, Muncie

Learn how to pack the entire AP curriculum into your course and still maintain student understanding. We’ll look at tricks, tips, and methods.

Performance-based Assessments in High School Physics —*Assessment*— **(Phys)**

Lauren E. Coil-Sherck (*lauren.coil@gmail.com*), The Kiski School, Saltsburg, Pa.

I’ll share activity sheets and rubrics for six PBAs in introductory high school physics.

SESSION 37

Using Multimedia and Technology to Study Animal Behavior —*Science Teaching*— **(Bio)**

(Middle Level–High School/Informal Education)

Southdown, Sheraton

Tina B. Phillips (*cbp6@cornell.edu*) and **Colleen M. McLinn** (*cmm252@cornell.edu*), Cornell University, Ithaca, N.Y.

Support students’ inquiry, technology, and science process skills as they manipulate and analyze sounds, videos, and images while learning about animal behavior.

3:30–4:30 PM WORKSHOPS

Don’t Be Afraid! You Can Have Animals in the Classroom —*Science Content*— **(Bio)**

(Preschool–Middle Level)

Room 254, Convention Center

Stephanie Selznick (*stephanie@super8records.com*), Washington Irving Middle School, Roslindale, Mass.

Suzanne Flynn, Cambridge College, Cambridge, Mass.

Presider: Suzanne Flynn

We’ll look at the pros and cons of having animals in the classroom. Observe pond snails

and Bess beetles, both of which can be easily obtained, and take home information on their use in the classroom.

Through the Eyes of Scientists: A Literacy/Science Unit —Science Education Program— (Earth)

(Elementary) Room 343, Convention Center

Julie E. Taylor (*julie_taylor@eee.org*), Solar System Educator, Victorville, Calif.

These activities teach expository reading and writing as well as knowledge of our solar system as compared to our home planet.

Bring Literacy and Science Together: B.L.A.S.T.© for Success at School and Home —Science Teaching— (Gen)

(Elementary–Middle Level) Room 353, Convention Center

Margaret S. Dee (*drpeggydee@comcast.net*) and **Renee G. O’Leary**, Caravel Academy, Bear, Del.

Discover simple, multisensory, hands-on explorations for grades 2–5 that use fairy tales as catalysts and have take-home and language arts follow-up. Take home sample plans and zippered bags.

Science in Your Face —Science Content— (Chem)

(Elementary–Middle Level) Room 354, Convention Center

Susan Hershberger (*hershbs@muohio.edu*), Miami University, Middletown, Ohio

“Stuff” in your environment can make you sick...or help you thrive. Improve your students’ science content and health awareness through these issues-based, real-world activities.

The Only Soap That Floats: Clean Fun Using Science Process Skills to Investigate Truth in Advertising —Science Teaching— (Gen)

(Elementary–Middle Level) Room R02, Convention Center

Tammy C. Brown (*tbrown@uwa.edu*), The University of West Alabama, Livingston

As participants explore, collect data, and use science process skills to test advertising claims for inexpensive store items, natural questions and investigations crop up.

3.2.1...Liftoff Your Littlest Astronauts! —Science Teaching— (Earth)

(Preschool/Elementary) Room R03, Convention Center

Jennifer Becerra (*jennifer.becerra-1@nasa.gov*), NASA Johnson Space Center, Houston, Tex.

Launch your youngest astronauts into learning basic science concepts as they integrate math and literature. Excite your students with the study of space travel.

Science for All: Meaningful Science with Meaningful Inclusion —Science Teaching— (Gen)

(Elementary–Middle Level) Room R04, Convention Center

Rachel A. Hallett (*rachel_hallett@scps.k12.fl.us*), Seminole County Public Schools, Sanford, Fla.

Sara Aronin (*saronin@mail.ucf.edu*), University of Central Florida, Orlando

Presenter: Tanya Moorehead, University of Central Florida, Orlando

Try these hands-on activities that allow students of all abilities to be included meaningfully in a science classroom as proven through professional development data.

Using Plants and Gardens as Interdisciplinary Teaching Tools in the Classroom —Science Teaching— (Gen)

(Elementary)

Room R07, Convention Center

Kathryn Orvis (orvis@purdue.edu), Purdue University, West Lafayette, Ind.

Using gardens as multidisciplinary teaching tools, students can get involved in exploring their world through meaningful activities.

So You Want to Do a Science Night...The Details Can Drive You Crazy! —Science Teaching— (Gen)

(Elementary–High School)

Belle Chasse, Hilton

Joe Laszlo (joe.laszlo@hawaiiintel.net), University of Hawaii, Honolulu

Dr. Gadget will show you how to plan for and present a Science Night (or Day), and do it with mostly recycled materials.

Imagine All of Those “Ribbits”: Fascinating Frogs and Engaged Learners —Science Teaching— (Env)

(Elementary/College/Supervision)

Balcony M, New Orleans Marriott

Frances A. Steward and **Melissa Stinnett**, Western Illinois University, Macomb

Sandra Hebert (sandrahebert@tpsd.org), Honduras Elementary School, Houma, La.

Come explore NSES, K–4 (A, C, F) with diverse genre (literacy), fine arts, and strategies to enhance science inquiry, vocabulary, and animal characteristics.

NMEA Session: Learning to Read a Fish—Through Dissection! —Professional Development— (Bio)

(General)

Carondelet, New Orleans Marriott

Sharon Walker, University of Southern Mississippi, Ocean Springs

John Dindo (jdindo@disl.org), Dauphin Island Sea Laboratory, Dauphin Island, Ala.

Dan Brook (danb@ext.msstate.edu), Mississippi State University, Starkville

Attend this internal/external fish anatomy session and explore fresh fish and handmade fabric models for interactive classroom use. Resources aligned with standards will be provided.

How Dark Is Your Sky? Students as Citizen-Scientists Shed Light on Light Pollution —Science Teaching— (Env)

(Informal Education)

Mardi Gras G/H, New Orleans Marriott

Constance E. Walker (cwalker@noao.edu) and **Robert T. Sparks**, National Optical Astronomy Observatory, Tucson, Ariz.

Presider: Constance E. Walker

Raise student awareness of the impact of artificial lighting on local environments by involving them as citizen-scientists in International Year of Astronomy programs like GLOBE-at-Night.

NASA: Cosmic Connection to the Elements —Science Content— (Chem)

(Middle Level–High School)

Bayside C, Sheraton

Cheryl Niemela (cniemela@puyallup.k12.wa.us), Gov. John R. Rogers High School, Puyallup, Wash.

Learn the cosmic origin of all the elements in the universe and perform activities to teach element abundances. Activities are tied to a NASA book and poster, free to participants.

Fueling the Future: Energy Interconnections and Sustainable Choices —Science Teaching— (Env)

(Middle Level—High School/Informal Education)

Borgne, Sheraton

Dave Wilton (dave@facingthefuture.org), Facing the Future, Seattle, Wash.

Experience hands-on lessons that demonstrate the interconnections between energy sources, human choices, economic challenges, and environmental impacts. Free curriculum!

Lotions, Potions, and Scrubs: Polymer Science in Cosmetics —Science Teaching— (Chem)

(High School)

Napoleon B1, Sheraton

Sherri C. Rukes (sherri.rukes@d128.org), Libertyville High School, Libertyville, Ill.

Learn how to make various cosmetics and discover the polymer science behind them. Take home handouts and samples.

Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts —Science Content— (Gen)

(Middle Level—High School)

Napoleon B2, Sheraton

Joyce Palmer (joyce.palmer@mirc.gatech.edu), Georgia Institute of Technology, Atlanta

The National Nanotechnology Infrastructure Network has developed secondary science nanotechnology instructional materials connected to basic concepts and NSES content standards.

Explore Climate Change Throughout Earth's History (Earth)

(Middle Level—High School)

Napoleon C2, Sheraton

Gary B. Lewis and **Christine V. McLelland** (cmcllland@geosociety.org), Geological Society of America, Boulder, Colo.

Help your students understand what factors can change our climate with activities using data from tree rings, ice cores, fossils, and much more. Free CD.

Locating Earthquakes Using Recent Seismic Data —Professional Development— (Earth)

(Middle Level—High School)

Napoleon C3, Sheraton

Michael Hubenthal (hubenth@iris.edu), IRIS Consortium, Washington, D.C.

Juan M. Lorenzo (gllore@lsu.edu), Louisiana State University, Baton Rouge

Do your students locate earthquakes by picking P and S arrivals from old textbook seismograms? Come learn how to access online data from newsworthy earthquakes.

Effective Use of Science Notebooks —Science Teaching— (Gen)

(Informal Education)

Napoleon D1&2, Sheraton

Carolyn Landel (carolyn.landel@wwu.edu), Western Washington University, Bellingham

Adrienne Somera (asomera@esd189.org), Northwest Education Service District 189, Anacortes, Wash.

Learn about a new web resource, www.sciencenotebooks.org, that supports and enhances the use of science notebooks and increases student success in science.

Genetics Bonanza —Science Content— (Bio)

(High School)

Rhythms II, Sheraton

Deborah A. Tieman (deborah.tieman@fraser.misd.net) and **Christine Greenough** (christine.greenough@fraser.misd.net), Fraser High School, Fraser, Mich.

Come explore five hands-on activities such as Plastic Egg Genetics and Candy Chi-Square.

We'll cover everything from simple Mendelian ratios to incomplete dominance using Gummy Bear Breeding and Fun Family Pedigrees. You'll get an inexpensive way to conduct genetics experiments using live plants.

Candy, Classification, and Cladograms —Science Teaching— **(Bio)**
(Middle Level–College) *Rhythms III, Sheraton*

Scott Moore (*scottmoore96@gmail.com*), Valley High School, West Des Moines, Iowa

Katherine Larson (*katherine.larson@dmps.k12.ia.us*), East High School, Des Moines, Iowa
Use candy to help your biology students learn about the classification of organisms. We'll provide candy and handouts.

3:30–5:00 PM PRESENTATION

PDI

SESSION 1

BSCS Pathway Session: The BSCS 5E Instructional Model —Professional Development— **(Gen)**

(General)

Room 333, Convention Center

Betty Stennett (*bstennett@bscs.org*) and **Pam Van Scotter** (*pvanscotter@bscs.org*), BSCS, Colorado Springs, Colo.

Presider: Pam Van Scotter

Research on how people learn includes several key findings that have important implications for teaching and the implementation of high-quality instructional materials. Come explore these key findings through the BSCS 5E instructional model.

3:30–5:00 PM EXHIBITOR WORKSHOPS

WARD's Presents: Science with Siegfried and Roy **(Bio)**

(Grades 8–12)

Room 202, Convention Center

Sponsor: WARD's Natural Science

Tim Montondo, WARD's Natural Science, West Henrietta, N.Y.

A trained goldfish performing tricks sounds like a three-ring circus, but it's actually the latest craze in animal behavior education. Come see the Fish Training Kit in action. You'll also get hands-on experience with proven successful animal behavior experiments. Working with living invertebrates and vertebrates, participants will set up their own experiments with classroom-tested equipment. Share your results and ideas with other teachers in this informal and fun workshop. You can even win your own fish training kit!

Flinn ChemTopic Labs Workshop: Experiments and Demonstrations in Chemistry —Science Teaching— **(Chem)**

(Grades 9–12)

Room 204/205, Convention Center

Sponsor: Flinn Scientific, Inc.

Irene Cesa, Flinn Scientific, Inc., Batavia, Ill.

Explore Flinn ChemTopic™ labs and discover Flinn Scientific's newest and most valuable resource for high school chemistry teachers. Participants will perform experiments and demonstrations and receive a complimentary copy of *Oxidation and Reduction*, Volume 16 in the series. Experience firsthand how students and teachers alike will benefit from using Flinn ChemTopic™ labs.

A World in Motion: The Design Experience—Glider Challenge —Science Content— **(Phys)***(Grades 6–8)**Room 211, Convention Center*

Sponsor: SAE International

Julie Nalducci, SAE International, Warrendale, Pa.

SAE International's A World in Motion program is a series of design challenges that incorporates math, science, and technology standards. Students explore the relationship between force, motion, and effects of weight and lift on a glider. The glider activity culminates in a book-signing event where each design team presents its prototype and the class presents its manuscripts to representatives and members of the local community. Not only will you learn how to use the materials, you will also learn how to receive a complete set of classroom materials free!

Think Mink! Exploring Mammalian Anatomy with Carolina's Perfect Solution® **(Bio)***(Grades 9–College)**Room 215, Convention Center*

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Often used in grades nine through college biology labs as an inexpensive substitute for the cat, the mink allows students to study fully developed, sexually mature vertebrate anatomy of order Carnivora and class Mammalia. Ranch-raised minks are skinned and preserved in safe, nontoxic Carolina's Perfect Solution®.

Molecular Models in the Classroom **(Chem)***(Grades 9–12)**Room 216, Convention Center*

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Bring atomic structure, the periodic table, bonding, and molecular geometry together for a powerful lesson that your students won't forget. Experience the four tools that make these abstract concepts concrete for your students and convenient for you. Handouts and giveaways.

The Story Behind the Science—Scaffolding! **(Bio)***(Grades K–8)**Room 217, Convention Center*

Sponsor: Carolina Biological Supply Co.

Carolina Teaching Partner

Solve a mystery, build a new technology, or explore faraway places. Your students can do all this and more in science class through scaffolding—creating a backstory for science activities. Explore the newest research and learn how to improve students' reading, writing, social studies, and logic skills through science.

WOW! Realistic Middle School Laboratory Simulations You Have to See to Believe! —Science Teaching— **(Gen)***(Grades 6–8)**Room 220, Convention Center*

Sponsor: Pearson

Brian Woodfield, Brigham Young University, Provo, Utah

Come see a one-of-a-kind demonstration of these amazingly realistic lab simulations and learn how you can use them in your middle grades physical science lessons. Dr. Woodfield will demo a variety of innovative labs and show how each develops critical-thinking skills.

Explore the Next Generation of Instructional Technology on *Biology.com*
—Science Teaching— (Bio)

(Grades 9–12)

Room 221, Convention Center

Sponsor: Pearson

Susan Cory, Pearson, Houston, Tex.

Join Pearson presenter Susan Cory as she explores the dynamic digital component of the Miller and Levine *Biology* collection—*Biology.com*. This robust digital support includes a wealth of assets, such as complete online student and teacher's editions with audio and editable worksheets, interactive multimedia, and games. It also includes online assessments with remediation, a sophisticated classroom management system that offers a seamless transition from the textbook.

