

Diving  
into the Next  
Generation  
of Science

# FORT LAUDERDALE

**NSTA 2009 Area Conference  
on Science Education**

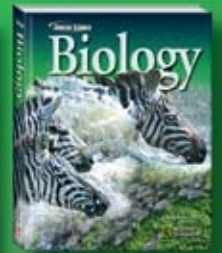
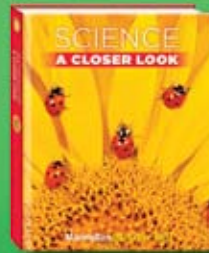
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# NSTA 2009 Conference on Science Education

Fort Lauderdale, Florida • November 12–14, 2009

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### National Science Teachers Association

1840 Wilson Blvd.  
Arlington, VA 22201-3000  
703-243-7100  
E-mail: [conferences@nsta.org](mailto:conferences@nsta.org)  
[www.nsta.org](http://www.nsta.org)

### NSTA Affiliates

Association for Multicultural Science Education (AMSE)  
Association for Science Teacher Education (ASTE)  
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)





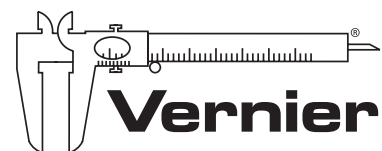
# **FREE HANDS-ON WORKSHOPS**

## **VERNIER DATA-COLLECTION TECHNOLOGY**

**FRIDAY • November 13 • Workshop Room 222**

<b>8:00 – 9:30 A.M.</b>	K-8 SCIENCE WITH VERNIER
<b>10:00 – 11:30 A.M.</b>	DEVELOPING 21ST-CENTURY MINDS WITH VERNIER
<b>12:00 – 1:30 P.M.</b>	DEVELOPING 21ST-CENTURY MINDS WITH VERNIER
<b>2:00 – 3:30 P.M.</b>	DEVELOPING 21ST-CENTURY MINDS WITH VERNIER

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# Welcome to Fort Lauderdale



Thomas Medcalf



Peggy Cook



J.P. Keener

Welcome to Fort Lauderdale and the 2009 NSTA Area Conference on Science Education. Our theme is Diving into the Next Generation of Science, and with this in mind we have scheduled waves of field trips, speakers, and special events for your professional consideration. Surf our three professional development strands—each has its own engaging presenters, short courses, and concurrent sessions.

As you plan your schedule, don't miss our keynote speaker Julie Scardina, animal ambassador for SeaWorld, Busch Gardens, and Discovery Cove. Dive deeper on one of our scheduled field trips, symposia, or short courses. Be sure to visit the Exhibit Hall and anchor-up at the NSTA Science Bookstore. So, welcome to our community. We invite you to dive into a wealth of science!

2009 Fort Lauderdale Conference Committee Leaders

## Conference Chairperson

Thomas M. Medcalf  
FAST President  
District Science Resource Teacher  
Palm Beach County School District  
3310 Forest Hill Blvd., Suite C-206  
West Palm Beach, FL 33406  
[medcalfi@palmbeach.k12.fl.us](mailto:medcalfi@palmbeach.k12.fl.us)

## Program Coordinator

Peggy Cook  
Learning Team Facilitator  
Lake Worth Middle School  
1300 Barnett Dr.  
Lake Worth, FL 33461  
[cook@palmbeach.k12.fl.us](mailto:cook@palmbeach.k12.fl.us)

## Local Arrangements Coordinator

J.P. Keener  
Supervisor, Secondary Science Education  
School Board of Broward County  
600 SE Third Ave.  
Fort Lauderdale, FL 33301  
[jpkeener@browardschools.com](mailto:jpkeener@browardschools.com)

## Fort Lauderdale Conference Committee

### Program Committee

#### Program Representatives

Lori Braga  
Southwest Middle School  
Palm Bay, FL

Wendy Spielman  
School District of Palm Beach  
County  
West Palm Beach, FL

#### Strand Leader: Enhancing Science Teaching and Learning with Instructional Technology

Janice Novello  
FAST Area 7 Director  
Bradenton, FL

#### Strand Leader: Keys for Student Success: Curriculum Integration and Student Inclusion

Daniel McFarland  
Durant High School  
Plant City, FL

#### Strand Leader: Teaching Ecosystems, Climate, and Climate Change

Brad Tanner  
Mote Marine Laboratory  
Sarasota, FL

#### NSTA Director, District V

Kelly Price  
Forsyth County Schools  
Cumming, GA

### Local Arrangements Committee

#### Exhibits Liaison

Lisa Milenkovic  
Eagle Point Elementary School  
Weston, FL

#### Field Trips Co-Managers

Barbara Rapoza  
New River Middle School  
Fort Lauderdale, FL

Dawn Miller-Walker  
Environmental Conservation  
Organization—Take Action  
Now (ECO—TAN)  
Southwest Ranches, FL

#### Guides Manager

Michelle Krug  
Coral Springs High School  
Coral Springs, FL

#### Manager of Services for People with Disabilities

Renette Pierre-Louise  
Silver Lakes Middle School  
North Lauderdale, FL

#### Publicity Manager

Vierge Dieujuste  
Deerfield Beach Middle  
School  
Deerfield Beach, FL

#### Social Functions Manager

Julie Degreef  
Discovery Elementary School  
Sunrise, FL

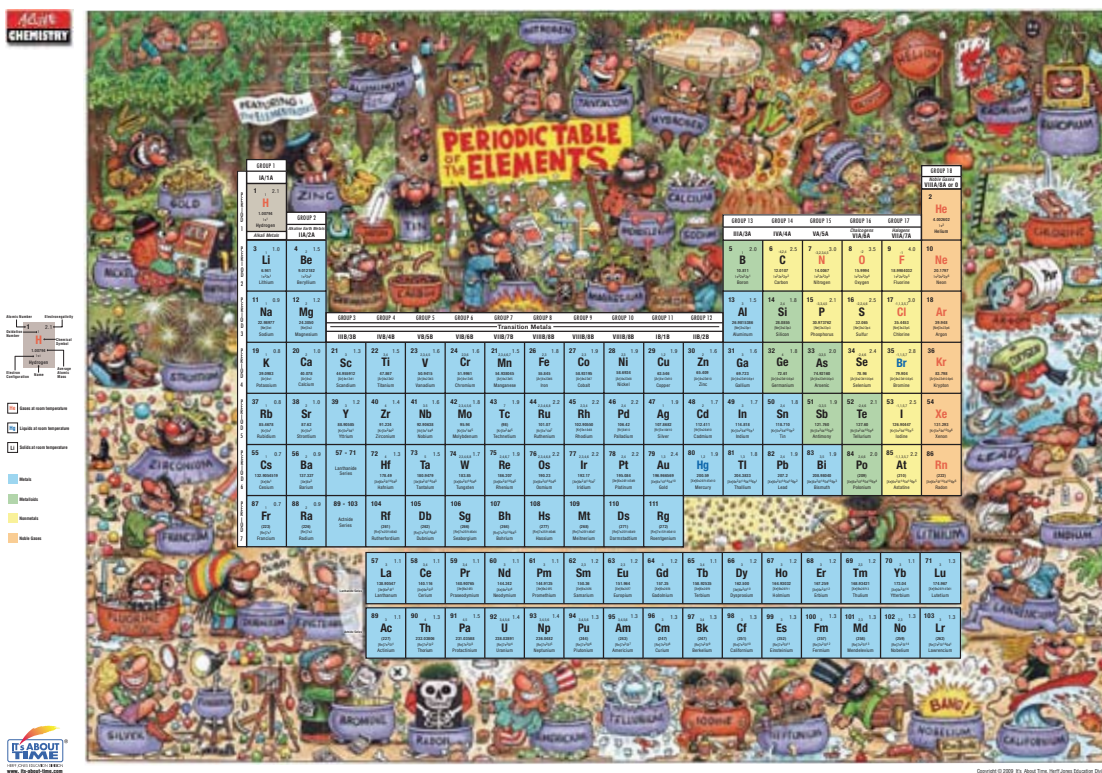
#### Volunteers Manager

Hilda Cabrera  
Apollo Middle School  
Hollywood, FL

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



Win a Tomas Bunk Periodic Table!



# What Elements Do You See?

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.

To see how we accomplish this in our curricula attend one of our workshops or visit our booth #900. Fill out an entry form to win a Tomas Bunk Periodic Table. At the NSTA conference one winner will be drawn at each workshop and each day of the show.

*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**

Visit our booth #900 or web site at [www.its-about-time.com](http://www.its-about-time.com)

## President's Welcome

### The 3 R's of Science Teacher Retention: Resources, Respect, and Renewal



Welcome to the NSTA Fort Lauderdale Area Conference on Science Education. As suggested by my presidential theme—The 3 R's of Science Teacher Retention: Resources, Respect, and Renewal—this conference will provide you with the *resources* you need to grow professionally, earn the *respect* you deserve, and *renew* yourself as a professional. Our conference theme—

Diving into the Next Generation of Science—reflects our focus on preparing our students for 21st-century science. Three program strands—Enhancing Science Teaching and Learning with Instructional Technology; Teaching Ecosystems, Climate, and Climate Change; and Keys for Student Success: Curriculum Integration and Student Inclusion—will help you get the most from your conference attendance.

In the spirit of David Letterman, following are the top 10 benefits of attending the Fort Lauderdale conference and why you will take away so much from this experience:

1. Performance—You and your students deserve to be excellent in science.
2. Leadership—Because new skills, knowledge, and activities help build educational leaders who influence others to do extraordinary things.

3. Discovery—Because looking at the world with a new perspective brings innovation and creativity in the classroom.

4. Motivation—Because expert speakers, educators, and scientists serve to inspire and stimulate.

5. Passion—Because sharing with your peers, your mentors, and the leaders in science education is contagious.

6. Expertise—Because educators are the best when they are well versed in their field.

7. Inspiration—Because you will be moved to act by such presenters as Ellen Prager, Randolph Tobias, Emma Rader, and Julie Scardina.

8. Growth—Because your conference experience will expand your world personally and professionally.

9. Freebies—Because exhibiting companies from across the nation will offer you hundreds of classroom giveaways, new products, and samples.

10. Connections—Because you'll meet peers, mentors, leaders, and acquaintances for support and friendship.

So, enjoy the conference! I look forward to meeting you.

Pat Shane

2009–2010 NSTA President

## Contributors to the Fort Lauderdale Conference

NSTA and the Fort Lauderdale Planning Committee are extremely grateful to the following companies and associations for their generous contributions to the NSTA Fort Lauderdale Area Conference on Science Education.

Florida Section of the American Association of Physics Teachers

American Chemical Society (ACS)

American Geological Institute (AGI)

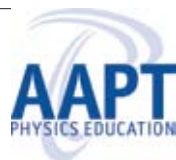
American Physical Society (APS)

Carolina Biological Supply Co.

Florida Association of Science Teachers

Kendall Hunt Publishing Co.

National Association of Biology Teachers



The environment is important to science educators. These programs are recyclable and were printed on recycled paper.

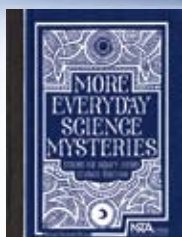


# Explore NEW Resources from NSTA Press!



## The Big Ideas of Nanoscale Science and Engineering

Grades 7–12  
Member: \$22.36  
Nonmember: \$27.95



## More Everyday Science Mysteries

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



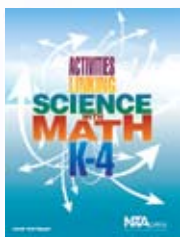
## Take-Home Physics

Grades 9–12  
Member: \$19.96  
Nonmember: \$24.95



## Answers to Science Questions From the Stop Faking It! Guy

Grades K–8  
Member: \$19.16  
Nonmember: \$23.95



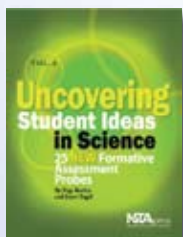
## Activities Linking Science With Math, 5–8

Grades 5–8  
Member: \$22.36  
Nonmember: \$27.95



## The Biology Teacher's Handbook, 4th Edition

Grades 6–College  
Member: \$23.96  
Nonmember: \$29.95



## Uncovering Student Ideas in Science, Volume 4

Grades K–12  
Member: \$22.36  
Nonmember: \$27.95



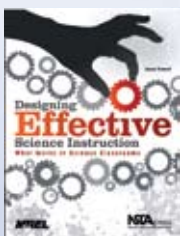
## Forestry Field Studies

Grades 9–12  
Member: \$19.96  
Nonmember: \$24.95



## Lecture-Free Teaching

College  
Member: \$26.36  
Nonmember: \$32.95



## Designing Effective Science Instruction

Grades K–12  
Member: \$24.76  
Nonmember: \$30.95



## 40 Inquiry Exercises for the College Biology Lab

College  
Member: \$27.96  
Nonmember: \$34.95

To preview a book or place an order,  
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or  
[www.nsta.org/store](http://www.nsta.org/store).

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**NSTA**press  
National Science Teachers Association

# 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:

## Conference Previews

Gone are the days of bulky, newspaper-style advance programs. Brief conference previews allow us to be more focused in our conference content, since each preview is specific to a particular conference. As an added bonus, they are 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](http://www.nsta.org/conferences)). Register and make your housing reservations on the web. Program details 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.

## Final Conference Programs by E-Mail

Conference registrants are now given the option of receiving an electronic version (PDF) of the final conference program by e-mail approximately two weeks prior to the conference, further reducing print and mailing requirements.

## 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 Greater Fort Lauderdale/Broward County Convention Center

The Greater Fort Lauderdale/Broward County Convention Center works to reduce use of resources and promote energy efficiency in the following ways:

- Water conservation measures, including installation of loop system of treatment for cooling towers, automatic flush valves, and 0.5 tamperproof faucet aerators throughout facility.
- Energy conservation steps, including use of energy-efficient lighting and motion-sensing switches; participation in FPL's Sunshine Energy renewable energy purchase program; upgrading to a Johnson Controls Energy Management system; and installation of a coated curtain wall, a reflective roof membrane, and coated skylights.
- Recycling of cardboard, paper, aluminum, glass, and plastic. Donation of leftover food to local food bank.
- Use of recycled products, including paper products for house-keeping and food service and garbage bags made from recycled resins.
- Use of organic or biodegradable products where possible and replacing cleaning supplies and other chemicals with environmentally friendly products.

## "Go Green" at the Fort Lauderdale 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.
- In advance of the conference, presenters are encouraged to post their presentations and handouts on NSTA Communities, the NSTA online professional learning community.



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## Meeting Location and Times

The conference headquarters hotels are the Hilton Fort Lauderdale Marina and the Hyatt Regency Pier Sixty-Six Resort and Spa. Conference registration, the exhibits, the NSTA Avenue, the NSTA Science Bookstore, and some sessions will be located at the Greater Fort Lauderdale/Broward County Convention Center. Other events will be held at the headquarters hotels. The conference will begin on Thursday, November 12, at 8:00 AM and end on Saturday, November 14, at 12 Noon.

## Registration

Registration is required for participation in all conference activities and the exhibits. The lapel badge mailed to you with your confirmation, or issued to you at registration on-site, is your “ticket of admission” to the Exhibit Hall and all conference activities except ticketed events for which a separate fee is stated.

The NSTA Registration Area, located in the Exhibit Hall (Hall A), will be open during the following hours:

Wed., Nov. 11	5:00–7:00 PM
Thu., Nov. 12	7:00 AM–5:00 PM
Fri., Nov. 13	7:00 AM–5:00 PM
Sat., Nov. 14	7:30 AM–12 Noon

If you misplace your badge or tickets, present your personal ID at the Badge Re-

print Counter in the Registration Area and you will be issued replacements. Only one replacement badge will be issued.

## Purchasing Ticketed Events

The Fort Lauderdale Planning Committee has scheduled a variety of ticketed events (NSTA symposia, short courses, field trips, 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 24) for details.

## Hotels

See page 12 for a map of NSTA hotels and contact information.

## Airlines

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

AirTran	866-683-8368	Event Code SCIENCE09
American	800-433-1790	NSTA Index No. A89N9AA
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/from Airport

For information on ground transportation options, visit the Greater Fort Lauderdale Convention and Visitors Bureau website ([www.sunny.org/gettingaround](http://www.sunny.org/gettingaround)) and the Fort Lauderdale–Hollywood International Airport website ([www.broward.org/airport/parking.htm](http://www.broward.org/airport/parking.htm)). In addition, many hotels in the Greater Fort Lauderdale area offer free shuttles between the airport and hotel. Check with your concierge.

## Getting Around Town/Parking

Hop aboard a water taxi, sun trolley, or taxi to local attractions and dining. There is a parking lot adjacent to the convention center (Northport Parking Garage). Costs vary hourly. There are also several surface lots around the convention center. Visit [www.nsta.org/pdfs/2009fortlauderdaleparking.pdf](http://www.nsta.org/pdfs/2009fortlauderdaleparking.pdf) for a map of convention center parking facilities. Contact your hotel for information on guest parking.

## 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](http://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 PIN “NST” and you’re on your way to discounted car rental!

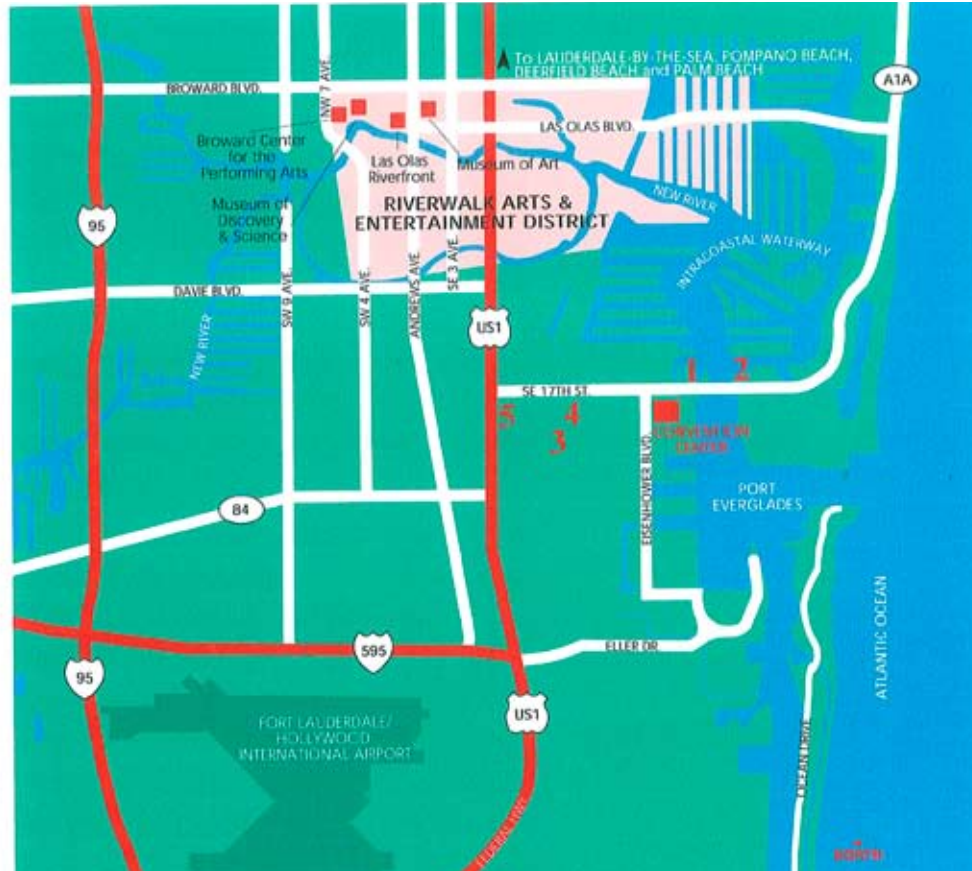
## NSTA Shuttle Service

NSTA provides free shuttle bus transportation between NSTA hotels and the convention center during session hours and for the social event on Friday evening (M-3). See page 12 for the schedule.



## NSTA Hotels

1. **Hilton Fort Lauderdale I**  
(Co-Headquarters Hotel)  
1881 SE. 17th St.  
888-554-2131
2. **Hyatt Regency Pier Sixty  
Resort and Spa**  
2301 SE 17th St.  
954-525-6666
3. **Hyatt Place Fort Lauderdale  
Airport-North**  
1851 SE 10th Ave.  
954-763-7670
4. **Embassy Suites Fort  
Lauderdale**  
1100 SE 17th St.  
954-527-2700
5. **Comfort Suites Airport :  
Cruise Port**  
1800 S. Federal Highway  
954-767-8700



## NSTA Shuttle Schedule

Free shuttle service is provided between the convention center and NSTA hotels during registration and session hours and for the social event on Friday evening (M-3).

### Route Hotels:

- Route 1 (red)** Hilton Fort Lauderdale Marina (co-headquarters hotel)
- Route 2 (blue)** Hyatt Regency Pier Sixty-Six (co-headquarters hotel)
- Route 3 (green)** Embassy Suites, Hyatt Place Fort Lauderdale Airport North, and Comfort Suites
- Route 4 (orange)** Headquarters Express between Hilton and Hyatt Regency Pier Sixty-Six only (does not stop at Convention Center)

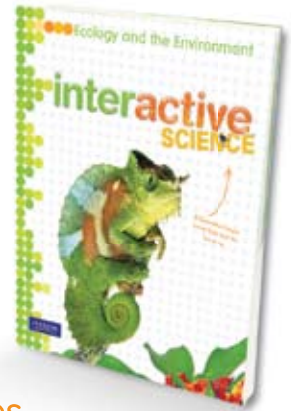
Wed., Nov. 11	4:30–7:30 PM	Service between Route Hotels and Conv. Center
Thu., Nov. 12	6:30 AM–5:30 PM	Service between Route Hotels and Conv. Center
	7:00 AM–5:00 PM	Headquarters Express (Route 4)
Fri., Nov. 13	6:30 AM–6:30 PM	Service between Route Hotels and Conv. Center
	7:00 AM–5:00 PM	Headquarters Express (Route 4)
	6:45–8:30 PM	Buses depart Conv. Center for social event at Museum of Discovery and Science (ticket M-3)
	9:00, 9:30, 10:00 PM	Buses depart Museum of Discovery and Science for Route Hotels
Sat., Nov. 14	6:30 AM–12:30 PM	Service between Route Hotels and Conv. Center

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Visit booth #1100 to learn more!







### NSTA Exhibits

NSTA exhibits are an essential feature of every NSTA conference. 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.

The lapel badge mailed to you with your confirmation, or issued to you at registration on-site, is your “ticket of admission” to the Exhibit Hall and all conference activities. A complete list of exhibitors and

contact information starts on page 117. A foldout map of the Exhibit Hall floor plan is available at Program Pickup.

**Exhibit Hall Hours.** Located at the Greater Fort Lauderdale/Broward County Convention Center (Hall A), exhibits will be open for viewing during the following hours:

Thu., Nov. 12	11:00 AM–5:00 PM
Fri., Nov. 13	9:00 AM–5:00 PM
Sat., Nov. 14	9:00 AM–12 Noon

**Ribbon Cutting.** An opening ceremony is scheduled on Thursday at 11:00 AM at the entrance to the NSTA exhibits in Hall A.

**Leads Retrieval.** NSTA exhibitors use leads retrieval, a paperless tracking system that allows them to receive fast, 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.

**Exhibitor Workshops.** Exhibitor-sponsored workshops for science teachers are offered throughout the conference. These workshops give you an opportunity to use a variety of commercial instructional materials. Attendance is on a first-come, first-served basis. See page 131 for a complete list of exhibitor workshops.

### NSTA Avenue

Stop by the NSTA Avenue and learn about NSTA’s benefits, services, programs, and partners...all created for you! Share with others, expand your knowledge, and earn rewards for you and your students. See pages 126 for a complete list of NSTA services and programs.

### NSTA Science Bookstore

Don’t miss the opportunity to shop and browse the NSTA Science Bookstore for hundreds of the best books and resources in science education. The Science Bookstore is located in the NSTA Registration Area. 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. Here you’ll find information on conference activities, tourist attractions, transportation, and program changes. The center will be staffed during registration hours.

### FAST Booth

The Florida Association of Science Teachers (FAST) booth is located in the NSTA Registration Area. Stop by for information about Florida and the benefits of becoming a FAST member. Membership forms and information on association activities will be available, as well as registration forms for graduate credit sponsored by Framingham College. Find out what’s happening in science education in Florida!

### 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 facing page).

### Graduate Credit Opportunity

One unit of graduate credit is available to conference attendees through Framingham State College, Framingham, Massachusetts. To earn credit, you must attend a minimum of 12 hours of sessions or other programs during the conference, complete a written assignment, and provide an NSTA transcript documenting attendance. For complete information and to download a Framingham State College Registration Form, visit [www.nsta.org/fortlauderdaleresources](http://www.nsta.org/fortlauderdaleresources) or [www.framingham.edu/nsta](http://www.framingham.edu/nsta). You can also pick up a registration form at the FAST booth.

### Conference Evaluation

All conference attendees are invited to complete a conference evaluation form online at [http://ecommerce.nsta.org/2009for/conference\\_evaluation.asp](http://ecommerce.nsta.org/2009for/conference_evaluation.asp).

### First Aid Services

The First Aid room is located next to the Security Office near Hall A. Call extension 5942 from an in-house phone or security at extension 5931.

### Lost and Found

All lost-and-found items will be turned in at the Exhibitor Registration counter at the Convention Center.

### 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:

Conv. Center	Room 216
Hilton	Pompano
Hyatt	Commodore Brdrm.

### Business Services

Self-serve business centers are located at each of the headquarters hotels. Centers are open 24 hours a day and offer fax, photo-

copies, computer access, and laser printing. The Convention Center offers complete business services, including fax and photocopies, secretarial services, computer access, laser printing, and packing and shipping. Located on the first floor by the Lobby A ticket booth, the business center is open Monday–Friday, 9:00 AM–5:00 PM.

### 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 system.

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## Session Evaluations and Tracking Professional Development

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

**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 NSTA 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.

**Attendees** will complete this short evaluation and deposit the form in the evaluation drop-off boxes located in the Convention Center. 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 Saturday.

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

*Concurrent session presenters may also complete evaluation forms for their own sessions in order to track professional development credit.*

Three 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 sessions/activities for which an evaluation form was not provided (e.g., field trips, short courses, Exhibit Hall visits, featured speakers, and meetings). Each attendee is responsible for tracking his/her own attendance at such events.

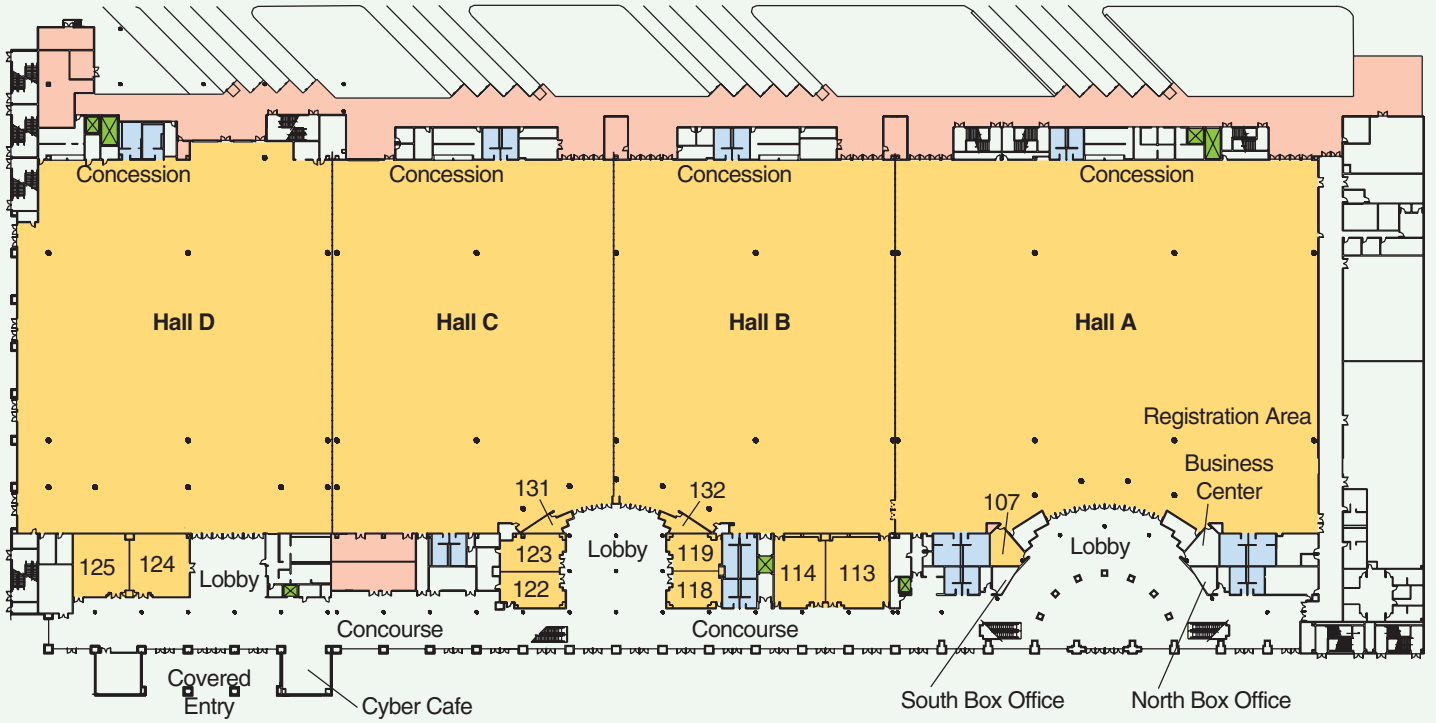
*A Professional Development Documentation Form is included following page 36 to help attendees keep track of sessions/events attended that were NOT evaluated.*

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.