Your Class Can Save Wildlife Around the World! —Science Content— (Bio)

(Grades 4–12)

Room 224, Convention Center

Sponsor: SeaWorld/Busch Gardens

Sheila Voss, SeaWorld/Busch Gardens, Orlando, Fla.

Julie Scardina, Sea World/Busch Gardens, San Diego, Calif.

With global wildlife crises everywhere we turn, it's common to feel both overwhelmed and underequipped. Where do wildlife products come from? Ivory, tortoise shell, and furs look and feel wonderful—but wildlife pays a big toll. Fishing practices, farming wild animals, and hunting—what's right, what's not? How can any of us make a real difference that actually helps protect animals, people, and places close to home and around the world? With the help of a few unforgettable animal ambassadors, some expertly designed teaching tools, and some real-world conservation success stories, we'll help you tackle tough subjects with your students in an engaging, challenging, and inspiring way.

Human Health and Global Environmental Change —Science Content— (Env)

(Grades 9–College)

Room 225, Convention Center

Sponsor: Center for Health and the Global Environment, Harvard Medical School

Margaret Thomsen (margaret_thomsen@hms.harvard.edu) and **Emily Huhn** (emily_huhn@hms.harvard.edu), Center for Health and the Global Environment, Harvard Medical School, Boston, Mass.

The top-rated Harvard Medical School course Human Health and Global Environmental Change has highlighted the human health connection to environmental change issues such as global warming, biodiversity, and land degradation. This session will outline the ways that these materials can be suited to the secondary education classroom. Free curriculum available on-site.

Interactive Technology = Interactive Science (Gen)

(Grades 5–College)

Room 226, Convention Center

Sponsor: Luidia, Inc.

Kathryn Hunt (kathryn@luidia.com), Luidia, Inc., San Carlos, Calif.

Interactive whiteboards integrated with document cameras provide an ideal method for making all areas of science come alive. Students can review classroom activities with authentic artifacts captured during class and teachers can build and share professional resources. Come see sample projects and methods using portable and cost-effective products from Luidia's eBeam line.

Smithsonian Science: How Research and Conservation Work Together to Save Coastal Ecosystems —Science Content— **(Bio)**

(Grades 4–12)

Room 228, Convention Center

Sponsor: Smithsonian Institution

Stanley Heckadon Moreno, Smithsonian Tropical Research Institute, Washington, D.C.

Find out how the Smithsonian Tropical Research Institute is using research to encourage marine conservation. Learn the latest scientific research and outreach efforts from the scientists and educators. With hands-on activities, learn to identify coastal plants and sea animals and to recognize signs of damage.

GIS for Environmental Science Inquiry —Science Content— **(Env)**

(Grades 3–College)

Room 231, Convention Center

Sponsor: ESRI

Joseph Kerski (jkerski@esri.com), ESRI, Redlands, Calif.

Roger T. Palmer (roger@gisetc.com), GISetc, Dallas, Tex.

Explore how and why GIS (geographic information systems) and other geospatial technologies (GPS and remote sensing) are essential in environmental science education and careers. Investigate local to global topics via practical classroom activities supporting science standards and inquiry. Receive free GIS software and classroom resources. For more information, see <http://edcommunity.esri.com>.

Living by Chemistry: What Is the Shape of That Smell? **(Chem)**

(Grades 9–11)

Room 232, Convention Center

Sponsor: Key Curriculum Press

Jeffrey Dowling (jdowling@keypress.com), Key Curriculum Press, Emeryville, Calif.

How does the smell of food reach your nose? Teaching students about molecules through the sense of smell makes these invisible particles more real to students and makes advanced chemistry concepts easier to grasp. We will do several activities from Living By Chemistry, an inquiry-based high school program.

Middle School Life Science Experiments with Student Investigations —Science Content— **(Bio)**

(Grades 6–8)

Room 235, Convention Center

Sponsor: DNA Depot

Barbara J. Nealon (barbara.nealon@syncsd.org), Southern York County School District, Glen Rock, Pa.

Jack Chirikjian (jgc@georgetown.edu), Georgetown University, Washington, D.C.

Middle school experiment activities with a new approach that were developed with support from a competitive NIH grant will be demonstrated. The experiments are designed for students to participate in hands-on activities and be able to design laboratory extensions with a classroom teacher's guidance. These experiments include Detection of Peanut Food Allergy and Ecology and Environmental Science for middle schools. Three experiments will be raffled off at the end of the workshop. Research on these experiments is supported by NIH NCRR grant # 2R44RR021997.

Microscopy and Digital Imaging 101 **(Bio)**

(Grades 7–College)

Room 236, Convention Center

Sponsor: Swift Optical Instruments, Inc.

Cynthia Syverson-Mercer (*cynthia@swiftoptical.com*), Swift Optical Instruments, Inc., San Antonio, Tex.

Teachers should spend time teaching, not struggling with equipment. This workshop, sponsored by Swift Optical Instruments, will provide a hands-on approach to learning basic microscopy and digital imaging techniques. Participants will leave with sample lesson plans and tips for use in their own classrooms.

3:30–5:30 PM PRESENTATIONS

SESSION 1

PDI

WestEd Pathway Session: A Professional Learning Community Strategy: Targeted Interventions Matter —Science Teaching— (Gen)

(Elementary–High School)

Room 341, Convention Center

Jody Sherriff and **Greta Smith** (*tgsmith@juno.com*), WestEd, Santa Ana, Calif.

Are your students having trouble with charting, graphing, and making summary statements? Learn targeted interventions that successfully address these classroom challenges. Receive a student packet.

SESSION 2

PDI

UNV Pathway Session: Using the CREDE Five Standards for Effective Pedagogy to Integrate Science Language and Literacy Instruction for English Language Learners —Professional Development— (Gen)

(General)

Room 350, Convention Center

Trish Stoddard, University of California, Santa Cruz

This session will introduce participants to the CREDE Five Standards for Effective Pedagogy (CFSEP) and their use in integrating inquiry science with language and literacy instruction for English language learners. Engage with the CFSEP through the discussion of instructional scenarios, video cases, and hands-on activities.

4:00–4:30 PM PRESENTATIONS

SESSION 1

Stop Bugging Me! —Science Teaching— (Gen)

(General)

Rosedown, Hilton

Lisa Ann Schoenbrun (*lschoenb@episd.org*) and **Bonita Fraire**, Western Hills Elementary School, El Paso, Tex.

See how one elementary school used bugs and insects to learn about the world around us. Find out how to make life science, the life cycle, and bugs fun and rewarding.

SESSION 2

Training Future Scientists: Collaboration and Team Building —Professional Development— (Gen)

(Middle Level–High School)

Bayside A, Sheraton

Season S. Mussey (*smussey@ucsd.edu*), The Preuss School, La Jolla, Calif.

Develop your leadership skills while learning research-based methods that support collaboration and team building in science departments and classrooms. Activities, handouts, and materials!

4:00–5:00 PM **MEETING**

GLBT Focus Group Meeting

Oakley, Sheraton

Gay and lesbian science educators are invited to join colleagues for dialogue in a safe, respectful environment. For more information, e-mail bflywriter@comcast.net.

4:00–5:00 PM **PRESENTATION**

SESSION 1

PDI

FI Pathway Session: Creating an Assessment for Learning Perspective —Assessment— (Phys)

(General)

Room 339, Convention Center

Jim Minstrell (jimminstrell@facetinnovations.com) and **Ruth Anderson** (randerson@facetinnovations.com), FACET Innovations, Seattle, Wash.

Eric Magi (ericm@spokaneschools.org), Spokane (Wash.) Public Schools

Enhance your vision of formative assessment to include diagnosing specific conceptual needs of students and making instructional actions to address those needs. We'll also discuss setting the classroom culture for a diagnostic learning environment.

4:00–5:30 PM **PRESENTATION**

SESSION 1

PDI

FHL Pathway Session: Mapping the School Yard —Science Teaching— (Env)

(Informal Education)

Room 338, Convention Center

Patricia McGlashan (plmqm@aol.com), First Hand Learning, Inc., Stony Creek, Conn.

Kristen Gasser, First Hand Learning, Inc., Buffalo, N.Y.

Learn how to evaluate the educational potential of a site by mapping its resources—both natural and human made—and by making cross-curricular links to math, measurement, scaling, and drawing explicit.

4:00–5:30 PM **EXHIBITOR WORKSHOP**

Energy Car —Science Content—

(Phys)

(Grades 5–12)

Room 210, Convention Center

Sponsor: CPO Science/School Specialty Science

Patsy Eldridge, Erik Benton, and Scott Eddleman, CPO Science/School Specialty Science, Peabody, Mass.

Explore the concepts of speed, acceleration, friction, and momentum in this exciting hands-on workshop. Experience Newton's laws of motion and conservation of energy while working with the Energy Car. Use your data to create graphs of motion and discover important mathematical relationships.

4:00–6:00 PM MEETING

APAST Board Meeting

Ascot, Hilton

For additional information, visit www.apast.org.

4:00–6:00 PM PRESENTATION

SESSION 1

PDI

EDCi Pathway: Kids Can Argue—Students Using Evidence for Science Arguments —*Science Teaching*— (Gen)

(Elementary)

Room 335, Convention Center

Brian Hand (brian-hand@uiowa.edu), University of Iowa, Iowa City

Jay W. Staker (jstaker@iastate.edu), Iowa State University, Ames

Evidence-based scientific argumentation is at the heart of the Science Writing Heuristic (SWH), and this process helps improve learning, thinking, and language skills.

4:00–6:00 PM WORKSHOP

PDI

EDCm Pathway Session: Focusing Observations: Inquiry Criteria for Middle Grades Science Classroom Visits —*Professional Development*— (Gen)

(Middle Level)

Room 336, Convention Center

Marian Pasquale and **Bernie Zubrowski** (bzubrowski@edc.org), Education Development Center, Inc., Newton, Mass.

Discover a planning and observation tool that focuses on phases of inquiry in middle grades science classrooms, infrastructure, and assessment.

4:30–5:30 PM PRESENTATION

SESSION 1

NMEA Session: Bring the Ocean into Your Classroom with National Marine Sanctuaries —*Science Content*— (Gen)

(General)

Carondelet, New Orleans Marriott

Michiko Martin (michiko.martin@noaa.gov) and **Kate Thompson** (kate.thompson@noaa.gov), NOAA National Marine Sanctuaries, Silver Spring, Md.

Jonathan Shannon (jonathan.shannon@noaa.gov), NOAA National Ocean Service, Silver Spring, Md.

Learn about free educational resources that bring the ocean into your classroom and promote ocean literacy. Take home free materials!

4:30–6:00 PM MEETING

NSTA/CBC Outstanding Science Trade Books Committee Meeting

(By Invitation Only)

Evergreen, Sheraton

5:00–5:30 PM PRESENTATION

SESSION 1

Going for the Green: A Transformation of Organic Chemistry —*Science Content*— (Chem)

(General)

Oak Alley, Hilton

Cynthia M. Lamberty (*cynthia.lamberty@nicholls.edu*), Nicholls State University, Thibodaux, La.

Come learn about the challenges, struggles, and successes encountered as a traditional organic laboratory class is transformed to one focused on green chemistry principles.

5:00–6:00 PM PRESENTATIONS

SESSION 1



Cotton, Trees, and Livestock: Promoting Awareness of Our Interdependency on the Natural World —*Science Content*— (Gen)

(Elementary–High School)

Room 238, Convention Center

Susan Elizabeth Thomas (*twothom@bellsouth.net*), Alabaster, Ala.

Susan R. Beseler (*sbeseler@winona.edu*), Winona State University, Winona, Minn.

Presider: Susan R. Beseler

These interdisciplinary activities foster students' understanding of their state's natural resources and our interdependence on the natural world.

SESSION 2

FDA Symposium Follow-Up Session: Food Allergies —*Science Content*— (Bio)

(General)

Room 257, Convention Center

Stefano Luccioli, U.S. Food and Drug Administration, College Park, Md.

Learn about food allergens and allergies

SESSION 3



NGS Pathway Session: Help Your Students Find Their Own Walden: Putting Thoreau's Words into Environmental Action —*Science Content*— (Env)

(Middle Level–High School/Informal Education)

Room 347, Convention Center

Kim Hulse (*khulse@ngs.org*), National Geographic Society, Washington, D.C.

Susan Frey (*susan.frey@walden.org*), Thoreau Institute at Walden Woods/The Walden Woods Project, Lincoln, Mass.

Polly Vanasse (*pvanasse@nbsc.org*), Nashoba Brooks School, Concord, Mass.

Learn five steps to help your students set up an environmental stewardship project in their community, then share their work online with classrooms worldwide.

SESSION 4

STEM in the Primary Classroom —*Science Education Program*— (Gen)

(General)

Belle Chasse, Hilton

Gail J. Ballard (*gballard@uidaho.edu*) and **Anne L. Kern**, University of Idaho, Coeur d'Alene

The primary classroom can be an exploratorium fostering STEM education. We'll share philosophical groundings and concrete examples.

SESSION 5

An Innovative Approach to Web-based, Inquiry-based Lesson Planning —Science Teaching— (Gen)

(General)

Jasperwood, Hilton

Jeff C. Marshall (*marsha9@clermson.edu*), Clemson University, Clemson, S.C.

Curricula that truly improve student learning are challenging to find. Learn to use a web-based tool that is designed to improve inquiry-based teaching and learning.

SESSION 6

Google Galore —Science Teaching—

(Gen)

(General)

Magnolia, Hilton

Lynda J. Delo (*ldeloread@bellsouth.net*), Captain Shreve High School, Shreveport, La.

Find out about free programs available to enhance content presentations. Get started next week with Picassa, Photostory, Blogger, and Kompozer.

SESSION 7

Don't Push; Don't Pull: It's All About Energy —Science Content—

(Phys)

(General)

Rosedown, Hilton

Sarah L. Hodge (*shodge@akron.k12.oh.us*), McEbright Elementary School, Akron, Ohio

Francis S. Broadway, The University of Akron, Ohio

Presider: Douglass M. Conkle, The University of Akron, Ohio

What did a kindergarten class, teacher candidates, teachers, a science educator, and a physicist develop to explain or demonstrate energy? Come try out some activities!

SESSION 8

Using Scientific Inquiry to Revamp Thinking and Process in Science Education —Science Education Program— (Gen)

(General)

Windsor, Hilton

Robert E. Landsman, ANOVA Science Education Corp., Honolulu, Hawaii

See how schools use scientific inquiry to reform science education through student and joint student-teacher products and performances demonstrating standards-based learning.

SESSION 9 (three presentations)

(College)

Frontenac, JW Marriott

SCST Session: Student Reflections on the Use of Study Skills in Introductory Science Courses —Assessment— (Gen)

Kathryn H. Sorenson (*sorenshk@arc.losrios.edu*) and **Kelly K. McDonald** (*mcdonak@arc.losrios.edu*), American River College, Sacramento, Calif.

We'll share students' metacognitive reflections on a science course co-requisite study skills class.

SCST Session: One-Stop Shopping: Supporting College Science Students "Beyond the Classroom" —Science Teaching— (Gen)

Claire Sandler (*csandler@umich.edu*), University of Michigan, Ann Arbor

The Science Learning Center at the University of Michigan offers coordinated programming to provide students with science-focused academic support, peer-based experiences, skill-building workshops, computer resources, career information, and much more.

SCST Session: Assessment of Short- and Long-Term Impacts of Reformed College Science Courses on Students: A National Study of Undergraduate Science Courses —*Science Teaching*— **(Gen)**

Dennis W. Sunal (dwsunal@bama.ua.edu) and **Cynthia S. Sunal** (cvsunal@bamaed.ua.edu), The University of Alabama, Tuscaloosa

We will share procedures, instruments used, and initial results of assessment of short- and long-term impacts of reformed and comparison undergraduate science courses on students.

SESSION 10

NARST Session: Helping Students Build Understanding of Big Ideas —*Professional Development*— **(Gen)**

(General)

Rosalie, JW Marriott

Joseph Krajcik (krajcik@umich.edu) and **LeeAnn Sutherland** (lsutherl@umich.edu), The University of Michigan, Ann Arbor

We will share student assessment data that illustrate the importance of focusing on scientific practices and building big ideas over time to develop integrated understanding.

SESSION 11

Get Your Green On —*Science Teaching*— **(Env)**

(General)

Balcony I, New Orleans Marriott

Renee Devlin (rdevlin@crsd.org), Council Rock School District, Holland, Pa.

Nicole Lieberman (nlieberman@crsd.org), Goodnoe Elementary School, Newtown, Pa.

Pat Armillei (parmillei@crsd.org), Council Rock High School South, Holland, Pa.

Involve all areas of your district in “Getting Your Green On.” Students, teachers, administrators, support staff, PTO, and outside contractors all contribute to “greening” the district.

SESSION 12

Bugscope—Using an Electron Microscope in Your Classroom —*Science Teaching*— **(Gen)**

(Elementary–High School)

Balcony J, New Orleans Marriott

Linda D. Bryson (ldb102@frontiernet.net), Laurelton-Pardee Intermediate School, Rochester, N.Y.

Would you like to remotely operate an electron microscope? Teachers send in their “bugs” and then view them at a predetermined time via the internet.

SESSION 13

Cuyahoga Valley National Park Biodiversity Field Trip Curriculum —*Science Content*— **(Bio)**

(High School–College)

Balcony N, New Orleans Marriott

Christine M. Yukech (cmacy@zoominternet.net), University of Akron, Youngstown, Ohio

The secondary science Cuyahoga Valley National Park (CVNP) curriculum is designed to encourage standards-based field studies themed with an index of diversity and preservation and conservation.

SESSION 14 (two presentations)

(General)

La Galerie 6, New Orleans Marriott

Using Action Research to Better One's Questioning Strategies—*Science Teaching—* (Gen)

Benjamin C. Herman (*bcherman123@hotmail.com*), Iowa State University, Ames

Learn how I used action research to determine the effect of question-type and nonverbal behaviors on students' responses.

Research for Teachers—*Professional Development—*

(Gen)

Ankie Meuwissen, Skidmore College, Saratoga Springs, N.Y.

Find out how you can do relevant research, take practices back to the classroom, find renewed excitement about teaching, and earn money this summer.

SESSION 15

NSELA Session: Building Successful Partnerships with Business and Industry to Support Quality Professional Development for K–12 Science Teachers—*Science Education System—* (Gen)

(General)

Mardi Gras D, New Orleans Marriott

Jack Rhoton (*rhotonj@etsu.edu*), East Tennessee State University, Johnson City

This session showcases successful partnerships between higher education and K–12 districts with business and industry to advance the support of science teaching and learning. A model proposal will be available.

SESSION 16

CSSS Session: The Web, Wikis, and Podcasting, Oh My! Digital Media in the Classroom—*Science Teaching—* (Gen)

(General)

Mardi Gras F, New Orleans Marriott

Jeffrey Piontek (*jeff_piontek@notes.k12.hi.us*), Hawaii Dept. of Education, Honolulu

Learn to use tools for 21st-century literacy. I will demonstrate how the web (effective searching), wikis (creating a personal wiki), and podcasting enhance the science classroom.

5:00–6:00 PM WORKSHOP

Learn About Pines from the Pine: What Trees Can Teach—*Science Teaching—*

(Gen)

(General)

Balcony M, New Orleans Marriott

Richard A. Frazier (*frazier@ucmo.edu*), University of Central Missouri, Warrensburg

Beverly L. Kutsunai (*bekutsun@ksbe.edu*), Kamehameha Elementary School, Honolulu, Hawaii

Trees link us together. Collaborate with us, in inquiry and reflection, as we explore how trees teach us about place, knowledge, and life.

5:00–7:00 PM RECEPTION

Research Experience for Teachers (RET) Poster Session/Reception

Ile de France III, JW Marriott

5:30–6:30 PM PRESENTATION

SESSION 1

NMEA Session: Make a Big Splash into Ocean Literacy Using Jellies! —*Science Teaching—* **(Bio)**

(Informal Education)

Carondelet, New Orleans Marriott

Shelia A. Brown (*shelia.brown@usm.edu*), The University of Southern Mississippi, Ocean Springs

Maryellen Timmons (*mare@uga.edu*), UGA's Marine Education Center and Aquarium, Savannah, Ga.

Presider: Shelia A. Brown

Use field-tested lesson plans aligned with ocean literacy principles and state and national science education standards to focus on jellies, giant to petite.

6:00–8:00 PM MEETING

CESI Board of Directors Meeting

(By Invitation Only)

Newberry, Hilton

6:00–8:00 PM RECEPTION

Informal Science Reception

(By Invitation Only)

St. Charles (41st Floor), New Orleans Marriott

This function offers an occasion for fellowship and hospitality from the Informal Science Division. Attendees will meet and be greeted by members across the informal science community. It provides a time for people to learn more about the Informal Science Division and its activities and an opportunity to meet new colleagues and reunite with old friends. This reception is graciously sponsored by *SciGirls*, *DragonflyTV*, and *Make: (Twin Cities Public Television National Productions)*.

6:00 PM–12 Midnight **SPECIAL EVENING SESSION**

A Celebration of Passionate and Noteworthy
Long-Term Efforts at Public Education in Science

Elmwood, Hilton

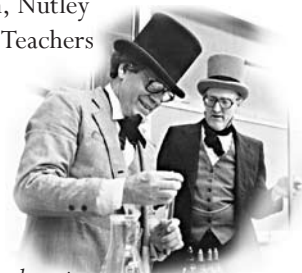


Mitchell E. Batoff, Past President, New Jersey Science Teachers Association, Nutley
Nina Visconti-Phillips (*ninavp@ymail.com*), President, New Jersey Science Teachers Association, Cranbury

Linda Frederick (*adnil@ptd.net*), Freedom High School, Bethlehem, Pa.

Gordon D. Clark, Retired Educator, Manalapan, N.J.

Presider: **Donald E. Beahm** (*dbeahm@cpis.net*), Ophthalmologist, Great Bend, Kans.



Lots of WOWS! in this celebration of passionate and noteworthy long-term efforts at public education in science. Be inspired, informed, and entertained as you see dynamic demonstrations (via technology) and electrifying communication by legendary luminaries who have contributed to science education over the past four decades. Pick up ideas you can use in your own teaching.

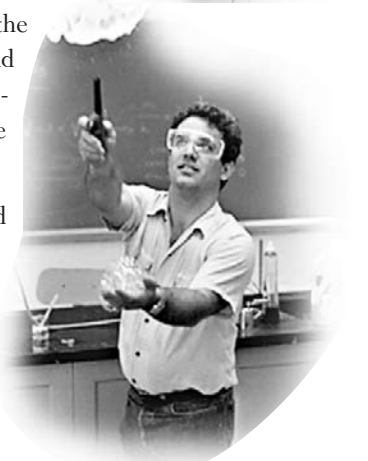
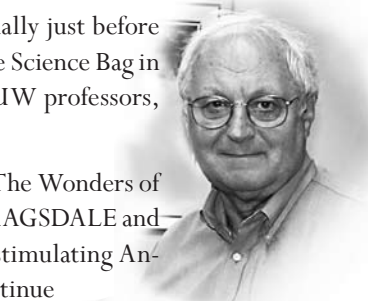


MICHAEL FARADAY, the noted English physicist and chemist, was a lecture-demonstrator par excellence. In 1826, at London's Royal Institution, he instituted the Friday Evening Discourses and the famous Christmas Lectures for young people. These have continued to the present day. BASSAM Z. SHAKHASHIRI, at the University of Wisconsin, has continued the Faraday tradition for almost 40 years through his Once Upon a Christmas Cheery in the Lab of Shakhashiri. These lecture-demonstrations reach well beyond Madison to an audience of millions via PBS-TV aired annually just before Christmas. ROBERT GREENLER, at UW-Milwaukee, spearheaded The Science Bag in 1973. These popular Friday evening programs, involving a number of UW professors, have reached more than 200,000 young people and adults.



JULIEN CLINTON SPROTT or Clint, at UW-Madison, has presented The Wonders of Physics annually for 25 years, reaching more than 60,000. RONALD O. RAGSDALE and JERRY A. DRISCOLL, at the University of Utah, have presented their stimulating Annual Faraday Christmas Lecture for 24 years and two other professors continue the tradition. Excerpts will be screened from all of these in addition to the following: The renowned HUBERT N. ALYEA, chemist, inventor, and charismatic professor at Princeton, who has been described as the "undisputed 20th-century master of the chemistry lecture-demonstration," gave 7,000 presentations in 85 countries over a 50-year period.

BOB BECKER, superb dynamic creative teacher of chemistry at Kirkwood (Mo.) High School, has informed and inspired thousands of students and teachers for many years with his original neat demonstrations; and his mentor RON PERKINS, who taught chemistry at Greenwich (Conn.) High School for years, continues to present engaging and enlightening workshops interlaced with his special brand of subtle wit; truly a great teacher. VERNE. N. ROCKCASTLE, Professor Emeritus of



6:00 PM–12 Midnight **SPECIAL EVENING SESSION**

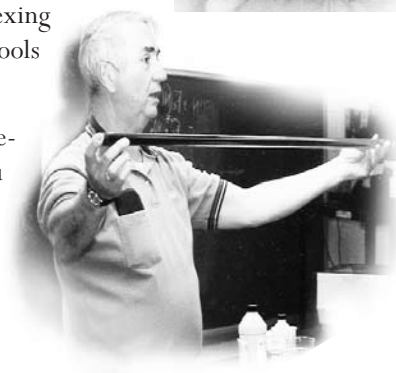
Science and Environmental Education at Cornell for more than 40 years—a national treasure—has impacted thousands of teachers all over the country with his extraordinary workshops, rich in original and meaningful quantitative activities centered on conceptual development. PAUL G. HEWITT's engaging, energizing, and highly instructive physics demonstrations are easily accessible via a comprehensive set of DVDs.



MR. WIZARD (DON HERBERT), through his hundreds of TV programs over many years, has been credited as the spark that ignited an early interest in science for thousands of children who could hardly wait to get home from school so they could watch Mr. Wizard! WEIRD SCIENCE's zany performances by a four-teacher team, have exposed scores of children and adolescents to seemingly magical wonders of science more intriguing than video games, and have reached millions via dozens of memorable appearances on *Late Night with David Letterman*. GEORGE R. GROSS, extraordinary teacher of chemistry for many years at Union (N.J.) High School, who continues to exert great leadership throughout the state as he has done for decades, and has influenced chemistry teaching nationally through his Demo a Day, whose origins date from the early 1980s. MATTHEW H. SCHNEPS and PHILIP M. SADLER of the Harvard-Smithsonian Center for Astrophysics, for more than 25 years have investigated perplexing questions and possible answers that help reveal why science taught in schools can so often end up unlearned.



Relevant door prizes galore throughout the entire evening. Receive a useful handout. Refreshments at halftime. Come and go, stay as long as you wish. Bring your dinner!



National Earth Science Teachers Association



Events at New Orleans NSTA 2009

All events located in the New Orleans Marriott (555 Canal St.)
Bissonet Room unless otherwise noted.

Friday March 20

9:30 • NESTA Geology Share-a-Thon

11:00 • NESTA Oceans and Atmospheres Share-a-Thon

12:30 • NESTA Space Science Share-a-Thon

2:00 • American Geophysical Union Lecture!

The Grand Isle Project - Using Service Learning to Generate Genuine Scientific Experiences for Students While Serving Society

Dr. Sadredin C. Moosavi, Tulane University
Morial Convention Center Room 244/245

6:30 • NESTA Friends of Earth Science Reception
La Galerie 6

Saturday March 21

**NESTA Earth and Space Science Resource Day:
Natural Hazards and the Environment**

7:00 • NESTA Resource Day Breakfast

LSU Coastal Roots Program

Dr. Pamela Blanchard, LSU
New Orleans Marriott, Bacchus Room
Purchase tickets (\$38) by March 18 online
at <http://www.nestanet.org>.

9:30 • NESTA Natural Hazards and the Environment Share-a-Thon

11:00 • ***Environmental Issues Associated with Katrina***
Dr. Bob Thomas, Loyola University of New Orleans

12:30 • ***Coastal Louisiana in a World of Global Change***
Dr. Torbjörn E. Törnqvist, Tulane University

2:00 • ***Geologic Processes of Coastal Louisiana & the Impacts of Hurricanes: Can New Orleans Survive?***
Dr. Randolph McBride, George Mason University

3:00 • NESTA Rock and Mineral Raffle

4:30 • NESTA Membership Meeting



These events are cosponsored by the American Geophysical Union,
Carolina Biological Supply, UCAR, and Windows to the Universe.