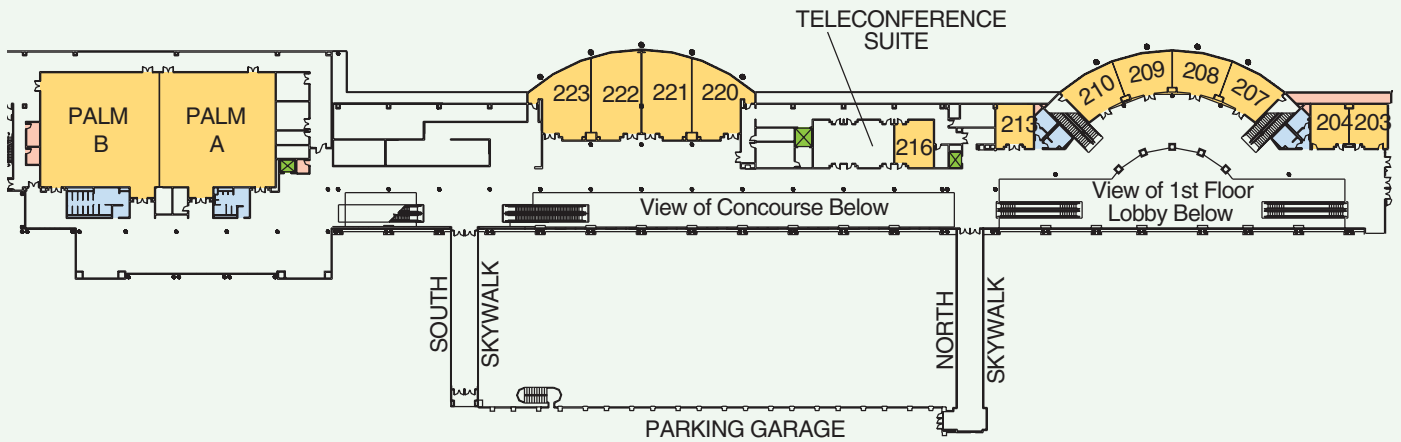
# Greater Fort Lauderdale/Broward County Convention Center

## First Floor



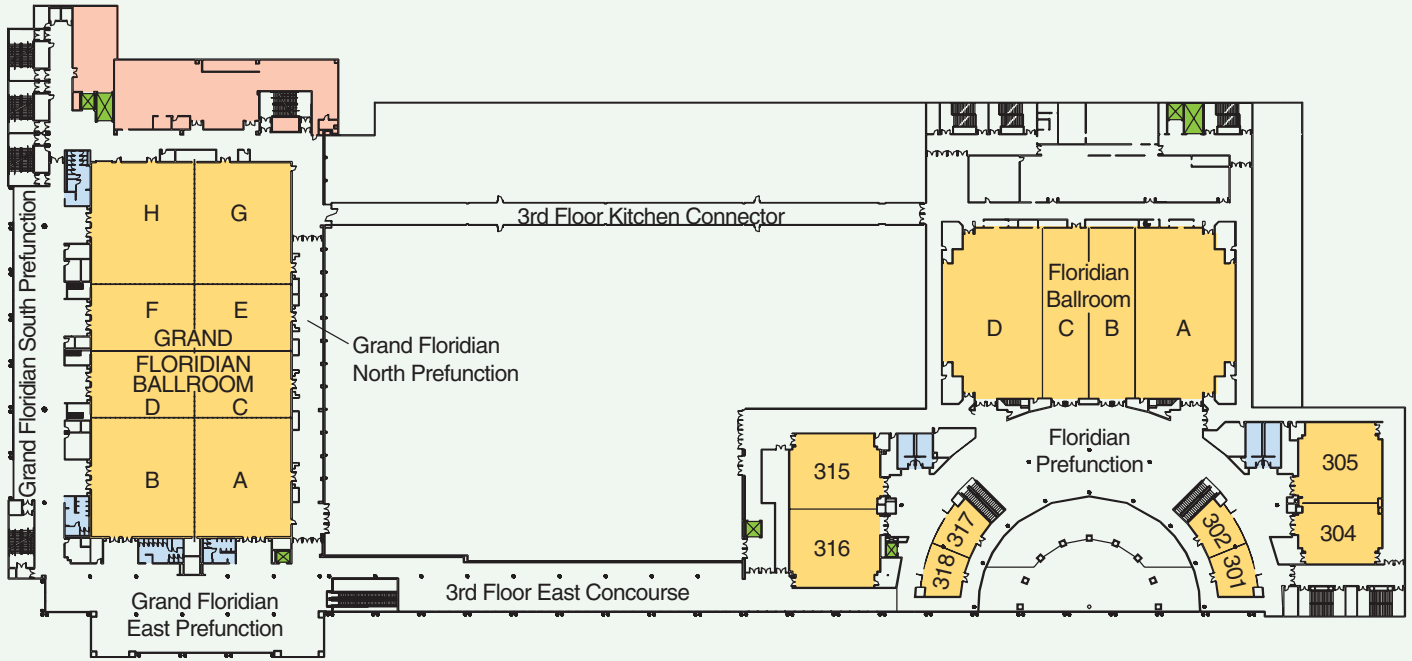
# Greater Fort Lauderdale/Broward County Convention Center

## Second Floor



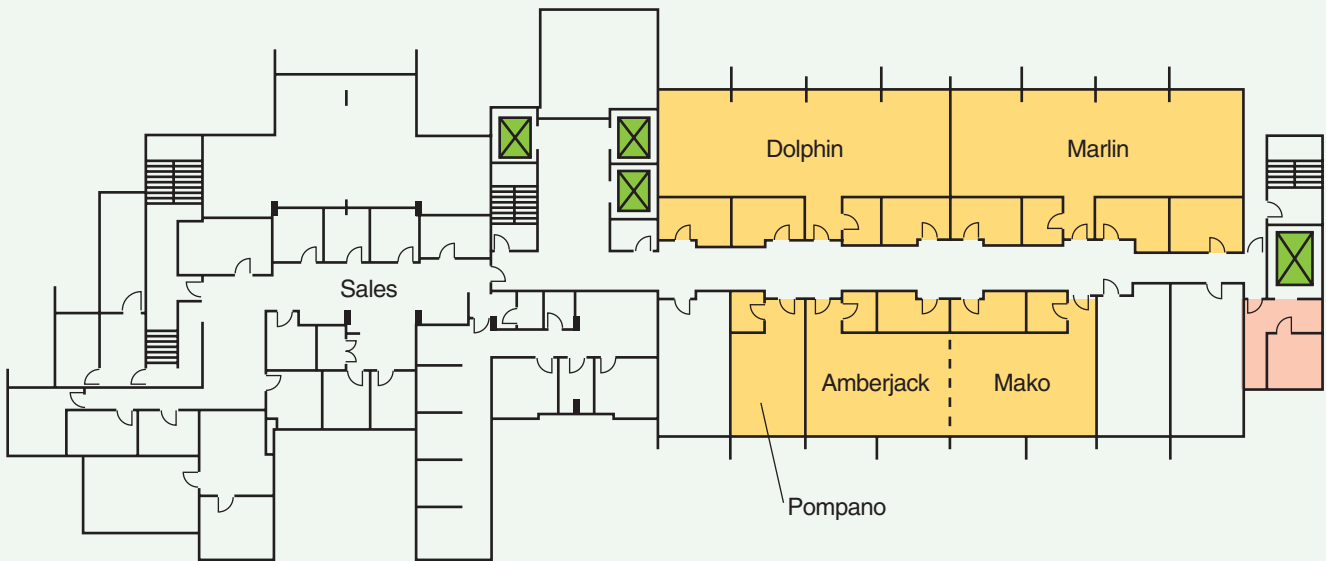
# Greater Fort Lauderdale/Broward County Convention Center

## Third Floor



# Hilton Fort Lauderdale

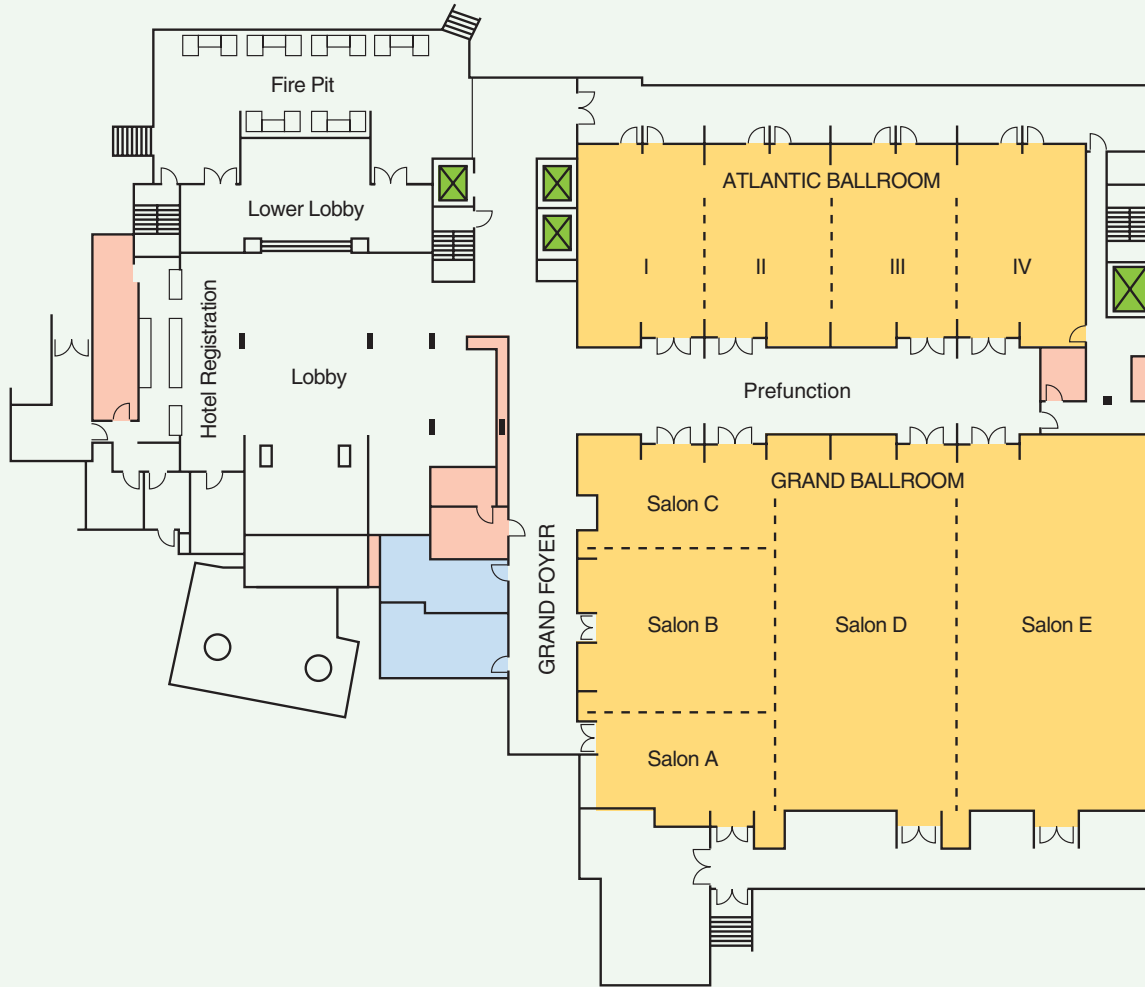
## Second Floor





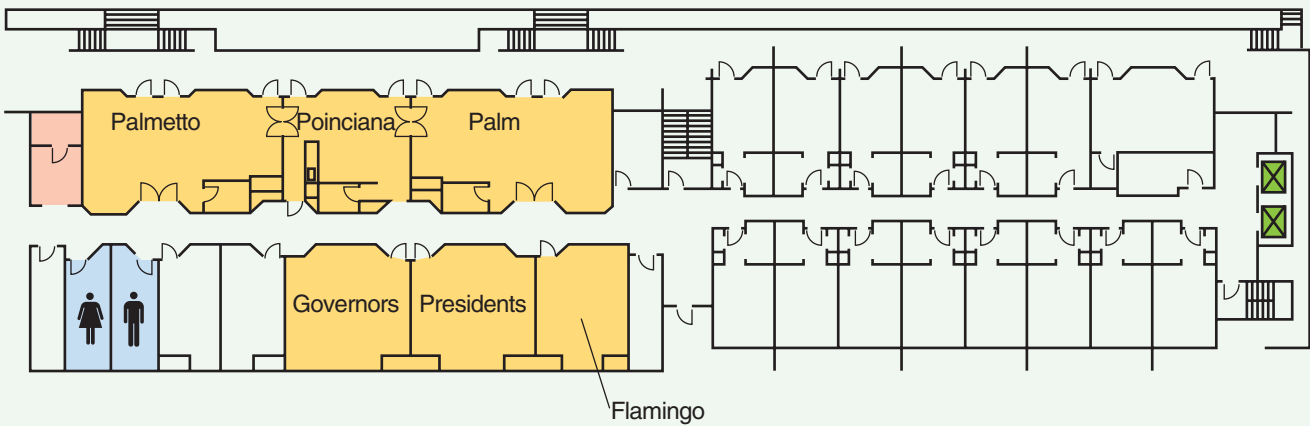
# Hilton Fort Lauderdale

## Main Floor

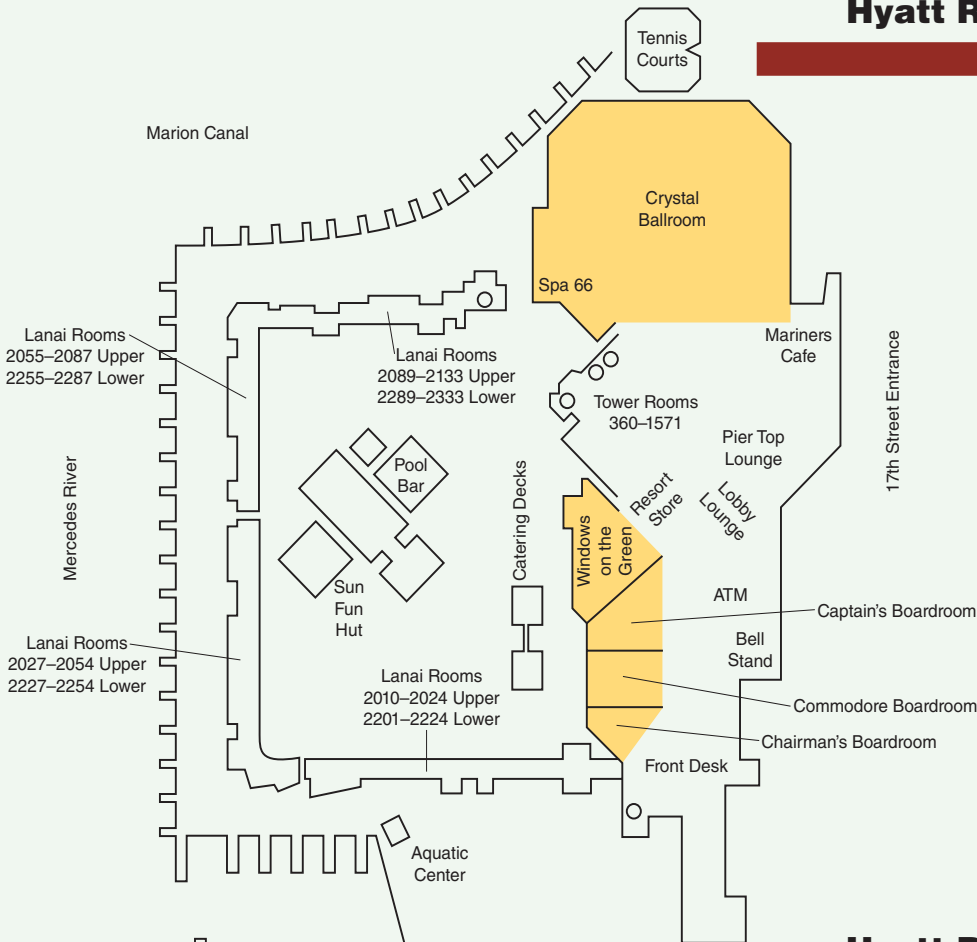


# Hilton Fort Lauderdale

## West Villas

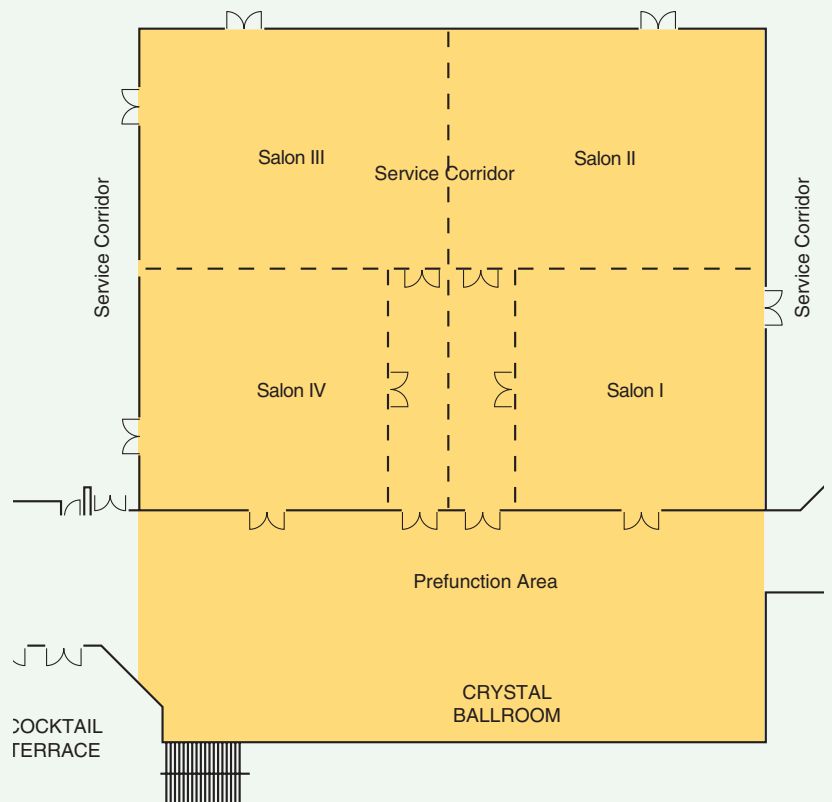


# Hyatt Regency Pier Sixty-Six



# Hyatt Regency Pier Sixty-Six

## Crystal Ballroom





## Executive Office

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

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Shantee Young, Administrative Assistant

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Kristin Carter, Director of Grants and Contracts  
Diane Cash, Manager, Accounts Payable  
Beth Custer, Manager, Cash Receipts

### BUSINESS AND FINANCE, CONT.

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Janine Smith, Human Resources Generalist

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Jim Convery, Director, Information Technology  
Edwin Pearce, Manager, Information Technology Support  
Martin Lopong, Manager, Web Development  
Bryan Zorzi, Web and Database Developer  
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Paul Tingler, Director, NSTA Symposia, Web Seminars, and Online Short Courses

### SciGuides

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Jeff Layman, Web/Technical Coordinator

### Symposia and Web Seminars

Jeff Layman, Web/Technical Coordinator

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#### Mickelson ExxonMobil Teacher Academy

Joe Sciulli, Program Director

#### NSTA New Science Teacher Academy

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#### School Services Initiative

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Jan Tuomi, Education Specialist

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***Science Scope***

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 Ken Roberts, Assistant Executive Director of Journals  
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***The Science Teacher***

Stephen C. Metz, Field Editor  
 Stephanie Liberatore, Managing Editor  
 Meg Streker, Assistant Editor

***Journal of College Science Teaching***

Ann Cutler, Field Editor  
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***Science Class***

Lauren Jonas, Managing Editor

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 Nguyet Tran, Assistant Production Manager  
 Jack Parker, Electronic Prepress Technician

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 Elsie Maka, Manager, Inventory and Distribution

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 Virginie Chokouanga, Customer Service and Database Coordinator

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 Lauren Jonas, Internet Editor

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 Alan McCormack, President-Elect  
 Page Keeley, Retiring President  
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 Lynn Gatto, District IV  
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 Stephen Pruitt, CSSS  
 Troy Sadler, NARST  
 Rebecca Knipp, NMLSTA  
 Brenda Wojnowski, NSELA  
 Connie Russell, SCST

***NSTA Mission Statement***

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



*All cities are subject to change pending final negotiation.*

**National Conferences on Science Education**

Philadelphia, Pennsylvania  
March 18–21, 2010

San Francisco, California  
March 10–13, 2011

**Area Conferences on Science Education**

**2009 Area Conferences**

Phoenix, AZ  
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

To Be Determined

Seattle, Washington  
December 8–10



**Submit a session proposal for  
an NSTA conference...**

***Get Involved!***

**2010 Area Conferences on Science Education**

*Deadline: January 15, 2010*

Kansas City, MO  
October 28–30, 2010

Baltimore, MD  
November 11–13, 2010

Nashville, TN  
December 2–4, 2010

**2011 National Conference on Science Education**

*Deadline: April 15, 2010*

San Francisco, CA  
March 10–13, 2011



[www.nsta.org/conferences](http://www.nsta.org/conferences)

# Science Educators— Advance Your Career

## NSTA's National Conference on Science Education

**Philadelphia, PA  
March 18–21, 2010**

### Who Should Attend?

- Elementary Teachers of Science
- Science Teachers
- Preservice Teachers
- Science Coordinators
- Curriculum Specialists
- Administrators
- Principals
- College Methods Professors
- College Science Educators
- Policymakers

### And Why?

- In-depth programs on physics, chemistry, biology, and physical science.
- Personal and professional growth  
Develop content knowledge, new teaching strategies, best practices.
- Expertise and inspiration
- Presentations, workshops, and sessions in your discipline and grade band
- Competence on relevant issues—literacy, assessment, inquiry—and more
- Networking with peers and professionals
- Exhibition Hall: Top companies, top products, top giveaways.

### Professional Development Strands

- Meeting the Unique Needs of Urban and Rural Science Learners
- Connecting Content: Between, Within, and Among Subjects
- Closing the Digital Generation Gap Between Teachers and Students
- Rekindling the Fires of Science Teaching and Learning

Visit [www.nsta.org/philadelphia](http://www.nsta.org/philadelphia)  
or call 1-800-328-8998 for more information.



## Is This Your First NSTA Conference?

Yes, you say? Then you are invited to attend a special session on Thursday, 8:00–9:00 AM.

Learn how you can gain the most from your conference experience and have fun doing it! This event is sponsored in part by Carolina Biological Supply Company. See page 43 for details.

## Ribbon-cutting Ceremony

An opening ceremony is scheduled on Thursday at 11:00 AM at the main entrance to the Exhibit Hall.

### Thursday, November 12

8:00–9:00 AM	First-Timer Conference Attendees' Orientation . . . . .	43
11:00–11:10 AM	Ribbon-cutting Ceremony . . . . .	52
11:10 AM–5:00 PM	Exhibits . . . . .	52
12:30–2:30 PM	NSTA ESP Symposim I . . . . .	58
2:00–3:00 PM	Featured Presentation: Ellen Prager . . . . .	59
3:30–4:30 PM	Featured Speaker: Jon A. McBride . . . . .	65

### Friday, November 13

7:00–9:15 AM	FAST Breakfast and Annual Meeting . . . . .	73
8:00 AM–4:30 PM	Physics Day . . . . .	76, 86, 93, 97, 102
8:00 AM–4:30 PM	Chemistry Day . . . . .	75, 84, 91, 97, 102, 105
8:00 AM–4:30 PM	Physical and Earth Science Day . . . . .	75, 84, 91, 97, 102, 105
9:00 AM–5:00 PM	Exhibits . . . . .	80
9:30–10:30 AM	Featured Speaker: Randolph Tobias . . . . .	80
12 Noon–1:30 PM	Preservice and New Teachers Luncheon (M-2) . . . . .	95
12:30–1:30 PM	NSTA ESP Symposim II . . . . .	95
2:00–3:00 PM	Featured Presentation: Emma Rader . . . . .	98
3:30–4:45 PM	General Session: Julie Scardina . . . . .	106
7:00–10:00 PM	An Evening at the Museum of Discovery and Science (M-3) . . . . .	108

### Saturday, November 14

7:30–9:00 AM	PreK–8 CESI Breakfast (M-4) . . . . .	111
9:00 AM–12 Noon	Exhibits . . . . .	113



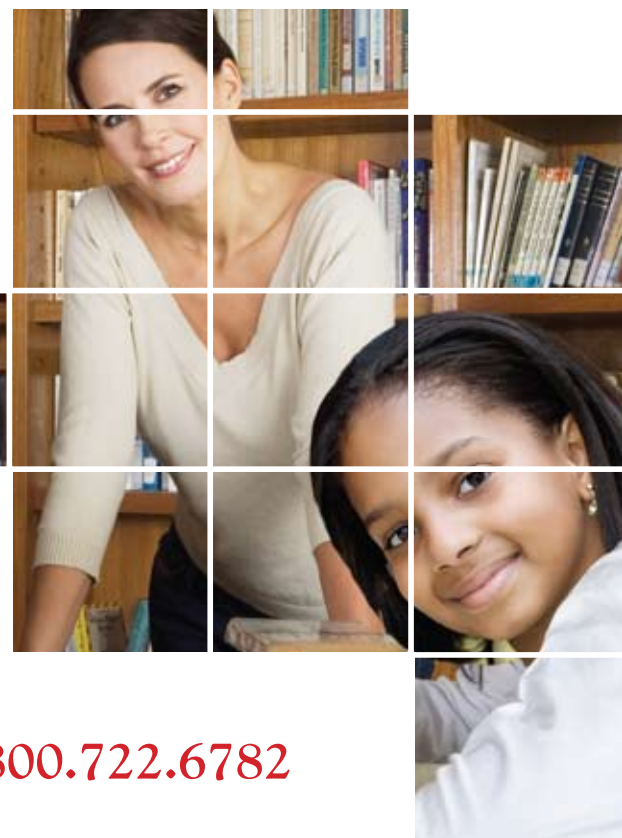
# NSTA Membership

## Become the Best Teacher You Can Be

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**Members enjoy the best teaching resources, plus online and face-to-face professional development to build skills and improve performance.**

- Award winning journals, grade-specific and filled with teaching strategies.
- National and regional conferences for the best face-to-face, hands-on learning across the nation—institutes, symposia, workshops, and presentations.
- Online Learning Center, interactive and topical, to build content knowledge and teaching skills.
- E-newsletters and listservs—stay informed and current, daily, weekly and monthly.
- Web seminars and short courses to build your science knowledge.
- NSTA books just for science educators—topical, strategic, and pedagogical.
- Get connected with NSTA Communities—a unique networking platform developed just for science educators. Create your profile today and meet colleagues, friends and professional contacts that share your passion.



For more information or to become a member, visit [www.nsta.org/membership](http://www.nsta.org/membership) or call **1.800.722.6782**

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



### **Enhancing Science Teaching and Learning with Instructional Technology**

Many students today are well versed in digital technology. The appropriate use of technology is critical to understanding science concepts and developing next-generation skills. This strand will examine digital approaches to enhancing science literacy and provide strategies for meeting the needs of digital learners, both students and teachers.



### **Teaching Ecosystems, Climate, and Climate Change**

Global environmental issues have become increasingly important to our everyday lives and provide important instructional topics/tools for our students. This strand will focus on the integration of global environmental issues into instruction, with an emphasis on the ecosystems of the southeastern United States.



### **Keys for Student Success: Curriculum Integration and Student Inclusion**

Educators recognize that all curriculum content is interdependent and student learning is enhanced through cross-curricular connections for all learners. The horizontal and vertical integration of curriculum content is critical to student success. This strand will provide instructional strategies for integrating science content with math, reading, writing, social studies, and fine art, as well as strategies for addressing the needs of English language learners and exceptional students.

## Enhancing Science Teaching and Learning with Instructional Technology

### **Thursday, November 12**

#### **8:00–9:00 AM**

Incorporating Social Networking and Gaming in the Classroom

#### **9:30–10:30 AM**

Tapping into the Digital Revolution: Revolutionizing Science Education for the 21st-Century Student

#### **12:30–4:30 PM**

Short Course: Exploring Easy and Effective Ways to Use PhET's Web-based Interactive Simulations in Your Classroom (By Ticket: SC-2)

#### **2:00–3:00 PM**

Teaching Earth Science with Google Earth

#### **3:30–4:30 PM**

Using a Remotely Operated Vehicle (ROV) for Science Instruction in K–12 Settings

### **Friday, November 13**

#### **8:00–9:00 AM**

Web-based Simulations to Enhance Teaching and Learning in Grades 3–12

#### **8:00 AM–12 Noon**

Short Course: MESSENGER and Technology Integration with Classroom Instruction That Works (By Ticket: SC-5)

#### **9:30–10:30 AM**

NASA eClips for Secondary Students: Using Video Segments to Engage Millennial Learners

#### **11:00 AM–12 Noon**

Integrating Web 2.0 Technologies in Grades 6–12 Science

#### **12:30–1:30 PM**

Integrating Web Adventures into Your Lessons

#### **2:00–3:00 PM**

Featured Presentation: Advantages of Integrating Higher Technology into the Classroom (Speaker: Emma Rader)

### **Saturday, November 14**

#### **8:00–9:00 AM**

Effectively Using Video Production in the Science Classroom

#### **9:30–10:30 AM**

Investigating Supernova Remnants

#### **11:00–11:30 AM**

The Internet Science and Technology Fair (ISTF): 2009 Update

Teaching Ecosystems, Climate, and Climate Change

**Thursday, November 12**

**8:00–9:00 AM**

Environmental Issues Taught with an Inquiry Approach

**9:30–10:30 AM**

Learn How to Use NOAA's Climate Change Resources in Your Classroom

**12:30–1:00 PM**

The Embattled Estuary: Combining Research and Education to Preserve the Indian River Lagoon

**2:00–3:00 PM**

Featured Presentation: Chasing Science at Sea: Unveiling Stories of Wonder and Adventure from the Field and How Science Really Works  
(Speaker: Ellen Prager)

**3:30–4:30 PM**

Dendroclimatology: The Trees Tell a Tale

**Friday, November 13**

**8:00–9:00 AM**

Getting Kids Outdoors

**8:00–11:00 AM**

Short Course: Energy from the Sun  
(By Ticket: SC-4)

**9:30–10:30 AM**

Climate Change: Classroom Tools to Explore the Past, Present, and Future

**11:00 AM–12 Noon**

Toyota TAPESTRY in Action

Citrus Waste to Ethanol: Green Promise of the Future

**12:30–1:30 PM**

How to Use a Three-Pronged Approach to Teach Ecosystems

**2:00–3:00 PM**

Improving Real-World Connections and Science Comprehension in the Middle School Classroom

**Saturday, November 14**

**8:00–9:00 AM**

Sweet Sustainable Education Resources: Bananas and Rain Forest Conservation in Honduras

**11:00 AM–12 Noon**

GreenSchools!

Keys for Student Success: Curriculum Integration and Student Inclusion

**Friday, November 13**

**8:00–9:00 AM**

Building an Integrated Curriculum Through Environmental Literacy

**8:00–11:00 AM**

Short Course: Putting It All Together  
(By Ticket: SC-3)

**9:30–10:30 AM**

Featured Presentation: Student Equity and Science Integration: A Path to Ensure Success in Learning Science  
(Speaker: Randolph Tobias)

**11:00 AM–12 Noon**

Using Science Notebooks in the Elementary Classroom

**12:30–1:30 PM**

English Language Development Strategies in Science

**2:00–3:00 PM**

Life Science Labs for Students at Every Level

Bring Literacy and Science Together:  
B.L.A.S.T.© for Success at School and Home

**Saturday, November 14**

**8:00–9:00 AM**

Linking Home and School with P.A.S.S.©  
(Portable Affordable Simple Science)

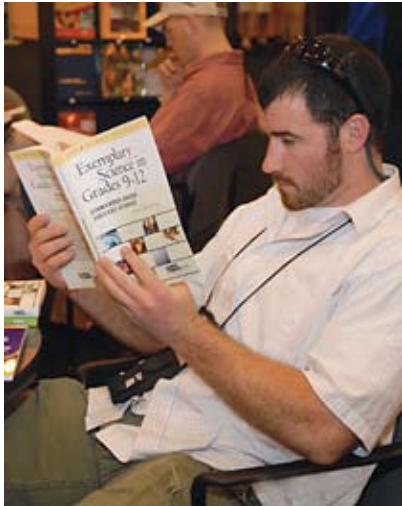
**9:30–10:30 AM**

Promoting Scientific Inquiry and Active Reading

**11:00 AM–12 Noon**

Physics at the Art Museum





The NSTA 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 Best Practices in 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 Exemplary Science Program (ESP)**

#### **Realizing the Visions of the National Science Education Standards**

Thu., November 12 Grande Ballroom Salon E, Hilton

Fri., November 13 Atlantic Ballroom III/IV, Hilton

ESP symposia were organized by Robert E. Yager, 1982–1983 NSTA President and Editor of the NSTA ESP Program. These sessions will include brief descriptions of programs that exemplify how the four NSES goals have been met. Discussion will center on how NSES *More Emphasis* suggestions have guided instruction. Participants in these symposia will include the following authors from specific monographs.

#### **Symposium I** (page 58)

**Thu., November 12, 12:30–2:30 PM**

Coordinator: Robert E. Yager, 1982–1983 NSTA President, and University of Iowa, Iowa City

Inquiry—The Key to Exemplary Science

#### **Symposium II** (page 95)

**Fri., November 13, 12:30–1:30 PM**

Coordinator: Joseph Stepan, University of Wyoming, Laramie

Exemplary Science Programs in Informal Education Settings

*It Takes ESP to Find Exemplary Science Programs!*



## Chemistry Day at NSTA

### Chemical Bonding and Its Consequences

Friday, November 13, 8:00 AM–4:30 PM

Room 209/210, Convention Center

Sponsored by the American Chemical Society

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

Education research indicates a positive correlation between teacher content knowledge and student learning. The goals of this day-long program are to enhance and enrich secondary chemistry teachers' knowledge of chemical bonding and its effects on the properties of matter and to engage participants in activities, discussion, and analyses that demonstrate how lessons on chemical bond properties can be presented in a way that stimulates student thinking and prompts exploration of the complexity of the concepts in advanced and honors-level courses.

The content and structure of the program draw on several decades of experience the American Chemical Society has in activity-based curricula development. The program is a daylong series of lessons on the chemical bond and its relationship to the properties and reactions of molecules—topics central to understanding the behavior of matter and chemical change. A complementary theme of the program is incorporating activities as part of the assessment of student learning.

8:00–9:00 AM	<b>What's Matter Made Of?</b> (p. 75)
9:30–10:30 AM	<b>What Holds Molecules Together?</b> (p. 84)
11:00 AM–12 Noon	<b>Why Is Water Different?</b> (p. 91)
12:30–1:30 PM	<b>Bond Connections in More Complex Molecules</b> (p. 97)
2:00–3:00 PM	<b>Chemistry of Aqueous Solutions of Gases</b> (p. 102)
3:30–4:30 PM	<b>Coupled Reactions, Energetics, and Chemical Bonds</b> (p. 105)



## Physics Day at NSTA

Friday, November 13, 8:00 AM–4:30 PM

Salon 4, Hyatt

Saturday, November 14, 9:30–10:30 AM

Floridian G, Convention Center

Sponsored by the American Association of Physics Teachers

The American Association of Physics Teachers offers a full day of physics content at each NSTA area conference. Physics Day consists of presentations on physics topics of current interest, physics demonstrations for the precollege classroom, and a make 'n' take session where participants can construct a piece of physics apparatus for use as a demonstration or as laboratory experiment. Physics Day in Fort Lauderdale is being organized by the Florida Section of the American Association of Physics Teachers.

### Friday, November 13

8:00–9:00 AM	<b>Transforming Your Science Classroom with Modeling Instruction (Part 1)</b> (p. 76)
9:30–10:30 AM	<b>Transforming Your Science Classroom with Modeling Instruction (Part 2)</b> (p. 86)
11:00 AM–12 Noon	<b>Promoting Interaction in Your Science Classroom with Personal Whiteboards</b> (p. 93)
12:30–1:30 PM	<b>Particle Physics in the Classroom with QuarkNet</b> (p. 97)
2:00–3:00 PM	<b>Bridging the Gaps: Physics Student to Preservice Teacher to Inservice Teacher</b> (p. 102)

### Saturday, November 14

9:30–10:30 AM	<b>Classroom Particle Physics with QuarkNet's Cosmic Ray ELab</b> (p. 114)
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*The following sessions are sponsored by the National Association of Biology Teachers*

*Friday, November 13, Room 203/204 Convention Center*

11:30 AM–12 Noon

Bringing College to the High School Biology Classroom: A Unique Program to Augment Learning in the Biological Sciences (p. 93)

3:30–4:30 PM

Science Education, What For? Answered by the Aesthetic Realism Teaching Method! (p. 105)



**ACS**  
Chemistry for Life™



## Physical and Earth Science Day

**Matter, Energy, and Interactions: A Day of Physical and Earth Science for Elementary and Middle School Teachers**

*Friday, November 13, 8:00 AM–4:30 PM*

*Room 207/208, Convention Center*

*Sponsored by the Education Divisions of the American Chemical Society (ACS), American Geological Institute, (AGI), and American Physical Society (APS)*

Based on the National Science Education Standards for Inquiry and Physical Science, this all-day program features six sessions focusing on inquiry-based activities to teach basic topics in chemistry, physics, and earth science. The Education Divisions of the American Chemical Society (ACS), the American Physical Society (APS), and the American Geological Institute (AGI) will facilitate sessions in which elementary and middle school teachers will participate in activities to improve their content knowledge, discuss and share ideas about how to conduct the activities with students, and receive free resources for physical and earth science teaching. These sessions are open to all conference attendees.

8:00–9:00 AM	<b>There's More to Dissolving Than Meets the Eye</b> (p. 75)
9:30–10:30 AM	<b>Chemical Change: The Breaking and Making of Bonds</b> (p. 84)
11:00 AM–12 Noon	<b>Laser Light: What Makes It So Special?</b> (p. 91)
12:30–1:30 PM	<b>Diffraction: Using Light to Measure</b> (p. 97)
2:00–3:00 PM	<b>Dynamic System Earth: Water, Life, Land, and Air</b> (p. 102)
3:30–4:30 PM	<b>Energy and the Earth System</b> (p. 105)



### NSTA Press Sessions

NSTA Press® offers 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, November 12

- 12:30–1:30 PM Fiction, Fact, and Fun (p. 54)
- 2:00–3:00 PM Picture-Perfect Science (p. 61)
- 3:30–4:30 PM Extreme Science: Scales from Nano to Galactic (p. 68)

#### Friday, November 13

- 8:00–9:00 AM So You Want New Science Facilities (Science Facilities 101) (p. 74)
- 9:30–10:30 AM The Architects Have Started Without Me; What Do I Do Now? (Science Facilities 102) (p. 84)
- 11:00 AM–12 Noon Teaching for Conceptual Change (p. 91)
- 12:30–1:30 PM Stop Faking It! Finally Understand AIR, WATER, and WEATHER So You Can Teach It (p. 97)
- 2:00–3:00 PM Stop Faking It! Finally Understand ELECTRICITY and MAGNETISM So You Can Teach It (p. 102)
- 3:30–4:30 PM Stop Faking It! Finally Understand CHEMISTRY So You Can Teach It (p. 105)

### NSTA Avenue Sessions

Visit the NSTA Avenue, our marketplace in the Exhibit Hall, to learn about NSTA's products and services. Meet staff, register for The NSTA Learning Center, learn about NSTA Communities, or become a member. We're looking for connections to educators with a passion for science education, and we welcome you to our network.

#### Thursday, November 12

- 8:00–9:00 AM Is This Your First NSTA Conference? (p. 43)
- 12:30–1:30 PM More and Muir Tech Tips for Teaching About a Greener Tomorrow (p. 31)
- 2:00–3:00 PM SciLinks: Using the Online Assignment Tool (p. 60)
- 3:30–4:30 PM Toshiba/NSTA ExploraVision Awards Program (p. 66)

#### Friday, November 13

- 8:00–8:30 AM NSTA Membership Jeopardy (p. 73)
- 9:30–10:30 AM Toyota TAPESTRY Grants for Science Teachers = \$\$\$ for Your School! (p. 82)
- 12:30–1:30 PM The NSTA Learning Center: Free Classroom Resources and Professional Development for Educators (p. 96)

#### Saturday, November 14

- 9:30–10:30 AM Pete Conrad Spirit of Innovation Awards (p. 114)



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?!

NSTA is partnering with the U.S. Food and Drug Administration (FDA) to present two exciting symposia for middle and high school educators, grades 5–12, on the topics of nutrition, food labeling, and food safety. Walk away with a wealth of materials and information about resources available at the FDA website. A drawing for fantastic prizes will be held at the end of each symposium, and refreshments will be available.

FDA is pleased to provide participants with a stipend of \$60 upon completion of either symposium. Graduate credit is also available. To receive credit, participants must pay a nominal fee and complete an action plan and a lesson plan.

A list of related FDA sessions, open to all conference attendees, follows each description. See the daily program for details.

*NSTA symposia are blended professional development opportunities that include a face-to-face learning symposium at the conference followed by two NSTA web seminars and a discussion forum within NSTA Communities that allows for extended interaction between participants and presenters. Admission to NSTA symposia is by ticket only and requires conference registration. Tickets, if still available, can be purchased at the Ticket Sales Counter in the NSTA Registration Area.*

### **FDA/NSTA Symposium: Teaching Nutrition Science and the Food Label (SYM-1)**

**Crystal Rasnake** and the FDA team of presenters, U.S. Food and Drug Administration, College Park, Md.

**Mimi Cooper**, Consultant, Green Cove Springs, Fla.

**Elena Stowell**, Kentwood High School, Covington, Wash.

Level: Grades 5–12

Date/Time: Friday, November 13, 8:00 AM–12:30 PM

Location: Palm A, Convention Center

Limit: 50

Registration Fee: \$54

Learn the basics of nutrition science, nutrition-related health trends in the U.S., the scientific basis for the percent daily values (% DVs) on the Nutrition Facts Label, what teaching resources FDA has developed, and much more. FDA scientists and master teachers will lead participants in hands-on, inquiry-oriented activities that enable students to experience several National Science Education Standards, including those for Science in Personal Health and Social Perspectives.

*Related FDA sessions (all conference attendees welcome)*

Thu., Nov. 12, 2:00–3:00 PM

Dreaming at the Frontiers of Biocience: Five Technologies That Will Change Your Life—Stay Tuned! (p. 60)

Thu., Nov. 12, 3:30–4:30 PM

Nutrition Education (p. 66)

**FDA/NSTA Symposium: Teaching Science with Food Safety (SYM-2)**

**Sufian Alkhalidi** and **Sherri McGarry**, U.S. Food and Drug Administration, College Park, Md.

**Alan Tart**, U.S. Food and Drug Administration, Atlanta, Ga.

**Ken Bingham**, Blue Valley High School, Overland Park, Kans.

**Mimi Cooper**, Consultant, Green Cove Springs, Fla.

**Elena Stowell**, Kentwood High School, Covington, Wash.

Level: Grades 5–12

Date/Time: Friday, November 13, 1:00–5:30 PM

Location: Palm A, Convention Center

Limit: 50

Registration Fee: \$54

Learn how FDA detects foodborne pathogens, how to culture bacteria found in food, how FDA investigates an outbreak of foodborne illnesses, and much more. FDA scientists and master

teachers will lead participants in hands-on, inquiry-oriented activities that enable students to experience several 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.

*Related FDA sessions (all conference attendees welcome)*

Thu., Nov. 12, 8:00–9:00 AM

Food Allergies (p. 94)

Thu., Nov. 12, 9:30–10:30 AM

Elementary-Level Food Safety Curriculum (p. 48)

Thu., Nov. 12, 12:30–1:30 PM

Investigating Outbreaks (p. 55)

***NSTA wishes to thank Toyota for our 20 year partnership on the Toyota TAPESTRY Grants for Science Teachers Program.***

For the past 20 years, Toyota has awarded over \$8.6 million to 1,068 teams of teachers in all 50 U.S. states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands and the Northern Mariana Islands. Toyota has made a huge difference in the lives of thousands of science teachers and hundreds of thousands of students.



**TOYOTA**



**TAPESTRY**  
GRANTS FOR SCIENCE TEACHERS

For information on the \$550,000 in grants available in 2010, please visit <http://www.nsta.org/pd/tapestry>. The deadline for entries is January 18, 2010.



**NSTA** National Science Teachers Association





Admission to NSTA short courses is by ticket only. Tickets, if still available, can be purchased at the Ticket Sales Counter in the NSTA Registration Area. SC-1 participants should meet their group in the lobby in front of Hall A 15 minutes before bus departure time (12:30 PM).

**Alternative Energy Showcase: Energizing Student Learning Through Interdisciplinary Project-based Learning (SC-1)**

Allan Phipps, South Plantation High School, Plantation, Fla.

Level: High School

Date/Time: Thursday, November 12, 12:30–4:00 PM

Location: Offsite; South Plantation High School

Limit: 30

Registration Fee: \$37

The Environmental Science and Everglades Restoration Magnet Program at South Plantation High School involves a consortium of public and private institutions dedicated to restoring and maintaining the Everglades and the South Florida ecosystem. On this visit to the high school, we'll learn about the program's Solar and Alternative Energies class and examine some interdisciplinary alternative energy student projects. See a solar race car, solar kayak, waste vegetable oil truck, bamboo bicycle, electric go-kart, compressed air go-kart, solar ovens, Geo Metro EV conversion, homemade "segway," and more! We will start small with some demonstrations of solar and fuel cell activities that are easy to implement with a limited budget, then speak with

several students about their larger project experiences. Learn how to develop a successful interdisciplinary project-based learning environment at your own school.



**Exploring Easy and Effective Ways to Use PhET's Web-based Interactive Simulations in Your Classroom (SC-2)**

Patricia J. Loeblein ([ploeblei@jeffco.k12.co.us](mailto:ploeblei@jeffco.k12.co.us)) and Kelly Lancaster, University of Colorado at Boulder

Level: Middle Level–College

Date/Time: Thursday, November 12, 12:30–4:30 PM

Location: Marlin, Hilton

Limit: 40

Registration Fee: \$35

Do you want to help your students make sense of science? The PhET Interactive Simulations Project has developed over 80 simulations for teaching and learning introductory physics, chemistry, biology, and the earth sciences. These research-based simulations create animated, interactive, game-like environments that are designed to engage students in active thinking, encourage experimentation, and help develop visual and conceptual models of physical phenomena, emphasizing their connections to everyday life. The simulations are free, and can be run from the PhET website (<http://phet.colorado.edu>) or downloaded to a local computer for offline use.

The PhET team has designed a set of guidelines that help integrate the simulations into lessons using guided inquiry. This workshop will help you design effective inquiry-based lessons using these guidelines that provide activities for students to construct their own understanding of physics and physical science ideas. Come learn about the research that helped establish the guidelines and the simulations, look at lessons available free on the web, and work on writing a lesson for your class.



**Putting It All Together (SC-3)**

Wendy A. Chapman ([wendy.chapman@browardschools.com](mailto:wendy.chapman@browardschools.com)), Silver Ridge Elementary School, Davie, Fla.

Level: Elementary–High School

Date/Time: Friday, November 13, 8:00–11:00 AM

Location: Marlin, Hilton

Limit: 50

Registration Fee: \$13

"Knowledge is a process of piling up facts; wisdom lies in their simplification." This quote by Martin Luther King, Jr., explains the heart of teaching through the integration process. Many recent books are embracing the brain com-

patibility style of teaching, which suggests that students need to connect theories and concepts to prior knowledge through the reading and writing process. Students learn and retain more information when they can make a connection to a previous lesson or experience.

Come learn how you can integrate reading and language arts skills into science teaching, with a focus on science concepts, vocabulary, concept mapping, expository and narrative writing, science process skills, and the scientific method. Science journals can be used on a daily basis for recording observations, writing up hands-on investigations, summarizing as a demonstration of reading comprehension, concept mapping, and responding to writing prompts. Students demonstrate knowledge in a science log, with scientific investigations, writing, and graphic organizers demonstrating their reading comprehension skills.

This method of teaching maximizes instruction time and can be used with ESE, ESOL, and various types of students with disabilities. Add your own creative touches to enhance the learning process in your own classroom.



#### Energy from the Sun (SC-4)

**Rebecca Lamb** ([rlamb@need.org](mailto:rlamb@need.org)), The NEED Project, Manassas, Va.

Level: Elementary–High School

Date/Time: Friday, November 13, 8:00–11:00 AM

Location: Atlantic Ballroom III/IV, Hilton

Limit: 75

Registration Fee: \$11

Explore the science of energy, specifically solar energy, through hands-on, age-appropriate activities from The NEED Project ([www.need.org](http://www.need.org)). First, we'll explore forms of energy and energy transformations through project-based experiments on motion and thermal, radiant, and chemical energy. Hands-on activities include collisions with happy/sad spheres; storing 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; transforming thermal energy and motion with rubber bands, live wires, and bi-metal bars; and transforming chemical energy into radiant and electrical energy with light sticks.

We'll then break into smaller groups to explore the scientific concepts of solar energy. Using solar beads, thermometers, solar balloons, solar ovens, glow toys, NaturePrint® paper, radiometers, and photovoltaic cells, we will explore the concepts of solar concentration, solar collection, and

photovoltaics. Take home resources and creative ideas for teaching solar energy at all grade levels.



#### MESSENGER and Technology Integration with Classroom Instruction That Works (SC-5)

**Brenda R. Conway** ([bconway@ms.spotsylvania.k12.va.us](mailto:bconway@ms.spotsylvania.k12.va.us)) and **Dianne Clowes**, Ni River Middle School, Spotsylvania, Va.

**Corey Peloquin** ([corey.peloquin@technosavvyteacher.com](mailto:corey.peloquin@technosavvyteacher.com)) and **Julie Ball** ([julie.ball@technosavvyteacher.com](mailto:julie.ball@technosavvyteacher.com)), Coleman Middle School, Tampa, Fla.

Level: Grades 6–12

Date/Time: Friday, November 13, 8:00 AM–12 Noon

Location: Floridian Ballroom E, Convention Center

Limit: 75

Registration Fee: \$25

Today's classroom instructional strategies need to be paired with technology tools that engage the learner, enhance instruction, and improve student achievement. Learn how Marzano's *Classroom Instruction That Works* can be aligned with technology tools to engage students and assess student learning, and try some hands-on lessons from the NASA MESSENGER education modules. Aligned with the National Science Education Standards and Benchmarks for Science Literacy, these modules focus on solar system science, solar system exploration through history, and the challenges faced by scientists and engineers when they send a spacecraft to another world. Since solar system exploration is part of every state's science standards and this is the International Year of Astronomy, these lessons offer a powerful way to meet standards while bringing current space science topics to the classroom and integrating technology that is meaningful and meets the needs of our 21st-century learners.

Leave this short course with an understanding of how to connect classroom strategies with the best technology tool to improve and assess student achievement. You'll also receive MESSENGER education modules, technology resources, and templates that can be implemented in any classroom. Bring your own laptop if you like. ([http://messenger.jhuapl.edu/why\\_mercury/index.html](http://messenger.jhuapl.edu/why_mercury/index.html); [www.technosavvyteacher.com](http://www.technosavvyteacher.com))



**Field Trips  
S-1 and  
S-2: Oleta  
River State  
Park**

—Photo courtesy of Blue Moon Outdoor Center

Tickets for field trips can be purchased (space permitting) at the Ticket Sales Counter in the NSTA Registration Area. Meet your field trip leader in the lobby in front of Hall A 15 minutes before departure time.

**Butterflies, Birds, and Wetlands: A Photographer's Delight** **\$44**

#T-1 Thursday, November 12 8:30 AM–4:00 PM

Bring your camera, binoculars, and walking shoes and join us for a day in the wild. We will start our adventure at spectacular Butterfly World ([www.butterflyworld.com](http://www.butterflyworld.com)). Butterfly World is the largest butterfly facility in the world, with more than 10 acres of aviaries and butterfly gardens as well as a butterfly farm and research facility. After lunch on our own at Butterfly World, we'll board the bus for our next destination—Green Cay Wetlands and Nature Center.

Green Cay Wetlands ([www.pbcparks.com/nature](http://www.pbcparks.com/nature)) emulate the Everglades ecosystem, with a wide expanse of marsh habitat and intermittent tree islands and cypress hammocks. After a short tour of the Nature Center, we'll stroll along an elevated boardwalk through the wetlands, viewing birds in their natural habitats and learning about native species. Then it's back to the bus for a short drive to Wakodahatchee Wetlands.

Like Green Cay, Wakodahatchee Wetlands are "created" waters—treated wastewater from Palm Beach County Water Utilities Department. The Wakodahatchee Wetlands

have attracted an abundant variety of wildlife, including turtles, frogs, alligators, and birds. More than 140 different species of birds have been spotted at the site in the various wetland zones.

**Magic School Bus Ride (Ms. Frizzle Goes Global) or How to Cook Everything Under the Sun** **\$19**

#T-2 Thursday, November 12 9:30 AM–2:30 PM

Take a magic bus ride to the Abess Center for Environmental Studies (A.C.E.S), an award-winning enrichment program at Miami Country Day School and the international headquarters for school-based solar cooker education. Not only do A.C.E.S. students construct and test their own solar cookers, they collaborate with fellow enthusiasts from around the world and are actively involved in humanitarian efforts to bring solar cookery to those lacking basic resources.

We'll observe commercially made and student-made solar cookers and enjoy some solar-cooked treats as we construct our own ovens using supplies provided on-site. We'll also visit the Abess Center for Environmental Studies lab, Leonie's Garden arboretum, student research greenhouse, and the edible children's gardens where we'll enjoy participatory activities. We will experience hands-on animal exploration and observe environmental science lessons integrated in classroom settings. Purchase lunch on your own at the school.

**Robert Krampf at Florida Power & Light Company's Energy Encounter** **\$49**

#T-3 Thursday, November 12 9:30 AM–4:30 PM

Join world-renowned "voltage" Electricity," Robert Krampf, for a high-voltage electricity show at Florida Power & Light (FPL) Company's Energy Encounter ([www.fpl.com/encounter](http://www.fpl.com/encounter)). Located at the St. Lucie Nuclear Power Plant, FPL's Energy Encounter center features over 30 exhibits offering hands-on exploration of energy, electricity, and nuclear power. Robert Krampf's popular electricity demonstration has led to appearances on CBS and CNN. We'll meet him as we board the bus and ride with him to the Energy Encounter, where he will present an amazing 45-minute show. We'll then tour the center, which plays a leading role in energy education. A box lunch is included in the ticket price. All participants will receive a membership to Krampf Science Education Company's website [thehappychemist.com](http://thehappychemist.com), enabling access to videos and experiments.





**Friday, November 13 6:00 AM–7:30 PM**

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

**Saturday, November 14 7:15 AM–2:30 PM**

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

**Anne Kolb Nature Center \$31**

#T-4 Thursday, November 12 1:00–5:30 PM

Named after a dedicated environmentalist and county commissioner from the region, the Anne Kolb Nature Center ([www.broward.org/parks](http://www.broward.org/parks)) is part of the 1,400-acre West Lake Park, one of the largest parks in Florida. The center's striking exhibit hall includes multiple displays (including a stocked 3,500-gallon aquarium) that vividly portray and explain West Lake's mangrove ecosystem and its importance.

After an engaging hands-on investigation and an eye-to-eye view of some of the park's animal residents, we'll enjoy a boardwalk nature walk, a pontoon boat ride, and an elevator ride to the top of the 68-foot observation tower. Don't forget sunglasses and bug spray for your nature walk and boat ride.

**Key Largo Snorkeling Trip \$64**

#F-1 Friday, November 13 6:00 AM–2:45 PM

Get a close-up look at the spectacular sea life that populates the Florida keys. Vibrant with color and activity, the shallow-water coral reefs of the Florida Keys National Marine Sanctuary are the only living coral reefs in North America and the third largest coral barrier reef in the world. Protection has boosted levels of game fish in the reef tract and has greatly stabilized the overall health of the sanctuary. On this snorkeling trip to John Pennekamp Coral Reef State Park, adjacent to the sanctuary, we'll get an underwater look at the amazing living coral and the sea life that populates it.

Our snorkeling tour is strictly nonscuba, and we will have about one and a half hours of water time. The Environmental Conservation Organization (ECO) will teach us about the history of the Florida Keys, the important relationship between the ocean and the Everglades, and the impact of humans on this delicate ecosystem.

All participants must know how to swim and be comfortable in water without touching the bottom (no one is allowed to stand on or touch the coral). Equipment (we get to keep our snorkels!) and a box lunch are provided in the ticket price. Be sure to bring sunscreen, sunglasses, a hat or visor, a towel, and motion sickness medication if you need it.

**ECO Key Largo Dive Trip \$128**

#F-2 Friday, November 13 6:00 AM–2:45 PM

Dive the Florida Keys with the Environmental Conservation Organization (ECO)—without being packed onto a boat like a sardine! We will dive the live coral reefs of Key Largo, as well as the famous Christ Statue, very comfortably while

searching for sea turtles, sting rays, eels, fish, and more. The Florida Keys reef tract is one of the most uniquely beautiful wild areas in the country. Protection as a National Marine Sanctuary has boosted levels of game fish and has greatly stabilized the overall health of the reef. ECO will teach us about the history of the Florida Keys, the important relationship between the ocean and the Everglades, and the impact of humans on this delicate ecosystem.

Participants must be adults and have a diver certification card on the premises. The dive shop provides the tanks and weights for this two-tank dive. Bring your own BCs, wetsuits, and regulators or rent them from the dive outfitters for a small fee. You can also bring your own masks, fins, and snorkels or borrow (for free) from the dive shop. Snacks and lunch are provided, but be sure to bring sunscreen, sunglasses, a hat or visor, a towel, and motion sickness medication if you need it.

**Kennedy Space Center \$61**

#F-3 Friday, November 13 7:30 AM–7:30 PM

Get an up-close look at NASA's launch headquarters, the Kennedy Space Center. First, we'll explore the human side of space at the U.S. Astronaut Hall of Fame®, complete with astronaut training simulators and the sights, sounds, and experiences of the famous astronauts who first ventured into the frontiers of space. Then, it's lunch with an astronaut, a one-of-a-kind experience where we'll enjoy a delicious buffet lunch, meet a veteran member of NASA's Astronaut Corps, and get his or her autograph. After our lunch, it's 3...2...1...launch! as we experience a simulated Space Shuttle launch and take an exciting journey to Earth's orbit.

We'll end the day with a tour of the Apollo/Saturn V Center, where the incredible accomplishments of the Apollo moon program come to life. All participants will receive Kennedy Space Center programs and NASA education resource materials, along with a 10% discount coupon for the gift shop.

**Fish for Life with ECO on The Reward Fleet \$77**

#F-4 Friday, November 13 7:45 AM–2:00 PM

Did you know that Florida is the fishing capital of the world? Enjoy the thrill and anticipation of landing the big one while learning about the fragile ocean ecosystem of south Florida. We'll cruise beautiful blue waters over reefs and wrecks while identifying tropical fish and learning ethical angling practices. See what lies and waits below, and



then feel the satisfaction when you let it go to live another day—this is a day of catch and release and an ethical angler’s dream. The Reward Fishing Fleet has provided Florida anglers with premier fishing experiences for 40 years, whether locating/catching small pan fish or big game fish that most sport fishermen only dream about.

Learn how you can use fishing to “reel” in students and excite them about freshwater or saltwater ecosystems as they learn how to preserve our resources. Equipment, snacks, and lunch are provided—just be sure to bring sunscreen, sunglasses, a hat or visor, and motion sickness medication if you need it.

### **Everglades Experience** **\$64**

#F-5      Friday, November 13      8:00 AM–3:00 PM

Learn the real history behind Florida’s own World Heritage Site and take the science trip of a lifetime. Join us in the world-famous Florida Everglades for an exciting hands-on, safari-type adventure at Everglades Holiday Park. Climb aboard a state-of-the-art airboat and glide over a river of grass, assessing water quality and collecting data as you go. Slog through the waters of the sawgrass prairie on foot to experience firsthand the importance of the layers of this remarkable wetland. Be prepared to identify and count birds (bring your binoculars), invertebrates, and, of course, the top predator of the Everglades food web—the alligator!

Wear old shoes with ties (socks are recommended, too), old pants, and have a long-sleeved lightweight shirt handy to prevent sawgrass cuts. Sunglasses and a hat or visor are also recommended. Teacher materials and box lunches are provided. Some areas are not wheelchair accessible.

### **Miami Seaquarium®** **\$40**

#F-6      Friday, November 13      9:00 AM–4:00 PM

Enjoy a world-class marine-life entertainment park with eight different marine animal shows. The longest operating oceanarium in the United States, the Miami Seaquarium houses fish, sharks, sea turtles, birds, and reptiles in addition to its popular marine mammals. Sea lions delight, dolphins walk on water, and killer whales fly through the air!

Education, conservation, and marine research play a prominent role in the park’s activities. Here, endangered sea turtles and manatees find a safe haven. As part of its rescue and rehabilitation efforts, the park operates a manatee rehabilitation program. Meet manatees face to face in the viewing area and then enjoy a special up-close encounter with this gentle marine mammal. Enjoy lunch on your own at one of the park’s concessions.

### **Canoeing and Kayaking at Oleta River State Park: Park Tour** **\$55**

#S-1      Saturday, November 14      7:15 AM–12 Noon

This canoe trip for beginners takes you on a two- to two-and-a-half-hour paddle through Oleta River State Park. We will paddle into Biscayne Bay through areas of vast mangrove trees, home to iguanas, great blue herons, white ibis, and falcons. If we’re lucky, we’ll get an up-close look at dolphins and manatees. We’ll then paddle around one of Miami’s famous weekend getaways, Sandspur Island, where we’ll go on a nature hike and, hopefully, find a juicy coconut to enjoy! There is a snorkeling zone on the far side of the island, so bring your goggles if you like. You can also rent masks and mouthpieces (\$5 each) from our tour provider, the Blue Moon Outdoor Center.

Guides will share a little history of the park and how it came to be. Learn the interesting and the dark side of Oleta River State Park’s beginnings. Bring sunscreen, sunglasses, a hat or visor, and insect repellent if you need it. If you plan to snorkel, be sure to bring appropriate clothing/swimsuit.

### **Canoeing and Kayaking at Oleta River State Park: Blue Marlin Fish House Tour** **\$55**

#S-2      Saturday, November 14      7:15 AM–12 Noon

Like the park tour (Field Trip S-1), this canoe trip through Oleta River State Park is for beginners; however, it requires a little more paddling without a break. Our adventure begins at the park itself, where our guides will share a little of its history. We’ll first paddle along Crazy Creek, where we’ll navigate through stands of red and white mangroves and observe the local species. Hopefully, some of the six-foot-long iguana inhabitants will be there to greet us! We will then paddle out into Biscayne Bay, where we’re likely to observe cormorants, brown pelicans, and other waterbirds common to the area.

Paddling up the Intracoastal Waterway, we’ll pass the resort community of Sunny Isles Beach. We’ll then begin our paddle through Oleta River, observing the old marina (where scenes from *Bad Boys* and *Porky’s* were shot) and, if we’re lucky, a manatee or two! Learn some of the improvements the park is making to help preserve the area. We’ll dock at the historic Blue Marlin Fish House, where we’ll learn the history of the fish house at the on-site museum. We’ll then trailer back to the park. Bring sunscreen, sunglasses, a hat or visor, and insect repellent if you need it.

## Conference Program • Meetings and Social Functions

### Wednesday, November 11

Delta Education 6–8 Meeting  
(By Invitation Only)  
Atlantic Blrm. Section II, Hilton ..... 8:00 AM–5:00 PM

Delta Education K–6 Meeting  
(By Invitation Only)  
Atlantic Blrm. Section I, Hilton ..... 8:00 AM–5:00 PM

Delta Education Luncheon  
(By Invitation Only)  
Atlantic Blrm. Section III/IV, Hilton..... 12 Noon–1:00 PM

### Thursday, November 12

CESI Board Meeting  
Dolphin, Hilton..... 3:00–9:00 PM

### Friday, November 13

Florida Association of Science Teachers (FAST) Breakfast and  
Annual Meeting  
(Tickets required: M-1; \$15)  
Grande Ballroom Salon D, Hilton..... 7:00–9:15 AM

Informal Science Networking Meeting  
Dolphin, Hilton..... 10:00 AM–12 Noon

Preservice and New Teachers Luncheon  
(Tickets required; M-2; \$12)  
Sponsored by Kendall Hunt Publishing Co.  
Grande Ballroom Salon D, Hilton..... 12 Noon–1:30 PM

National Science Education Leadership Association Open Mem-  
bership Meeting  
Dolphin, Hilton..... 2:00–3:00 PM

Student Chapter and Student Members Reception  
(By Invitation Only)  
Atlantic Blrm. Section III/IV, Hilton..... 5:00–6:30 PM

Desserts and Discovery in 3-D: An Evening at the Museum of  
Discovery and Science  
(Tickets required; M-3; \$36)  
Off-site ..... 7:00–10:00 PM

### Saturday, November 14

PreK–8 Council for Elementary Science International (CESI)  
Breakfast  
(Tickets required; M-4; \$33)  
Palm A/B, Convention Center ..... 7:30–9:00 AM

Multicultural/Equity in Science Education Committee Meeting  
(Open to All NSTA Members)  
Room 213, Convention Center ..... 9:00 AM–12 Noon

CSSS Member Meeting  
(By Invitation Only)  
Dolphin, Hilton..... 9:00 AM–2:00 PM

AMSE Board Meeting  
(By Invitation Only)  
Room 213, Convention Center ..... 12:30–2:30 PM

## Conference Program • Affiliate Sessions

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### Association for Multicultural Science Education (AMSE)

*President: Cherry C. Brewton*

#### Saturday, November 14

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8:00–9:00 AM	Strategies and Resources: Enhancing the Science Learning of Students from Underrepresented Groups in the Sciences	Room 207/208, Conv. Center
12:30–2:30 PM	AMSE Board Meeting (By Invitation Only)	Room 213, Conv. Center

### Council for Elementary Science International (CESI)

*President: Kay Atchison Warfield*

#### Thursday, November 12

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9:30–10:30 AM	CESI Make and Take	Palm B, Conv. Center
5:00–9:00 PM	CESI Board Meeting	Amberjack/Mako, Hilton

#### Friday, November 13

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9:30–10:30 AM	GEMS-U: Girls Engaged in Math and Science University— Opening the World of Math and Science to Girls	Room 203/204, Conv. Center
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#### Saturday, November 14

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7:30–9:00 AM	PreK–8 CESI Breakfast (Ticket M-4) Speakers: Shannon Parks, Alabama Dept. of Education, Montgomery; Stephanie Ann Baird, University of Alabama at Birmingham	
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### Council of State Science Supervisors (CSSS)

*President: Stephen Pruitt*

#### Saturday, November 14

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9:00 AM–2:00 PM	CSSS Member Meeting (By Invitation Only)	Dolphin, Hilton
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### National Association for Research In Science Teaching (NARST)

*President: Rick Duschl*

#### Friday, November 13

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12:30–1:00 PM	Strengths and Weaknesses of Question Analysis	Room 203/204, Conv. Center
2:00–3:00 PM	Enhancing Reform-based Preservice Elementary Science Teaching Practices Through Out-of-School-Time Teaching	Room 203/204, Conv. Center

### National Science Education Leadership Association (NSELA)

*President: Brenda Wojnowski*

#### Friday, November 13

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2:00–3:00 PM	National Science Education Leadership Association Open Membership Meeting	Dolphin, Hilton
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# Time-Starved Teachers



## *Integrate Science and Reading with Picture-Perfect Packs*

Take advantage of all-inclusive packs featuring the original *Picture-Perfect Science Lessons* and *More Picture-Perfect Science Lessons*, along with the complete collection of accompanying trade books.

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### **Picture-Perfect Science Pack**

Grades 3-6

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Stock #OK186X: Members: \$263.96 Non-members: \$329.95

Trade books only



### **More Picture-Perfect Science Pack**

Grades K-4

Stock #PAK186X2: Members: \$273.99 Non-members: \$341.99

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Stock #OK186X2: Members: \$279.96 Non-members: \$349.95

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Call 1-800-277-5300 to order by phone.

**NSTA** National  
Science  
Teachers  
Association



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## 8:00–9:00 AM Presentations

### SESSION 1



#### **Incorporating Social Networking and Gaming in the Classroom (Earth)**

(Middle Level) *Floridian Ballroom B/C, Conv. Center*

**Marjee Chmiel** ([mchmiel@jason.org](mailto:mchmiel@jason.org)), The JASON Project, National Geographic, Ashburn, Va.

The language of students today is social networking, as represented by iPhones, MySpace, and YouTube. Learn how to adapt social networking for use in the science curriculum.

### SESSION 2

#### **Integrating Science, Language Arts, Mathematics, Social Studies, and Technology Through Water Resource Education (Gen)**

(Elementary) *Grand Floridian Blrm. A, Conv. Center*

**Sally Unser** ([sunser@sjrwm.com](mailto:sunser@sjrwm.com)), St. Johns River Water Management, Palatka, Fla.

The Great Water Odyssey, a multimedia, interdisciplinary curriculum sponsored by the Southwest Florida Water Management District, integrates science and other core subjects with technology through water resource conservation and preservation lessons.

### SESSION 3

#### **NSTA NSTA Avenue Session: Is This Your First NSTA Conference? (Gen)**

(General) *Palm A, Conv. Center*

**Ken Rosenbaum**, NSTA Chapter Relations Consultant, Harrods Creek, Ky.

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. Hot beverages courtesy of Carolina Biological Supply Company.

### SESSION 4

#### **Comparison Shopping: The Best in Books (Gen)**

(General) *Room 203/204, Conv. Center*

**Juliana Texley** ([jtexley@att.net](mailto:jtexley@att.net)), Palm Beach Community College, Boca Raton, Fla.

**Suzanne M. Flynn**, Cambridge College, Cambridge, Mass.

President: Suzanne M. Flynn

Join reviewers from NSTA Recommends and the CBC committee to see how they choose the best in trade books

for children. Then share some innovative ways to use these books in the classroom. You may be surprised at what works (and what doesn't!).

### SESSION 5 (two presentations)

(General) *Room 207/208, Conv. Center*

#### **The Aquarius Undersea Laboratory: A Platform for Learning (Env)**

**Mark D. Tohulka** ([mtohulka@dadeschools.net](mailto:mtohulka@dadeschools.net)), MAST Academy High School, Miami, Fla.

Integrate the web-based resources and research of the Aquarius Laboratory into classroom instruction through the use of interdisciplinary lessons, online resources, and blogs.

#### **Biology Bob: Florida Fauna—A Musical Journey (Env)**

**Robert M. Everett** ([everett@mail.ucf.edu](mailto:everett@mail.ucf.edu)), University of Central Florida, Orlando

Join Biology Bob for a musical look at Florida animals and their environment. We'll sing songs like "Home of the Manatee" and "The Wonders of Life."

### SESSION 6

#### **NASA's High-Energy Vision: Chandra and the X-ray Universe (Earth)**

(General) *Room 209/210, Conv. Center*

**Donna L. Young** ([donna.young@tufts.edu](mailto:donna.young@tufts.edu)), The Wright Center for Science Education, Tufts University, Medford, Mass.