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 P = Preschool H = High School I = Informal Education
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BIOLOGY/LIFE SCIENCE

THU

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BIOLOGY/LIFE SCIENCE, cont.**THU**

2:00–3:00 PM	G	Rhythms III, Sheraton	Hatching Inquiry Through NestWatch (p. 224)
2:00–3:00 PM	M	Room 254, Conv. Ctr.	Inquiring About Drug Abuse...Without Using Drugs (p. 212)
2:00–3:00 PM	M-C/S	Southdown, Sheraton	Training Teachers While Teaching Students AP [®] Biology (p. 219)
2:00–3:30 PM	5–8	Room 210, Conv. Ctr.	Genetics: The Crazy Traits Game (p. 225)
2:00–4:00 PM	G	Room 349, Conv. Ctr.	Exploratorium Pathway Session: Bogus Biology: Correcting Errors with Inquiry (p. 227)
2:45–4:45 PM	7–12	Room 230, Conv. Ctr.	Bio-Rad—What's Next After pGLO [™] Bacterial Transformation? (p. 229)
3:30–4:00 PM	E–M	Room R06, Conv. Ctr.	Biology Bob: Cajun Critters (p. 230)
3:30–4:30 PM	G	Rhythms I, Sheraton	Free Cruises—The Real Deal: Become a Cruise Ship Science Lecturer (p. 240)
3:30–4:30 PM	G	Napoleon A3, Sheraton	Population Ecology—Wolf vs. Moose (p. 240)
3:30–4:30 PM	P–M	Room 254, Conv. Ctr.	Don't Be Afraid! You Can Have Animals in the Classroom (p. 240)
3:30–4:30 PM	G	Napoleon A1&2, Sheraton	Creating a Culture of Inquiry (p. 239)
3:30–4:30 PM	M-H/I	Southdown, Sheraton	Using Multimedia and Technology to Study Animal Behavior (p. 240)
3:30–4:30 PM	G	Carondelet, NO Marriott	NMEA Session: Learning to Read a Fish—Through Dissection! (p. 242)
3:30–4:30 PM	M–C	Rhythms III, Sheraton	Candy, Classification, and Cladograms (p. 244)
3:30–4:30 PM	H–C	Maurepas, JW Marriott	Sense in Molecules (p. 235)
3:30–4:30 PM	M–H	Room 337, Conv. Ctr.	LHS Pathway Session: Strategies for Discussion and Debate in the Science Classroom (p. 232)
3:30–3:50 PM	C	Frontenac, JW Marriott	SCST Session: Aiding Student Learning via Online Quizzing on Course Management Systems (p. 235)
3:50–4:10 PM	C	Frontenac, JW Marriott	SCST Session: Blended Learning: Results of an Ongoing Study (p. 235)
4:10–4:30 PM	C	Frontenac, JW Marriott	SCST Session: Hybrid Introductory Biology Course: Lessons Learned (p. 235)
3:30–4:30 PM	G	Rosalie, JW Marriott	NARST Session: Using a Concept Map to Guide Instruction: The Impact on Teachers' Understanding of Evolution (p. 235)
3:30–4:30 PM	G	Room 257, Conv. Ctr.	FDA Symposium Follow-Up Session: Foodborne Outbreak Investigation (p. 232)
3:30–5:00 PM	9–C	Room 215, Conv. Ctr.	Think Mink! Exploring Mammalian Anatomy with Carolina's Perfect Solution [®] Mink (p. 245)
3:30–5:00 PM	K–8	Room 217, Conv. Ctr.	The Story Behind the Science—Scaffolding! (p. 245)
3:30–5:00 PM	4–12	Room 228, Conv. Ctr.	Smithsonian Science: How Research and Conservation Work Together to Save Coastal Ecosystems (p. 247)
3:30–5:00 PM	7–C	Room 236, Conv. Ctr.	Microscopy and Digital Imaging 101 (p. 247)
3:30–5:00 PM	4–12	Room 224, Conv. Ctr.	Your Class Can Save Wildlife Around the World! (p. 246)

BIOLOGY/LIFE SCIENCE, cont.

3:30–5:00 PM	9–12	Room 221, Conv. Ctr.	Explore the Next Generation of Instructional Technology on <i>Biology.com</i> (p. 246)
3:30–5:00 PM	8–12	Room 202, Conv. Ctr.	WARD’s Presents: Science with Siegfried and Roy (p. 244)
3:30–5:00 PM	6–8	Room 235, Conv. Ctr.	Middle School Life Science Experiments with Student Investigations (p. 247)
5:00–6:00 PM	G	Room 257, Conv. Ctr.	FDA Symposium Follow-Up Session: Food Allergies (p. 251)
5:00–6:00 PM	H–C	Balcony N, NO Marriott	Cuyahoga Valley National Park Biodiversity Field Trip Curriculum (p. 253)
5:30–6:30 PM	I	Carondelet, NO Marriott	NMEA Session: Make a Big Splash into Ocean Literacy Using Jellies! (p. 255)

CHEMISTRY/PHYSICAL SCIENCE

THU

7:30–9:00 AM	9–12	Room 221, Conv. Ctr.	Ensuring Your Students’ Success on the AP* Chemistry Exam (p. 121)
8:00–9:00 AM	E–H	Southdown, Sheraton	A Demo a Week Makes Science Class the Peak (p. 132)
8:00–9:00 AM	H	Salons 817 & 821, Sheraton	Detecting, Diagnosing, and Coping with Students’ Chemistry and Physics Misconceptions (p. 132)
8:00–9:30 AM	6–C	Room 210, Conv. Ctr.	Chemistry and the Atom (p. 139)
9:30–10:00 AM	M–C	Gallier A/B, Sheraton	Empowering Teachers with University Support for Enhanced Student Learning (p. 154)
9:30–10:30 AM	M–H	Bayside C, Sheraton	Technology: The Link That Binds Math and Science (p. 160)
9:30–10:30 AM	E–H	Salons 817 & 821, Sheraton	Surprise! You’re Teaching Chemistry! (p. 155)
9:30–10:00 AM	G	Rosalie, JW Marriott	NARST Session: Capitalizing on Teacher Expertise: Contemplating Transfer from Professional Development to the Classroom Through Effective Use of Pedagogical Contexts (p. 151)
9:30–10:30 AM	H–C	Ile de France III, JW Marr.	A Coherent Approach to Energy in High School Chemistry (p. 158)
9:30–10:30 AM	M–C	Gallier A/B, Sheraton	Porting Lessons from a Research Experience for Teachers into Middle and High School Classrooms (p. 154)
9:30–11:00 AM	9–C	Room 236, Conv. Ctr.	Learning Chemistry with Software for Molecular-Level Visualization (p. 168)
9:30–11:00 AM	9–12	Room 204/205, Conv. Ctr.	Promote Inquiry Using Demonstrations (p. 164)
10:00–11:30 AM	9–C	Room 222, Conv. Ctr.	<i>Chemistry with Vernier</i> (p. 171)
11:30 AM–1:00 PM	9–12	Room 220, Conv. Ctr.	Virtual ChemLab: Bring Students’ Lab Experience to a New Level! No Goggles Required! (p. 179)

CHEMISTRY/PHYSICAL SCIENCE, cont.

THU

11:30 AM–1:00 PM	9–12	Room 226, Conv. Ctr.	A Natural Approach to Chemistry (p. 180)
11:30 AM–1:00 PM	9–C	Room 236, Conv. Ctr.	Teaching AP Chemistry with Molecular-Level Visualization and Simulation Tools (p. 182)
12 Noon–1:30 PM	5–12	Room 210, Conv. Ctr.	Chemistry and the Data Collector (p. 184)
12:30–1:00 PM	M–H	Gallier A/B, Sheraton	A Hands-On Approach to the Periodic Table (p. 185)
12:30–1:30 PM	H–C	Orleans, JW Marriott	Chemistry Q&A Videos (p. 191)
12:30–1:30 PM	H	Bayside C, Sheraton	Data-driven Inquiry Lessons for Chemistry (p. 198)
12:30–1:00 PM	E–H	Bayside A, Sheraton	The Dognapping Case: A Hands-On Forensics Experience and Experiment for Grades 4–12 (p. 193)
1:30–3:00 PM	7–12	Room 225, Conv. Ctr.	Make Safety a Habit! Flinn Scientific Workshop (p. 208)
1:30–3:00 PM	9–11	Room 232, Conv. Ctr.	Living By Chemistry: Create a Table! (p. 209)
1:30–3:00 PM	9–C	Room 236, Conv. Ctr.	Learning Chemistry with Software for Molecular-Level Visualization (p. 209)
1:30–3:00 PM	7–12	Room 202, Conv. Ctr.	ScholAR Chemistry Demonstrations (p. 206)
1:30–3:00 PM	1–3	Room 217, Conv. Ctr.	Addressing Difficult Physical Science Standards for Grades 1–3 (p. 207)
1:30–3:30 PM	7–8	Room 209, Conv. Ctr.	Chemical Interactions Course for Middle School (p. 210)
2:00–3:00 PM	M–H	Bayside C, Sheraton	Chemical Nomenclature Rummy: Naming Compounds and Ion Combination Rules (p. 222)
2:00–3:00 PM	M–H	Salons 817 & 821, Sheraton	The Three-Phase Learning Model = A Learning Cycle Approach (p. 219)
2:00–3:00 PM	E	Room R02, Conv. Ctr.	Family Science Night Fun! (p. 221)
2:00–3:00 PM	E–M	Room 353, Conv. Ctr.	Physical Science: Combining Inquiry, Literacy, and Brain Research (p. 221)
2:00–3:00 PM	M–C	Napoleon B3, Sheraton	Common Mistakes in General Chemistry Teaching (p. 218)
2:30–3:00 PM	H	Gallier A/B, Sheraton	“The Secret of Seminole Landfill” and Other Stories: Problem-based Learning in the Chemistry Classroom (p. 228)
3:30–4:30 PM	H	Napoleon B1, Sheraton	Lotions, Potions, and Scrubs: Polymer Science in Cosmetics (p. 243)
3:30–4:30 PM	E–M	Room 354, Conv. Ctr.	Science in Your Face (p. 241)
3:30–4:30 PM	M–H	Bayside C, Sheraton	NASA: Cosmic Connection to the Elements (p. 242)
4:00–4:30 PM	M–H	Gallier A/B, Sheraton	Using Technology in the Science Classroom (p. 239)
3:30–5:00 PM	9–11	Room 232, Conv. Ctr.	Living By Chemistry: What Is the Shape of That Smell? (p. 247)
3:30–5:00 PM	9–12	Rooms 204/205, Conv. Ctr.	Flinn ChemTopic Labs Workshop: Experiments and Demonstrations in Chemistry (p. 244)
3:30–5:00 PM	9–12	Room 216, Conv. Ctr.	Molecular Models in the Classroom (p. 245)
5:00–5:30 PM	G	Oak Alley, Hilton	Going for the Green: A Transformation of Organic Chemistry (p. 251)

EARTH/SPACE SCIENCE

THU	8:00–8:30 AM	M–H	Gallier A/B, Sheraton	Earth System Science: Problem-based Learning Courses for Teachers Through ESSEA (p. 123)
	8:00–9:00 AM	E	Room R03, Conv. Ctr.	Blown Away by Weather (p. 125)
	8:00–9:00 AM	G	Napoleon C1, Sheraton	What You Need to Know to Teach About Ice and Snow: The History of Winter Project (p. 131)
	8:00–8:30 AM	H–C	St. Claude, JW Marriott	ASTE Session: “Did We Really Go to the Moon?” Teaching Skepticism and Scientific Habits of Mind (p. 128)
	8:00–9:00 AM	E–M	Room 356, Conv. Ctr.	Dancing with the Stars: Using a Kinesthetic Approach to Teaching Astronomy Concepts in Grades 4–9 (p. 134)
	8:00–9:00 AM	G	Napoleon C2, Sheraton	How Multiple Theories Shaped an English Language Skills Development Program for Teachers and ELL Students (p. 137)
	8:00–9:00 AM	G	Bayside A, Sheraton	NASA: Bring NASA Science into Your Classroom! (p. 130)
	8:00–9:00 AM	M–H	Napoleon B3, Sheraton	Winds, Water, and Storms, Oh, My! What’s the Deal with Hurricanes? (p. 131)
	8:00–9:00 AM	M–C	Borgne, Sheraton	NASA: Solving the Mysteries in the Heart of a Supernova Explosion (p. 137)
	8:00–9:00 AM	I	Napoleon D3, Sheraton	WorldWide Telescope: A Revolutionary Digital Teaching Tool (p. 132)
	9:30–10:30 AM	G	Napoleon C1, Sheraton	Student Misconceptions in Astronomy: How Do We Address Them? (p. 155)
	9:30–10:30 AM	E–M	Room 356, Conv. Ctr.	Looking at Earth from Space (p. 156)
	9:30–10:30 AM	G	Napoleon C2, Sheraton	Decoding Starlight—From Pixels to Images (p. 162)
	9:30–10:30 AM	M–H	Borgne, Sheraton	EARTHTIME: How Old Is Earth and How Do We Know? (p. 160)
	9:30–10:30 AM	M–H	Napoleon C3, Sheraton	Build Your World: Large-Scale Topographic Models (p. 162)
	11:00 AM–12 Noon	K–12	Booth No. 1133, Conv. Ctr.	Immersive Space Science Curriculum: “Moon Phases” in a Full-dome Classroom (p. 175)
	11:30 AM–1:00 PM	G	Room 225, Conv. Ctr.	Galileo’s Skies (p. 180)
	12:30–1:30 PM	P–M	Room 356, Conv. Ctr.	How Do We Know? Using the Electromagnetic Spectrum to Map the Universe (p. 196)
	12:30–1:30 PM	E	Room 343, Conv. Ctr.	Soar Through the Solar System (p. 196)
	12:30–1:30 PM	H	Napoleon B3, Sheraton	When Google Doesn’t Know: How to Make Your Colleagues Your Greatest Resource! (p. 194)
12:30–1:30 PM	M–C	Napoleon C1, Sheraton	Finding Earth Science Data Relevant to You, Your Students, and Your Curriculum (p. 194)	
12:30–1:30 PM	M	Room 353, Conv. Ctr.	NMLSTA Session: CupCave: How an Egg in Vinegar Became the Anchor for a Unit on Caves (p. 196)	
12:30–1:30 PM	E-M/S	Balcony J, NO Marriott	Cuttin’ Up in Earth Science (p. 197)	
12:30–1:30 PM	M–H	Napoleon C2, Sheraton	Plate Tectonics: An Introduction with Activities and 3-D Models (p. 198)	