**Douglas A. Lombardi** ([dalombardi@interact.ccsd.net](mailto:dalombardi@interact.ccsd.net)), Southern Nevada Regional Professional Development Program, North Las Vegas

Learn the latest from NASA's Chandra X-ray Observatory concerning black holes, supernovae, colliding galaxies, stellar evolution, and the structure of the universe.

### SESSION 7

#### **A University and District Collaboration to Improve Science Instruction (Phys)**

(General) *Room 220, Conv. Center*

**Michael P. Mahan** ([michael.mahan@armstrong.edu](mailto:michael.mahan@armstrong.edu)), Armstrong Atlantic State University, Savannah, Ga.

A Teacher Quality Enhancement (TQE) grant was used to improve eighth-grade physical science instruction.



SESSION 8

**Scientific Inquiry in an Online Environment (Bio)**

(General) Room 223, Conv. Center

**Michelle Norwood** (*mnorwood@flvs.net*) and **Brooke Bess** (*bbess@flvs.net*), Florida Virtual School, Orlando

Learn some techniques to encourage scientific inquiry when students are taking an online science course.

SESSION 9

**FDA Symposium Session: Food Allergies (Gen)**

(General) Atlantic Ballroom Section II, Hilton

**Stefano Luccioli**, U.S. Food and Drug Administration, College Park, Md.

Learn about the major food allergens, the biological basis of allergic reactions, and food allergen labeling requirements from an FDA food allergy expert.

SESSION 10

**Anatomy of a Virtual Field Trip: Dissecting the Process (Env)**

(Informal Education) Grande Ballroom Salon A, Hilton

**Steve Canipe** (*steve.canipe@waldenu.edu*), Walden University, Minneapolis, Minn.

Both novice and experienced virtual field trip producers will learn how to create educational and entertaining experiences for students using available freeware.

SESSION 11 (two presentations)

(General) Grande Ballroom Salon C, Hilton

**Entertaining Technology...The Art of Design (Gen)**

**Brooke E. Detty** and **Dennis J. Foreman** (*dforeman@mail.gsn.k12.oh.us*), Zane Trace Middle School, Chillicothe, Ohio

In this cross-curricular unit, students identify a problem with a toy currently on the market and design a solution. Information is applied, analyzed, and evaluated.

**NSTA Teacher and Principal Awards and Recognitions (Gen)**

**Julie Thomas** (*julie.thomas@okstate.edu*), Oklahoma State University, Stillwater

**Amanda Upton**, Manager, Nominations and Teacher Awards Program, NSTA, Arlington, Va.

NSTA recognizes and rewards exemplary teachers and principals with cash, trips, science materials, and more. Learn how to apply!

8:00–9:00 AM Workshops



**Environmental Issues Taught with an Inquiry Approach (Env)**

(Elementary) Floridian Ballroom A, Conv. Center

**Kristi A. Zenchak** (*zenchak@oakton.edu*), Oakton Community College, Des Plaines, Ill.

**Chris M. Culen** (*cculen@district95.org*), Brook Park School, LaGrange Park, Ill.

These inquiry-based activities focus on real-world issues involving the health of the planet.

**Make Clickers Work for You: A Powerful Tool for Instruction and Assessment (Gen)**

(Middle Level–College) Grand Floridian Blrm. B, Conv. Center

**Stephanie V. Chasteen** (*stephanie.chasteen@colorado.edu*), and **Kelly Lancaster**, University of Colorado at Boulder

**Patricia J. Loeblein** (*ploeblei@jeffco.k12.co.us*), Evergreen High School, Conifer, Colo.

Learn how to use personal response systems (clickers) to increase student engagement and learning in the classroom and to assist with formative assessment.

**Earth Treasure...the Highlight of Geology! (Earth)**

(Elementary–Middle Level) Grand Floridian Blrm. C, Conv. Center

**Diane A. Vaszily** (*scieye@concentric.net*) and **Dawn Miller-Walker** (*dwalker@scienceeye.com*), Science Eye/School of Experiential Science, Southwest Ranches, Fla.

“Mine” and identify genuine minerals and gemstones using shape, color, luster, hardness, and carat value. Motivational geology!

**Muscular Physics (Phys)**

(Middle Level–College) Atlantic Ballroom Section I, Hilton

**Umadevi I. Garimella** (*ugarimel@uca.edu*) and **William Slaton** (*wvslaton@uca.edu*), University of Central Arkansas, Conway

Explore the physics of body movements. We’ll construct an arm model and apply lever mechanics to the “lifting” of various masses.

**What Affects Reaction Time? (Bio)**

(Middle Level–High School) Grande Ballroom Salon B, Hilton

**John E. Penick** (*john\_penick@ncsu.edu*), 2003–2004 NSTA President, and North Carolina State University, Raleigh

Conduct an experiment to determine reaction time under three physiological conditions and then examine the nervous pathways that are in use with each pathway.

**Teaching About Energy Resources** (Gen)  
(Middle Level–High School) Grande Ballroom Salon D, Hilton  
**David Marsland** ([marslandd@si.edu](mailto:marslandd@si.edu)) and **Juliet Crowell**,  
National Science Resources Center, Washington, D.C.  
The Smithsonian Science Education Academies for Teachers  
program provides teachers with a window on how they can  
learn about and teach topics that relate to energy resources  
and a sustainable economy.

**8:00–9:00 AM Exhibitor Workshop**

**InterActions in Physical Science: When Your Students Interact with Science They Discover** (Phys)  
(Grades 7–9) Room 305, Conv. Center

Sponsor: It's About Time

**Robert H. Poel**, Western Michigan University, Kalamazoo

Build your students' content knowledge with a structured program that provides motivating, relevant activities; expository readings; and computer simulations. At the same time you will be building students' skills in measurement, scientific thinking, cooperative learning—problem-solving skills that will help them handle the rigors of science. This innovative physical science program is targeted for grades 7–9.

## First-Time Attendee Session

### Is This Your First NSTA Conference?

*If your answer is "YES," then please join us at our first-time-conference-attendee session where we'll walk through the program and you'll learn how to get the most from your conference experience.*

Thursday, November 12

8:00–9:00 AM

Fort Lauderdale

Convention Center

Palm A

*This session is generously supported by Carolina Biological Supply Company.*

**CAROLINA**  
World-Class Support for Science & Math

**NSTA** National Science Teachers Association

## 8:00–9:15 AM Exhibitor Workshops

### A Closer Look at Biology, Chemistry, and Earth Science Virtual Labs (Gen)

(Grades 6–12)

Room 113, Conv. Center

Sponsor: Frey Scientific/School Specialty Science

**Carole Andreasson, Ken Rainis, Lisa Bowman, and Vince Zaccardi**, Frey Scientific/School Specialty Science, Naperville, Ill.

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 on-screen and view, record, analyze, and report results. Ideas to create custom web content and individualized assessment also provided. Participants receive various software samplers.

### Experimental Design (Gen)

(Grades 1–6)

Room 114, Conv. Center

Sponsor: Delta Education/School Specialty Science

**Johanna Strange**, Consultant, Richmond, Ky.

**Tom Graika**, Consultant, Lemont, Ill.

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 will be provided.

### Force! Momentum! Energy Kids Discover More with the STC Program™: Motion and Design (Phys)

(Grades 4–6)

Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Carolina Teaching Parnter**

Learn how this hands-on unit helps students explore force, momentum, and energy, and how design affects motion, all while using K’NEX® pieces. We’ll start with an overview of the NSRC-developed STC Program. Participants will also learn how literacy connects with these science units.

### Building Inquiry with BSCS Biology: A Human Approach (Bio)

(Grades 9–12)

Room 221, Conv. Center

Sponsor: Kendall Hunt Publishing Co.

**Brooke Bourdelat-Parks**, Kendall Hunt Publishing Co., Dubuque, Iowa

This book is based on inquiry-based activities and constructivist learning strategies. Students 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, and communicating their explanations are valuable skills.

### Experience Digital Physics Curriculum (Phys)

(Grades 9–College)

Room 301, Conv. Center

Sponsor: Kinetic Books

**Mark Bretl** ([markb@kbooks.com](mailto: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.

### EDVOTEK Biotechnology—Teaching DNA Forensics (Bio)

(Grades 6–College)

Room 302, Conv. Center

Sponsor: EDVOTEK

**Jack Chirikjian** ([info@edvotek.com](mailto:info@edvotek.com)), EDVOTEK, Bethesda, Md.

Learn how to teach students this 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)!

### Inquiring with Interactive Science (Gen)

(Grades 6–8)

Room 304, Conv. Center

Sponsor: Pearson

**Zipporah Miller**, Author, Bowie, Md.

More inquiry in more places, whether you’re a lab-oriented teacher or a textbook-focused teacher. We will show you a variety of hands-on/minds-on inquiry options to keep all your students engaged.



**8:00–9:30 AM Exhibitor Workshop**

**Chemistry and the Atom: Fun with Atom-building Games! (Chem)**

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Erik Benton**, CPO Science/School Specialty Science, Nashua, N.H.

Our understanding of matter is so abstract that students have a hard time making sense of these fascinating concepts. In this workshop, you will experience innovative games and activities that give students with different learning styles opportunities to explore and grasp atomic structure and the periodic table.

**8:00–11:00 AM Exhibitor Workshop**

**Using Science Notebooks with FOSS Middle School (Gen)**

(Grades 5–8) Room 118/119, Conv. Center

Sponsor: Delta Education/School Specialty Science–FOSS

**Chris Sheridan**, Consultant, Sammamish, Wash.

**Virginia Reid**, Consultant, Olympia, Wash.

**Jessica Penchos**, Lawrence Hall of Science, University of California, Berkeley

Learn about the benefits of science notebooks by engaging in proven strategies for helping students produce effective notebooks. Presented in the context of a FOSS middle school investigation, participants will experience the notebook as a learning tool, a vehicle for communication, and an assessment and reflection medium. Sample materials provided.

# Project Learning Tree

**Critical thinking for students,  
critical resource for educators.**

Environmental education activities and service-learning grants for PreK-12.

New materials on Forests of the World, Biotechnology, and Places We Live.

PLT curriculum is aligned to state and national science standards.



*Imagine a classroom  
where the homework  
is saving the planet!*



**Get PLT materials at NSTA**

Stop by Exhibit Booth 512

Participate in PLT sessions:

Thurs, Nov 12, 12:30-1:30pm ~ PLT's Exploring Environmental Issues: Places We Live (Hilton Fort Lauderdale Marina, Grande Ballroom Salon B)

Fri, Nov 13, 11am-12pm ~ Global Connections: Forests of the World (Convention Center, Grand Floridian Ballroom C)

Sat, Nov 14, 11am-12pm ~ *GreenSchools!* (Convention Center, Floridian Ballroom A)

Contact your state PLT Coordinator.

[www.plt.org](http://www.plt.org)



## 9:00–11:00 AM Exhibitor Workshop

### Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level (Gen)

(Grades 2–6)

Room 125, Conv. Center

Sponsor: Delta Education/School Specialty Science—Seeds  
**Carrie Strohl, Jen Tilson, Jonathan Curley, Suzy Loper,** and **Traci Wierman**, Lawrence Hall of Science, University of California, Berkeley

Learn about a new program that enables you to increase the amount of time for science in the crowded curriculum by addressing science and literacy standards simultaneously. Hands-on activities, specially written science books, and compelling research will be shared. Walk away with samples from the Variation and Adaptation unit.

## 9:30–10:30 AM Presentations

### SESSION 1



#### Learn How to Use NOAA's Climate Change Resources in Your Classroom (Earth)

(General)

Floridian Ballroom A, Conv. Center

**Kirk Beckendorf** ([kirk.beckendorf@noaa.gov](mailto:kirk.beckendorf@noaa.gov)), Einstein Fellow, NOAA, Washington, D.C.

Enhance your students' understanding of climate change using NOAA's curriculum activities and high-interest research materials surrounding this critical topic.

**Glenda Garrett** ([garrettg@palmbeach.k12.fl.us](mailto:garrettg@palmbeach.k12.fl.us)), Roosevelt Elementary School, West Palm Beach, Fla.

School principals share effective strategies for building and sustaining research-based elementary science programs that emphasize teacher leadership and curriculum integration and planning.

### SESSION 2



#### Tapping into the Digital Revolution: Revolutionizing Science Education for the 21st-Century Student (Gen)

(General)

Floridian Ballroom B/C, Conv. Center

**Corey Peloquin** ([corey.peloquin@technosavvyteacher.com](mailto:corey.peloquin@technosavvyteacher.com)) and **Julie Ball** ([jball@coleman.k12.va.us](mailto:jball@coleman.k12.va.us)), Coleman Middle School, Tampa, Fla.

**Brenda Conway** ([bconway@ms.spotsylvania.k12.va.u](mailto:bconway@ms.spotsylvania.k12.va.u)), Ni River Middle School, Spotsylvania, Va.

Digitize your curriculum and foster an educational community using a variety of methods that have been teacher tested and student approved.

### SESSION 4

#### The Cleveland Math and Science Partnership: Building Partnerships to Improve Teacher Quality and Student Outcomes (Gen)

(Elementary–College/Supv.) Grand Floridian Blrm. D, Conv. Center

**Bill Badders** ([baddersw@cmsdnet.net](mailto:baddersw@cmsdnet.net)), Cleveland (Ohio) Metropolitan School District

**Julie Gielow** ([julie.a.gielow@cmsdnet.net](mailto:julie.a.gielow@cmsdnet.net)), H. Barbara Booker K–8 Academy, Cleveland, Ohio

The Cleveland Metropolitan School District, with funding from the National Science Foundation, has developed and sustained a partnership with John Carroll University, Cleveland State University, Case Western Reserve University, and the Education Development Center focused on improving teacher quality through rigorous university coursework and a content-based mentoring program. We'll share lessons learned.

### SESSION 3

#### The "Principal" Difference: Leadership for Building a Quality Elementary Science Program (Gen)

(Elementary/Supervision) Grand Floridian Blrm. A, Conv. Center

**Nancy R. Romance** ([romance@fau.edu](mailto:romance@fau.edu)), Florida Atlantic University, Boca Raton

**Elaine Persek** ([persek@palmbeach.k12.fl.us](mailto:persek@palmbeach.k12.fl.us)), Lantana Elementary School, Lantana, Fla.

**Steve C. Sills**, Melaleuca Key Elementary School, West Palm Beach, Fla.

**Fred J. Barch** ([barch@palmbeach.k12.fl.us](mailto:barch@palmbeach.k12.fl.us)), Pine Jog Elementary School, West Palm Beach, Fla.

### SESSION 5

#### FDA Symposium Session: Elementary-Level Food Safety Curriculum (Gen)

(General)

Grande Ballroom Salon C, Hilton

**Laurie A. Hayes** ([lhayes@cart.org](mailto:lhayes@cart.org)), Center for Advanced Research and Technology, Clovis, Calif.

Come learn about elementary-level food safety curricula. Free curricula provided to attendees.

**SESSION 6****NASA's GLOBE Program: A U.S. Regional GLOBE Networking Session (Env)***(General)* Crystal Ballroom Salon I, Hyatt

Teresa J. Kennedy, University Corporation for Atmospheric Research, Boulder, Colo.

Nandini McClurg (*mcclurg@globe.gov*), Colorado State University, Fort Collins

GLOBE (Global Learning and Observations to Benefit the Environment) involves primary and secondary students from 110 countries who collaborate on inquiry-based scientific research investigations. Join us for a networking session.

**SESSION 7****Bringing the Amazing High-Energy Universe into Focus (Phys)***(High School)* Crystal Ballroom Salon II, HyattWilliam D. Panczner (*pangea@tampabay.rr.com*), W.L. Sickles High School, Tampa, Fla.

NASA's Earth-orbiting telescope NuSTAR is scheduled for launch in 2011. Explore NuSTAR science with hands-on classroom activities. Handouts.

**9:30–10:30 AM Workshops****Using Biofuels as a Context for Teaching About Energy (Gen)***(Elementary–Middle Level)* Room 209/210, Conv. CenterPatricia A. Doney (*patdoney@uga.edu*), University of Georgia, AthensSuzanne P. Kral (*spk@cdmfun.org*), Creative Discovery Museum, Chattanooga, Tenn.

Connect environmental issues to the NSES and current science research. We'll focus on inquiries into biofuels as energy sources of the future.

**Florida Ag in the Classroom (Env)***(Elementary–High School)* Floridian Ballroom D, Conv. CenterCindy R. Griffin (*cynthia.griffin@browardschools.com*), Broward Public Schools, Fort Lauderdale, Fla.

President: Mark Soddors, Florida Farm Bureau, Pahokee

The Ag in the Classroom curriculum explores Florida's multifaceted agricultural system and its relationship to the environment.

**Watching the Weather in Primary Classrooms****(Earth)***(Preschool/Elementary)* Grand Floridian Blrm. B, Conv. CenterSharon Kelley (*kelleys@osceola.k12.fl.us*) and Diane King (*kingd@osceola.k12.fl.us*), School District of Osceola County, Kissimmee, Fla.

Explore some weather-related investigations for primary classrooms, including activities on wind, clouds, and precipitation.

**Visualizing Our Planet's Future (Env)***(Elementary–Middle Level)* Grand Floridian Blrm. E, Conv. CenterLisa Dizengoff (*ldizengoff@pinescharter.com*), Marisabel Soliman, and Sara M. Rivera (*sarivera@pinescharter.com*), Pembroke Pines Charter Elementary School, Pembroke Pines, Fla.

President: Lisa Dizengoff

Climate change is the greatest environmental challenge facing the world. Schools play a special role in helping students understand the causes and impacts of our changing environment.

**Cross-curricular Instruction Engages Students and Improves Performance (Gen)***(General)* Grand Floridian Blrm. C, Conv. CenterMarsha S. Winegarner (*equscied@defuniak.com*), K–12 Science Program Specialist, DeFuniak Springs, Fla.

Learn some techniques to guide instruction across the curriculum. We'll also look at content standards and teaching standards.

**Keeping Science Simple: Hands-On Science in Minutes (Gen)***(Preschool/Elementary)* Grand Floridian Blrm. F, Conv. Center

Arlene H. Manville, Chapel Trail Elementary School, Pembroke Pines, Fla.

Twelve simple science activities for primary students in 30 minutes or less! The first 50 participants receive complete lesson packets.

**CESI Session: Make and Take (Gen)**  
(General) *Palm B, Conv. Center*

**Cheryl W. Sundberg** (*sundbergc@att.net*), Millbrook, Ala.  
**Kay Atchison Warfield**, CESI President, and Alabama  
Dept. of Education, Montgomery

**Shannon E. Parks**, Alabama Dept. of Education, Mont-  
gomery

**Mary Beth Katz** (*mbkatz@bellsouth.net*), Alabama Science  
Teachers Association, Birmingham

**Barbara Z. Tharp** (*btharp@bcm.edu*), Baylor College of  
Medicine, Houston, Tex.

**Margaret Dee** (*drpeggydee@verizon.net*) and **Renee G.  
O’Leary**, Caravel Academy, Bear, Del.

**Mary Lara**, DeMiguel Elementary School, Flagstaff, Ariz.

**Jeannelle Day** (*dayj@easternct.edu*), Eastern Connecticut  
State University, Willimantic

**John McFarland** (*johanneskepler@att.net*), Johannes Kepler  
Project, Charleston, S.C.

**Alan J. McCormack** (*amccorma@mail.sdsu.edu*), NSTA  
President-Elect, and San Diego State University, San Diego,  
Calif.

**William J. Sumrall**, The University of Mississippi, Uni-  
versity, Miss.

**Betty Crocker** (*crocker@unt.edu*), University of North  
Texas, Denton

Presider: Renee G. O’Leary

Join exemplary teachers around the globe for science engage-  
ments to stimulate student learning and to network with  
other teachers. All participants will receive a CD or hard  
copy of lessons.

**Thirty-Minute Labs with Maximum Results (Earth)**  
(Middle Level) *Atlantic Ballroom Section I, Hilton*

**Michael Apfeldorf** (*info@jason.org*), The JASON Project,  
National Geographic, Ashburn, Va.

The JASON Project connects students with Great Explorers  
and Great Events. Come explore Monster Storms through  
hands-on labs and an online storm tracker video game!

**Turn It On: Inquiry and Literacy as Natural Part-  
ners (Gen)**

(Middle Level) *Grande Ballroom Salon B, Hilton*

**Pam Caffery** (*pamela.caffery@sdhc.k12.fl.us*) and **Mary  
Rafferty** (*mary.rafferty@sdhc.k12.fl.us*), Hillsborough County  
Public Schools, Tampa, Fla.

Learn how scientific inquiry and literacy can be married in  
this inquiry lab on electricity.

**Cosmic Rays in the Classroom (Phys)**

(High School–College) *Crystal Ballroom Salon III, Hyatt*

**Julie Callahan** (*julie@cosmic.utah.edu*), University of Utah,  
Salt Lake City

Join ASPIRE and learn how to make a tabletop cloud cham-  
ber. Students can observe cosmic-ray ionization tracks with  
this experiment. Visit <http://aspire.cosmic-ray.org> for more  
information.

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## 9:30–10:30 AM Exhibitor Workshop

**American Geological Institute: Whom Else Would  
You Ask About Earth Science? (Env)**

(Grades 6–12) *Room 305, Conv. Center*

Sponsor: It’s About Time

**Tom Custer**, It’s About Time, Armonk, N.Y.

Participate in activities and real-world Investigating Earth  
Systems and EarthComm challenges that have been devel-  
oped for middle and high school students by the education  
experts at the American Geological Institute. This workshop  
will include overviews of both programs, web links, materi-  
als, and professional development opportunities.

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## 10:00–11:15 AM Exhibitor Workshops

**Introducing Inquiry Investigations™: Hands-On  
Inquiry Activities Focusing on Technology (Gen)**

(Grades 7–10) *Room 113, Conv. Center*

Sponsor: Frey Scientific/School Specialty Science

**Carole Andreasson, Ken Rainis, Lisa Bowman, and  
Vince Zaccardi**, Frey Scientific/School Specialty Science,  
Naperville, Ill.

Explore this new active learning science series that is geared  
for students in grades 7–10. See how technology and inquiry  
help students understand essential science content in 10 sci-  
ence areas: Forensics, Physical Science, Cellular World, Bio-  
technology, Genetics, Life’s Kingdoms, Environmental Issues  
and Solutions, Chemistry, Earth’s Resources, and Human  
Biology. Participants receive various software samplers.



**Inquiry and Literacy: Grades 5–8 (Gen)***(Grades 5–8) Room 114, Conv. Center*

Sponsor: Delta Education/School Specialty Science

**Johanna Strange**, Consultant, Richmond, Ky.**Tom Graika**, Consultant, Lemont, Ill.

Participate in investigations involving magnetism and electricity to learn how to turn guided investigations into challenge investigations and open inquiries. Participants will also learn how to extend science knowledge and skills through Delta literacy connections that improve language arts skills. Receive a resource packet and related Delta products.

**“Finding Solutions” for Your Chemistry Labs with Carolina’s New Inquiries in Science™ Chemistry Units (Chem)***(Grades 9–12) Room 124, Conv. Center*

Sponsor: Carolina Biological Supply Co.

**Kelly Branchaud**, Carolina Biological Supply Co., Burlington, N.C.

Increase student understanding of difficult concepts such as solubility, freezing point, boiling point, molar mass, and pressure by using a guided inquiry approach. Carolina’s Inquiries in Science chemistry units provide hands-on activities and supplies that make teaching challenging topics effortless. Free teacher materials and door prizes.

**Evidence for the Ice Ages: An Inquiry Approach (Earth)***(Grades 9–12) Room 221, Conv. Center*

Sponsor: Kendall Hunt Publishing Co.

**Brooke Bourdelat-Parks**, Kendall Hunt Publishing Co., Dubuque, Iowa

*BSCS Science: An Inquiry Approach* is a three-year, multidisciplinary program for high school based on inquiry-based activities and constructivist learning strategies. Students learn content by asking questions, conducting experiments, gathering data, and forming explanations. Participate in activities designed to help students explain the evidence for ice ages.

**Learning Chemistry with Software for Molecular-Level Visualization (Chem)***(Grades 9–College) Room 301, Conv. Center*

Sponsor: Wavefunction, Inc.

**Jurgen Schnitker** (*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.

**Inquiry in the Chemistry Classroom (Chem)***(Grades 9–12) Room 304, Conv. Center*

Sponsor: Pearson

**Ed Waterman**, Retired Educator, Fort Collins, Colo.

Join high school teacher and author Ed Waterman to explore simple, yet effective ways to teach chemistry through inquiry using small-scale labs and virtual chemistry laboratory. Learn effective and time-efficient ways to allow students to design and carry out experiments to solve problems while learning chemistry content.

**Promote Inquiry Using Demonstrations (Chem)***(Grades 9–12) Room 315, Conv. Center*

Sponsor: Flinn Scientific, Inc.

**Scott Stahler**, Flinn Scientific, Inc., Batavia, Ill.

Looking for ways to incorporate more inquiry-based experiments in your chemistry class? 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 were developed based on these demonstrations.

### 10:00–11:30 AM Exhibitor Workshop

#### Genetics: Crazy Traits and Adaptation Survivor (Bio)

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Scott Eddleman**, CPO Science/School Specialty Science, Nashua, N.H.

Students learn new vocabulary when they study genetics, including traits, alleles, and genotypes. How can you predict the traits of offspring when you know the genetic makeup of the parents? These ideas will come alive as you create crazy creatures with a unique kit, and study the resulting population.

### 11:00–11:10 AM Exhibits Opening/Ribbon Cutting Ceremony

*NSTA Exhibits Entrance, Hall A, Conv. Center*

Presider: Pat Shane, NSTA President, and The University of North Carolina at Chapel Hill

Musical Entertainment: New River Middle School Jazz Band under the direction of Ronald Jules

Special Guests: Pat Shane; Page Keeley, NSTA Retiring President, and Maine Mathematics and Science Alliance, Augusta; Alan J. McCormack, NSTA President-Elect, and San Diego State University, San Diego, Calif.; Tom Medcalf, Chairperson, NSTA Fort Lauderdale Area Conference, President, Florida Association of Science Teachers, and Palm Beach County School District, West Palm Beach, Fla.; Peggy Cook, Program Coordinator, NSTA Fort Lauderdale Area Conference, and Lake Worth Middle School, Lake Worth, Fla.; J.P. Keener, Local Arrangements Coordinator, NSTA Fort Lauderdale Area Conference, and School Board of Broward County, Fort Lauderdale, Fla.; Kelly Price, NSTA Director, District V, and Forsyth County Schools, Cumming, Ga.; Francis Q. Eberle, NSTA Executive Director, Arlington, Va.

### 11:00 AM–12 Noon Exhibitor Workshop

#### Project-Based Inquiry Science (PBIS): A New Generation of Life, Earth, and Physical Science (Bio)

(Grades 6–8) Room 305, Conv. Center

Sponsor: It's About Time

**Mary Lynn Jensen**, It's About Time, Orlando, Fla.

PBIS teachers tell us they've "never seen students this excited about science." Watch what happens when students get a chance to flex their creative muscles on projects that they care about—the excitement is contagious...and the learning is sustained.

### 11:10 AM–5:00 PM Exhibits

*Exhibit Hall A, Conv. Center*

Come see the most up-to-date science textbooks, software, equipment, and other teaching materials. Some exhibitors will offer materials for sale.

### 11:30 AM–1:00 PM Exhibitor Workshop

#### Taking Science Outdoors with FOSS K–8 (Bio)

(Grades K–8) Room 118/119, Conv. Center

Sponsor: Delta Education/School Specialty Science–FOSS  
**Erica Beck Spencer** and **Joanna Snyder**, Lawrence Hall of Science, University of California, Berkeley

Learn about the ground-breaking work done by the Boston Schoolyard Initiative (BSI) and other projects. Explore how to use effective strategies to engage children in powerful science learning experiences in their own schoolyards and local outdoor environments. Participants will go outside, so dress accordingly. Sample materials provided.

### 11:30 AM–1:30 PM Exhibitor Workshop

#### Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level (Gen)

(Grades 2–6) Room 125, Conv. Center

Sponsor: Delta Education/School Specialty Science–Seeds  
**Carrie Strohl**, **Jen Tilson**, **Jonathan Curley**, **Suzy Loper**, and **Traci Wierman**, Lawrence Hall of Science, University of California, Berkeley

Learn about a new program that enables you to increase the amount of time for science in the crowded curriculum by addressing science and literacy standards simultaneously. Hands-on activities, specially written science books, and compelling research will be shared. Walk away with samples from the Variation and Adaptation unit.

**12 Noon–1:15 PM Exhibitor Workshop**

**Educational Science Lab Design and Implementation for the 21st Century Made Easy (Gen)**

(Grades K–12) Room 113, Conv. Center

Sponsor: Frey Scientific/School Specialty Science

**Gordon Strohminger** and **John Flockenzier**, Frey Scientific/School Specialty Science, Mansfield, Ohio

Explore the process of designing and implementing educational science labs. See how technology and room design can push conventional boundaries to help students better understand science concepts. We'll discuss the lab design process, furniture and equipment basics, safety and accessibility, integration of technology, and 21st-century trends. Participants receive *Lab Planning* CD and *Implementation Guide*.

**12 Noon–1:30 PM Exhibitor Workshop**

**Collision Physics: A Smashing Good Time! (Phys)**

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Patsy Eldridge**, CPO Science/School Specialty Science, Nashua, N.H.

What happens when you launch a car on a track system and hit another car? You can change the force used to launch the moving car and the mass of both the moving car and target car. See how concepts can meet mathematics and accurate data collection in a SMASHING investigation.

Age is just a number.  
Life is what you make of it.



The NSTA Retired Advisory Board invites you to a vibrant and useful information-sharing session. Join your fellow colleagues and share your ideas about staying active both in and out of the profession.

**Before and After Retirement:  
Practicalities and Possibilities**

Thursday, November 12, 2009

12:30–1:30 PM

Fort Lauderdale Convention Center

Room 203/204

For information on the Retired Members Advisory Board, contact Marily DeWall, chair, at [mdewall@cox.net](mailto:mdewall@cox.net).

NATIONAL  
SCIENCE  
TEACHERS  
ASSOCIATION **NSTA**

12:30–1:00 PM Presentations

SESSION 1



**The Embattled Estuary: Combining Research and Education to Preserve the Indian River Lagoon**

(Env)

(General) *Floridian Ballroom A, Conv. Center*

**Cristin S. Ryan** (*ryanc@si.edu*), Smithsonian Marine Station, Fort Pierce, Fla.

Learn how Smithsonian scientists and educators are working to protect the most diverse estuary in North America. Giveaways include activity books and posters.

SESSION 2

**A “Novel” Approach to Science Literacy: Using Popular Fiction to Teach Life Science Concepts** (Bio)

(High School)

*Crystal Ballroom Salon II, Hyatt*

**Kimberlie L. Forgey** (*forgey@palmbeach.k12.fl.us*) and **Kane More** (*morek@palmbeach.k12.fl.us*), West Boca Raton Community High School, Boca Raton, Fla.

Spark student interest by integrating fiction into your curriculum. We’ll share tips for selecting books, tailoring assignments to student reading levels, and assessing student comprehension.

12:30–1:30 PM Presentations

SESSION 1

**FAST Online Science Professional Development Grants for Teachers** (Gen)

(Elementary–High School) *Grand Floridian Blrm. A, Conv. Center*

**Thomas M. Medcalf** (*medcalf@palmbeach.k12.fl.us*), Chairperson, NSTA Fort Lauderdale Area Conference, Florida Association of Science Teachers, and Palm Beach County School District, West Palm Beach, Fla.

The Florida Association of Science Teachers (FAST) provides scholarship grants for online professional development through the NSTA Learning Center. Every FAST member is eligible to apply for a year’s subscription to SciPacks, comprehensive, inquiry-based science courses developed by NSTA for teachers.

**Herbert K. Brunkhorst** California State University, San Bernardino

**Kathy Norman** (*knorman@csusm.edu*), California State University, San Marcos

**Erica M. Brownstein** (*ebrownst@capital.edu*), Capital University, Columbus, Ohio

**Francis Q. Eberle** (*feberle@nsta.org*), NSTA Executive Director, Arlington, Va.

**Elizabeth Allan** (*eallan@uco.edu*), University of Central Oklahoma, Edmond

**Jon Pedersen** (*jep@unl.edu*), ASTE President, and University of Nebraska–Lincoln

This presentation will provide the status and draft of the revisions of the NSTA Science Teacher Preparation standards used in the accreditation process.



SESSION 2

**NSTA Press Session: Fiction, Fact, and Fun** (Gen)

(Preschool/Elementary) *Grand Floridian Blrm. D, Conv. Center*

**Marianne Berkes** (*mberkesbooks@aol.com*), Children’s Author, Hobe Sound, Fla.

Marianne Berkes’s award-winning picture books entertain and educate. Because she blends fiction with nonfiction, they are a valuable resource at any grade level. Come prepared for a lively session filled with innovative ways to expand students’ reading experiences in science and other core subjects. For more information, visit [www.marianneberkes.com](http://www.marianneberkes.com).

SESSION 4

**Science Olympiad Fun Day for Grades K–5** (Gen)

(General)

*Palm B, Conv. Center*

**Kelly R. Price** (*price\_kel@yahoo.com*), NSTA Director, District V, and Forsyth County Schools, Cumming, Ga.

Turn your elementary students into raving fans of science by hosting a Science Olympiad Fun Day! Come get all the details.

SESSION 3

**Revising the NSTA Preservice Teacher Program Standards** (Gen)

(College)

*Palm A, Conv. Center*

**David A. Wiley** (*david.wiley@jr.edu*), NSTA Director, Preservice Teacher Preparation, and Lenoir-Rhyne University, Hickory, N.C.

SESSION 5

**Before and After Retirement: Practicalities and Possibilities** (Gen)

(General)

*Room 203/204, Conv. Center*

**Howard Wahlberg** (*hwahlberg@nsta.org*), Assistant Executive Director, Member, Chapter, and Customer Relations, NSTA, Arlington, Va.

The NSTA Retired Advisory Board invites you to this information-sharing session. Join your fellow colleagues to share ideas about staying active in and out of the profession.



## SESSION 6

**NSTA** NSTA Avenue Session: More and Muir Tech Tips for Teaching About a Greener Tomorrow (Env)

(Elementary–Middle Level) Room 207/208, Conv. Center  
**Lance Rougeux** ([lance\\_rougeux@discovery.com](mailto:lance_rougeux@discovery.com)), Discovery Education, Silver Spring, Md.

Help your students change the world every day using the digital tools they love, including customized placemarks in Google Earth, digital posters with Glogster, virtual labs about alternative energy sources, and digital storytelling projects with a green screen. We'll also look at the free resources available through the Siemens We Can Change the World Challenge, the first-of-its-kind national K–12 student sustainability competition.

## SESSION 7

## Four Predictors of Success on the FCAT (Chem)

(General) Room 209/210, Conv. Center

**Vladimir Baldelomar** ([baldelom@nova.edu](mailto:baldelom@nova.edu)), University School of Nova Southeastern University, Fort Lauderdale, Fla.

My study suggests that effective use of technology in the classroom is as critical for FCAT success as preparation in English, mathematics, and science.

## SESSION 8

## Outstanding Print Resources, Science Literacy Skills, and Hands-On Investigations: Don't Settle for One Without the Others! (Gen)

(General) Room 220, Conv. Center

**Donna L. Knoell** ([dknoell@sbcglobal.net](mailto:dknoell@sbcglobal.net)), Educational Consultant, Shawnee Mission, Kans.

I'll share an instructional model that encompasses science content, literacy skills, and hands-on investigations. We'll look at outstanding print resources, literacy strategies, and investigative opportunities that follow naturally from these resources.

## SESSION 9

## The Fairchild Challenge: Competitive, Multidisciplinary Environmental Education (Gen)

(General) Room 223, Conv. Center

**Alexandra Forrester** ([aforrester@fairchildgarden.org](mailto:aforrester@fairchildgarden.org)) and **Caroline Lewis** ([calewis@fairchildgarden.org](mailto:calewis@fairchildgarden.org)), Fairchild Tropical Botanic Garden, Coral Gables, Fla.

Fairchild Gardens Challenge is an exceptional middle/high school program that taps environmentally focused creativity and curiosity for students—check out our how-to fascination index!

## SESSION 10

## FDA Symposium Session: Investigating Outbreaks (Gen)

(General) Atlantic Ballroom Section II, Hilton

**Sherri McGarry**, U.S. Food and Drug Administration, College Park, Md.

Learn how FDA investigates outbreaks of foodborne illness. Hear how FDA scientists do detective work following food along the trail from farm to table.

## SESSION 11

## Engaging Online Science Interactions: Another "Last, Best Chance" for Adolescents (Gen)

(Middle Level) Dolphin, Hilton

**Peter Rillero**, Arizona State University West, Phoenix  
 Move past online videos! I'll share a variety of virtual science education experiences available on the internet free or at low cost.

## SESSION 12

## Hands Across the Rain Forest (Env)

(Middle Level) Grande Ballroom Salon A, Hilton

**Juliana Texley** ([jtexley@att.net](mailto:jtexley@att.net)), Palm Beach Community College, Boca Raton, Fla.

**Marilyn DeWall** ([mdewall@cox.net](mailto:mdewall@cox.net)), Chair, Retired Members Advisory Board, Newport News, Va.

Join a unique partnership between U.S. and Peruvian teachers in remote areas of the rain forest where environmental science is a new topic.

## SESSION 13

## Curriculum Mapping: Analyzing Affective Results and the Implications of Change (Gen)

(General) Grande Ballroom Salon C, Hilton

**Joyce M. Gleason**, Educational Consultant, Punta Gorda, Fla.

How can curriculum be planned as a coherent whole? We'll examine the process of curriculum mapping and how it can be applied in your own school.

## SESSION 14

## Award-winning Inquiry Lab Activities for High School Biology (Bio)

(High School) Crystal Ballroom Salon III, Hyatt

**Ron Thompson** ([thompsonron@mac.com](mailto:thompsonron@mac.com)), Puget Sound Educational Service District, Mercer Island, Wash.

These three high-interest lab activities (temperature and bioluminescence, ecological relationships in a pond, and ascension of water within plants) give students experience in hypothesis formation, experimental design, data collection, and interpretation.

### 12:30–1:30 PM Workshops

#### **Integrating Science Across the Disciplines via Exploration of Patterns in Nature (Gen)**

(General) Grand Floridian Blrm. B, Conv. Center

**Diana Wehrell-Grabowski** (*drdianascience@bellsouth.net*), Mobile Science Education, Cocoa Beach, Fla.

Integrate science across the disciplines by exploring specimens from the natural world using eye loupes, magnifying lenses, and microscopes.

#### **Shrink the Mini-Board, Keep the Pizzazz! (Gen)**

(General) Grand Floridian Blrm. C, Conv. Center

**Annmargareth S. Marousky** (*annmargareth.marousky@browardschools.com*) and **Annischa R. McKenzie** (*annischa.mckenzie@browardschools.com*), Nova Dwight D. Eisenhower Elementary School, Davie, Fla.

Ditch the big board and focus on the science! This presentation strategy combines the essentials of a good science experiment and a make-and-take foldable known as a Mini-Board.

#### **Magical Illusions Workshop for K–8 Teachers (Gen)**

(Preschool–Middle Level/Inf.) Grand Floridian Blrm. E, Conv. Center

**Alan J. McCormack** (*amccorma@mail.sdsu.edu*), NSTA President-Elect, and San Diego State University, San Diego, Calif.

Storylines, discrepant events, and magic develop concepts in both physical and biological sciences, pique children's interest and imagination, and build creative and logical-thinking skills.

#### **Developing a Healthy Sense of Skepticism: Madison Avenue Exposed (Gen)**

(Elementary–High School) Grand Floridian Blrm. F, Conv. Center

**Bill Metz** (*wmetzgolf@aol.com*), Retired Educator, Fort Washington, Pa.

**Julia T. Gooding** (*chemteacher007@aim.com*), Science Education Consultant, Monaca, Pa.

See how clever manipulation of data and marketing strategies apply to your science classroom.

#### **Energy and Climate (Env)**

(Middle Level–High School) Atlantic Ballroom Section I, Hilton

**Rebecca Lamb** (*info@need.org*), The NEED Project, Manassas, Va.

Use hands-on activities to explore energy's role in the carbon cycle and climate change.

#### **PLT's Exploring Environmental Issues: Places We Live (Env)**

(General) Grande Ballroom Salon B, Hilton

**Al Stenstrup** (*astenstrup@forestfoundation.org*) and **Jackie Stallard** (*jstallard@forestfoundation.org*), American Forest Foundation, Washington, D.C.

What environmental issues are impacting your community? Project Learning Tree's secondary module Exploring Environmental Issues: Places We Live allows students to investigate changes in their local communities. Take home a copy of the module.

#### **Igniting Curiosity Through Discrepant Events (Gen)**

(General) Grande Ballroom Salon D, Hilton

**David F. Mastie** (*mastie@umich.edu*), Retired Educator, Chelsea, Mich.

**Parker O. Pennington IV** (*parkiv@umich.edu*), Retired Educator, Ann Arbor, Mich.

Capture your students' attention with 12 science surprises integrating life, physical, and earth sciences. These amazing discrepant events are inexpensive, simple, and safe and have universal K–12 appeal.

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### 12:30–1:30 PM Exhibitor Workshop

#### **Active Physics® Third Edition: Newly Revised with More Content, More Math, More Physics (Phys)**

(Grades 9–12) Room 305, Conv. Center

Sponsor: It's About Time

**Arthur Eisenkraft**, 2000–2001 NSTA President, and University of Massachusetts, Boston

Join us as we perform a series of guided inquiry activities that prepare students to do a voice-over of a sports video and explain the physics of the action appearing on the screen. Watch what happens to the quality of students' work when they take ownership of real-world scientific challenges that matter to them. Leave with a practical hands-on activity you can do in your own classroom.

**12:30–1:45 PM Exhibitor Workshops**

**Comparative Mammalian Organ Dissection with Carolina's Perfect Solution® Specimens (Bio)**

(Grades 6–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Carolina Teaching Partner**

Experience a far superior and safer alternative to formaldehyde with Carolina's Perfect Solution specimens. Participants dissect a sheep brain, cow eye, pig heart, and pig kidney and observe major internal and external structures to gain a better understanding of these mammalian organs. An excellent comparative dissection with Carolina's best specimens!

**Teaching About the Rock Cycle and Earth Times (Earth)**

(Grades 6–9) Room 221, Conv. Center

Sponsor: Lab-Aids, Inc.

**Mark Koker**, Lab-Aids, Inc., Ronkonkoma, N.Y.

Do your middle level students have trouble with complex concepts like the rock cycle and geologic time? Maybe it has

something to do with understanding small, incremental changes that take place over millions of years. Experience motivating, hands-on techniques and strategies for learning about these and related topics, like plate tectonics and continental drift.

**Teaching AP Chemistry with Molecular-Level Visualization and Simulation Tools (Chem)**

(Grades 9–College) Room 301, Conv. Center

Sponsor: Wavefunction, Inc.

**Jurgen Schnitker** ([sales@wavefun.com](mailto: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.

**School Specialty Science offers innovative solutions**



Engage students and promote scientific inquiry, literacy and student achievement. Whether your needs are for hands-on curriculum, supplementary resources or lab equipment, turn to the leaders in proven K–12 science education programs.

800-663-2182



**Living by Chemistry: What Is the Shape of That Smell? (Chem)**

(Grades 9–11)

Room 302, Conv. Center

Sponsor: Key Curriculum Press

**Jeffrey Dowling** ([jdowling@keypress.com](mailto:jdowling@keypress.com)), Key Curriculum Press, Emeryville, Calif.

Teach rigorous chemistry with guided inquiry. Teaching students about molecules through a smell context makes more advanced chemistry concepts easier to grasp. Explore activities that help students understand molecular structure and other core chemistry concepts. Participants will receive lesson materials from the Living by Chemistry curriculum.

**What's Up with the Flu? Ecology and Evolution of Infectious Disease Come to Life (Bio)**

(Grades 9–12)

Room 304, Conv. Center

Sponsor: Pearson

**Joseph Levine**, Concord, Mass.

Get an update on bird and swine influenzas and learn to teach students about how and why dangerous strains like these pose a constant threat.

**Hands-On Integrated Science Activities for Middle School (Chem)**

(Grades 5–8)

Room 315, Conv. 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 perform and observe experiments designed to capture the curiosity and engage the energy of adolescent students. Handouts provided for all activities.



**12:30–2:30 PM NSTA ESP Symposium I**

**NSTA Exemplary Science Program (ESP)...Realizing the Visions of the National Standards: It Takes ESP to Find Exemplary Science Programs (Gen)**

(General)

Grande Ballroom Salon E, Hilton

Organized by Robert E. Yager, 1982–1983 NSTA President and Editor of the NSTA ESP Program

Coordinator: Robert E. Yager

This session will include brief descriptions of programs that exemplify how the four NSES goals have been met. Discussion will center on how NSES *More Emphasis* suggestions have guided instruction. Participants in this symposium will include the following authors from specific monographs in the series.

**Inquiry: The Key to Exemplary Science**

**Michelle D. Edgcomb** ([medgcomb@bumail.bradley.edu](mailto:medgcomb@bumail.bradley.edu)) and **Kelly D. McConaughay** ([kdm@bradley.edu](mailto:kdm@bradley.edu)), Bradley University, Peoria, Ill.

**Timothy Scott** ([tim@science.tamu.edu](mailto:tim@science.tamu.edu)) and **Craig Wilson** ([cwilson@science.tamu.edu](mailto:cwilson@science.tamu.edu)), Texas A&M University, College Station

**Joseph Stepan** ([jstepans@uwyo.edu](mailto:jstepans@uwyo.edu)), University of Wyoming, Laramie

**Diane L. Schmidt** ([dschmidt@fgcu.edu](mailto:dschmidt@fgcu.edu)), Florida Gulf Coast University, Fort Myers

**12:30–4:00 PM Short Course**

**Alternative Energy Showcase: Energizing Student Learning Through Interdisciplinary Project-based Learning (SC-1)**

(High School)

Offsite; South Plantation High School

Tickets Required; \$37

**Allan Phipps**, South Plantation High School, Plantation, Fla.

For description, see page 34.

**12:30–4:30 PM Short Course**



**Exploring Easy and Effective Ways to Use PhET's Web-based Interactive Simulations in Your Classroom (SC-2)**

(Middle Level—College)

Marlin, Hilton

Tickets Required; \$35

**Patricia J. Loeblein** ([ploeblei@jeffco.k12.co.us](mailto:ploeblei@jeffco.k12.co.us)) and **Kelly Lancaster**, University of Colorado at Boulder

For description, see page 34.



### 1:00–2:30 PM Exhibitor Workshop

#### What’s Going On in There? Inquiry Science for Administrators, Trainers, and Teachers (Gen)

(Grades K–12)

Room 114, Conv. Center

Sponsor: Delta Education/School Specialty Science

**John Cafarella**, Consultant, Canadensis, Pa.

Learn how to support and evaluate an inquiry-based science lesson/program. What should you look for while observing a science lesson? During this session we’ll define inquiry and look at the use of process skills, standards-based content and materials, notebooking, and assessment while engaging in interactive inquiry-based activities.

### 2:00–3:00 PM Featured Presentation



#### Chasing Science at Sea: Unveiling Stories of Wonder and Adventure from the Field and How Science Really Works (Gen)

(General)

Floridian Blrm. A, Conv. Center



**Ellen Prager** ([prager@earthlink.net](mailto:prager@earthlink.net)), Author and Chief Scientist, NOAA’s Undersea Research Center, Aquarius Reef Base/University of North Carolina, Key Largo, Fla.

Prsident: Brad Tanner, Mote Marine Laboratory, Sarasota, Fla.

Dr. Ellen Prager will share stories from her latest book, *Chasing Science at Sea: Racing Hurricanes, Stalking Sharks, and Living Undersea with Ocean Experts*. Described as an invaluable, unorthodox handbook for would-be scientists by one reviewer, the book brings stories from Dr. Prager and colleagues across the disciplines of ocean science to the public for the first time. From the wonders of the undersea world to the danger of working in storms or the surprise of unexpected insights, these tales reveal how science really works and why firsthand experience in nature is so important.

*Dr. Ellen Prager, marine scientist and author, has built a national reputation as a scientist and spokesperson on earth and ocean science issues. She is the chief scientist for the Aquarius Reef Base program in Key Largo, Florida; a freelance writer; and a consultant for such clients as the University of Miami’s world-renowned Rosenstiel School of Marine and Atmospheric Science and the President’s U.S. Commission on Ocean Policy. In 2000, she became the assistant dean at the Rosenstiel School of Marine and Atmospheric Science, where she remains as an adjunct faculty member.*

### 2:00–3:00 PM Presentations



#### SESSION 1

##### Teaching Earth Science with Google Earth (Earth)

(Middle Level–High School) Floridian Blrm. B/C, Conv. Center

**Kathleen M. Sherman-Morris** ([kms5@msstate.edu](mailto:kms5@msstate.edu)) and

**John Morris**, Mississippi State University, Mississippi State, Miss.

We’ll provide an overview of Google Earth and suggestions for incorporating Google Earth and other geospatial technology into the classroom.

#### SESSION 2 (two presentations)

(Elementary)

Grand Floridian Blrm. A, Conv. Center

##### An Investigation into the Environmental Knowledge, Attitudes, and Behavioral Intentions of Elementary School Students (Env)

**Arlene A. Amarant** ([arlene.amarant@browardschools.com](mailto:arlene.amarant@browardschools.com)),

Indian Trace Elementary School, Weston, Fla.

**Ethan Addicott** ([ethanaddicott@gmail.com](mailto:ethanaddicott@gmail.com)), Dr. Michael M.

Krop Senior High School, Miami, Fla.

This study was designed to find out elementary students’ knowledge about the environment, their attitudes toward helping the environment, and what they have actually done.

##### Fantastic Freshwater Life: Integrating Literacy and Science in the Elementary Classroom (Bio)

**Donna Plummer** ([donna.plummer@centre.edu](mailto:donna.plummer@centre.edu)), Centre College, Danville, Ky.

**Wilma Kuhlman** ([wkuhlman@unomaha.edu](mailto:wkuhlman@unomaha.edu)), University of Nebraska, Omaha

Elementary students can explore the world of freshwater organisms by reading engaging, high-quality children’s books integrated with hands-on/minds-on science experiences. Handouts.

**SESSION 3**

**Endangered Florida Panthers: The Science Behind Everglades Restoration (Env)**

(General) Room 203/204, Conv. Center

**Erica A. Robbins** (*erica.a.robbins@usace.army.mil*), U.S. Army Corps of Engineers, West Palm Beach, Fla.

**Robert Chris Belden**, U.S. Fish and Wildlife Service, Vero Beach, Fla.

Learn about a panther prey survey that was conducted to provide a pre-construction benchmark to objectively evaluate the impact of restoration actions on the suitability of panther habitat. You'll see a groundbreaking short video, and receive printed educational materials and panther science background.

**SESSION 4**

**NSTA Avenue Session: SciLinks: Using the Online Assignment Tool (Gen)**

(Elementary–High School) Room 207/208, Conv. Center

**Tyson Brown** (*tbrown@nsta.org*), Director, SciLinks, NSTA, Arlington, Va.

**Virginie L. Chokouanga** (*vchokouanga@nsta.org*), Customer Service and Database Administrator, NSTA, Arlington, Va.

The SciLinks Assignment Tool allows students to show what they have learned from the web resources SciLinks provides. Learn to create and distribute assignments.

**SESSION 5**

**The “Periodic Table of Students” (Chem)**

(Middle Level–High School) Room 209/210, Conv. Center

**John E. Clark** (*jeclark@volusia.k12.fl.us*), Deltona High School, Deltona, Fla.

This inquiry activity will get your students excited about the elements, their role in supporting life, and the scientific challenges inherent to creating the periodic table itself.

**SESSION 6**

**Supporting Investigative Science with Literacy Skills and Quality Resources (Gen)**

(General) Room 220, Conv. Center

**Donna L. Knoell** (*dknoell@sbcglobal.net*), Educational Consultant, Shawnee Mission, Kans.

Engage students and enhance learning with these strategies that develop their literacy and higher-level thinking skills.

**SESSION 7**

**A Proposal for the Consilience of Science, Philosophy, and Religion (Gen)**

(General) Room 223, Conv. Center

**Clyde A. Selner** (*cselner@swindsor.k12.ct.us*), South Windsor High School, South Windsor, Conn.

Here is a hypothesis that reconciles scientific, religious, and philosophic thought in a way that adds new meaning to each.

**SESSION 8**

**FDA Symposium Session: Dreaming at the Frontiers of Bioscience: Five Technologies That Will Change Your Life—Stay Tuned! (Gen)**

(General) Atlantic Ballroom Section II, Hilton

**Sufian Alkhalidi**, U.S. Food and Drug Administration, College Park, Md.

Learn cutting-edge technologies used to study foodborne pathogens and advance scientific capabilities. These technologies might have a huge impact not only on our daily lives but on the future generation of your students.

**SESSION 9**

**Integrating Engineering into the Classroom via Web-based Tools (Gen)**

(Elementary–High School) Grande Ballroom Salon C, Hilton

**Bruce M. Furino** (*bfurino@mail.ucf.edu*), University of Central Florida, Orlando

Learn how to incorporate the Internet Science and Technology Fair and the Community of Tomorrow Program into your classroom.

**SESSION 10**

**P.A.C.T. (Preventing Adolescent Crime Together) (Bio)**

(High School) Crystal Ballroom Salon II, Hyatt

**Jackie S. Davenport** (*davenportj@lake.k12.fl.us*), Tavares High School, Tavares, Fla.

**Rhonda M. Brown** (*bioteach1258@yahoo.com*), East Ridge High School, Clermont, Fla.

In alignment with forensic science classes, students partner with the community to showcase the developmental assets necessary for building strong character.

2:00–3:00 PM Workshops

★ **Differentiation in the Science Classroom (Gen)**  
*(Middle Level–High School) Florida Ballroom D, Conv. Center*  
**Gilda D. Lyon**, Georgia Dept. of Education, Tifton  
 Learn how to develop tiered units offering students a variety of activities at each of three levels. Leave with strategies, manipulatives, and ideas for working with struggling students.

**Integrating Science into the K–5 Curriculum (Gen)**  
*(Elementary) Grand Floridian Blrm. B, Conv. Center*  
**Teri J. O'Connor**, Chain O' Lakes Middle School, Orlando, Fla.  
 Find the time to teach science by integrating it into language arts, math, and even recess. I'll share "any time" hands-on labs and games.

**Engaging Students in Meaningful Activities Linking Science Content and Literacy Skills (Gen)**  
*(General) Grand Floridian Blrm. C, Conv. Center*  
**Cathy Christopher**, Florida Atlantic University, Boca Raton

**Linda Petuch** ([petuch@palmbeach.k12.fl.us](mailto:petuch@palmbeach.k12.fl.us)), Elbridge Gale Elementary School, Wellington, Fla.

**Annmargareth S. Marousky** ([annmargareth.marousky@browardschools.com](mailto:annmargareth.marousky@browardschools.com)), Nova Dwight D. Eisenhower Elementary School, Davie, Fla.

Experience elements of the NSF/IERI-funded project Science IDEAS presented by teacher-leaders from participating Broward and Palm Beach County schools.

📖 **NSTA Press Session: Picture-Perfect Science (Gen)**  
*(Elementary) Grand Floridian Blrm. D, Conv. Center*

**Emily R. Morgan** ([emily@pictureperfectscience.com](mailto:emily@pictureperfectscience.com)), Picture-Perfect Science, West Chester, Ohio

**Karen Ansberry** ([karen@pictureperfectscience.com](mailto:karen@pictureperfectscience.com)), Mason (Ohio) City Schools

NSTA authors and classroom veterans Emily Morgan and Karen Ansberry will share lessons from *Picture-Perfect Science Lessons* and *More Picture-Perfect Science Lessons* that feature picture books by Marianne Berkes ([www.marianneberkes.com](http://www.marianneberkes.com)).

# Starting an NSTA Student Chapter: Faculty & Student Perspectives

Thursday  
 November 12  
 3:30–4:30 PM  
 Fort Lauderdale  
 Convention Center  
 Grand Floridian B

Interested in getting your preservice teachers more involved in the profession? You won't want to miss this must-see panel discussion conducted by NSTA student chapter advisors on the advantages of starting an NSTA student chapter at your college or university.



**Teach Smarter: Get Inside Their Minds (Gen)**

(Elementary–Middle Level) Grand Floridian Blrm. E, Conv. Center  
**Lana Clauss** ([lclauss@tntech.edu](mailto:lclauss@tntech.edu)), **Deborah Peterman**  
([dpeterman@tntech.edu](mailto:dpeterman@tntech.edu)), and **Susan Gore** ([sgore@tntech.edu](mailto:sgore@tntech.edu)),  
Tennessee Tech University, Cookeville

Are you wandering in an abyss of instructional indecision? Discover quick and easy formative assessment strategies that truly drive instruction.

**Miscommunication: How to Make Sense of Science Vocabulary (Gen)**

(Middle Level) Grand Floridian Blrm. F, Conv. Center  
**Kathryn S. Bylsma** ([inquiry@method@hotmail.com](mailto:inquiry@method@hotmail.com)) and  
**Darcy Cleek** ([dcleek@pasco.k12.fl.us](mailto:dcleek@pasco.k12.fl.us)), Dr. John Long Middle  
School, Wesley Chapel, Fla.

Students come to our classrooms with varied academic and social backgrounds. This workshop will share teaching/learning strategies for creating a common ground for all science learners.

**Formative Assessment and Data Collection with the TI-Nspire Navigator (Phys)**

(Middle Level–College) Atlantic Ballroom Section I, Hilton  
**Sean Bird** ([covenantbird@gmail.com](mailto:covenantbird@gmail.com)), Covenant Christian  
High School, Indianapolis, Ind.

Explore the latest in wireless, handheld technology—the TI-Nspire. Get instant feedback, track responses for assessment, and distribute activities.

**Tackling the Global Warming Challenge in a Rapidly Changing World (Env)**

(Middle Level/Informal) Grande Ballroom Salon B, Hilton  
**Roberta M. Johnson** ([rmjohnsn@ucar.edu](mailto:rmjohnsn@ucar.edu)), **Sandra Henderson**,  
**Susan Foster**, **Lisa Gardiner**, **Becca Hatheway**, **Julia Genyuk**, and **Marina LaGrave**, University  
Corporation for Atmospheric Research, Boulder, Colo.  
**David F. Mastie**, Retired Educator, Chelsea, Mich  
**Jennifer Bergman**, Curiosity Consulting, Atlanta, Ga.

Help students develop critical-thinking skills, science understanding, and global-warming solutions. These activities are aligned with National Science Education Standards and provided by Windows to the Universe ([www.windows.ucar.edu](http://www.windows.ucar.edu)). Handouts.

**Literacy in the Sciences (Earth)**

(Middle Level–High School) Grande Ballroom Salon D, Hilton  
**Gena A. Khodos**, Yeyden High School, Franklin Park, Ill.

We will explore three core strategies that can be easily implemented in already existing curriculum: textbook use and comprehension strategies, vocabulary, and writing.

**Engaging Students in Chemistry Outside the Classroom with ChemClub (Chem)**

(High School) Crystal Ballroom Salon I, Hyatt  
**Cheryl Pierce** ([cheryl.pierce@polk-fl.net](mailto:cheryl.pierce@polk-fl.net)), Lakeland High  
School, Lakeland, Fla.

**Michael T. Mury** ([m\\_mury@acs.org](mailto:m_mury@acs.org)), American Chemical  
Society, Washington, D.C.

ACS ChemClub provides enrichment for chemistry students through various free-of-charge resources and activities. Hear from teachers and students about this exciting program.

**The Physics of Supernovae (Phys)**

(High School–College) Crystal Ballroom Salon III, Hyatt  
**Donna L. Young** ([donna.young@tufts.edu](mailto:donna.young@tufts.edu)), The Wright  
Center for Science Education, Tufts University, Medford,  
Mass.

**Pamela Perry** ([pperry@lewistonpublicschools.org](mailto:pperry@lewistonpublicschools.org)), Lewiston  
High School, Lewiston, Maine

**Doug Lombardi** ([lombardi.doug@gmail.com](mailto:lombardi.doug@gmail.com)), Southern  
Nevada Regional Professional Development Program, North  
Las Vegas

Use analysis software, graphs, and basic physics gravitation and centripetal acceleration equations to determine if an object is a white dwarf or a neutron star.

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**2:00–3:00 PM Exhibitor Workshop**

**Active Chemistry: Your Students Will React to Chemistry Like You’ve Never Seen Before (Chem)**

(Grades 9–12) Room 305, Conv. Center  
Sponsor: It’s About Time

**Arthur Eisenkraft**, 2000–2001 NSTA President, and  
University of Massachusetts, Boston

Active Chemistry is an NSF inquiry-based curriculum that

will make chemistry accessible to ALL high school students. Join us and learn how Active Chemistry can enhance your chemistry instruction and how your students can become artists using chemistry, cooks using chemistry, and game developers using chemistry. We will also discuss how Active Chemistry support materials will assist you with differentiated instruction in the classroom.



**2:00–3:15 PM Exhibitor Workshop**

**Doing DNA Electrophoresis Simply—with E-Gels®! (Gen)**

(Grades 7–10) Room 113, Conv. Center

Sponsor: Frey Scientific/School Specialty Science  
**Carole Andreasson, Ken Rainis, Lisa Bowman, and Vince Zaccardi**, Frey Scientific/School Specialty Science, Naperville, Ill.

See how fast and simple it is to load, run, and analyze DNA using E-Gels. Discover our new Inquiry Investigations™ biotechnology series, learn about DNA forensic technology, and solve a murder mystery by imaging and analyzing DNA. Participants will receive a program resource CD and correlations.

**2:00–3:30 PM Exhibitor Workshop**

**Fun with Electricity and Circuits (Phys)**

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science  
**Patsy Eldridge**, CPO Science/School Specialty Science, Nashua, N.H.

Use electric circuit kits and digital meters to explore the basic concepts of electricity. A thorough understanding of types of circuits, charge, voltage, current, and resistance are uncovered during the quest to discover how to build and analyze circuits that perform simple tasks.

**2:00–4:00 PM Exhibitor Workshop**

**FOSS Assessment: Valuing Academic Progress in Grades 3–6 (Gen)**

(Grades 3–6) Room 118/119, Conv. Center

Sponsor: Delta Education/School Specialty Science—FOSS  
**Brian T. Campbell, Kathy J. Long, and Larry Malone**, Lawrence Hall of Science, University of California, Berkeley

The ASK (Assessing Science Knowledge) Project has developed a system for determining levels of understanding of complex scientific ideas. We will introduce benchmark assessments developed for FOSS modules, grades 3–6, and the tools that you can use to analyze student work. Sample materials provided.

**2:15–3:30 PM Exhibitor Workshops**

**Amplify Your Genetics Teaching Skills with Carolina’s New Inquiries in Science™ Biology Units (Bio)**

(Grades 9–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.  
**Kelly Branchaud**, Carolina Biological Supply Co., Burlington, N.C.

Want to crack the mystery of genetics for your students? Increase student achievement on difficult concepts such as nucleic acids, genetic inheritance, and biotechnology by using a guided inquiry approach. Carolina’s Inquiries in Science biology units provide hands-on activities to make teaching challenging topics effortless. Free teacher materials and door prizes!

**Understanding Mendelian and Non-Mendelian Inheritance (Bio)**

(Grades 6–9) Room 221, Conv. Center

Sponsor: Lab-Aids, Inc.  
**Mark Koker**, Lab-Aids, Inc., Ronkonkoma, N.Y.

Middle level students have many misconceptions associated with genetics-related concepts. What is a gene? How are genes expressed? What is the difference between dominant and recessive traits? How does incomplete or co-dominance differ from “simple” dominant/recessive patterns? Examine activities in which students build “critters” to understand principles of Mendelian and non-Mendelian inheritance. Take home materials to use in class next week!

**Galileo Skies (Earth)**

(Grades 5–College) Room 301, Conv. Center

Sponsor: Starry Night Education  
**Herb Koller** ([hkoller@simcur.com](mailto:hkoller@simcur.com)), Starry Night Education, New York, N.Y.

Its 400 years since Galileo! We will use technology to show you how to simulate Galileo’s observations. Lessons, exercises, simulations, and classroom activities allow students to see what he saw, when and where he saw it.

**The Physics Behind the Roller Coaster (Phys)**

(Grades 9–12) Room 302, Conv. Center

Sponsor: Sargent-Welch  
**Jessica Norcia**, American 3B Scientific, Tucker, Ga.  
 Get an in-depth look into the concepts behind this modern phenomenon, including eddy currents, induction of a magnetic field, and Lorentz force. The basic mechanics of roller coasters, such as gravity propulsion and friction braking, will also be presented.

**Meet the Untamed Science Crew and Learn How to Make Your Own Science Videos! (Gen)**

(Grades 6–12) Room 304, Conv. Center

Sponsor: Pearson

**Hayley Chamberlain** and **Rob Nelson**, Untamed Science, Oregon, Wis.

Join the Untamed Science crew as they discuss how the video revolution can be used to motivate today's science students. The Ecogeeks will then walk you through 10 tricks to make your own science films and show you ways to empower your students with filmmaking prowess. Finally, interested teachers will be given the chance to join the Untamed Science initiative.

**Using Dinah Zike's Foldables to Teach Science More Effectively (Gen)**

(Grades K–12) Room 315, Conv. Center

Sponsor: Dinah-Might Adventures, LP

**Dinah Zike** ([jeanne@dinah.com](mailto:jeanne@dinah.com)), Dinah-Might Adventures, LP, San Antonio, Tex.

Transform basic classroom materials into memorable and useful 3-D interactive graphic organizers. Learn from Dinah Zike, the creator of Foldables, as you make and take learning and assessment tools that are evidence based, kinesthetic, and integrative.

**2:30–3:00 PM Presentation**

**SESSION 1**

**Extreme Exploration: Journey to Earth's Radiation Belts (Earth)**

(General) Palm B, Conv. Center

**Dawn Turney** ([dawn.turney@jhuapl.edu](mailto:dawn.turney@jhuapl.edu)), The Johns Hopkins Applied Physics Laboratory, Laurel, Md.

Learn how the radiation environment surrounding Earth can affect us and about the mission that will investigate the mysteries of this dangerous region.



**2:30–4:00 PM Exhibitor Workshop**

**FOSS and DSM Kit Refurbishment/Material Management (Gen)**

(Grades K–8) Room 125, Conv. Center

Sponsor: Delta Education/School Specialty Science

**Kyle Gibson**, Delta Education/School Specialty Science, Nashua, N.H.

Science kit materials management is a significant challenge for many districts. Our Delta Science Resource Service (DSRS) is a cost-effective way to manage your science kit program. A teacher's valuable time is better spent teaching science rather than chasing science materials, so join us to learn how DSRS can benefit your science program.

**3:00–4:30 PM Exhibitor Workshop**

**Science Gnus: The Stories of Science in the Stories of Scientists and Process Skills (Gen)**

(Grades K–6) Room 114, Conv. Center

Sponsor: Delta Education/School Specialty Science

**John Cafarella**, Consultant, Canadensis, Pa.

Fascinating stories of scientists, their discoveries, and process skills, plus the sometimes fine line between being famous (Alexander Graham Bell) or being forgotten by history (Antonio Meucci). We'll replicate some famous experiments, too. The stories in science contain something of interest for everyone. Enjoy liberal doses of Science Gnus humor.