EARTH/SPACE SCIENCE, cont.**THU**

1:00–2:30 PM	I	Room 347, Conv. Ctr.	NGS Pathway Session: Deep Dive: Exploring the Oceans from Your Classroom with National Geographic and Google Earth (p. 204)
1:30–2:30 PM	M–H	Carondelet, NO Marriott	NMEA Session: From Local to EXTreme Environments (FLEXE): Promoting Earth Systems Science Literacy (p. 205)
1:30–3:00 PM	3–C	Room 231, Conv. Ctr.	GIS for Earth Science Inquiry (p. 209)
1:30–3:00 PM	6–12	Room 228, Conv. Ctr.	Smithsonian Science: How Satellite Imagery Helps Us Understand Our Planet (p. 209)
2:00–2:30 PM	G	Maurepas, Sheraton	Earth System Science for the Middle School (p. 218)
2:30–3:00 PM	G	Maurepas, Sheraton	Climate Secrets in the Cores (p. 218)
2:00–3:00 PM	M–H	Napoleon C3, Sheraton	Exploring Sea Floor Spreading with Data from the Integrated Ocean Drilling Program (IODP) (p. 224)
2:00–3:00 PM	E–H	Napoleon D3, Sheraton	Earth System Science Education Alliance (p. 219)
2:00–3:00 PM	M–H/I	Napoleon C2, Sheraton	NASA: Exploring the Boundary of Our Solar System with Visually Impaired and Dyslexic Students (p. 223)
2:00–3:00 PM	M	Room 356, Conv. Ctr.	Middle School: Energy Flowing Through the Cycles (p. 221)
2:00–3:00 PM	G	Napoleon C1, Sheraton	Using Technology to Promote Science Learning and Cultural Exchange in Diverse High Schools (p. 218)
2:00–4:00 PM	G	La Louisiane Blrm. I, C.C.	The Planetary Society Lecture: Why We Need to Study Earth from Space (p. 226)
3:00–4:00 PM	K–12	Booth No. 1133, Conv. Ctr.	Immersive Space Science Curriculum: “Coordinates” in a Full-dome Classroom (p. 229)
3:30–4:30 PM	M–H	Napoleon C2, Sheraton	Explore Climate Change Throughout Earth’s History (p. 243)
3:30–4:30 PM	E	Room 343, Conv. Ctr.	Through the Eyes of Scientists: A Literacy/Science Unit (p. 241)
3:30–4:30 PM	P/E	Room R03, Conv. Ctr.	3.2.1...Liftoff Your Littlest Astronauts! (p. 241)
3:30–4:30 PM	M–H	Napoleon C3, Sheraton	Locating Earthquakes Using Recent Seismic Data (p. 243)
3:30–4:30 PM	G	Napoleon C1, Sheraton	The Interactive Whiteboard and Cornell Notes in Science Teaching (p. 240)

ENVIRONMENTAL SCIENCE

8:00–8:30 AM	G	Mardi Gras D, NO Marriott	Understanding the Role of Nuclear Energy in the Fight Against Global Climate Change (p. 129)
8:00–9:00 AM	M–H	Balcony N, NO Marriott	Fossil Fuels to Products (p. 136)
8:00–9:00 AM	E	Room R01, Conv. Ctr.	Environmental Economics: A School-wide Inquiry-based Curriculum (p. 125)

ENVIRONMENTAL SCIENCE, cont.

THU	8:00–9:00 AM	M–H	Mardi Gras E, NO Marriott	Climate Change: Classroom Tools to Explore the Past, Present, and Future (p. 136)
	8:30–9:00 AM	H	Mardi Gras D, NO Marriott	How Muddy Is the Muddy River? (p. 130)
	8:00–9:00 AM	G	Balcony K, NO Marriott	Using Online Resources to Teach About Water’s Role in Ecosystems and Society (p. 128)
	8:30–9:00 AM	C	St. Claude, JW Marriott	ASTE Session: Case Study of Scientists Learning to Work in Public School Classrooms (p. 128)
	8:00–9:00 AM	M	Room 357, Conv. Ctr.	Bats: Myth vs. Reality (p. 134)
	8:00–9:00 AM	I	Napoleon B1, Sheraton	GLOBE at Night: Students as Citizen-Scientists Shedding Light on Light Pollution (p. 137)
	9:30–10:30 AM	G	Balcony L, NO Marriott	Exploring the Watershed-Ocean Connection and Conservation Action Using a Web-based, Interactive Application (p. 151)
	9:30–10:30 AM	E–H	Mardi Gras E, NO Marriott	Smithsonian Science: How Marine Science Research and Marine Conservation Efforts Work Together to Save Coastal Ecosystems (p. 159)
	9:30–10:30 AM	G	Balcony I, NO Marriott	Teach About Climate Change Now! Using the Free Online Data and Education Resources from NOAA and NSTA (p. 151)
	9:30–10:30 AM	E–H	Room 239, Conv. Ctr.	Energy: It Depends on Me (p. 147)
	9:30–10:30 AM	M/I	Room 357, Conv. Ctr.	Playing with Ecosystem Science: Informal Modeling Games to Explore the Delicate Balance (p. 157)
	9:30–10:30 AM	M–H	Balcony N, NO Marriott	Perspectives on Transportation Fuels (p. 158)
	10:30 AM–12 Noon	K–6	Room 209, Conv. Ctr.	Taking Science Outdoors with FOSS K–8 (p. 174)
	11:00 AM–12:30 PM	M	Room 347, Conv. Ctr.	NGS Pathway Session: Crittercam and WildCam: Bringing Exciting NGS Research Tools into the Classroom (p. 177)
	11:30 AM–1:00 PM	7–C	Room 231, Conv. Ctr.	GIS: Painting an Environmental Picture (p. 181)
	11:30 AM–1:00 PM	6–9	Room 232, Conv. Ctr.	Integrating Video Games and Core Curriculum with The JASON Project (p. 181)
	12:30–1:00 PM	M	Room 357, Conv. Ctr.	A Thirsty World: Can Science Solve Global Water Conflicts? (p. 185)
	12:30–1:00 PM	G	Balcony I, NO Marriott	Taking a Stand on Environmental Issues (p. 185)
	1:00–1:30 PM	G	Balcony K, NO Marriott	Inland Natural Disasters vs. Students and Schools: Who Wins? (p. 191)
	1:00–1:30 PM	I	Maurepas, Sheraton	Digital Tools for Digital Natives: Mining Ocean and Climate Data from NOAA (p. 194)
	12:30–1:30 PM	E–H	Balcony N, NO Marriott	Hands-On Environmental Science Activities That Are Inquiry Based (p. 197)
	12:30–1:30 PM	M	Room 239, Conv. Ctr.	OOPS: The Green House (p. 187)
	12:30–1:00 PM	G	Balcony L, NO Marriott	Pete Seeger: Savior of the Hudson (p. 191)
	12:30–1:00 PM	I	Maurepas, Sheraton	Digital Ocean Data for the Digital Student: The NOAA Ocean Data Education Project (p. 193)
1:00–1:30 PM	G	Balcony L, NO Marriott	A Tale of Two Classes—Rural and Urban: Sharing Environmental Challenges (p. 191)	
12:30–1:30 PM	G	Mardi Gras E, NO Marriott	Global Connections: Forests of the World (p. 197)	

ENVIRONMENTAL SCIENCE, cont.**THU**

12:30–1:00 PM	G	Balcony K, NO Marriott	A Coral Reef in Your Class: A Hands-On Teaching and Student Research Tool (p. 191)
12:30–1:30 PM	M–H	Carondelet, NO Marriott	NMEA Session: Understanding Sustainable Seafood—Good for You and Good for the Oceans (p. 197)
1:30–3:00 PM	5–12	Room 226, Conv. Ctr.	CSI: Climate Status Investigations (p. 208)
2:00–2:30 PM	M–C	Balcony L, NO Marriott	Teaching About Climate Change (p. 211)
2:00–2:30 PM	P/E	Room R01, Conv. Ctr.	Nature Journeys with Young Children (p. 211)
2:00–3:00 PM	M/I	Room 357, Conv. Ctr.	Changing Climate, Changing World (p. 221)
2:00–3:00 PM	M–H	Room 238, Conv. Ctr.	Sensing, Capturing, and Preserving the Spirit of the Estuary (p. 220)
2:00–3:00 PM	H	Room 239, Conv. Ctr.	How Carbon Dioxide Levels Affect Life (p. 220)
2:00–3:00 PM	M–C	Balcony N, NO Marriott	6.5 Billion Reasons to Build Population Literacy (p. 216)
2:00–3:00 PM	E-M/I	Room 338, Conv. Ctr.	FHL Pathway Session: Strategies for Using Writing to Engage High School Students in Science (p. 213)
2:00–3:30 PM	6–12	Room 222, Conv. Ctr.	Environmental Science with Vernier (p. 225)
2:30–3:00 PM	G	Balcony I, NO Marriott	Forestry Certification as a Conservation Tool: A Guatemalan Case Study (p. 228)
2:30–3:30 PM	M–H	Carondelet, NO Marriott	NMEA Session: Armada Project: Teacher Research Experiences in Tropical Ocean Ecosystems—Linking Research Experiences from Three Seas to the Classroom (p. 228)
3:30–4:30 PM	M–H	Balcony L, NO Marriott	Bringing Science to Life (p. 236)
3:30–4:30 PM	M-H/I	Borgne, Sheraton	Fueling the Future: Energy Interconnections and Sustainable Choices (p. 243)
3:30–4:30 PM	E/C/S	Balcony M, NO Marriott	Imagine All of Those “Ribbits”: Fascinating Frogs and Engaged Learners (p. 242)
3:30–4:30 PM	I	Mardi Gras G/H, NO Marr.	How Dark Is Your Sky? Students as Citizen-Scientists Shed Light on Light Pollution (p. 242)
4:00–4:30 PM	M	Room 357, Conv. Ctr.	WaterLife: Serious Science Games (p. 233)
3:30–4:00 PM	M	Room 357, Conv. Ctr.	NOAA WaterWays: Project-based Learning for Middle School (p. 233)
3:30–5:00 PM	3–C	Room 231, Conv. Ctr.	GIS for Environmental Science Inquiry (p. 247)
3:30–5:00 PM	9–C	Room 225, Conv. Ctr.	Human Health and Global Environmental Change (p. 246)
4:00–5:30 PM	I	Room 338, Conv. Ctr.	FHL Pathway Session: Mapping the School Yard (p. 249)
5:00–6:00 PM	M-H/I	Room 347, Conv. Ctr.	NGS Pathway Session: Help Your Students Find Their Own Walden: Putting Thoreau’s Words into Environmental Action (p. 251)
5:00–6:00 PM	G	Balcony I, NO Marriott	Get Your Green On (p. 253)

INTEGRATED/GENERAL SCIENCE

THU

7:30–9:00 AM	K–8	Room 220, Conv. Ctr.	Whiteboards and the Interactive K–8 Science Classroom (p. 121)
8:00–8:30 AM	G	Room 333, Conv. Ctr.	BSCS Pathway Session: What Is Inquiry? Setting the Stage (p. 122)
8:00–8:30 AM	E	Room R04, Conv. Ctr.	Science Fair Projects for Elementary Students (p. 122)
8:00–9:00 AM	G	Elmwood, Hilton	Magical Mergers (p. 125)
8:00–9:00 AM	G	La Galerie 1, NO Marriott	Going Global: Exploring Biodiversity on Your School Yard and Beyond (p. 129)
8:00–9:00 AM	E/S	Balcony J, NO Marriott	Learning to “Converse” with Phenomena of Nature: Developing, Classifying, and Answering Investigative Science Questions in the K–8 Classroom (p. 135)
8:00–9:00 AM	E–H	Jasperwood, Hilton	ONPAR: Math and Science Assessments for English Language Learners—A Computer-based Approach (p. 125)
8:00–9:00 AM	G	Belle Chasse, Hilton	Science/Technology/Society Current Issues—Learn, Think, Vote! (p. 125)
8:00–9:00 AM	I	Balcony M, NO Marriott	Science Inquiry with the Scope On A Rope (p. 135)
8:00–9:00 AM	E	Room R05, Conv. Ctr.	Inquiry Activities Integrating Science and Mathematics (p. 135)
8:00–9:00 AM	G	La Galerie 5, NO Marriott	Cooking with the Standards: Take-Home Labs for Students and Their Families (p. 136)
8:00–9:00 AM	G	Room 240/241, Conv. Ctr.	The First-Year Teacher Experience: Stories of Triumph and Challenges (p. 123)
8:00–8:30 AM	E–H	La Galerie 6, NO Marriott	Online Science Professional Development (p. 129)
8:30–9:00 AM	G	Windsor, Hilton	HOT Ideas for Summer! (p. 126)
8:00–9:00 AM	G	Rosalie, JW Marriott	NARST Session: Retaining Science Teachers in Urban Classrooms (p. 128)
8:00–9:00 AM	E	Room R07, Conv. Ctr.	CESI Session: Elementary Science Learning—Research to Practice (p. 125)
8:00–9:00 AM	S	Mardi Gras F, NO Marriott	CSSS Session: Inquiry and Good Science Instruction—Are They the Same? (p. 130)
8:00–9:00 AM	E/S	Balcony L, NO Marriott	Planning Science Instruction Together Results in Success for Students (and Teachers!) (p. 128)
8:30–9:00 AM	G	La Galerie 6, NO Marriott	Trends in Online Science Professional Development (p. 129)
8:00–9:00 AM	P–M	Room 345, Conv. Ctr.	Become an Environmental Investigator and Lead Your Students to an Understanding of Environmental Stewardship (p. 134)
8:00–9:00 AM	G	Orleans, JW Marriott	Four Steps for Improving Inquiry-based Teaching and Learning (p. 127)
8:00–9:00 AM	H	Napoleon B2, Sheraton	Science Literacy in the ELL Classroom (p. 137)
8:00–9:00 AM	G	Room 238, Conv. Ctr.	Ways of Knowing: Connecting Science and the Human Spirit Through Native Knowledge (p. 133)

INTEGRATED/GENERAL SCIENCE, cont.

THU

8:00–9:00 AM	M–H	Maurepas, Sheraton	Developing Science Teacher Leadership (p. 131)
8:00–8:30 AM	G	Windsor, Hilton	Wild About Science! Meeting Everyday Challenges Through Creative, Nontraditional Methods (p. 126)
8:00–9:00 AM	M–C	Mardi Gras G/H, NO Marr.	Engineering Education in Today's Classroom (p. 130)
8:00–9:00 AM	E–M	Room 344, Conv. Ctr.	Going Global: Teaching with GPS (p. 124)
8:00–9:00 AM	E–M	Room 252, Conv. Ctr.	Science Plus Math Equals Outdoor Learning! (p. 133)
8:00–9:00 AM	E–H	Rosedown, Hilton	Family Science Night—Excite Them All! (p. 125)
8:00–9:00 AM	M	Room 353, Conv. Ctr.	NMLSTA Session: The Inquiry Carnival: A Potpourri of Activities to Identify, Discuss, and Define Process Skills Used in Inquiry-based Science (Part 1) (p. 134)
8:00–9:00 AM	I	Napoleon D1&2, Sheraton	NSTA Press Session: Using Forensics: Wildlife Crime Scene (Part 1) (p. 137)
8:00–9:00 AM	M–H	Edgewood A/B, Sheraton	Innovative Technology in Science Instruction (ITSI) (p. 131)
8:00–9:00 AM	G	St. Charles, NO Marriott	AMSTI: Alabama's Statewide Initiative for Science Education Reform (p. 130)
8:00–9:00 AM	G	Bissonet, NO Marriott	Is This Your First NSTA Conference? (p. 129)
8:40–9:00 AM	C	Frontenac, JW Marriott	SCST Session: Introducing Preservice Teachers to High-quality K–8 Science Trade Books Through a Mock SB&F Election (p. 126)
8:00–9:00 AM	G	Room 242, Conv. Ctr.	ISTE: Integrating Technology into the Classroom (p. 124)
8:00–9:00 AM	P–M	Room 257, Conv. Ctr.	FDA Symposium Follow-Up Session: Elementary-Level Curricula in Food Safety (p. 124)
8:00–9:00 AM	E–M	Room 343, Conv. Ctr.	Westward Bound: A Journey Across the Curriculum Using Math, Science, and Technology (p. 134)
8:00–9:15 AM	1–6	Room 208, Conv. Ctr.	Experimental Design (p. 138)
8:00–9:30 AM	7–10	Room 213, Conv. Ctr.	Inquiry Investigations™ Biotechnology Curriculum Modules and Kits (p. 139)
8:00–9:30 AM	G	Room 348, Conv. Ctr.	SC Pathway Session: Research on the Impact of Coaching in Science (p. 138)
8:00–9:30 AM	G	Room 346, Conv. Ctr.	McREL Pathway Session: How Do We Know That Students Understand? (p. 138)
8:00–10:00 AM	E–M	Room 338, Conv. Ctr.	FHL Pathway Session: Archaeology Indoors and Out (p. 140)
8:00–10:00 AM	E	Room 335, Conv. Ctr.	EDCi Pathway Session: Connecting Science and Literacy: The Role of Explicit Teaching (p. 139)
8:00–10:00 AM	E–H	Room 342, Conv. Ctr.	HRI Pathway Session: Knowing What They Know: The Importance of and Strategies for Eliciting Student Thinking in a Classroom Setting (p. 140)
8:00–10:00 AM	G	Room 350, Conv. Ctr.	UNV Pathway Session: Reading and Thinking Strategies for English Language Learners in Science (p. 140)

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8:00–10:00 AM	2–4	Room 212, Conv. Ctr.	Seeds of Science/Roots of Reading: Strategies for EL Learners Using an Integrated Elementary Science and Literacy Program (p. 140)
8:00–11:00 AM	G	Room 349, Conv. Ctr.	Exploratorium Pathway Session: A Developmental Approach to Extended Guided Inquiry (p. 141)
8:30–9:30 AM	K–6	Room 209, Conv. Ctr.	What’s New in FOSS? (p. 142)
9:00–9:30 AM	G	Napoleon Ballroom , Hilton	NSTA International Day Plenary Session: International Polar Year: Global Collaboration in Science and Education (p. 144)
9:00–10:00 AM	I	Carondelet, NO Marriott	NMEA Session: How Can Satellites and a Poop-sniffing Dog Help Us Find Right Whales? (p. 144)
9:00–10:30 AM	G	Room 333, Conv. Ctr.	BSCS Pathway Session: Teaching for Inquiry: Meeting the Goal with Rubrics (p. 145)
9:30–10:30 AM	M–H	Room 337, Conv. Ctr.	LHS Pathway Session: Getting Kids Invested with Stories: The Car of the Future (p. 148)
9:30–9:50 AM	C	Frontenac, JW Marriott	SCST Session: Survey of Student Perceptions of Methods of Content Delivery as Depicted in YouTube Videos (p. 150)
10:10–10:30 AM	H–C	Frontenac, JW Marriott	SCST Session: An E-book Experience in Introductory Biology and Chemistry (p. 150)
9:30–10:30 AM	G	Room 253, Conv. Ctr.	AoA Session: Digital Toolbox for Science Leaders (CSSS) (p. 147)
9:30–10:30 AM	M	Room 336, Conv. Ctr.	EDCm Pathway Session: Mentoring Beginning Science Teachers in Urban Systems (p. 148)
9:30–10:30 AM	G	Room 242, Conv. Ctr.	ISTE: Digitizing the Science Classroom—Preparing Students for the Global Society (p. 147)
9:30–10:30 AM	G	Room 257, Conv. Ctr.	FDA Symposium Follow-Up Session: Outbreak Investigations (p. 148)
10:00–10:30 AM	E–M	Room 345, Conv. Ctr.	Using Nonfiction Trade Books as a Model for Student Presentations of Science Inquiry Projects (p. 148)
9:30–10:00 AM	E–M	Room 345, Conv. Ctr.	Integrated Problem-based Learning Units for Building Science Literacy (p. 148)
9:30–10:00 AM	M–H	Bayside A, Sheraton	Quantum Dots in the Secondary Classroom (p. 153)
9:30–10:00 AM	G	La Galerie 1, NO Marriott	The Multiple Dimensions of Scientific Inquiry in the PreK–12 School Setting (p. 152)
9:30–10:30 AM	G	La Galerie 6, NO Marriott	Using Strand Maps (p. 152)
9:30–10:30 AM	C	Room 252, Conv. Ctr.	AoA Session: Teaching Without Lecturing: Pedagogy for the 21st Century (SCST) (p. 147)
9:30–10:30 AM	E	Room R07, Conv. Ctr.	CESI Session: Create Learning and Leadership Communities (p. 149)
9:30–10:30 AM	E–H	Jasperwood, Hilton	Teaching with Online Simulations—Gizmos! (p. 149)
9:30–10:00 AM	G	Orleans, JW Marriott	Using Scientific Controversies (p. 151)

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9:30–10:30 AM	G	Belle Chasse, Hilton	Improving Student Understanding of Graphical Data (p. 158)
9:30–10:30 AM	S	Mardi Gras D, NO Marriott	Effective Science Instruction: Recognizing It When You See It (p. 159)
9:30–10:30 AM	E–H	Bissonet, NO Marriott	De-cookbooking Science Activities: A Recipe for Success (p. 158)
9:30–10:30 AM	M	Room 343, Conv. Ctr.	Hands-On Science Using Technology (p. 156)
9:30–10:30 AM	H	Napoleon B1, Sheraton	Make It Happen with Electrophoresis (p. 160)
9:30–10:30 AM	E	Room R02, Conv. Ctr.	A Primary After-School Science Enrichment Program and Its Impact on Science Attitudes and Understanding in Children (p. 157)
9:30–10:30 AM	I	Napoleon D1&2, Sheraton	NSTA Press Session: Using Forensics: Wildlife Crime Scene (Part 2) (p. 162)
9:30–10:30 AM	M	Room 353, Conv. Ctr.	NMLSTA Session: The Inquiry Carnival: A Potpourri of Activities to Identify, Discuss, and Define Process Skills Used in Inquiry-based Science (Part 2) (p. 156)
9:30–10:30 AM	H	Napoleon B2, Sheraton	Raising Critical Thinking in AP Science with Student-centered Teaching (p. 160)
9:30–10:30 AM	E–H	Elmwood, Hilton	Sci-Casting: Podcasting in the Science Classroom (p. 149)
10:00–10:30 AM	G	La Galerie 1, NO Marriott	Let's Look at How Science REALLY Works! (p. 152)
10:00–10:30 AM	E–H	Orleans, JW Marriott	Questions and Claims Evidence: How to Get Science Argument Working in Your Classroom (p. 151)
9:30–10:30 AM	G	Windsor, Hilton	Differentiation in Middle School Science (p. 149)
9:30–10:30 AM	E-M/S	Balcony J, NO Marriott	Cuttin' Up with Learning Games (p. 158)
9:30–10:30 AM	G	Balcony M, NO Marriott	Become a "Teacher at Sea" with NOAA Scientists (p. 151)
9:30–10:30 AM	M–H	Southdown, Sheraton	Nanotechnology: The Next Industrial Revolution (p. 156)
9:30–10:30 AM	G	Mardi Gras F, NO Marriott	CSSS Session: Professional Development and Implementation: A Link for Effective Teaching and Learning (p. 152)
9:30–10:30 AM	E	Room R04, Conv. Ctr.	Chemistry + Engineering + Problem Solving = NEW, FREE Resources from PBS's <i>FETCH!</i> (p. 157)
9:30–10:30 AM	G	St. Charles, NO Marriott	Strategic Formative Assessment Through Interpretive Portraiture (p. 153)
10:00–10:30 AM	M–H	Bayside A, Sheraton	How Big Was It? The Impact of Nanotechnology on Everyday Life (p. 153)
9:30–10:30 AM	G	Mardi Gras G/H, NO Marr.	Examining Student Learning Through Curriculum Topic Study (CTS) and Classroom Action Research (p. 160)

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THU	9:30–10:30 AM	G	Room 240/241, Conv. Ctr.	Traversing the Professional Continuum in Science Teaching (p. 147)
	9:30–10:30 AM	E–H	Mardi Gras A/B, NO Marr.	Collaborative Coaching and Learning Models in Boston Public Schools Science (p. 152)
	9:30–10:30 AM	M–C	Oak Alley, Hilton	Restructuring Forensics-based Activities to Promote Deeper Levels of Understanding for Students (p. 149)
	9:30–10:30 AM	G	La Galerie 5, NO Marriott	The Brain on Science (p. 159)
	9:30–10:30 AM	E	Room R05, Conv. Ctr.	Using Trade Books to Teach the Nature of Science to K–4 Learners (p. 158)
	9:30–11:00 AM	8	Room 225, Conv. Ctr.	Alphas, Betas, Gammas, Oh My! (p. 166)
	9:30–11:00 AM	6–8	Room 220, Conv. Ctr.	Forensic Fun with the Masterpiece Mystery (p. 165)
	9:30–11:00 AM	3–5	Room 235, Conv. Ctr.	Educational Gaming in Science: Shifting the Paradigm (p. 168)
	9:30–11:00 AM	K–5	Room 217, Conv. Ctr.	Math Out of the Box®—Numbers Game! (p. 165)
	9:30–11:30 AM	G	Room 341, Conv. Ctr.	WestEd Pathway Session: A Professional Learning Community: Getting Started (p. 168)
	10:00–11:30 AM	G	Room 348, Conv. Ctr.	SC Pathway Session: The Nuts and Bolts of Building a Science Coaching Initiative, Part 1 (p. 170)
	10:00–11:30 AM	7–10	Room 213, Conv. Ctr.	Introducing Inquiry Investigations™: Hands-On Inquiry Activities Focusing on Technology (p. 171)
	10:00 AM–12 Noon	G	Room 208, Conv. Ctr.	What’s Going On in There? (p. 173)
	10:00 AM–12 Noon	G	Room 346, Conv. Ctr.	McREL Pathway Session: Using a Formative Assessment Process to Determine Evidence of Student Understanding (p. 173)
	10:30–11:30 AM	G	Room 350, Conv. Ctr.	UNV Pathway Session: We Do Science Here! The Administrator’s Role in a Title 1 (K–5) Science-intensive Public School (p. 173)
	11:00 AM–12 Noon	G	Room 252, Conv. Ctr.	AoA Session: 21st-Century Skills (CSSS) (p. 174)
	11:00 AM–12 Noon	C	Room 253, Conv. Ctr.	AoA Session: 21st-Century Skills (SCST) (p. 174)
	11:00 AM–12:30 PM	G	La Louisiane Blrm., C.C.	General Session: Rain Forests, Medicine Men, and Google Earth: Curing the Incurable and Saving the Amazon in Six Dimensions (p. 176)
	11:00 AM–12:30 PM	G	Room 333, Conv. Ctr.	BSCS Pathway Session: Doing Science—Inquiry Moves to the Head of the Class! (p. 177)
	11:00 AM–1:00 PM	E–M	Room 338, Conv. Ctr.	FHL Pathway Session: Outdoors After School (p. 177)
	11:00 AM–1:00 PM	3–4	Room 212, Conv. Ctr.	Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level (p. 178)
	11:30 AM–1:00 PM	G	Room 235, Conv. Ctr.	Bringing Science to Life with 3-D Printing and Design (p. 182)
	11:30 AM–1:00 PM	6–C	Room 224, Conv. Ctr.	Streaming Your Secondary Science Needs (p. 180)
	11:30 AM–1:00 PM	3–8	Rooms 204/205, Conv. Ctr.	Differentiated Science Instruction for Diverse Learners (p. 178)