**3:00–9:00 PM Meeting**

**CESI Board Meeting**

Dolphin, Hilton

**3:30–4:00 PM Presentation**

**SESSION 1**

**The Florida Everglades: Issues of Sustainability (Env)**

(General) Grande Ballroom Salon A, Hilton

**Gabriele St. Martin** ([gstmartin@thebenjaminschool.org](mailto:gstmartin@thebenjaminschool.org)) and **Timothy Parker** ([tparker@thebenjaminschool.org](mailto:tparker@thebenjaminschool.org)), The Benjamin School, North Palm Beach, Fla.

Presenter: Gabriele St. Martin

This middle level interdisciplinary study of the Everglades immerses students in the concept of environmental sustainability.

**3:30–4:30 PM Featured Presentation****America's Manned Space Program: Past, Present and Future (Gen)***(General)**Floridian Ballroom D, Conv. Center*

**Jon A. McBride**, Captain, U.S. Navy (retired), and former NASA Astronaut

Presider: Barbara Repoza, New River Middle School, Fort Lauderdale, Fla.

Jon McBride began his career as a naval aviator flying combat missions in Southeast Asia. He has flown over 40 different types of military and civilian aircraft and holds current FAA ratings for commercial pilot, instrument, and glider. McBride became an astronaut in 1979. His NASA assignments have included lead chase pilot for the maiden voyage of *Columbia*, software verification in the Shuttle Avionics Integration Laboratory, capsule communicator (CAPCOM), Flight Data File (FDF) Manager, and developer of orbital rendezvous procedures. McBride was pilot of STS 41-G, which launched from Kennedy Space Center, Florida, on October 5, 1984, aboard the orbiter *Challenger*. In 1987, McBride was assigned to NASA Headquarters to serve as Assistant Administrator for Congressional Relations. In 1989 he retired from NASA and the Navy, in order to pursue a business career. Captain McBride is currently a member of the Kennedy Space Center Astronaut Encounter team.

**3:30–4:30 PM Presentations****SESSION 1** (two presentations)*(Elementary–Middle Level) Grand Floridian Blrm. A, Conv. Center***The Reflective Assessment Technique: Fifteen Minutes to Improved Instruction (Phys)**

**Kathy J. Long**, Lawrence Hall of Science, University of California, Berkeley

**Arthur H. Camins** (*arthurcamins@gmail.com*), Jefferson County Public Schools, Louisville, Ky.

**Cathleen A. Kennedy** (*cathy@kacgroup.com*), Education Research Consultant, San Carlos, Calif.

Learn a quick assessment technique that pinpoints what students need to learn next—without giving a quiz. See how it improved student performance and teacher practice in a national study.

**Beyond Line Leaders: Planning Classroom Jobs That Integrate Science and Math Skills (Gen)**

**Steven R. Fuller** (*fullerperson@aol.com*), Pequenakonck Elementary School, North Salem, N.Y.

Classroom jobs integrating science and math allow all students to develop skills as they do real work together, helping to create a positive classroom environment.

**SESSION 2****Starting an NSTA Student Chapter: Student and Faculty Perspectives (Gen)***(General) Grand Floridian B, Conv. Center*

**Howard Wahlberg** (*hwahlberg@nsta.org*), Assistant Executive Director, Member, Chapter, and Customer Relations, NSTA, Arlington, Va.

Interested in getting your preservice teachers more involved in the profession while still preparing to enter the classroom? Join NSTA student chapter advisors to discuss the advantages of starting an NSTA student chapter at your college or university.

**SESSION 3****NSRC High School Science Education Symposium (Gen)***(General) Room 203/204, Conv. Center*

**Emma L. Walton**, 1999–2000 NSTA President, and Science Consultant, Anchorage, Alaska

Presider: Mary Raucci, National Science Resources Center, Washington, D.C.

Join presenters from the National Science Resources Center to explore research and promising practices within the high school science education landscape. Come share your own experiences.

SESSION 4

**NSTA** NSTA Avenue Session: Toshiba/NSTA ExploraVision Awards Program (Gen)

(General) Room 207/208, Conv. Center

**Brian P. Short** (*exploravision@nsta.org*), Program Manager, ExploraVision, NSTA, Arlington, Va.

ExploraVision is a K–12 competition that motivates students and challenges them to think creatively about scientific innovation 20 years into the future. Discover how students can win up to \$240,000 in savings bonds for envisioning new technologies. Learn how ExploraVision supports classroom goals; illustrates connections between science and technology; and offers recognition, computers, and other prizes for schools, students, teachers, and mentors. Session participants have a chance to win a Toshiba product!

SESSION 5

**Engaging Upper Elementary and Middle School Students in International Science Inquiry (Earth)**

(Elementary–Middle Level) Room 209/210, Conv. Center

**Walter S. Smith** (*walter.smith@ttu.edu*), NSTA Director, College, and Texas Tech University, Lubbock

Involve your grades 4–8 students in standards-based, international, free science through the MOON Project. Participation requires only eyes and internet access.

SESSION 6

**Developing an Effective Outdoor Classroom (Gen)**

(General) Room 220, Conv. Center

**Catherine Wissehr** (*cwissehr@uark.edu*), University of Arkansas, Fayetteville

Learn the basics of designing and implementing an effective and lasting outdoor classroom tailored to your unique site and needs.

SESSION 7

**Photosynthesis: An Interactive Play (Bio)**

(Middle Level–High School) Room 223, Conv. Center

**Christine Hart**, Monticello (N.Y.) Central Schools

Learn a fun interactive play demonstrating the use of solar energy to make carbohydrates in the light-dependent reaction and Calvin Cycle of photosynthesis.

SESSION 8

**FDA Symposium Session: Nutrition Education (Gen)**

(General) Atlantic Ballroom Section II, Hilton

**Crystal Rasnake**, U.S. Food and Drug Administration, College Park, Md.

Learn about FDA-developed nutrition education resources.

Free nutrition education CDs for all participants.

SESSION 9

**Fueling the Future: Energy Interconnections and Sustainable Choices (Env)**

(Elementary–High School) Grande Ballroom Salon B, Hilton

**Thomas R. Allison** (*kalyanamitras@cfl.rr.com*), Lake Weir Middle School, Summerfield, Fla.

Experience hands-on lessons that demonstrate the interconnections between energy sources, human choices, economic challenges, and environmental impacts. Leave with a free curriculum!

SESSION 10

**The Magnet Lab: Magnets Is What We Do! (Phys)**

(Middle Level–College) Grande Ballroom Salon C, Hilton

**Carlos R. Villa** (*villa@magnet.fsu.edu*), National High Magnetic Field Laboratory, Tallahassee, Fla.

Take your lessons on magnetism and electromagnetism to the next level with these activities that go well beyond ordinary electromagnets. Leave this session with a unique souvenir.

SESSION 11

**Keys to Success with Blended Inquiry Learning (Bio)**

(High School–College/Informal) Crystal Blrm. Salon II, Hyatt

**Eva Erdosne Toth** (*eva.toth@mail.wvu.edu*), West Virginia University, Morgantown

This classroom-tested biotechnology unit illustrates the use of blended inquiry to learn concepts and processes of inquiry while avoiding experimental error and bias.



**3:30–4:30 PM Workshops**



**Dendroclimatology: The Trees Tell a Tale (Earth)**  
(High School) *Floridian Ballroom A, Conv. Center*

**Anthony C. Derriso** (*acderriso@crimson.ua.edu*), The University of Alabama, Tuscaloosa

Learn to use core samples from trees as natural archives of climate data. You'll leave the session with an understanding of how climate is recorded in trees, how this information can be used to predict climate, and how you can conduct an investigation on the campus of your school.



**Using a Remotely Operated Vehicle (ROV) for Science Instruction in K–12 Settings (Gen)**


(Middle–High School/Informal) *Floridian Blrm. B/C, Conv. Center*

**Timothy A. Goodale** (*goodaletim@aim.com*), College of Coastal Georgia, Brunswick





**Peter Leighton** (*peter.leighton@norfolk.gov*), Nauticus, Norfolk, Va.

**Krista Trono-Goodale**, Booz Allen Hamilton, Inc., Norfolk, Va.

Use ROVs to integrate marine technology and engineering principles into K–12 classrooms in an effective hands-on and potentially interdisciplinary manner.



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**JetStream: An Online School for Weather (Earth)**

(Informal Education) Grand Floridian Blrm. C, Conv. Center

**Dennis R. Cain** ([dennis.cain@noaa.gov](mailto:dennis.cain@noaa.gov)), National Weather Service, Fort Worth, Tex.

JetStream is a free online resource from the National Weather Service. Each module is designed with both text and graphic displays and includes “learning lessons.”



**NSTA Press Session: Extreme Science: Scales from Nano to Galactic (Gen)**

(Informal Education) Grand Floridian Blrm. D, Conv. Center

**M. Gail Jones** and **Margaret R. Blanchard**, North Carolina State University, Raleigh

**Michael Falvo** ([falvo@physics.unc.edu](mailto:falvo@physics.unc.edu)), The University of North Carolina at Chapel Hill

**Amy Taylor**, University of North Carolina, Wilmington

Explore size and scale across the science domains through an examination of egg size, behavior of nanoparticles, and limits to insect size.

**Inquiry Through Design Challenges (Earth)**

(Elementary) Grand Floridian Blrm. E, Conv. Center

**Jonathan W. Gerlach** ([jonathan.gerlach@sdhc.k12.fl.us](mailto:jonathan.gerlach@sdhc.k12.fl.us)), Hillsborough County Public Schools, Tampa, Fla.

Explore ways to teach inquiry effectively using experimental design challenges. We’ll go through the process using an inquiry-based experiment from NASA that focuses on the force and motion of objects.

**Butterfly Bonanza (Bio)**

(Elementary–High School) Grand Floridian Blrm. F, Conv. Center

**Nancy Sale** ([nancysale@dadeschools.net](mailto:nancysale@dadeschools.net)), Lillie C. Evans Elementary School, Miami, Fla.

Presider: Karen Gant, Carol City Elementary School, Miami Gardens, Fla.

Embark on a magical journey into the world of butterflies. I’ll share hands-on activities and strategies that will equip you to create a native butterfly garden habitat.

**Wetland Wonders (Env)**

(Elementary–Middle Level)

Palm B, Conv. Center

**Diane A. Vaszily** ([scieye@concentric.net](mailto:scieye@concentric.net)) and **Dawn Miller-Walker** ([dwalker@scienceeye.com](mailto:dwalker@scienceeye.com)), Science Eye/School of Experiential Science, Southwest Ranches, Fla.

Engage in a simulated field experience based on the Florida Everglades. Teams of “wildlife biologists” collect and interpret data at various research stations, including water analysis, insect identification, and alligator characteristics.

**Science Circus (Phys)**

(Middle Level)

Atlantic Ballroom Section I, Hilton

**Jill Brickner**, Fountain Middle School, Fountain, Colo.

Hurry! Hurry! Step right up to our three-ring circus! Witness our static electricity merry-go-round, tinsel acrobatics, balancing bear, kaleidoscope of clowns, dancing fleas, and more.

**Modeling Black Holes (Earth)**

(Middle Level–High School) Grande Ballroom Salon D, Hilton

**Robert T. Sparks** ([rsparks@noao.edu](mailto:rsparks@noao.edu)), National Optical Astronomy Observatory, Tucson, Ariz.

Explore the exciting science of black holes with these hands-on activities that use low-cost everyday materials. Free teacher’s guide.

**Inquiry-based Chemistry Labs on a Budget (Chem)**

(High School)

Crystal Ballroom Salon I, Hyatt

**Jesse D. Bernstein** ([bernsteinj@miamicountryday.org](mailto:bernsteinj@miamicountryday.org)), Miami Country Day School, Miami Shores, Fla.

These experiments require very little in the way of chemicals and equipment and are very effective tools for learning. Safety goggles are recommended; bring a pair, please.

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**3:30–4:30 PM Exhibitor Workshop**

**Project-Based Inquiry Science (PBIS): A New Generation of Life, Earth, and Physical Science (Bio)**

(Grades 6–8)

Room 305, Conv. Center

Sponsor: It’s About Time

**Mary Lynn Jensen**, It’s About Time, Orlando, Fla.

PBIS teachers tell us they’ve “never seen students this excited about science.” Watch what happens when students get a

chance to flex their creative muscles on projects that they care about—the excitement is contagious and the learning is sustained.

**4:00–5:15 PM Exhibitor Workshops**

**Inquiry Investigations™ Forensics Science Curriculum Module (Gen)**

(Grades 7–10) Room 113, Conv. Center

Sponsor: Frey Scientific/School Specialty Science  
**Carole Andreasson, Ken Rainis, Lisa Bowman, and Vince Zaccardi**, Frey Scientific/School Specialty Science, Naperville, Ill.

With our new Inquiry Investigations forensic 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 assessment. Perform skill-based case investigations and receive a program resource CD and correlations.

**Hands-On Science with Classroom Critters (Bio)**

(Grades K–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

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Here’s a sure-fire boost to your class—live organisms. Whether you use hands-on curriculum (e.g., STC®,




FOSS®) or develop your own lessons, animals broaden students’ inquiry-based explorations and increase their interest in science. Participate in fun, simple hands-on activities and get care and handling information. Free product samples and literature.

**Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts (Gen)**


(Grades 6–12) Room 221, Conv. Center

Sponsor: National Nanotechnology Infrastructure Network  
**Joyce Palmer** ([joyce.palmer@mirc.gatech.edu](mailto:joyce.palmer@mirc.gatech.edu)) and **Nancy Healy** ([nancy.healy@mirc.gatech.edu](mailto:nancy.healy@mirc.gatech.edu)), Georgia Institute of Technology, Atlanta

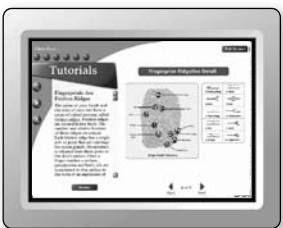
The National Nanotechnology Infrastructure Network will present secondary science nanotechnology-focused lessons connected to basic science concepts and NSES content standards. Perform hands-on activities that demonstrate how nano can be part of the secondary science classroom and take home a CD of all instructional materials.

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**Science of Everyday Life with the 3M/Discovery Education Young Scientist Challenge (Gen)**

(Grades 5–8) Room 301, Conv. Center

Sponsor: Discovery Education

**Brad Fountain**, Discovery Education, Silver Spring, Md. Explore the science of everyday life with the 3M/Discovery Education Young Scientist Challenge; learn simple tech tools to help students communicate about science; and submit video entries, get science fair tips, and demo activities to showcase the innovation behind everyday items for a chance to win a 3M Innovation Kit with sample products.

**Using Online Labs to Maximize Learning and Minimize Costs (Gen)**

(Grades 6–College) Room 302, Conv. Center

Sponsor: Smart Science® Education

**Janice Mensch** ([janmensch@msn.com](mailto:janmensch@msn.com)) and **Edward Keller** ([ed@paracomputusa.com](mailto:ed@paracomputusa.com)), Smart Science® Education, Marina del Rey, Calif.

Labs are a critical part to every student's science education. Discover an excellent online lab program, Smart Science labs, and learn how to correctly blend these online labs with hands-on activities to maximize your students' learning while minimizing costs to your school or district.

**Wow! Realistic Laboratory Simulations for the Entire High School Science Curriculum You Have to See to Believe! (Gen)**

(Grades 9–12)

Room 304, Conv. Center

Sponsor: Pearson

**Brian Woodfield**, Brigham Young University, Provo, Utah

Come see a one-of-a-kind demonstration of these amazingly realistic laboratory simulations for chemistry, physics, physical science, and our newest simulations for biology. Dr. Woodfield will demo a variety of innovative labs and show how they help students develop critical-thinking skills.

**Motivating Students Through Project Based Learning (PBL) (Gen)**

(Grades K–8)

Room 315, Conv. Center

Sponsor: Houghton Mifflin Harcourt

**Mike Heithaus** ([heithaus@fiu.edu](mailto:heithaus@fiu.edu)), Florida International University, North Miami

Join Houghton Mifflin Harcourt and Dr. Mike Heithaus to learn how you can motivate students in the classroom using PBL. Dr. Heithaus will demonstrate how you can incorporate just-completed PBL activities designed to take students along for an adventure with scientists. Using high-paced video and exciting research (featured on National Geographic and Discovery Channel), students are challenged to develop their own hypotheses, join research teams as they collect data, and then conduct their own data collection and analysis.

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**4:00–5:30 PM Exhibitor Workshop**

**Light and Optics: A Series of EnLIGHTening Experiments! (Phys)**

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Erik Benton**, CPO Science/School Specialty Science, Nashua, N.H.

Experience the Optics with Light and Color kit, with LED flashlights, filters, a laser, and more. Try color mixing, relate it to human vision, and see different spectra of light with diffraction glasses. See the phenomena of internal reflection by shining a laser through a prism and tracing incident and refracted rays.



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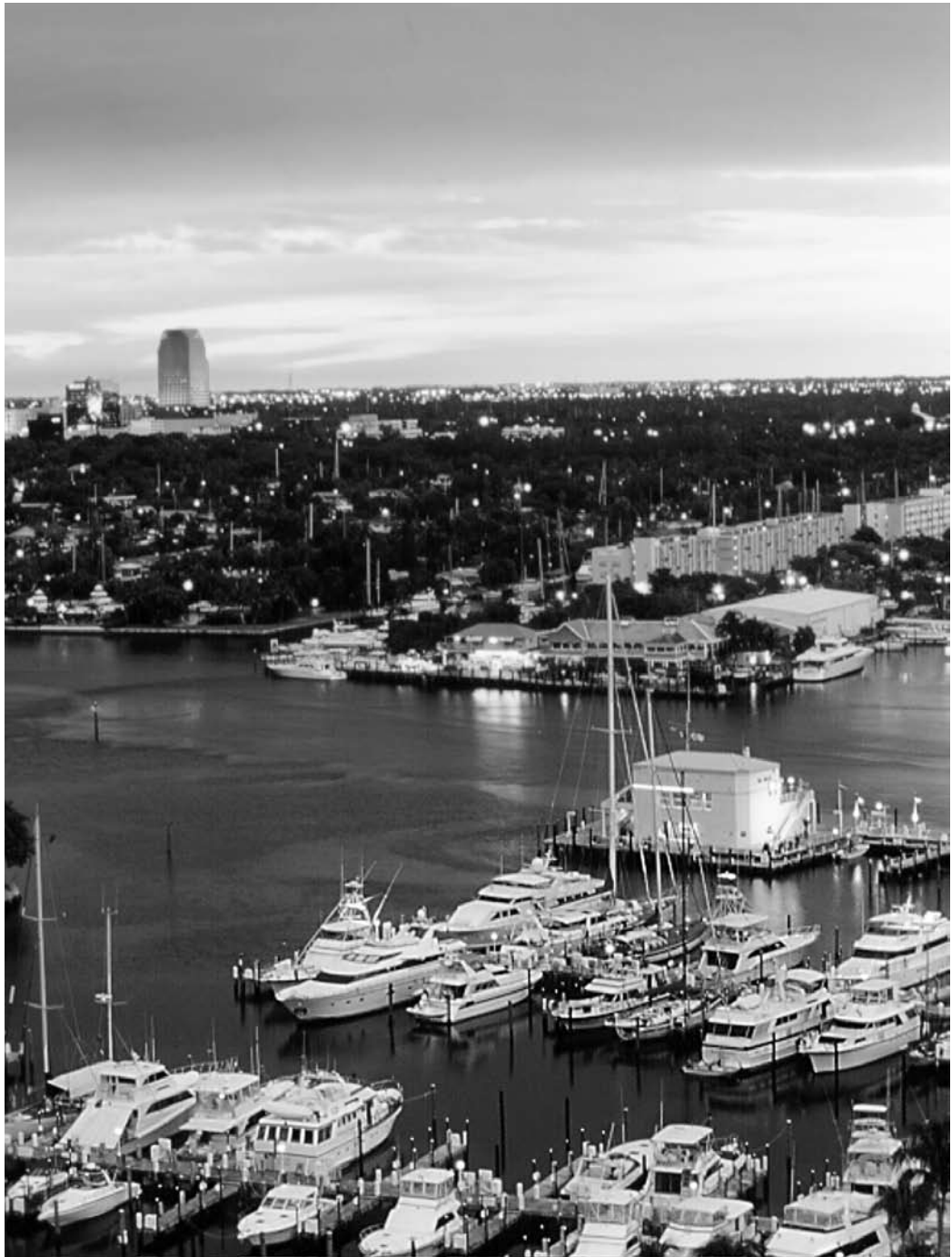


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**7:00–9:15 AM Social**

**Florida Association of Science Teachers (FAST) Breakfast and Annual Meeting (M-1)**

(Tickets Required; \$15) Grande Ballroom Salon D, Hilton  
Join colleagues and new FAST members for breakfast followed by the annual meeting, FAST awards, grant presentations, and initiation of the 2010 FAST president and board of directors.



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**8:00–8:30 AM Presentations**

**SESSION 1**

**Creating Floor Maps for Interdisciplinary Teaching (Bio)**

(Elementary/Informal) Grand Floridian Blrm. D, Conv. Center  
**Marti L. Welch** ([welchm@pbcc.edu](mailto:welchm@pbcc.edu)), Palm Beach Community College, Lake Worth, Fla.

**John T. Welch** ([jfauna@hotmail.com](mailto:jfauna@hotmail.com)), Okeethee Nature Center, West Palm Beach, Fla.

Presider: Marti L. Welch

Create a floor map of your state or region with corresponding clues that can be used to integrate science, math, and art.

**SESSION 2**

**NSTA Avenue Session: NSTA Membership Jeopardy (Gen)**

(General) Room 220, Conv. Center  
**Howard Wahlberg** ([hwahlberg@nsta.org](mailto:hwahlberg@nsta.org)), Assistant Executive Director, Member, Chapter, and Customer Relations, NSTA, Arlington, Va.

Learn about all that your NSTA membership can do for you in a fun audience-participation game styled upon TV's *Jeopardy*. Study your program book and [www.nsta.org/membership](http://www.nsta.org/membership) in advance so you can be the first to hit the virtual buzzer and win!

**8:00–9:00 AM Presentations**


**SESSION 1**

 **Getting Kids Outdoors (Env)**

(Elementary–Middle Level) Floridian Blrm. A, Conv. Center  
**Steve Rich** ([srich@doe.k12.ga.us](mailto:srich@doe.k12.ga.us)), Georgia Dept. of Education, Atlanta

Take science to the schoolyard with these award-winning outdoor classrooms for elementary and middle school. I'll share teaching resources and free seeds.

**SESSION 2**

 **Web-based Simulations to Enhance Teaching and Learning in Grades 3–12 (Gen)**

(Supervision/Administration) Floridian Blrm. B/C, Conv. Center  
**Kirk Nieveen** ([knieveen@dadeschools.net](mailto:knieveen@dadeschools.net)), Hialeah-Miami Lakes Senior High School, Hialeah, Fla.

**Mario R. Junco** ([mjunco@explorellearning.com](mailto:mjunco@explorellearning.com)), Miami, Fla.

Presider: Kirk Nieveen

We will demonstrate that online simulations can be powerful instructional aids that promote inquiry and understanding in grades 3–12.

**SESSION 3**

 **Building an Integrated Curriculum Through Environmental Literacy (Env)**

(Elementary/Informal) Floridian Blrm. D, Conv. Center  
**Lauren Tyler** ([ltyler@flaquarium.org](mailto:ltyler@flaquarium.org)) and **Debbi Stone** ([dstone@flaquarium.org](mailto:dstone@flaquarium.org)), The Florida Aquarium, Tampa

The Florida Aquarium partnered with DeSoto Elementary to enhance environmental literacy, including provision of equipment and professional development opportunities and translation of curriculum to Spanish for English language learners.

SESSION 4

**How to Light the Fire not Fill the Pail (Chem)**

(Middle Level–High School) Grand Floridian Blrm. A, Conv. Center

**Marilynn Pedek** and **Scotty Howard**, Suncoast Community High School, Rivieria Beach, Fla.

2010 Florida Teacher of the Year finalist will demonstrate ways you can “light the fire” for learning science within your students.

SESSION 5

**Teaching About the Rain Forests of the Oceans Using NOAA Resources (Gen)**

(Elementary–High School) Room 223, Conv. Center

**Kirk Beckendorf** ([kirk.beckendorf@noaa.gov](mailto:kirk.beckendorf@noaa.gov)), Einstein Fellow, NOAA, Washington, D.C.

Coral reefs are a barometer of our planet’s health. Bring them to life in your classroom with NOAA resources.

SESSION 6

**Climate Change: Global Connections and Sustainable Solutions (Env)**

(Elementary–High School) Grande Ballroom Salon A, Hilton

**Thomas R. Allison** ([kalyanamitras@cfl.rr.com](mailto:kalyanamitras@cfl.rr.com)), Lake Weir Middle School, Summerfield, Fla.

Experience hands-on lessons that demonstrate the interconnections between natural cycles/systems and human choices/actions using carbon footprint, emissions trading, and energy policy. Free curriculum!

SESSION 7

**Writing for Interactivity: Creating Online Content with ASPIRE (Gen)**

(General) Grande Ballroom Salon E, Hilton

**Julie Callahan** ([julie@cosmic.utah.edu](mailto:julie@cosmic.utah.edu)), University of Utah, Salt Lake City

Learn how to create nonlinear content for science education using standards and a modified instructional design model. Visit <http://aspire.cosmic-ray.org> for more information.

8:00–9:00 AM Workshops

**On the Move—Force and Motion for Grades 3–5**

(Phys)

(Elementary) Grand Floridian Blrm. B, Conv. Center

**Sharon Kelley** ([kelleys@osceola.k12.fl.us](mailto:kelleys@osceola.k12.fl.us)) and **Diane King** ([kingd@osceola.k12.fl.us](mailto:kingd@osceola.k12.fl.us)), School District of Osceola County, Kissimmee, Fla.

These investigations into force and motion include how things move, the relationship between mass and motion, and Newton’s laws of motion. We’ll focus on building student background, vocabulary, and writing skills.

**Making the Connection: Teaching Reading and Writing Concepts Using Science Content (Gen)**

(Elementary–Middle Level) Grand Floridian Blrm. C, Conv. Center

**Arlene H. Manville**, Chapel Trail Elementary School, Pembroke Pines, Fla.

Learn how to use graphic organizers, flip folders, concept mapping, and previewing strategies to connect science to other content areas.


**Take Your Physical Science Lessons to the Olympic Level (Phys)**

(Elementary–Middle Level) Grand Floridian Blrm. F, Conv. Center

**Denise L. McIlwaine** ([denise.mcilwaine@sdhc.k12.fl](mailto:denise.mcilwaine@sdhc.k12.fl)), Clark Elementary School, Tampa, Fla.

**Sharon Cutler** ([sharon.cutler@sdhc.k12.fl.us](mailto:sharon.cutler@sdhc.k12.fl.us)), Chiles Elementary School, Tampa, Fla.

Learn how one Florida school district integrates science inquiry skills, engineering, and problem solving with hands-on physical science lessons. Lesson plans provided.

 **NSTA Press Session: So You Want New Science Facilities (Science Facilities 101) (Gen)**

(General) Room 113, Conv. Center

**LaMoine L. Motz** ([llmotz@comcast.net](mailto:llmotz@comcast.net)), 1988–1989 NSTA President, and Oakland County Schools, Waterford, Mich.

**Juliana Texley** ([jtexley@att.net](mailto:jtexley@att.net)), Palm Beach Community College, Boca Raton, Fla.

**James T. Biehle** ([biehlej@swbell.net](mailto:biehlej@swbell.net)), Inside/Out Architecture, Inc., Kirkwood, Mo.

Presider: LaMoine L. Motz

Join the co-authors of *NSTA Guide to Planning School Science Facilities* (Second Edition) and learn the basics of science facility planning, design, and budgeting so you can guide your school toward improvements in functionality, safety, and sustainability.



**PSD Session: There's More to Dissolving Than Meets the Eye (Chem)***(Elementary–Middle Level) Room 207/208, Conv. Center***James H. Kessler** (*j\_kessler@acs.org*), American Chemical Society, Washington, D.C.

Explore the interaction between water and different substances to understand solubility and the energy changes of dissolving on the molecular level. Take home a handout of all activities.

**ACS Session One: What's Matter Made Of? (Chem)**  
*(High School) Room 209/210, Conv. Center***Jerry A. Bell** (*j\_bell@acs.org*), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

**Free Telescope Access from NASA and the Fermi Space Telescope (Earth)***(Middle Level–College) Atlantic Ballroom Section I, Hilton***Robert T. Sparks** (*rsparks@noao.edu*), National Optical Astronomy Observatory, Tucson, Ariz.

Come learn how to control a remote telescope and take research-quality CCD images. Free teacher's guide and telescope access.

**“Seeing” the Invisible: Exploring the EMS (Phys)***(Middle Level–High School) Atlantic Ballroom Section II, Hilton***Christine Anne Royce** (*caroyce@aol.com*), NSTA Director, Professional Development, and Shippensburg University, Shippensburg, Pa.

How do we “see” something that exists but is not visible? Explore the properties of light waves, from radio to ultraviolet, in an effort to answer this question.

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**Examining the Human Footprint: Population, Land Use, and the Global Environment (Env)**

(Middle Level–High School) Grande Ballroom Salon B, Hilton  
**Dennis Stetter**, Nova Southeastern University, Fort Lauderdale, Fla.

These innovative hands-on activities explore human evolution and its impacts on ecosystems, biodiversity, climate, and natural resources. Leave with extensive lesson plans on CD-ROM.

**Exploring Bioethics: A New Model for High School Instruction (Bio)**

(High School) Crystal Ballroom Salon III, Hyatt  
**Dave Vannier** ([vannierd@od.nih.gov](mailto:vannierd@od.nih.gov)), National Institutes of Health, Bethesda, Md.

Engage students in a new approach to examining biomedical practices such as genetic testing. Students develop their own well-justified positions on the ethical issues involved.

**AAPT Session: Transforming Your Science Classroom with Modeling Instruction (Part 1) (Phys)**

(High School–College) Crystal Ballroom Salon IV, Hyatt  
**Robin Hori**, Miami Country Day School, Miami, Fla.

Learn how to implement modeling instruction in your classroom. This is the first of a two-part session. See page 86 for Part 2.

**8:00–9:00 AM Exhibitor Workshop**

**Tough Topics in Physics and Physical Science: Motion (Phys)**

(Grades 6–12) Room 305, Conv. Center  
Sponsor: PASCO Scientific

**Eric Gardner**, Benjamin School, West Palm Beach, Fla.  
Let's explore PASCO's state-of-the-art science teaching solutions to one of the toughest aspects of high school physics and middle school physical science investigations—motion. Participate in standards-based probeware lab activities from PASCO's new physics curriculum. Experience how the SPARK Science Learning System can enhance your teaching practice and improve student understanding of core topics.

**8:00–9:15 AM Exhibitor Workshops**

**Put Some Spark into Science Investigations (Gen)**

(Grades 1–5) Room 114, Conv. 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.

**AUTOPSY: Forensic Dissection Featuring Carolina's Perfect Solution® Pigs (Bio)**

(Grades 9–12) Room 124, Conv. Center  
Sponsor: Carolina Biological Supply Co.

**Carolina Teaching Partner**

Are you ready for a forensic dissection activity that is on the cutting edge? Engage students and revitalize your instruction of mammalian structure and function with a "real" classroom autopsy! Participants, working in pairs, dissect a pig by modeling the autopsy protocols of a forensic pathologist.

**Science Kit Presents: Products Developed by Middle School Teachers (Gen)**

(Grades 5–8) Room 125, Conv. Center  
Sponsor: Science Kit & Boreal Labs

**Lynn Hesse** ([lhesse@vwreducation.com](mailto:lhesse@vwreducation.com)), Science Kit & Boreal Labs, Tonawanda, N.Y.

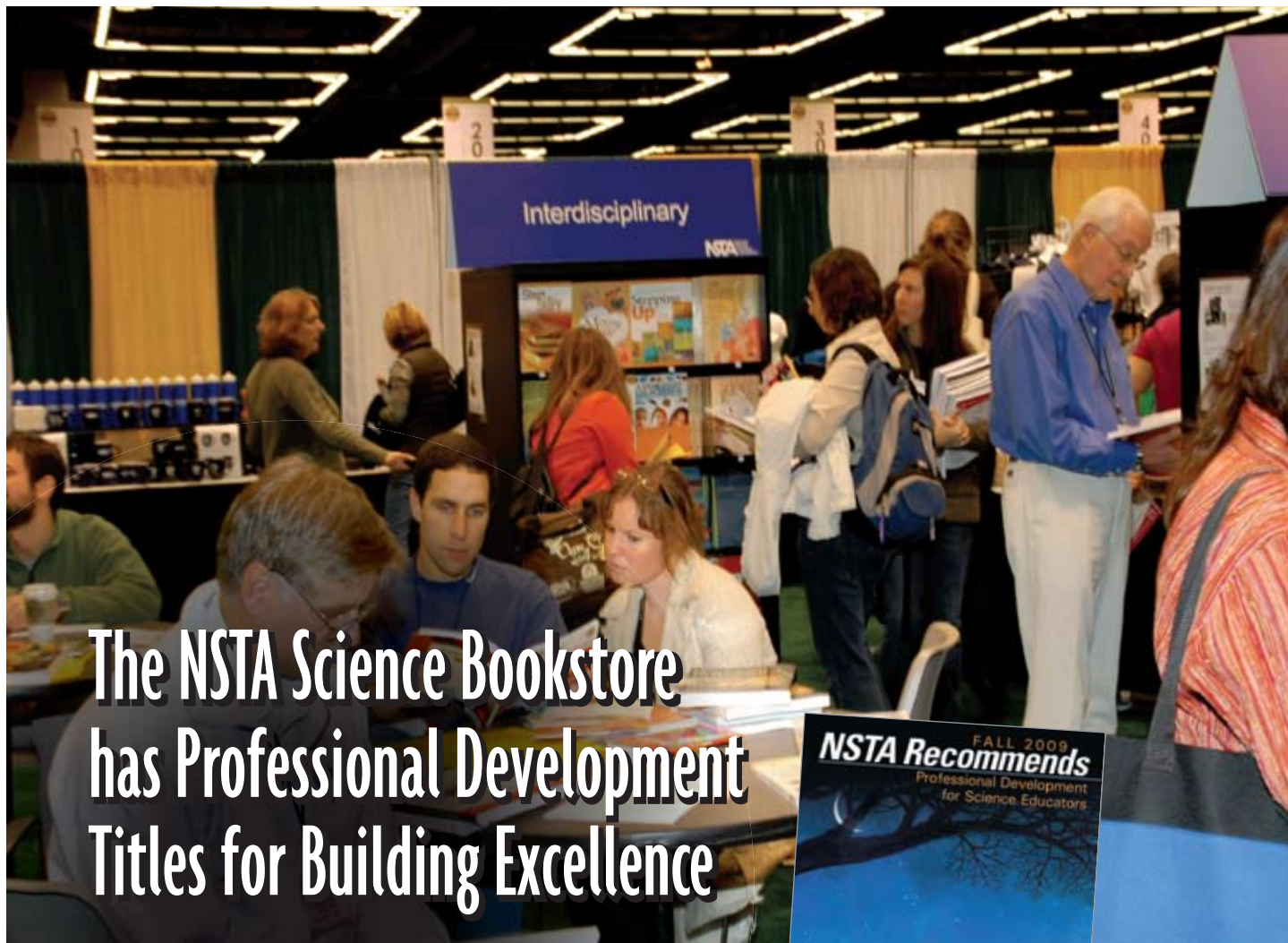
For 20 years Science Kit has been developing products with teachers. Come build air rockets with us and check out demos of several great labs and manipulatives. Maybe you have an idea and can earn royalties, too. All demos will be given away by drawing.