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11:30 AM–1:00 PM	K–4	Room 202, Conv. Ctr.	Visualizing the Invisible with Your Students (p. 178)
11:30 AM–1:00 PM	3–5	Room 217, Conv. Ctr.	Building Blocks of Science®: Measure It! (p. 179)
11:30 AM–1:30 PM	G	Room 349, Conv. Ctr.	Exploratorium Pathway Session: The Young Scientist: Engaging Three- to Five-Year-Old Children in Science Inquiry (p. 182)
12 Noon–1:30 PM	K–8	Room 222, Conv. Ctr.	K–8 Science with Vernier (p. 184)
12 Noon–3:00 PM	G	Room 341, Conv. Ctr.	WestEd Pathway Session: Build a Professional Learning Community Through Assessment-centered Teaching (p. 184)
12:30–1:00 PM	E	Room R04, Conv. Ctr.	The Science/Technology Connection (p. 185)
12:30–1:30 PM	G	Room 352, Conv. Ctr.	Mary C. McCurdy Lecture: Brainsense: Learning About the Brain Through Puzzles, Activities, and Optical Illusions (p. 186)
12:30–1:30 PM	P–M	Room 252, Conv. Ctr.	Empowering Parents in STEM: Family Science Night Activities at School (p. 195)
12:30–1:30 PM	E–H	Windsor, Hilton	Outstanding Science Trade Books 2008: NSTA/Children’s Book Council Selections (p. 190)
12:30–1:00 PM	M–C	Jasperwood, Hilton	Graphic Analysis (p. 189)
12:30–1:30 PM	E–H	Room 238, Conv. Ctr.	Science in a Time of Crisis (p. 186)
12:30–1:30 PM	M	Room 345, Conv. Ctr.	Chicago Public Schools’ Cluster 4 Middle Grade Project: Year One Lessons Learned (p. 188)
12:30–1:30 PM	E–M	Room 344, Conv. Ctr.	NSTA Press Session: Uncovering Student Ideas with Everyday Science Mysteries (p. 196)
12:30–1:30 PM	G	La Galerie 1, NO Marriott	Problem-based Learning Across the Curriculum (p. 192)
12:30–1:30 PM	E	Room R05, Conv. Ctr.	Squeezing in Science During the Elementary Day (p. 197)
12:30–1:30 PM	E–H	Elmwood, Hilton	Why Won’t Jane Compute? Using the New IES Frameworks to Promote the Talents of Girls in Your Science Classroom (p. 189)
12:30–1:30 PM	G	Mardi Gras D, NO Marriott	NSELA Session: Curriculum Mapping: Analyzing Affective Results (p. 192)
1:000–1:30 PM	M–H	Bayside A, Sheraton	The Secret in the Cellar: A Written-in-Bone Forensic Case from the Colonial Chesapeake (p. 193)
12:30–1:30 PM	G	Ile de France III, JW Marr.	NSTA Student Chapter Session: Becoming a Leader in the Profession (p. 197)
12:30–1:30 PM	G	Mardi Gras A/B, NO Marr.	Science Coaching: Improving Student Achievement Through Teacher/Science Coach Collaboration (p. 192)
12:30–1:30 PM	E-M/S	La Galerie 6, NO Marriott	Integrated Science and Literacy (p. 192)
1:00–1:30 PM	G	Jasperwood, Hilton	Mathematics Anxiety in the Science Classroom (p. 189)
12:30–1:30 PM	P–M	Room R07, Conv. Ctr.	CESI Session: CESI Presents: Everything You Wanted to Know But Were Afraid to Ask About Science Safety and Authentic Assessment (p. 188)

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THU	12:30–1:30 PM	G	St. Claude, JW Marriott	ASTE Session: Information, Networking, and Support for Preservice and New Teachers (p. 191)
	12:30–1:30 PM	M–H	Napoleon B1, Sheraton	Differentiate! What? When? Where? How? (p. 198)
	12:30–1:30 PM	M–H	Edgewood A/B, Sheraton	Using Assessment Results to Drive Curriculum Reform and Professional Development at the Middle School Level (p. 193)
	12:30–1:30 PM	E	Regent, NO Marriott	Teaching Science to Elementary School Teachers (p. 193)
	12:30–1:30 PM	G	Oak Alley, Hilton	Educational Outreach: A Roundtable (p. 189)
	12:30–1:30 PM	G	Rosedown, Hilton	NSTA Press Session: Science as a Vehicle for Language Development with ELL Students (p. 189)
	12:30–1:30 PM	G	Room 242, Conv. Ctr.	ISTE: Wikis for Students and Teachers in Science (p. 187)
	12:30–1:30 PM	M–H	Room 337, Conv. Ctr.	LHS Pathway Session: Making Connections: Strategies for Sustaining the Project (p. 188)
	12:30–12:50 PM	G	Frontenac, JW Marriott	SCST Session: Multidisciplinary Team-based Research for Undergraduates: Creative Inquiry (p. 190)
	12:30–1:30 PM	G	Mardi Gras F, NO Marriott	CSSS Session: Science Literacy: Building from Literature Circles to Science Practice (p. 192)
	12:30–1:30 PM	H	Napoleon B2, Sheraton	Using Assessment to Improve Learning: Good Learning Questions (p. 198)
	12:30–2:00 PM	G	Room 346, Conv. Ctr.	McREL Pathway Session: Instructional Technology and Virtual Manipulatives That Support Student Understanding (p. 199)
	12:30–2:00 PM	G	Room 348, Conv. Ctr.	SC Pathway Session: The Nuts and Bolts of Building a Science Coaching Initiative, Part 2 (p. 200)
	12:30–2:30 PM	G	Room 350, Conv. Ctr.	UNV Pathway Session: A Research-based Approach to Instruction for English Learners: Considerations for Reading, Writing, Vocabulary, and Discourse in Science (p. 200)
	12:30–3:30 PM	E–H	Room 342, Conv. Ctr.	HRI Pathway Session: Knowing What They Know: Developing and Using a Framework for Analyzing Student Thinking (p. 200)
	1:00–1:30 PM	G	Magnolia, Hilton	Thinking and Writing About Science (p. 202)
	1:00–2:15 PM	3–8	Room 208, Conv. Ctr.	Put Some Spark into Science Investigations (p. 202)
	1:00–2:30 PM	7–10	Room 213, Conv. Ctr.	Inquiry Investigations™ Forensics Science Curriculum Module and Kits (p. 204)
	1:30–3:00 PM	6–8	Rooms 204/205, Conv. Ctr.	Hands-On Integrated Science Activities for Middle School (p. 206)
	1:30–3:00 PM	6–12	Room 220, Conv. Ctr.	Meet the Untamed Science Crew and Put Your Own Video Camera to Work in Your Science Classroom (p. 208)
1:30–3:00 PM	K–5	Room 214, Conv. Ctr.	Hands-On Standards in Science (p. 206)	

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THU

1:30–3:00 PM	3–5	Room 224, Conv. Ctr.	Aha! Science: A Unique Instructional Model for Web-delivered Science Curriculum (p. 208)
1:30–3:30 PM	M	Room 336, Conv. Ctr.	EDCm Pathway: Facilitating the Work of Science Mentors (p. 210)
1:30–3:30 PM	E	Room 335, Conv. Ctr.	EDCi Pathway Session: Expository Writing and Science Notebooks: Documented Success in Increasing Achievement in Expository Writing and Inquiry-based Science in the Elementary Grades (p. 210)
2:00–2:30 PM	M-C/S	Regent, NO Marriott	Science Teachers as Mentors: Lessons from a PAESMEM Awardee (p. 212)
2:00–3:00 PM	G	Mardi Gras D, NO Marriott	NSELA Session: The Winds of Change Sweeping Down the Plain (p. 217)
2:00–3:00 PM	M-H/S	Balcony M, NO Marriott	Using Formative Assessment in the Classroom to Make Students Responsible for Their Own Learning (p. 222)
2:30–3:00 PM	M–H	Bayside A, Sheraton	Admit and Exit Slips: Simple, Ongoing, Formative Assessment for Effective Science Lessons (p. 217)
2:00–3:00 PM	M–H	Edgewood A/B, Sheraton	Get the FACTs! Grades 6–12 Strategy Harvest (p. 218)
2:00–2:30 PM	G	Jasperwood, Hilton	Recognition and Use of Symbols in Science Teaching (p. 213)
2:00–3:00 PM	P–M	Room 345, Conv. Ctr.	Don't Be Afraid of Science—Have Fun! (p. 213)
2:30–3:00 PM	G	Jasperwood, Hilton	Graphically Organized Notes: Getting Students to Take Responsibility for Their Learning (p. 214)
2:00–3:00 PM	M–C	La Galerie 6, NO Marriott	Thinking Like Scientists: Using the Nature of Science as a Metacognitive Tool (p. 216)
2:00–3:00 PM	G	Elmwood, Hilton	Blogging for Differentiation (p. 213)
2:00–2:30 PM	M–H	Bayside A, Sheraton	Using Formative and Summative Assessments to Enhance Student Learning (p. 217)
2:00–3:00 PM	G	Mardi Gras A/B, NO Marr.	Navigating the Text: Literacy Strategies in the Science Classroom (p. 217)
2:00–3:00 PM	G	La Galerie 1, NO Marriott	NSTA Press Session: Girls in Science: A Framework for Action (p. 216)
2:00–3:00 PM	H	Napoleon B2, Sheraton	Astrobiology: An Integrated Science Curriculum That Captures Students' Interest (p. 223)
2:00–3:00 PM	G	Windsor, Hilton	TECC (Technology Education for Children) (p. 214)
2:00–3:00 PM	E	Room R07, Conv. Ctr.	Learning to Think Like an Engineer...from Kindergarten On!?! (p. 221)
2:00–3:00 PM	G	Room 240/241, Conv. Ctr.	Everything You Needed to Know About Professional Development You Learned in Kindergarten (p. 212)
2:30–3:00 PM	I	Magnolia, Hilton	Making a Precise Ruler Up to 0.1mm (p. 214)
2:00–3:00 PM	G	Orleans, JW Marriott	Keeping Up with the Jetsons: Creating Technology-rich Activities in Science and Mathematics Through Japanese Lesson Study (p. 215)

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THU	2:00–3:00 PM	M/I	Room 343, Conv. Ctr.	Reflections on Teaching Middle School Science Through Hands-On Fun (p. 220)
	2:00–3:00 PM	G	Room 252, Conv. Ctr.	Learning with the Brain in Mind! (p. 220)
	2:00–3:00 PM	G	Balcony K, NO Marriott	Water: H ₂ O = Life (p. 216)
	2:00–3:00 PM	G	Oak Alley, Hilton	It's Magic! No, It's Science! (p. 214)
	2:00–3:00 PM	P/E	Room R06, Conv. Ctr.	CESI Session: It's in the Bag: Children's Literature and Experimental Design (p. 221)
	2:00–2:30 PM	E	St. Claude, JW Marriott	ASTE Session: Inquiry into Practice: Preservice Teachers and the Teaching of Inquiry Science in the Elementary Classroom (p. 216)
	2:30–3:00 PM	E	St. Claude, JW Marriott	ASTE Session: Stories in the Continuum: Narratives of Preservice Elementary Teachers Teaching Science in the Elementary Classroom (p. 216)
	2:00–3:00 PM	I	Napoleon D1&2, Sheraton	Easy GPS in the Classroom (p. 224)
	2:00–3:00 PM	G	Mardi Gras G/H, NO Marr.	A Peek at The Private Eye®: The ALAHASP Experience (p. 222)
	2:00–3:00 PM	M–H	Room 337, Conv. Ctr.	LHS Pathway Session: Real-World Science Connections: Scientists as Partners (p. 213)
	2:00–3:00 PM	G	Mardi Gras F, NO Marriott	CSSS Session: Communities of Practice: Connecting Science Frameworks to Informal Science Education Activities (p. 217)
	2:00–2:20 PM	G	Frontenac, JW Marriott	SCST Session: Student Behavior in Large Lecture Classes (p. 215)
	2:20–2:40 PM	C	Frontenac, JW Marriott	SCST Session: No College Student Left Behind—Making Science Come Alive in General Education Courses (p. 215)
	2:40–3:00 PM	G	Frontenac, JW Marriott	SCST Session: Why Aren't College Professors Anxious to Adopt Inquiry Instruction? (p. 215)
	2:00–3:00 PM	E-H/S	Rosalie, JW Marriott	NARST Session: Inspiring Inservice Teachers and Mentoring Beginning Teachers Through Co-teaching (p. 215)
	2:00–3:00 PM	G	Room 242, Conv. Ctr.	ISTE: Student Voices on Technology in Science (p. 212)
	2:00–3:00 PM	G	Room 257, Conv. Ctr.	FDA Symposium Follow-Up Session: CDER Education on Safe Use of Medicine (p. 212)
	2:00–3:00 PM	G	Balcony J, NO Marriott	Connecting Science, Mathematics, and Data Collection Technology in Teaching Methods Courses for Elementary Education Students (p. 222)
	2:00–2:30 PM	G	Magnolia, Hilton	Engaging Students with High-quality Science Trade Books (p. 214)
	2:00–3:15 PM	E/S	Room 212, Conv. Ctr.	Streamlining FOSS Materials Management (for District Administrators) (p. 224)

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2:30–4:00 PM	G	Room 348, Conv. Ctr.	SC Pathway Session: Virtual Strategies for Supporting Science Coaches (p. 229)
2:30–4:00 PM	G	Room 346, Conv. Ctr.	McREL Pathway Session: Constructing Understanding Using Visual Tools (p. 228)
3:00–4:15 PM	5–8	Room 208, Conv. Ctr.	Integrating Science and Literacy: Grades 5–8 (p. 230)
3:00–4:30 PM	7–10	Room 213, Conv. Ctr.	A Closer Look at Biology, Chemistry, and Earth Science Virtual Labs (p. 230)
3:00–4:30 PM	M–H	Room 347, Conv. Ctr.	NGS Pathway Session: Two Programs Linking Geography and Science Education: Geothentic and Delaware Geography-Health Initiative (p. 230)
3:30–4:30 PM	G	Room 244/245, Conv. Ctr.	Featured Presentation: Science Anchors: A Vision for Clear, Coherent, and Manageable Standards (p. 231)
3:30–4:30 PM	G	Bissonet, NO Marriott	Conference Tips for First-Timers (p. 236)
3:30–4:30 PM	G	Mardi Gras F, NO Marriott	CSSS Session: Scratch This! Science and Technology Video Games and Simulations (p. 238)
3:30–4:30 PM	G	Room 242, Conv. Ctr.	ISTE: Podcasting for Students and Teachers in Science (p. 232)
3:30–4:00 PM	G	Orleans, JW Marriott	Incorporating Family Science in a University Science Methods Course (p. 235)
4:00–4:30 PM	E–H	Jasperwood, Hilton	GIS in the Science Classroom: Latest Research and Practical Applications (p. 233)
3:30–4:30 PM	I	Napoleon D1&2, Sheraton	Effective Use of Science Notebooks (p. 243)
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3:30–4:30 PM	G	Mardi Gras D, NO Marriott	NSELA Session: Meeting NSELA Leaders (p. 238)
3:30–4:30 PM	G	St. Claude, JW Marriott	ASTE Session: What Is ASTE? (p. 236)
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3:30–4:30 PM	E–M	Room R02, Conv. Ctr.	The Only Soap That Floats: Clean Fun Using Science Process Skills to Investigate Truth in Advertising (p. 241)
3:30–4:30 PM	E–H	Belle Chasse, Hilton	So You Want to Do a Science Night...The Details Can Drive you Crazy! (p. 242)
4:00–4:30 PM	G	Windsor, Hilton	“If You Want Your Children to Be Intelligent, Read Them Fairy Tales”—Albert Einstein (p. 234)
3:30–4:30 PM	G	Balcony J, NO Marriott	The Integration of Science, Math, and Literature: Enhancing the Spirit of Every Child (p. 236)
3:30–4:00 PM	G	Windsor, Hilton	Using What You’ve Got! How to Ask Excellent Questions and Get Even Better Answers from All Students (p. 234)
3:30–4:30 PM	E	Room R07, Conv. Ctr.	Using Plants and Gardens as Interdisciplinary Teaching Tools in the Classroom (p. 242)
4:00–4:30 PM	G	La Galerie 1, NO Marriott	View National Parks in Your Class (p. 237)
3:30–4:00 PM	G	Oak Alley, Hilton	Nanoscience and Societal Impacts (p. 234)

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THU	3:30–4:30 PM	G	Magnolia, Hilton	How to Travel the World on Someone Else’s Money: <i>NSTA Reports</i> (p. 233)
	3:30–4:30 PM	M–H	Napoleon B2, Sheraton	Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts (p. 243)
	3:30–4:00 PM	G	Jasperwood, Hilton	Science 2.0 (p. 233)
	4:00–4:30 PM	G	Mardi Gras A/B, NO Marr.	Exploring, Describing, and Modifying Preservice Elementary Teachers’ Conceptions About Electricity (p. 238)
	3:30–4:30 PM	E–M	Room 353, Conv. Ctr.	Bring Literacy and Science Together: B.L.A.S.T.© for Success at School and Home (p. 241)
	3:30–4:30 PM	M–C	St. Charles, NO Marriott	Integrating Modern Research Practices into the Science Curriculum (p. 238)
	4:00–4:30 PM	G	Oak Alley, Hilton	Teaching Locally, Thinking Globally (p. 234)
	3:30–4:30 PM	E–M	Room 344, Conv. Ctr.	Free-nology (p. 232)
	3:30–4:00 PM	G	Mardi Gras A/B, NO Marr.	Getting Connected: NSTA Student Chapter ITV Meetings (p. 237)
	3:30–4:30 PM	G	Elmwood, Hilton	Virtual Presence in the Classroom (p. 233)
	3:30–4:30 PM	E–M	Room R04, Conv. Ctr.	Science for All: Meaningful Science with Meaningful Inclusion (p. 241)
	4:00–4:30 PM	M–H	Bayside A, Sheraton	Training Future Scientists: Collaboration and Team Building (p. 248)
	3:30–4:00 PM	G	La Galerie 1, NO Marriott	Investigating and Evaluating the International Year of the Reef (p. 236)
	3:30–4:30 PM	M–H	Edgewood A/B, Sheraton	Planting the Seeds for Science Fair: Using Fast Plants to Teach Statistics and Methodology of a Research Project (p. 238)
	3:30–4:30 PM	M–H	Maurepas, Sheraton	Expanding the Box: Reaching All Students Through Differentiated Instruction (p. 239)
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	3:30–5:00 PM	G	Room 333, Conv. Ctr.	BSCS Pathway Session: The BSCS 5E Instructional Model (p. 244)
	3:30–5:00 PM	6–8	Room 220, Conv. Ctr.	WOW! Realistic Middle School Laboratory Simulations You Have to See to Believe! (p. 245)
	3:30–5:00 PM	5–C	Room 226, Conv. Ctr.	Interactive Technology = Interactive Science (p. 246)
	3:30–5:30 PM	G	Room 350, Conv. Ctr.	UNV Pathway Session: Using the CREDE Five Standards for Effective Pedagogy to Integrate Science Language and Literacy Instruction for English Language Learners (p. 248)
3:30–5:30 PM	E–H	Room 341, Conv. Ctr.	WestEd Pathway Session: A Professional Learning Community Strategy: Targeted Interventions Matter (p. 248)	
4:00–4:30 PM	G	Rosedown, Hilton	Stop Bugging Me! (p. 248)	

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THU	4:00–6:00 PM	M	Room 336, Conv. Ctr.	EDCm Pathway Session: Focusing Observations: Inquiry Criteria for Middle Grades Science Classroom Visits (p. 250)
	4:00–6:00 PM	E	Room 335, Conv. Ctr.	EDCi Pathway: Kids Can Argue—Students Using Evidence for Science Arguments (p. 250)
	4:30–5:30 PM	G	Carondelet, NO Marriott	NMEA Session: Bring the Ocean into Your Classroom with National Marine Sanctuaries (p. 250)
	5:00–6:00 PM	G	Mardi Gras D, NO Marriott	NSELA Session: Building Successful Partnerships with Business and Industry to Support Quality Professional Development for K–12 Science Teachers (p. 254)
	5:00–6:00 PM	E–H	Room 238, Conv. Ctr.	Cotton, Trees, and Livestock: Promoting Awareness of Our Interdependency on the Natural World (p. 251)
	5:00–6:00 PM	G	Balcony M, NO Marriott	Learn About Pines from the Pine: What Trees Can Teach (p. 254)
	5:00–6:00 PM	G	Belle Chasse, Hilton	STEM in the Primary Classroom (p. 251)
	5:30–6:00 PM	G	La Galerie 6, NO Marriott	Research for Teachers (p. 254)
	5:00–5:30 PM	G	La Galerie 6, NO Marriott	Using Action Research to Better One’s Questioning Strategies (p. 254)
	5:00–6:00 PM	G	Jasperwood, Hilton	An Innovative Approach to Web-based, Inquiry-based Lesson Planning (p. 252)
	5:00–6:00 PM	E–H	Balcony J, NO Marriott	Bugscope—Using an Electron Microscope in Your Classroom (p. 253)
	5:00–6:00 PM	G	Magnolia, Hilton	Google Galore (p. 252)
	5:00–6:00 PM	G	Mardi Gras F, NO Marriott	CSSS Session: The Web, Wikis, and Podcasting, Oh My! Digital Media in the Classroom (p. 254)
	5:00–6:00 PM	G	Rosalie, JW Marriott	NARST Session: Helping Students Build Understanding of Big Ideas (p. 253)
	5:00–5:20 PM	C	Frontenac, JW Marriott	SCST Session: Student Reflections on the Use of Study Skills in Introductory Science Courses (p. 252)
	5:20–5:40 PM	C	Frontenac, JW Marriott	SCST Session: One-Stop Shopping: Supporting College Science Students “Beyond the Classroom” (p. 252)
	5:40–6:00 PM	C	Frontenac, JW Marriott	SCST Session: Assessment of Short- and Long-Term Impacts of Reformed College Science Courses on Students: A National Study of Undergraduate Science Courses (p. 253)
	6:00–11:45 PM	G	Elmwood, Hilton	A Celebration of Passionate and Noteworthy Long-Term Efforts at Public Education in Science (p. 256)

PHYSICS/PHYSICAL SCIENCE

THU	7:30–9:00 AM	4–6	Room 211, Conv. Ctr.	A World in Motion: The Design Experience— JetToy Challenge (p. 121)
	7:30–9:00 AM	7–12	Room 202, Conv. Ctr.	Science Kit Presents: Putting the Fun Back in Physical Science (p. 121)
	8:00–9:00 AM	H	Salons 816 & 820, Sheraton	Adapting Labs for a Physics First Program (p. 138)
	8:00–9:00 AM	M-C/S	Regent, NO Marriott	MOSART: Assessing the Effects of Professional Development on Teacher Pedagogical Knowledge (p. 130)
	8:00–9:00 AM	M	Room 354, Conv. Ctr.	NASA Smart Skies: The “Plane” Truth About D=RT (p. 124)
	8:00–9:00 AM	M–H	Salons 825 & 829, Sheraton	Physics at the Movies: Part 2 (p. 132)
	8:00–9:00 AM	H–C	Ile de France III, JW Marr.	A Coherent Approach to Energy in High School Physics (p. 135)
	8:00–9:00 AM	H–C	Conde, JW Marriott	Science Misconceptions (p. 126)
	8:30–9:00 AM	M–H	Salon 828, Sheraton	Human Models of Energy: A Kinesthetic Approach (p. 142)
	9:00–10:30 AM	E	Room 347, Conv. Ctr.	NGS Pathway Session: Science and Literacy: Science Content with Informational Reading and Writing (p. 145)
	9:30–10:30 AM	H–C	Conde, JW Marriott	The Physics of the Vertical Jump and 40-Yard Dash (p. 149)
	9:30–10:30 AM	G	Salons 816 & 820, Sheraton	Mystery Mechanisms (p. 162)
	9:30–10:30 AM	G	Room 238, Conv. Ctr.	Photography and Science: A Way to Enhance Student Engagement (p. 146)
	9:30–10:30 AM	E–H	Salons 825 & 829, Sheraton	The Alternative Energy Grant Project at Streamwood High School (p. 155)
	9:30–10:00 AM	G	Salon 828, Sheraton	The Psychology of Physics (p. 155)
	9:30–10:30 AM	E	Room R03, Conv. Ctr.	Immersion in Science for Elementary Teachers: Learning Science Through Scientific Investigations That Promote an Understanding of the Nature of Science (p. 148)
	9:30–10:30 AM	M	Room 354, Conv. Ctr.	Technology in the Classroom: Interpreting Speed Graphs Using Motion Sensors (p. 156)
	10:00–10:30 AM	G	Salon 828, Sheraton	Tablet PCs in the Mathematics Classroom (p. 155)
	9:30–11:00 AM	4–6	Room 211, Conv. Ctr.	A World in Motion: The Design Experience— Skimmer Challenge (p. 164)
	9:30–11:00 AM	9–C	Room 232, Conv. Ctr.	Experience Digital Physics Curricula (p. 167)
	9:30–11:00 AM	6–9	Room 226, Conv. Ctr.	Fast and Furious Force and Motion (p. 166)
	9:30–11:30 AM	G	Room 339, Conv. Ctr.	FI Pathway Session: Moving Beyond “Probes:” Constructing and Using Elicitation Questions to Diagnose Needs of the Science Class and Inform Teachers of Student Needs (p. 168)
	9:30 AM–12:30 PM	E–H	Room 334, Conv. Ctr.	Digital Scaffolding for Engineering Design (p. 169)
	11:30 AM–1:00 PM	4–6	Room 211, Conv. Ctr.	A World in Motion: The Design Experience— JetToy Challenge (p. 179)

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11:30 AM–1:00 PM	9–12	Room 221, Conv. Ctr.	The New Edition of <i>Conceptual Physics</i> (p. 180)
12:30–1:30 PM	E	Room R03, Conv. Ctr.	Physics Is Elementary (p. 196)
12:30–1:30 PM	M–H	Salon 828, Sheraton	Teaching Students to Think as Engineers (p. 195)
12:30–1:30 PM	H-C/I	Conde, JW Marriott	Edgy Science 2 (p. 190)
12:30–1:30 PM	G	Salons 816 & 820, Sheraton	Teaching the Small-Particle Model of Matter: An Inquiry Approach (p. 199)
12:30–1:30 PM	I	Napoleon D1&2, Sheraton	OPTICS MAGIC! Classroom Activities in Light and Color (p. 199)
12:30–1:30 PM	E–M	Room 354, Conv. Ctr.	Gadgets and Gizmos in the Kitchen: Technology in Everyday Science (p. 196)
12:30–3:30 PM	G	Room 339, Conv. Ctr.	FI Pathway Session: Moving from Formative Assessment Results to Appropriate Instructional Actions (p. 200)
1:30–3:00 PM	4–6	Room 211, Conv. Ctr.	A World in Motion: The Design Experience—Skimmer Challenge (p. 206)
2:00–2:30 PM	M–H	Salon 828, Sheraton	Cheap Labs for the Physical Sciences (p. 219)
2:00–3:00 PM	C	Conde, JW Marriott	Connecting Undergraduates to the Enterprise of Science Through Inquiry (p. 214)
2:00–3:00 PM	M	Room 354, Conv. Ctr.	Dr. Skateboard's Action Science (p. 221)
2:30–3:00 PM	G	Salon 828, Sheraton	Electromagnetic Spectrum in 3-D (p. 219)
3:30–4:30 PM	M	Room 345, Conv. Ctr.	Bounce and Bend: Reflection and Refraction of Light (p. 232)
3:30–4:00 PM	H-C/I	Conde, JW Marriott	Multidisciplinary Approach to Teaching Physics (p. 234)
4:00–4:30 PM	M–H	Salons 825 & 829, Sheraton	Performance-based Assessments in High School Physics (p. 240)
4:00–4:30 PM	H–C	Conde, JW Marriott	Einstein in Hollywood: Capturing the Scientific Minds of Young Movie Buffs (p. 234)
3:30–4:00 PM	H	Salons 825 & 829, Sheraton	Teaching AP Physics “Sideways”?—A Recursive Approach (p. 240)
3:30–4:30 PM	G	Napoleon B3, Sheraton	International Interactions in Physics: Real and Virtual (p. 239)
3:30–5:00 PM	6–8	Room 211, Conv. Ctr.	A World in Motion: The Design Experience—Glider Challenge (p. 245)
4:00–5:00 PM	G	Room 339, Conv. Ctr.	FI Pathway Session: Creating an Assessment for Learning Perspective (p. 249)
4:00–5:30 PM	5–12	Room 210, Conv. Ctr.	Energy Car (p. 249)
5:00–6:00 PM	G	Rosedown, Hilton	Don't Push; Don't Pull: It's All About Energy (p. 252)

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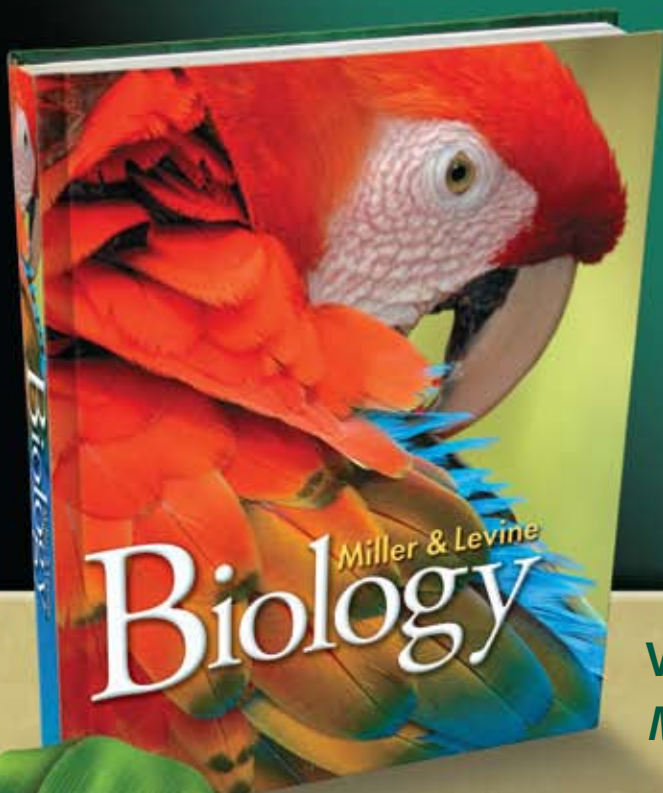
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