**Teaching Chemistry Without Hearing "When Am I Ever Going to Need to Know This?" (Chem)**

(Grades 9–12) Room 221, Conv. Center  
Sponsor: Kendall Hunt Publishing Co.

**Kelly Deters**, Shawnee Heights High School, Tecumseh, Kans.

Learn how a rigorous, thematic chemistry curriculum increases student motivation and attitude, inquiry skills, and content knowledge. We'll share a chemistry program based on chemistry education research and efficient instructional design principles developed by a classroom teacher to interest her students while maintaining high academic standards.



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**NSTA** National  
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**Detecting Radiation in Our Radioactive World**  
(Gen)

(Grades 5–12) Room 301, Conv. Center

Sponsor: American Nuclear Society

**Toni Bishop**, American Nuclear Society, La Grange Park, Ill.

Discover how to use Geiger counters to detect radioactivity and teach principles of nuclear science. Expand your knowledge of ways nuclear technology is applied in the everyday life of our society.

**EDVOTEK Biotechnology—Biotechnology on a Budget**  
(Bio)

(Grades 6–College) Room 302, Conv. Center

Sponsor: EDVOTEK

**Jack Chirikjian** ([info@edvotek.com](mailto:info@edvotek.com)), EDVOTEK, Bethesda, 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)!

**The Digital Path and Essential 21st-Century Skills**  
(Gen)

(Grades 6–8) Room 304, Conv. Center

Sponsor: Pearson

**Leslie A. Bettencourt**, Pearson, Port Saint Lucie, Fla.

Learn how Pearson's digital path that accompanies the "write-in student edition" can aid teaching and learning essential 21st-century skills. Key 21st-century skills will be introduced and discussed—including creativity and intellectual curiosity, communication and media literacy skills, interpersonal and collaborative skills, problem identification, formulation and solution, and social responsibility. Learn how these skills can be applied when teaching science using Pearson's digital path.

**Flinn Scientific's Teaching Chemistry™ eLearning Video Series**  
(Chem)

(Grades 9–12) Room 315, Conv. Center

Sponsor: Flinn Scientific, Inc.

**Scott Stahler**, Flinn Scientific, Inc., Batavia, Ill.

Flinn Scientific has developed an exciting new professional development video program for high school chemistry teachers. Imagine the opportunity to watch 20 award-winning master teachers share their favorite and most effective demonstrations, experiments, and chemistry lab activities. Activities come to life as our presenters share the inspiration, stories, and strategies that will help you motivate your students and allow them to succeed.

**Teaching Inquiry Science with Toys and Treats**  
(Gen)

(Grades 3–12) Room 316, Conv. Center

Sponsor: Macmillan/McGraw-Hill and Glencoe

**Ralph Feather**, Bloomsburg University, Bloomsburg, Pa.

**Sandy Feather**, Bloomsburg, Pa.

Learn fun, practical, and engaging hands-on inquiry teaching ideas using toys and treats. Everyone is a winner, with strategies you can use immediately. The positive reputation of this workshop precedes itself.

**Light Up Your Classroom with Nobel Prize–winning Science**  
(Bio)

(Grades 6–College) Room 317/318, Conv. Center

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** ([biotechnology\\_explorer@bio-rad.com](mailto:biotechnology_explorer@bio-rad.com)), Bio-Rad Laboratories, Winston-Salem, N.C.

What happens when you cross a jellyfish with *E. coli*? You can create your own pGLO green glowing bacteria! By the end of this workshop you'll become an actual genetic engineer—modifying genes and transforming bacteria with the Green Fluorescent Protein (GFP) (AP Biology Lab 6). Receive a free UV pen light and lab prep DVD!

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**8:00–9:30 AM Exhibitor Workshops**

**Genetics: Crazy Traits and Adaptation Survivor**  
(Bio)

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Scott Eddleman**, CPO Science/School Specialty Science, Nashua, N.H.

Students learn new vocabulary when they study genetics,

including traits, alleles, and genotypes. How can you predict the traits of offspring when you know the genetic makeup of the parents? These ideas will come alive as you create crazy creatures with a unique kit and study the resulting population.



**K–8 Science with Vernier (Gen)***(Grades K–8)**Room 222, Conv. Center*

Sponsor: Vernier Software &amp; Technology

**Dan Holmquist** (*info@vernier.com*), Vernier Software & Technology, Beaverton, Ore.

In this demonstration 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 Demonstration with Vernier* and *Middle School Science with Vernier* lab books using LabQuest or our low-cost line of Go! products on a computer.

**8:00–10:00 AM Exhibitor Workshop****Introducing Science Notebooks with FOSS K–6****(Gen)***(Grades K–6)**Room 118/119, Conv. Center*Sponsor: Delta Education/School Specialty Science—FOSS  
**Ellen Mintz**, Consultant, Charleston, S.C.**Kimi Hosoume, Brian T. Campbell, and Natalie Yakushiji**, Lawrence Hall of Science, University of California, Berkeley**Jeri Calhoun**, Science Associate, Isle of Palms, S.C.

Learn the essential elements for creating and effectively using science notebooks with your students. Through a hands-on FOSS investigation, you'll discover how science notebooks can be used to impact student achievement and how to use science notebooks as an effective tool for building conceptual understanding. Sample materials provided.

# 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:

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- course materials presented online
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- 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**  
**distance.msstate.edu/geosciences**

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**

*Division of Academic Outreach &  
Continuing Education*

Mississippi State University is an equal opportunity employer.

**8:00–11:00 AM Short Courses**



**Energy from the Sun (SC-4)**

(Elementary–High School) Atlantic Ballroom III/IV, Hilton  
Tickets Required: \$11

**Rebecca Lamb** ([rlamb@need.org](mailto:rlamb@need.org)), The NEED Project, Manassas, Va.

For description, see page 35.



**Putting It All Together (SC-3)**

(Elementary–High School) Marlin, Hilton  
Tickets Required: \$13

**Wendy A. Chapman** ([wendy.chapman@browardschools.com](mailto:wendy.chapman@browardschools.com)), Silver Ridge Elementary School, Davie, Fla.

For description, see page 34.

**8:00 AM–12 Noon Short Course**

**MESSENGER and Technology Integration with Classroom Instruction That Works (SC-5)**



(Grades 6–12) Floridian Ballroom E, Conv. Center  
Tickets Required: \$25

**Brenda R. Conway** ([bconway@ms.spotsylvania.k12.va.us](mailto:bconway@ms.spotsylvania.k12.va.us)) and **Dianne Clowes**, Ni River Middle School, Spotsylvania, Va.

**Corey Peloquin** ([corey.peloquin@technosavvyteacher.com](mailto:corey.peloquin@technosavvyteacher.com)) and **Julie Ball** ([julie.ball@technosavvyteacher.com](mailto:julie.ball@technosavvyteacher.com)), Coleman Middle School, Tampa, Fla.

For description, see page 35.

**8:00 AM–12:30 PM FDA/NSTA Symposium**

**Teaching Nutrition Science and the Food Label (SYM-1)**

(Grades 5–12) Palm A, Conv. Center  
Tickets Required: \$54

**Crystal Rasnake** and the FDA team of presenters, U.S. Food and Drug Administration, College Park, Md.

**Mimi Cooper**, Consultant, Green Cove Springs, Fla.

**Elena Stowell**, Kentwood High School, Covington, Wash.

For description, see page 32.

**9:00 AM–5:00 PM Exhibits**

Exhibit Hall A, Conv. Center

Come see the most up-to-date science textbooks, software, equipment, and other teaching materials. Some exhibitors will offer materials for sale.

**9:30–10:00 AM Presentation**

**SESSION 1**

**Ground Water Curricular Potential to Initiate Researchable Questions (Env)**

(Middle Level–College) Grande Ballroom Salon E, Hilton

**Santine Cuccio** ([cuccios@chipola.edu](mailto:cuccios@chipola.edu)), Chipola College, Marianna, Fla.

President: Allan Tidwell, Chipola College, Marianna, Fla.

Training in field lab protocols, inquiry learning, lesson planning, and implementing are investigated as indicators in the construction of the researchable question.

**9:30–10:30 AM Featured Presentation**



**Student Equity and Science Integration: A Path to Ensure Success in Learning Science (Gen)**

(General) Floridian Ballroom D, Conv. Center



**Randolf Tobias** ([rtobias@bellsouth.net](mailto:rtobias@bellsouth.net)), Professor Emeritus, Queens College, City University of New York, Flushing

President: Daniel McFarland, Durant High School, Plant City, Fla.

Ensure success in learning science by providing a supportive learning environment. We will look at the importance of inclusive education (to ensure student equity with respect to learning) and science integration (to demonstrate the relationship of science in all walks of the human dynamic).

*Randolf Tobias is professor emeritus of educational leadership at Queens College of the City University of New York. While at Queens College, he served as associate dean for special programs and chairperson of the Graduate Department of Educational and Community Programs. Currently, he is a visiting lecturer at Belmont Abbey College in Belmont, North Carolina. Dr. Tobias has consulted with school systems and universities both nationally and internationally on curriculum and teaching approaches for increasing the learning potential of culturally diverse populations. His journal articles and books speak to these educational strategies. His latest book on the subject is Ensuring Success in Math and Science: Curriculum and Teaching Strategies for At-Risk Learners.*

# Visit the NSTA Avenue, #701 in the Exhibit Hall.

Pick up your “NSTA Roadmap” to guide you through member benefits, products, services, programs and partners. We’re offering a great gift!

## Share with Others

- **NSTA Membership.** Access high-quality educational materials and professional development opportunities. Pick up a sample journal, your district ribbon, and a free lapel pin. If you’re a student, ask about Student Chapters. If you’d like to volunteer, submit your name for nomination to become a candidate on a committee, review board, or the NSTA Board of Directors and Council.

## 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.
- **Web Seminars.** Update your content knowledge with these free, 90-minute, live online presentations. Voice questions and share in rich conversations with the presenters and other educators.
- **SciGuides.** Use these online resources, aligned with the national Standards, to locate lessons organized by grade level and specific content themes.

## Expand Your Mind

- **NSTA Press®** publishes 25 new titles each year that offer professional development to science educators. Visit the Science Bookstore to view new releases, best sellers, and titles that help performance in the classroom. Connect with authors to have your new book signed. Submit your new book idea to <http://mc.manuscriptcentral.com/nstapress>.
- **SciLinks®.** Link to science resources on the internet, with sites recommended by science educators. Find accurate information and effective pedagogy—the best content available online.

## Add Your Voice

- **Science Matters** is a major public awareness and engagement campaign designed to rekindle a national sense of urgency and action among schools and families about the importance of science education and science literacy.

- **The John Glenn Center for Science Education Campaign.** NSTA’s five year, \$43 million national campaign to make excellence in science teaching and learning a reality for all will fund a series of forward-thinking programs and a state of the art facility designed to promote leadership, learning, and advocacy in science education.

## Distinguish Yourself

- **NSTA Awards.** 17 programs offer awards to science teachers, K–College.
- **Toshiba/NSTA ExploraVision®** is a team-based K–12 competition that awards up to \$240,000 in savings bonds annually.
- **Toyota TAPESTRY** awards \$550,000 in grants for science teachers, K–12, each year.
- **THE DUPONT CHALLENGE® Science Essay Competition** is for grades 7–12 with 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**, sponsored by Siemens, Discovery Education, and NSTA, offers a national student sustainability competition that encourages students to develop actionable local solutions for a “greener” world.
- **Disney’s Planet Challenge** is a project-based environmental competition for grades 4–6 meant to empower students to make a difference in their homes, schools, and communities.
- The **Conrad Foundation** presents the **2010 Spirit of Innovation Awards**, a competition that challenges teams of high school students to create innovative products in four categories: aerospace exploration, space nutrition, renewable energy and green schools.

## 9:30–10:30 AM Presentations

### SESSION 1



#### NASA eClips for Secondary Students: Using Video Segments to Engage Millennial Learners (Earth)

(General) Floridian Blrm. B/C, Conv. Center

**Sharon Bowers** ([sharon.bowers@nianet.org](mailto:sharon.bowers@nianet.org)), National Institute of Aerospace, Hampton, Va.

NASA eClips are short, educational video segments that can be integrated into standards-based curriculum, highlighting real-world applications of science, technology, engineering, and mathematics (STEM). We'll share several free NASA educational resources.

### SESSION 2

#### Worldwide Science (Gen)

(Elementary–Middle Level) Grand Floridian Blrm. A, Conv. Center

**Michelle Hankey**, St. Andrew Catholic School, Cape Coral, Fla.

Make use of technology and internet resources to run virtual field trips, games, labs, assessments, and more

### SESSION 3

#### Brain-compatible Learning Is a No-Brainer! (Gen)

(Elementary–Middle Level) Grand Floridian Blrm. D, Conv. Center

**Lisa Fuchs** ([lfuchs@parishepiscopal.org](mailto:lfuchs@parishepiscopal.org)), Parish Episcopal School, Dallas, Tex.

Discover a new study-skills program based on the latest research into how the brain learns. I'll share techniques for managing time, materials, and assessments.

### SESSION 4

#### CESI Session: GEMS-U: Girls Engaged in Math and Science University—Opening the World of Math and Science to Girls (Gen)

(General) Room 203/204, Conv. Center

**Shannon E. Parks**, Alabama Dept. of Education, Montgomery

**Stephanie A. Baird**, The University of Alabama at Birmingham

The Alabama Learning Exchange (ALEX) provides internet resources to capture the interest and enthusiasm of girls in math and science. Join us for a walking tour of this program's contents, including lesson plans designed with girls in mind and the unique way they learn.

### SESSION 5

#### NSTA NSTA Avenue Session: Toyota TAPESTRY Grants for Science Teachers = \$\$\$ for Your School! (Gen)

(Elementary–High School) Room 220, Conv. Center

**Eric V. Crossley** ([ecrossley@nsta.org](mailto:ecrossley@nsta.org)), Assistant Director, Corporate Partnerships/Toyota TAPESTRY, NSTA, Arlington, Va.

**Lovele Ruggiero** ([lovelruggiero@mac.com](mailto:lovelruggiero@mac.com)), New Rochelle, N.Y.

**Mickey MacDonald**, P.K. Yonge Developmental Research School, Gainesville, Fla.

Find out how to increase your chances of winning a Toyota TAPESTRY \$10,000 Large Grant or a \$2,500 Mini-Grant in 2010!

### SESSION 6

#### Become a Teacher at Sea with NOAA Scientists (Gen)

(General) Room 223, Conv. Center

**Kirk Beckendorf** ([kirk.beckendorf@noaa.gov](mailto:kirk.beckendorf@noaa.gov)), Einstein Fellow, NOAA, Washington, D.C.

NOAA's Teacher at Sea Program provides all teachers with the opportunity to work with scientists on board a NOAA research ship. Come learn how to apply and participate.

### SESSION 7

#### Get a Clue! How to Start a Forensic Science Course (Gen)

(Middle Level–College) Grande Ballroom Salon A, Hilton

**Jesse D. Bernstein**, Miami Country Day School, Miami Shores, Fla.

Learn how to develop a forensics science course, from text to activities to labs to field trips.

### SESSION 8

#### Improving Science Instruction for Preservice Elementary Teachers (Gen)

(College) Crystal Ballroom Salon II, Hyatt

**Amanda Parker** ([parkera@strose.edu](mailto:parkera@strose.edu)) and **Mary Cosgrove** ([cosgrovm@strose.edu](mailto:cosgrovm@strose.edu)), The College of Saint Rose, Albany, N.Y.

Better prepare students to teach science using team-taught integrated lectures, peer-led workshops, science notebooks, and service learning.



## 9:30–10:30 AM Workshops


**Climate Change: Classroom Tools to Explore the Past, Present, and Future (Earth)**

(Middle Level/Informal) *Floridian Blrm. A, Conv. Center*

**Roberta M. Johnson** ([rmjohnsn@ucar.edu](mailto:rmjohnsn@ucar.edu)), **Sandra Henderson**, **Susan Foster**, **Lisa Gardiner**, **Becca Hatheway**, **Julia Genyuk**, and **Marina LaGrave**, University Corporation for Atmospheric Research, Boulder, Colo.

**Jennifer Bergman**, Curiosity Consulting, Atlanta, Ga. Explore the scientific foundations of climate change through these hands-on and data-rich classroom activities. Handouts.

**“Aha!” Is Just a Stone’s Throw Away (Earth)**  
 (General) *Grand Floridian Blrm. B, Conv. Center*

**David F. Mastie** ([mastie@umich.edu](mailto:mastie@umich.edu)), Retired Educator, Chelsea, Mich.

**Parker O. Pennington IV** ([parkiv@umich.edu](mailto:parkiv@umich.edu)), Retired Educator, Ann Arbor, Mich.

Examine mineral packets to find patterns within the rock families and use the findings to explore key concepts. Take home activities, specimen samples, and handouts.

**The Mathematics of Population Growth (Env)**  
 (Middle Level–College) *Grand Floridian Blrm. C, Conv. Center*

**John E. Penick** ([john\\_penick@ncsu.edu](mailto:john_penick@ncsu.edu)), 2003–2004 NSTA President, and North Carolina State University, Raleigh. Conduct a simulation to learn the effects of three variables on total population—number of children, age of first child-bearing, and time between children.



## UNI Overseas Recruiting Fair XXXIV

**February 5-7, 2010**

◆ *Personal Attention*     ◆ *Quality Service*  
◆ *No Placement Fees*

“An incredible opportunity for science teachers to meet and interview with over 120 American K-12 schools from around the world.”



**University of  
Northern Iowa**

### Overseas Placement Service for Educators

*Visit our Web site for registration materials. Registration deadline January 15, 2010.*

Cedar Falls, Iowa USA 50614-0390  
Phone: (319) 273-2083 Fax: (319) 273-6998  
E-mail: [overseas.placement@uni.edu](mailto:overseas.placement@uni.edu)  
Web site: [www.uni.edu/placement/overseas](http://www.uni.edu/placement/overseas)

**Whale of a Share-a-Thon (Env)**  
(Informal Education) Palm B, Conv. Center

**Jim Wharton** ([jimwharton@mote.org](mailto:jimwharton@mote.org)), Mote Marine Laboratory, Sarasota, Fla.

**Melissa Demetrikopoulos** ([mdemetr@biophi.org](mailto:mdemetr@biophi.org)), Institute for Biomedical Philosophy, Dunedin, Fla.

**Erica Moulton** ([emoulton@marinetech.org](mailto:emoulton@marinetech.org)), MATE Center, Monterey, Calif.

**Ali Leisel Hudon** ([ahudon@marine.usf.edu](mailto:ahudon@marine.usf.edu)), University of South Florida, St. Petersburg, Fla.

**Susan Sawyer** ([ssawyer@pieraquarium.org](mailto:ssawyer@pieraquarium.org)), Pier Aquarium, St. Petersburg

**Cristin S. Ryan** ([ryanc@si.edu](mailto:ryanc@si.edu)), Smithsonian Marine Station, Fort Pierce, Fla.

**Lauren Tyler** ([ltyler@flaquarium.org](mailto:ltyler@flaquarium.org)), The Florida Aquarium, Tampa

**Toni Borman** ([sweetgramz1@aol.com](mailto:sweetgramz1@aol.com)), U.S. Coast Guard, Sarasota, Fla.

Presider: Jim Wharton

Join the Florida Marine Science Educators Association to sample activities, programs, and curriculum from marine science providers from around the state.



**NSTA Press Session: The Architects Have Started Without Me; What Do I Do Now? (Science Facilities 102) (Gen)**

(Supervision/Administration) Room 113, Conv. Center

**LaMoine L. Motz** ([llmotz@comcast.net](mailto:llmotz@comcast.net)), 1988–1989 NSTA President, and Oakland County Schools, Waterford, Mich.

**Juliana Texley** ([jtexley@att.net](mailto:jtexley@att.net)), Palm Beach Community College, Boca Raton, Fla.

**James T. Biehle** ([biehlej@swbell.net](mailto:biehlej@swbell.net)), Inside/Out Architecture, Inc., Kirkwood, Mo.

Presider: LaMoine L. Motz

Is your district designing new science facilities but you're not involved? You need to get involved before it is too late! In an advanced course on science facility planning and design, the co-authors of *NSTA Guide to Planning School Science Facilities* (Second Edition) will present detailed information and examples of functional and flexible science facilities for inquiry-based science. Budgeting, working with an architect, space requirements, flexibility, safety, and spatial adjacencies will be discussed.

**PSD Session: Chemical Change: The Breaking and Making of Bonds (Chem)**

(Elementary–Middle Level) Room 207/208, Conv. Center

**James H. Kessler** ([j\\_kessler@acs.org](mailto:j_kessler@acs.org)), American Chemical Society, Washington, D.C.

Investigate common endothermic and exothermic reactions to better understand energy changes on the molecular level. Take home a handout of all activities.

**ACS Session Two: What Holds Molecules Together? (Chem)**

(High School) Room 209/210, Conv. Center

**Jerry A. Bell** ([j\\_bell@acs.org](mailto:j_bell@acs.org)), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

**Modeling the Spectrum (Phys)**

(Middle Level–High School) Atlantic Ballroom Section II, Hilton

**Christine Anne Royce**, NSTA Director, Professional Development, and Shippensburg University, Shippensburg, Pa.

Explore a unit on the EM spectrum, from pre-assessment activities relating to exponential notation through post-assessment activities involving construction of a model of the EM spectrum.

**Technology Binds Mathematics and Science (Chem)**

(Middle Level–High School) Grande Ballroom Salon B, Hilton

**Greg Dodd** ([gbdodd@gmail.com](mailto:gbdodd@gmail.com)), George Washington High School, Charleston, W.Va.

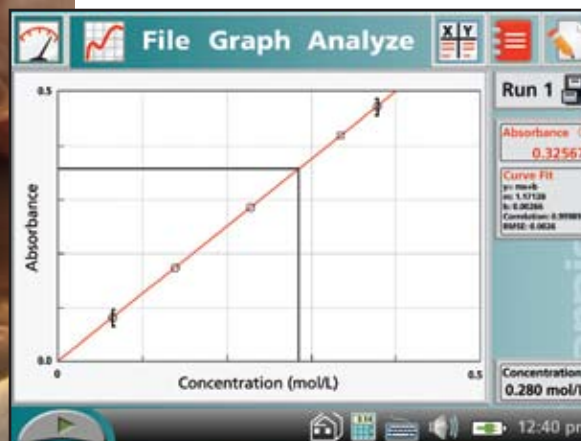
Integrate math and science using the multiple representations provided by technology. Multiple representations allow students to truly understand science concepts through links between data and graphical representations. Handouts.



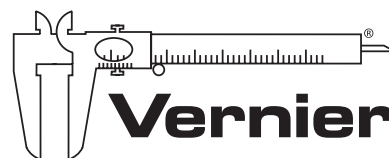
## Remember the first time you fell in love with science?

**We do.** It is the reason we believe in hands-on scientific technology. It engages students in a meaningful way, develops keen analytical skills, and awakens a love for discovery.

Stop by **booth, #909**, or attend one of our **FREE** hands-on workshops. Enter the drawing to Win a **FREE Vernier Labquest**



*Determining the concentration  
of an unknown solution*



Measure. Analyze. Learn.™

**Examining the Bioethics of Animals in Research** (Bio)

(High School) Crystal Ballroom Salon III, Hyatt  
**Dave Vannier** (*vannierd@od.nih.gov*), National Institutes of Health, Bethesda, Md.

Examine the ethics of genetically modifying animals for human gain. We'll examine respect and harms/benefits in a new model for teaching bioethics in high school.

**AAPT Session: Transforming Your Science Classroom with Modeling Instruction (Part 2)** (Phys)

(High School–College) Crystal Ballroom Salon IV, Hyatt  
**Robin Hori**, Miami Country Day School, Miami, Fla.

Engage in activities to learn how to implement Modeling Instruction in your classroom. *Note:* This session is the second part of a double session (see page 76 for part 1).

**9:30–10:30 AM Exhibitor Workshop**

**Tough Topics in Biology: Cell Respiration** (Bio)

(Grades 6–12) Room 305, Conv. Center

Sponsor: PASCO Scientific

**Greg McDonald**, Westchester Academy for International Studies, Houston, Tex.

Let's explore PASCO's state-of-the-art science teaching solutions to one of the toughest aspects of biological investigations—cell respiration. Participate in standards-based probeware lab activities from PASCO's new biology curriculum. Experience how the SPARK Science Learning System can enhance your teaching practice and improve student understanding of core topics.

**10:00–11:00 AM Exhibitor Workshop**

**How to Start a Biotech Program** (Bio)

(Grades 6–College) Room 317/318, Conv. Center

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** (*biotechnology\_explorer@bio-rad.com*), Bio-Rad Laboratories, Winston-Salem, N.C.

Biotech is where it's at! Hear the words of wisdom from the nation's leading biotech programs and find out how they got to where they are now. Learn how to set the foundation for engaging students using relevant real-world lab experiences and what building blocks will allow you to continue to address the world's rapidly changing scientific landscape.

**10:00–11:15 AM Exhibitor Workshops**

**Integrating Science and Literacy: Grades 1–6** (Gen)

(Grades 1–6) Room 114, Conv. Center

Sponsor: Delta Education/School Specialty Science

**Tom Graika**, Consultant, Lemont, Ill.

**Johanna Strange**, Consultant, Richmond, Ky.

Discover a variety of strategies and Delta products that you can use to integrate reading and language arts into your science programs. Learn how students can experience the enjoyment of learning science with Delta Science Modules and make the literacy connection. Receive a workshop packet and related Delta materials.

**Strawberry DNA and Molecular Models** (Bio)

(Grades 8–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Carolina Teaching Partner**

Introduce students to the fascinating world of DNA through age-appropriate, hands-on activities designed to make biology fun. The activities, from a kit series developed in cooperation with the DNA Learning Center, Cold Spring Harbor Laboratory, use DNA models and real DNA from strawberries to present genetic studies.

**STC/MS™: Energy, Machines, and Motion** (Phys)

(Grades 6–8) Room 125, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Carolina Teaching Partner**

Get yourself in gear with this hands-on module that explores energy, work, and force, and how these interact to influence motion and machine design. We'll start with an overview of the NSRC-developed STC/MS curriculum, followed by sample module investigations.

**Forensic Science for High School: An Inquiry-rich Curriculum** (Chem)

(Grades 9–12) Room 221, Conv. Center

Sponsor: Kendall Hunt Publishing Co.

**Danelle Wingate Burleson**, Kendall Hunt Publishing Co., Dubuque, Iowa

Kendall Hunt's Forensic Science for High School is a hands-on, integrated science course that focuses on the practices and analyses of physical evidence found at crime scenes. Participants will be actively engaged in investigations from this exciting curriculum.



**Learning Chemistry with Software for Molecular-Level Visualization (Chem)***(Grades 9–College)*

Room 301, Conv. Center

Sponsor: Wavefunction, Inc.

**Jurgen Schnitker** (*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.

**EDVOTEK Biotechnology—New! Achieve Successful PCR in One Lab Session (Bio)***(Grades 8–College)*

Room 302, Conv. Center

Sponsor: EDVOTEK

**Jack Chirikjian** (*info@edvotek.com*), EDVOTEK, Bethesda, Md.

Come learn about our new technology that makes PCR fast,

easy, and affordable. Our unique two-step PCR experiment can be completed in one lab session, and our user-friendly EdvoCycler makes PCR affordable for the classroom. Participants are automatically entered into a raffle for a FREE classroom electrophoresis setup (a \$500 value) OR a credit of the same value toward the purchase of an EdvoCycler!

**Inquiry, Evidence, and Thinking: The Heart of Science Teaching (Gen)***(Grades 5–8)*

Room 304, Conv. Center

Sponsor: Pearson

**Michael Padilla**, 2005–2006 NSTA President, and Clemson University, Clemson, S.C.

Inquiry continues to be a major thrust in science education as entities like the Partnership for 21st Century Skills call for improved student thinking across all disciplines. This session will develop an understanding of inquiry and evidence and outline teaching strategies that teachers can use to develop these important ideas.

Get your  
book signed!

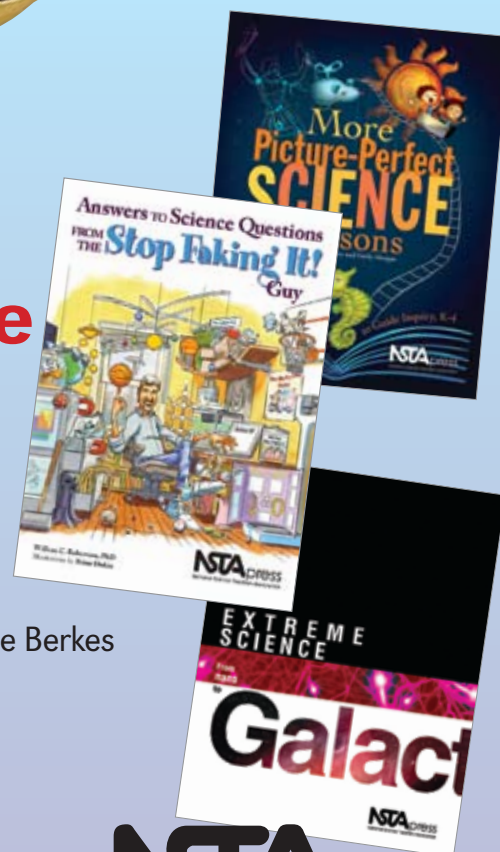
**at the Science Bookstore****Author Signings****Thursday, November 12\***

Noon–1:00	LaMoine Motz
1:00–2:00	Juliana Texley
1:00–2:00	Gail Jones
3:00–4:00	Emily Morgan, Karen Ansberry, Marriane Berkes

**Friday, November 13\***

11:00–Noon	Randolf Tobias
3:00–4:00	Joseph Stephans
4:00–5:00	Bill Robertson

\*Times are tentative, check the NSTA Science Bookstore for more information



**NSTA**press  
National Science Teachers Association

**Get Charged Up with Educational Innovations!**

**(Phys)**

(Grades 3–9)

Room 315, Conv. Center

Sponsor: Educational Innovations, Inc.

**Presenter to be announced**

Join us for fun activities with static electricity. Make your own Franklin static motor and discover a plethora of activities to get your class charged up. Make and take and door prizes!

**Teaching Inquiry Science with Toys and Treats**

**(Gen)**

(Grades 3–12)

Room 316, Conv. Center

Sponsor: Macmillan/McGraw-Hill and Glencoe

**Ralph Feather**, Bloomsburg University, Bloomsburg, Pa.  
**Sandy Feather**, Bloomsburg, Pa.

Learn fun, practical, and engaging hands-on inquiry teaching ideas using toys and treats. Everyone is a winner, with strategies you can use immediately. The positive reputation of this workshop precedes itself.

**10:00–11:30 AM Exhibitor Workshops**

**Light and Optics: A Series of EnLIGHTening Experiments!**

**(Phys)**

(Grades 5–12)

Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Erik Benton**, CPO Science/School Specialty Science, Nashua, N.H.

Experience the Optics with Light and Color kit, with LED flashlights, filters, a laser, and more. Try color mixing, relate it to human vision, and see different spectra of light with diffraction glasses. See the phenomena of internal reflection by shining a laser through a prism and tracing incident and refracted rays.

**Developing 21st-Century Minds with Vernier (Gen)**

(Grades 7–College)

Room 222, Conv. Center

Sponsor: Vernier Software & Technology

**Dan Holmquist** ([info@vernier.com](mailto:info@vernier.com)), Vernier Software & Technology, Beaverton, Ore.

Discover how technology can transform your classroom into a 21st-century laboratory. Explore state-of-the-art probeware solutions that help teach core science topics in physics, chemistry, biology, earth science, and environmental science. Learn tips and tricks from master teachers and technology experts and receive hands-on training with both Logger Pro and Vernier's LabQuest application.

**10:00 AM–12 Noon Meeting**

**Informal Science Networking Meeting**

Dolphin, Hilton

**11:00 AM–12 Noon Presentations**

**SESSION 1** (two presentations)

(General)

Floridian Blrm. A, Conv. Center

**Toyota TAPESTRY in Action**

**(Env)**



**William R. Bartenslager** ([bartenslager@palmbeach.k12.fl.us](mailto:bartenslager@palmbeach.k12.fl.us)), Palm Beach Central High School, Wellington, Fla.

Learn how to write a successful Toyota TAPESTRY grant and see a project that helps the endangered snail kite.

**Citrus Waste to Ethanol: Green Promise of the Future**

**(Bio)**



**Debarati Ghosh** ([dghosh@hccfl.edu](mailto:dghosh@hccfl.edu)), Hillsborough Community College, Tampa, Fla.

We will look at current endeavors to scale up the process for ethanol production from citrus peel waste.

**SESSION 2**

**Using Science Notebooks in the Elementary Classroom**

**(Gen)**



(General)

Floridian Blrm. D, Conv. Center

**Michael Klentschy** ([mpkdr@aol.com](mailto:mpkdr@aol.com)), San Diego State University, Carlsbad, Calif.

I will share strategies for using science notebooks in the elementary classroom with a special focus on English learners. Learn about the seven essential components of science notebooks and the research-based evidence supporting their use.

**SESSION 3**

**Fifty Great Astronomy Resources in Fifty Minutes... All Free!**

**(Earth)**

(Elementary–High School) Grand Floridian Blrm. A, Conv. Center

**John McFarland** ([johanneskepler@att.net](mailto:johanneskepler@att.net)), Johannes Kepler Project, Charleston, S.C.

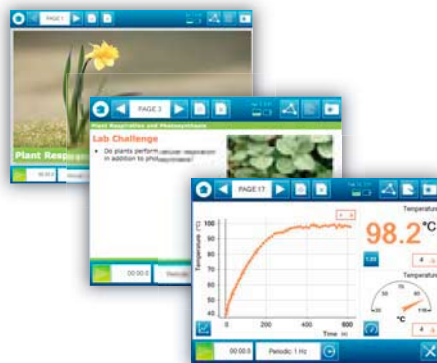
Johannes Kepler will show you where to find 50 great astronomy resources, including software, songs, applets, multimedia, summer workshops for teachers, and labs.





## Igniting 21st Century Science Learning

The 21st century demands a different approach to science learning. With the SPARKscience™ platform, you have a modern scalable and integrated science learning environment - supporting teachers and students in proven **standards-based** and inquiry-based science education.



SPARKscience offers more than 60 **SPARKlabs™** -- standards-based, guided inquiry labs in a unique electronic notebook format. These SPARKlabs completely integrate background content, data collection and analysis, even assessment--all within the same environment.



PASCO's SPARK science family includes both a stand-alone science learning environment - in the **SPARK science learning system** - as well as a computer-based solution with PASPORT **SPARKlink** and **SPARKvue** software.

**Join PASCO for One of Our Hands-On Workshops or Visit Us in Booth #1105**

**PASCO**® For more information visit: [www.pasco.com/spark](http://www.pasco.com/spark)

SESSION 4

**Critical Response Strategies: A Blueprint for Inquiry** (Gen)

(Elementary–High School) *Grand Floridian Blrm. D, Conv. Center*  
**William C. Metz** ([wmetzgolf@aol.com](mailto:wmetzgolf@aol.com)), Retired Educator, Fort Washington, Pa.

**Julia Gooding** ([chemteacher007@aim.com](mailto:chemteacher007@aim.com)), Science Education Consultant, Monaca, Pa.

Experience seven simple strategies for turning the act of teaching into the art of inquiry.

SESSION 5

**Introduction to Science Literacy Lab** (Gen)

(Elementary–Middle Level) *Grande Ballroom Salon A, Hilton*  
**Greg G. Moore**, Wilbur D. Mills Education Service Cooperative, Beebe, Ark.

Presider: Janet R. Bennett, Blytheville Middle School, Blytheville, Ark.

Promote literacy and teach about ecosystems using read-alouds. Subject-specific read-alouds can serve as anchor pieces that engage students in literacy skills and science processes.

SESSION 6

**LEEF and the Greening of Education** (Env)

(General) *Grande Ballroom Salon E, Hilton*  
**Tara L. Powers** ([tarapowers10@hotmail.com](mailto:tarapowers10@hotmail.com)), Rosenwald, Altamonte Springs, Fla.

**Dianne M. Stevens** ([dianne.stevens@sdhc.k12.fl.us](mailto:dianne.stevens@sdhc.k12.fl.us)), Thomlin Middle School, Plant City, Fla.

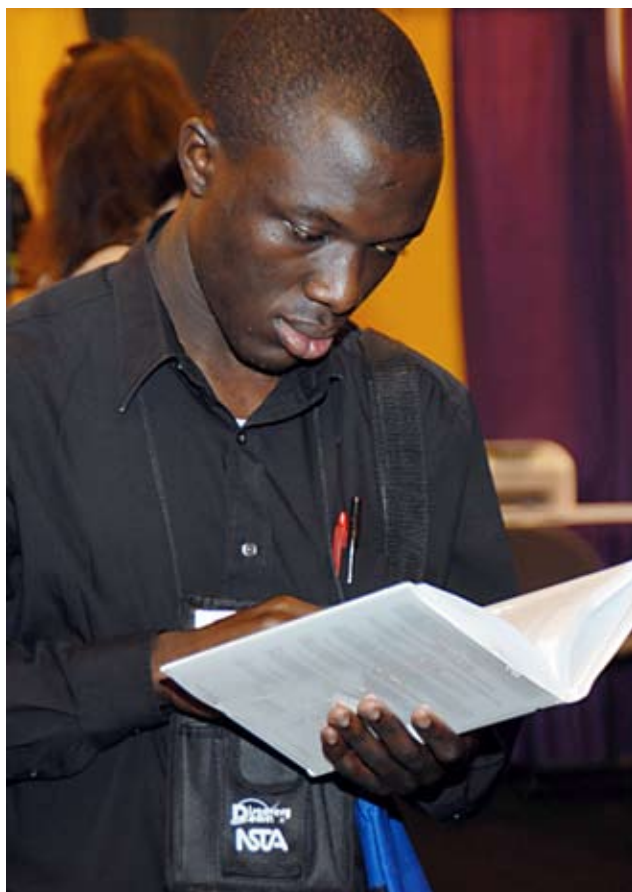
Move learning outdoors and leave “no child inside.” We’ll share resources and tools to help you “green” your curriculum.

SESSION 7

**Energyizing Physics** (Phys)

(High School) *Crystal Ballroom Salon II, Hyatt*  
**Jesse Southwick** ([jesse.southwick@gmail.com](mailto:jesse.southwick@gmail.com)), Boston Latin School, Boston, Mass.

Learn about an innovative introductory physics course built around the concept of energy.



11:00 AM–12 Noon Workshops



**Integrating Web 2.0 Technologies in Grades 6–12 Science** (Chem)

(Middle Level–High School) *Floridian Blrm. B/C, Conv. Center*  
**Michelina MacDonald** ([mmacdonald@pky.ufl.edu](mailto:mmacdonald@pky.ufl.edu)), **Julie Brown** ([jbrown@pky.ufl.edu](mailto:jbrown@pky.ufl.edu)) and **Mayra L. Codero**, P.K. Yonge Developmental Research School, Gainesville, Fla.  
Learn how to integrate student- and teacher-generated Web 2.0 technologies starting right now, including blogging, wikis, podcasting, and moodle and google docs.

**Ice Core Records—From Volcanoes to Stars** (Earth)

(High School–College/Informal) *Grand Floridian Blrm. B, Conv. Center*  
**Donna L. Young** ([donna.young@tufts.edu](mailto:donna.young@tufts.edu)), The Wright Center for Science Education, Tufts University, Medford, Mass.

**Pamela Perry** ([pperry@lewistonpublicschools.org](mailto:pperry@lewistonpublicschools.org)), Lewiston High School, Lewiston, Maine

**Douglas A. Lombardi** ([dalombardi@interact.ccsd.net](mailto:dalombardi@interact.ccsd.net)), Southern Nevada Regional Professional Development Program, North Las Vegas

Correlate and date supernova events from nitrate anomalies using absolute and relative dating techniques with high-resolution ice core data and historic volcanic eruptions.



**Global Connections: Forests of the World (Env)**  
(General) *Grand Floridian Blrm. C, Conv. Center*

**Al Stenstrup** ([astenstrup@forestfoundation.org](mailto:astenstrup@forestfoundation.org)) and **Jackie Stallard** ([jstallard@forestfoundation.org](mailto:jstallard@forestfoundation.org)), American Forest Foundation, Washington, D.C.

Explore the changing forests of the world with Project Learning Tree's new secondary module—Global Connections: Forest of the World. Take home the module and poster sets.



**NSTA Press Session: Teaching for Conceptual Change (Gen)**

(Elementary–Middle Level/Supervision) *Room 113, Conv. Center*  
**Page Keeley**, NSTA Retiring President, and Maine Mathematics and Science Alliance, Augusta

**Richard Konicek-Moran** ([konmor@comcast.net](mailto:konmor@comcast.net)), Retired Educator, Amherst, Mass.

Experience and learn about conceptual change teaching

strategies using the NSTA Press series *Uncovering Student Ideas in Science* and *Science Mystery Stories*.

**PSD Session: Laser Light: What Makes It So Special? (Phys)**

(Elementary–Middle Level) *Room 207/208, Conv. Center*

**Becky Thompson-Flagg** ([flagg@aps.org](mailto:flagg@aps.org)), American Physical Society, College Park, Md.

See how the properties of a laser make it different from a regular flashlight and why lasers are so important in current research. Take home a handout of all activities.

**ACS Session Three: Why Is Water Different? (Chem)**  
(High School) *Room 209/210, Conv. Center*

**Jerry A. Bell** ([j\\_bell@acs.org](mailto:j_bell@acs.org)), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

## Build your content knowledge through NSTA's Online Learning Center

- **Quality**—The Learning Center's online professional development materials have been researched, field-tested, and reviewed for content, accuracy and pedagogy by experts.
- **Accountability to Administrators**—With visible and integrated tracking and documentation tools, administrators can view, evaluate, and report the accomplishments of a teacher's PD experience online.
- **Custom Designed for the Individual**—Teachers and/or administrators can create a clear PD plan designed specifically for an individual's needs and learning preferences.
- **Convenient, Accessible, and Economical**—Teachers access the Learning Center 24/7 and work on building content knowledge at their personal convenience. No travel costs, no substitute teacher costs, no class time missed.
- **Research-based and Proven to Build Content Knowledge**—Teachers who participated in PD through the Learning Center showed significant content knowledge gains and identified themselves as "very confident" in their ability to teach the science content learned.\*

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](mailto: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."



**Cosmic Times: Astronomy History and Science for the Classroom (Earth)**

(Middle Level–High School) Atlantic Ballroom Section I, Hilton  
**James Lochner** (*james.c.lochner@nasa.gov*), Universities Space Research Association and NASA Goddard Space Flight Center, Greenbelt, Md.

NASA's Cosmic Times is a series of curriculum support materials that trace the history of our understanding of the universe during the past 100 years.

**Tesla Tales (Phys)**

(Middle Level–High School) Atlantic Ballroom Section II, Hilton  
**Carlos R. Villa** (*villa@magnet.fsu.edu*), National High Magnetic Field Laboratory, Tallahassee, Fla.

Take an electrifying journey through the history of electromagnetic discovery. Follow the shocking experiments of some of history's greatest scientists in this field of science.

**Embedded Formative and Summative Assessment (Chem)**

(Middle Level–High School) Grande Ballroom Salon B, Hilton  
**Greg Dodd** (*gbdodd@gmail.com*), George Washington High School, Charleston, W.Va.

Get some hands-on experience using formative and summative assessment in the science classroom to evaluate and improve science instruction and student comprehension.

**Helping High School Students Write Their Own Scientific Experiments (Gen)**

(High School) Crystal Ballroom Salon III, Hyatt  
**Kriste R. Dotti** (*kristen.dotti@catalystlearningcurricula.com*), Christ School, Arden, N.C.

Writing lab experiments can be a huge leap for students accustomed to cookbook-style labs. Learn strategies to help your students develop high-quality scientific experiments.

**AAPT Session: Promoting Interaction in Your Science Classroom with Personal Whiteboards (Phys)**

(Middle Level–College) Crystal Ballroom Salon IV, Hyatt  
**Eric Brewe** (*eric.brewe@fiu.edu*), Florida International University, Miami

Learn how to increase student interaction in the classroom through the use of whiteboards.

**11:00 AM–12 Noon Exhibitor Workshop**

**Tough Topics in Chemistry: States of Matter (Chem)**

(Grades 6–12) Room 305, Conv. Center  
Sponsor: PASCO Scientific

**Angela Hill**, Blythewood High School, Blythewood, S.C. Let's explore PASCO's state-of-the-art science teaching solutions to one of the toughest aspects of chemistry—states of matter. Participate in standards-based probeware lab activities from PASCO's new chemistry curriculum. Experience how the SPARK Science Learning System can enhance your teaching practice and improve student understanding of core topics.

**11:00 AM–1:00 PM Exhibitor Workshop**

**FOSS Chemical Interactions for Middle School Students (Chem)**

(Grades 5–8) Room 118/119, Conv. Center  
Sponsor: Delta Education/School Specialty Science–FOSS

**Jessica Penchos, Larry Malone, and Terry J. Shaw**, Lawrence Hall of Science, University of California, Berkeley

Join FOSS developers for an introduction to the particulate nature of matter. We'll investigate substances to learn about properties of matter, changes in matter, and energy interaction and transfer. Student books and course CD-ROMs will be distributed.

**11:30 AM–12 Noon Presentation**

**SESSION 1**

**NABT Session: Bringing College to the High School Biology Classroom: A Unique Program to Augment Learning in the Biological Sciences (Bio)**

(High School–College) Room 203/204, Conv. Center  
**Matthew J. Maurer** (*maurem@rmu.edu*), Robert Morris University, Moon Township, Pa.

**Lauralee J. Zelesnak** (*lzelesnak@mohawk.k12.pa.us*), Mohawk High School, Bessemer, Pa.

We will share a College-to-High School Credits (CHS) program designed to augment a high school biology curriculum while awarding college credit.

**12 Noon–1:15 PM Exhibitor Workshops**

**Introduction to Wisconsin Fast Plants® (Bio)**

(Grades K–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Kelly Branchaud**, Carolina Biological Supply Co., Burlington, N.C.

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 that include planting and pollinating seeds. Free materials.

**Introducing Straw Rockets in Your Classroom**

**(Phys)**

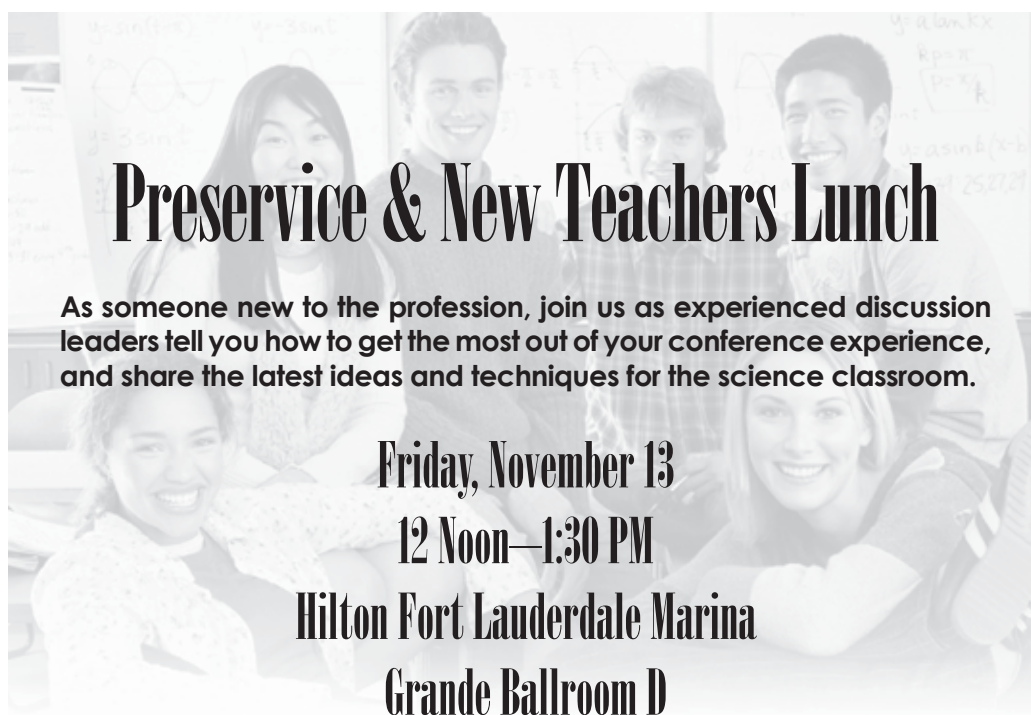
(Grades 2–12)

Room 125, Conv. Center

Sponsor: Pitsco Education

**Megan Barth**, Pitsco Education, Pittsburg, Kans.

For a fun, fast, and easy activity loaded with STEM potential, look no further than this workshop. Join us and easily explore force and motion, aerodynamics, and many other rocketry concepts.



**Preservice & New Teachers Lunch**

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.

**Friday, November 13**  
**12 Noon–1:30 PM**  
**Hilton Fort Lauderdale Marina**  
**Grande Ballroom D**

Tickets Required (M-2; \$12 on-site) and, if still available, must be purchased at the Registration Area by 12 Noon on **Thursday, November 12**.

*This event is generously sponsored by Kendall Hunt Publishing Company.*



**Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts** (Gen)

(Grades 6–12)

Room 221, Conv. Center

Sponsor: National Nanotechnology Infrastructure Network

**Nancy Healy** ([nancy.healy@mirc.gatech.edu](mailto:nancy.healy@mirc.gatech.edu)) and **Joyce Palmer** ([joyce.palmer@mirc.gatech.edu](mailto:joyce.palmer@mirc.gatech.edu)), Georgia Institute of Technology, Atlanta

The National Nanotechnology Infrastructure Network will present secondary science nanotechnology-focused lessons connected to basic science concepts and NSES content standards. Participants will perform hands-on activities that demonstrate how nano can be part of the secondary science classroom. Each participant will receive a CD of all instructional materials.

**It's Easy to Go Digital!** (Gen)

(Grades 4–College)

Room 301, Conv. Center

Sponsor: Swift Optical Instruments

**David Doty** and **Cynthia Syverson-Mercer**, Swift Optical Instruments, San Antonio, Tex.

Make science come alive by turning your classroom into a digital classroom. Let us show you simple and affordable techniques using microscopes and digital imaging products that you can use everyday. Learn how easy it is to use software and make it work with interactive whiteboards and other technology.

**STEMcart: Providing STEM Teachers with the Tools They Need** (Gen)

(Grades 6–10)

Room 302, Conv. Center

Sponsor: Lab-Volt Systems, Inc.

**Barbara Selin** ([bselin@labvolt.com](mailto:bselin@labvolt.com)), Lab-Volt Systems, Inc., Farmingdale, N.J.

See how easily STEMcart facilitates electronic data collection and graphing, wireless student reporting, and automatic student response systems—and build true STEM units from 268 cross-correlated activities. Without the tools, there will be no STEM!

**What's Next in a Science Text? Interact with Your Textbook!** (Gen)

(Grades 6–7)

Room 304, Conv. Center

Sponsor: Pearson

**Leslie A. Bettencourt**, Pearson, Port Saint Lucie, Fla.

We will showcase the next generation of Florida middle school science textbooks. We'll explore how you can make learning personal, engaging, and relevant for today's students by using three integrated pathways: an interactive write-in textbook, directed and open-ended hands-on inquiry labs, and interactive lessons online.

**Capturing Attention in the Chemistry Classroom** (Chem)

(Grades 9–12)

Room 315, Conv. Center

Sponsor: Houghton Mifflin Harcourt

**Mickey Sarquis** ([sarquiam@muohio.edu](mailto:sarquiam@muohio.edu)), Miami University, Middletown, Ohio

**Jerry Sarquis**, Miami University, Oxford, Ohio

*Modern Chemistry* authors Jerry and Mickey Sarquis show you how to spark imagination and interest in chemistry with simple but powerful tricks and tips. The Sarquises are recognized leaders in chemistry education initiatives.

**I See What You Mean: Developing Visual Literacy** (Gen)

(Grades 1–8)

Room 316, Conv. Center

Sponsor: Macmillan/McGraw-Hill and Glencoe

**Jo Anne Vasquez**, 1996–1997 NSTA President, and Helios Education Foundation, Phoenix, Ariz.

Interpreting and understanding the visuals and illustrations students encounter in their science texts is more than just luck. See what current research says and experience some new strategies for improving student understanding. Activities, handouts, and prizes.



**12 Noon–1:30 PM Luncheon****Preservice and New Teachers Luncheon (M-2)***(Tickets Required; \$12) Grande Ballroom Salon D, Hilton**Sponsored by Kendall Hunt Publishing Co.*

New to the profession? Join us for this lively and interactive function where you'll learn about all the NSTA resources at your fingertips for your science classroom, your career, and your own content knowledge. Enjoy a complete breakfast (generously sponsored by Kendall Hunt Publishing Company) while networking with other teachers new to the profession.

Tickets, if still available, must be purchased at the Ticket Sales Counter in the NSTA Registration Area before 12 Noon on Thursday.

*Note:* Tickets will be provided only to preservice teachers or teachers with up to five years of teaching experience.

**12 Noon–1:30 PM Exhibitor Workshops****Music, Sound, and Waves (Phys)***(Grades 5–12) Room 122/123, Conv. Center*

Sponsor: CPO Science/School Specialty Science

**Erik Benton**, CPO Science/School Specialty Science, Nashua, N.H.

The tabletop Sound and Waves machine enables participants to explore standing wave patterns on a vibrating string. This experiment builds a foundation for activities in which a classroom synthesizer is used to explore the nature of sound and music. You may even play music yourself on PVC palm pipes!

**Developing 21st-Century Minds with Vernier (Gen)***(Grades 7–College) Room 222, Conv. Center*

Sponsor: Vernier Software &amp; Technology

**Dan Holmquist** (*info@vernier.com*), Vernier Software & Technology, Beaverton, Ore.

Discover how technology can transform your classroom into a 21st-century laboratory. Explore state-of-the-art probeware solutions that help teach core science topics in physics, chemistry, biology, earth science, and environmental science. Learn tips and tricks from master teachers and technology experts and receive hands-on training with both Logger Pro and Vernier's LabQuest application.

**12:30–1:00 PM Presentation****SESSION 1****NARST Session: Strengths and Weaknesses of Question Analysis (Gen)***(Middle Level–College) Room 203/204, Conv. Center*

**Margaret R. Blanchard** (*meg\_blanchard@ncsu.edu*), North Carolina State University, Raleigh

Could question analysis be of use in understanding teachers' changes in classroom practice? I'll share my observations on secondary science teachers.

**12:30–1:30 PM NSTA ESP Symposium II****NSTA Exemplary Science Program (ESP)...Realizing the Visions of the National Standards: It Takes ESP to Find Exemplary Science Programs (Gen)***(General) Grande Ballroom Salon E, Hilton*

*Organized by Robert E. Yager, 1982–1983 NSTA President and Editor of the NSTA ESP Program*

*Coordinator: Joseph Stepan, University of Wyoming, Larami*

This session will include brief descriptions of programs that exemplify how the four NSES goals have been met. Discussion will center on how NSES *More Emphasis* suggestions have guided instruction. Participants in this symposium will include the following authors from specific monographs in the series.

**Exemplary Science Programs in Informal Education Settings**

**Betty Dunckel** (*bdunckel@flmnh.ufl.edu*), Florida Museum of Natural History, Gainesville

**Elizabeth Mulkerrin** (*elizabeth@omhazoo.com*), Omaha's Henry Doorly Zoo, Omaha, Neb.

**Robert T. Sparks** (*rsparks@noao.edu*), National Optical Astronomy Observatory, Tucson, Ariz.

**12:30–1:30 PM Presentations****SESSION 1****Integrating Web Adventures into Your Lessons (Bio)***(Middle Level) Floridian Blrm. B/C, Conv. Center*

**Leslie Miller** (*lmm@rice.edu*), Rice University, Houston, Tex.

**Lynn Lauterbach** (*lynnlauterach@gmail.com*), Loveland, Colo.

We will demonstrate four FREE web adventure games that teach science content and process skills along with the research that shows their impact.

SESSION 2

★ **English Language Development Strategies in Science** (Gen)

(General) *Floridian Blrm. D, Conv. Center*  
**Michael Klentschy** (*mpkdr@aol.com*), San Diego State University, Carlsbad, Calif.

We will focus on research-based classroom strategies that provide English learners with the opportunity and support necessary to effectively learn science and to close achievement gaps.

SESSION 3

**Preschool Science Education** (Env)

(Preschool/Informal) *Grand Floridian Blrm. C, Conv. Center*  
**Amy L. Fleischer** (*amy@mote.org*), Mote Marine Laboratory, Sarasota, Fla.

Learn how to create environmental science lessons based on early childhood development theory. We'll share fun lesson plans and craft ideas, from life cycles to shark tagging.

SESSION 4

**Understanding Shadows Isn't Easy** (Earth)

(Elementary) *Grand Floridian Blrm. D, Conv. Center*  
**Lloyd H. Barrow** (*barrowl@missouri.edu*), University of Missouri, Columbia

Elementary children are able to observe shadows but lack an understanding of how shadows are formed.

SESSION 5

**NSTA** **NSTA Avenue Session: The NSTA Learning Center: Free Classroom Resources and Professional Development for Educators** (Gen)

(Supervision/Administration) *Room 220, Conv. Center*  
**Flavio Méndez** (*fmendez@nsta.org*), Senior Director, NSTA Learning Center, NSTA, Arlington, Va.

Lost when it comes to finding online resources for your classroom? With over 2,400 resources (25% of which are free) and quality professional development opportunities to assist educators with core subject content, the NSTA Learning Center has the answers!

SESSION 6

**Professional Development Providers: What You Should Know and Be Able to Do** (Gen)

(General) *Grande Ballroom Salon E, Hilton*  
**Steve Rich** (*srich@doe.k12.ga.us*), Georgia Dept. of Education, Atlanta

**Marsha S. Winegarner** (*equscied@defuniak.com*), K–12 Science Program Specialist, DeFuniak Springs, Fla.

**Christine Anne Royce**, NSTA Director, Professional Development, and Shippensburg University, Shippensburg, Pa. Expanding on your professional development? NSTA's Professional Development Committee offers planning, delivery, and evaluation ideas for discussion and reflection.

SESSION 7

**NSTA High School Committee Presents Leading Beyond the Classroom** (Gen)

(High School) *Crystal Ballroom Salon I, Hyatt*  
**Jean Tushie** (*jtushie@comcast.net*), NSTA Director, High School, and Eden Prairie High School, Eden Prairie, Minn.

While science teachers enjoy their classroom experience, many look for opportunities to expand their leadership outside the classroom. In this session, we will share strategies for being an effective leader in your school. Additionally, we will share leadership opportunities with NSTA.

SESSION 8

**Invasion of Radio Frequency Interference** (Phys)

(High School) *Crystal Ballroom Salon II, Hyatt*  
**Steve Rapp** (*srapp@hgs.k12.va.us*), A. Linwood Holton Governor's School, Abingdon, Va.

Students explore the increase in radio frequency interference in their communities in a study sponsored by NASA and National Radio Astronomy Observatory. Get your students involved!

## 12:30–1:30 PM Workshops

**How to Use a Three-Pronged Approach to Teach Ecosystems** (Env)

(General)

*Floridian Blrm. A, Conv. Center***Karen L. Ostlund** (*klostlund@mail.utexas.edu*), Retired Professor, Austin, Tex.

Ensure student success in learning about ecosystems using hands-on activities, reading strategies, and continuous assessment.

**Solar Labs and Activities Workshop** (Earth)(Middle Level–High School) *Grand Floridian Blrm. A, Conv. Center***John McFarland** (*johanneskepler@att.net*), Johannes Kepler Project, Charleston, S.C.

Johannes Kepler will help teachers build a spectroscope, show how to make sunspot drawings to measure the Sun's rotational period, and offer several other solar-related activities.

**Keeping Things in Motion: Using Newton's Laws to Understand the Universe** (Earth)

(General)

*Grand Floridian Blrm. B, Conv. Center***Linda Smith** (*lsmith@paulsboro.k12.nj.us*), Paulsboro (N.J.) Public Schools

Involve your students in Newton's laws of motion using NASA posters. Try some activities and leave this workshop with posters and a CD.

**National Earth Science Teachers Association Earth Science Share-a-Thon** (Earth)

(Elementary–High School)

*Palm B, Conv. Center***Tom Ervin** (*tomervin@mchsi.com*), Retired Educator, Le Claire, Iowa**Carlotta Rody** (*carlotta.rody@browardschools.com*), Cross Creek School, Pompano Beach, Fla.**Roberta M. Johnson** (*rmjohnson@ucar.edu*), University Corporation for Atmospheric Research, Boulder, Colo.

Presider: Roberta M. Johnson

Join NESTA members and other education specialists as they share their favorite classroom activities. Lots of free handouts!

**NSTA Press Session: Stop Faking It! Finally Understand AIR, WATER, and WEATHER So You Can Teach It** (Earth)

(Elementary–Middle Level)

*Room 113, Conv. Center***Bill Robertson** (*wrobert9@ix.netcom.com*), NSTA Press Author, Woodland Park, Colo.Tired of teaching a subject you don't fully understand yourself? Did you know that hot air doesn't rise by itself and that gases don't necessarily expand when you heat them? Join the author of the *Stop Faking It!* books for a hands-on workshop that explains why.**PSD Session: Diffraction: Using Light to Measure** (Phys)

(Elementary–Middle Level)

*Room 207/208, Conv. Center***Becky Thompson-Flagg** (*flagg@aps.org*), American Physical Society, College Park, Md.

Use a laser and diffraction to measure the width of a human hair. Learn how laser light behaves when it interacts with something tiny. Take home a handout of all activities.

**ACS Session Four: Bond Connections in More Complex Molecules** (Chem)

(High School)

*Room 209/210, Conv. Center***Jerry A. Bell** (*j\_bell@acs.org*), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

**The Great Energy Debate Game** (Gen)(Middle Level–High School) *Grande Ballroom Salon B, Hilton***Rebecca Lamb** (*info@need.org*), The NEED Project, Manassas, Va.

Evaluate the advantages and disadvantages of the 10 major energy sources used in the United States through a fun classroom debate game.

**AAPT Session: Particle Physics in the Classroom with QuarkNet** (Phys)

(High School–College)

*Crystal Ballroom Salon IV, Hyatt***Jorge Rodriguez**, Florida International University, Miami

Bring the excitement of particle physics into the classroom with QuarkNet. This is the first of a two-part session (for part 2, see page 114).

### 1:00–2:00 PM Exhibitor Workshop

#### Tough Topics in Environmental Science: Field Data Collection and Water Quality Sampling (Env)

(Grades 6–12) Room 305, Conv. Center

Sponsor: PASCO Scientific

**Greg McDonald**, Westchester Academy for International Studies, Houston, Tex.

Let's explore PASCO's state-of-the-art science teaching solutions to one of the toughest aspects of environmental science investigations—field data collection. Participate in standards-based probeware lab activities from PASCO's new advanced environmental science curriculum. Experience how the SPARK Science Learning System can enhance your teaching practice and improve student understanding of core topics.

### 1:00–2:15 PM Exhibitor Workshop

#### Working as One with Hands and Minds (Gen)

(Grades K–8) Room 114, Conv. Center

Sponsor: Delta Education/School Specialty Science

**Tom Graika**, Consultant, Lemont, Ill.

**Johanna Strange**, Consultant, Richmond, Ky.

Students learn best when both their minds and their hands are engaged in classroom activities. A problem-solving approach to teaching promotes this kind of student learning. Delta Science Modules and technological activities will illustrate a variety of problem-solving strategies that lead to real learning. Participants receive a resource packet.

### 1:00–3:30 PM Exhibitor Workshop

#### Bio-Rad Forensic DNA Fingerprinting Kit (Bio)

(Grades 6–College) Room 317/318, Conv. Center

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** (*biotechnology\_explorer@bio-rad.com*), Bio-Rad Laboratories, Winston-Salem, N.C.

Use molecular scissors to create a DNA fingerprint. Restriction enzyme digestion and DNA gel electrophoresis are used to help determine which suspect committed the crime. Extend this kit with a plasmid mapping activity using the plasmid DNA restriction patterns from the experiment (AP Biology Lab 6).

### 1:00–5:30 PM FDA/NSTA Symposium

#### Teaching Science with Food Safety (SYM-2)

(Grades 5–12)

Palm A, Conv. Center

**Tickets Required: \$54**

**Sufian Alkhaldi** and **Sherri McGarry**, U.S. Food and Drug Administration, College Park, Md.

**Alan Tart**, U.S. Food and Drug Administration, Atlanta, Ga.

**Ken Bingham**, Blue Valley High School, Overland Park, Kans.

**Mimi Cooper**, Consultant, Green Cove Springs, Fla.

**Elena Stowell**, Kentwood High School, Covington, Wash.

For description, see page 33.

### 2:00–3:00 PM Featured Presentation



#### Advantages of Integrating Higher Technology into the Classroom (Gen)

(General)

Floridian Ballroom B/C, Conv. Center



**Emma Rader** (*erader@spaceflorida.gov*), Manager, Education Programs, Space Florida, Kennedy Space Center, Fla.

Presider: Janice Novello, Strand Leader, NSTA Fort Lauderdale Area Conference, Bradenton, Fla.

Emma Rader will discuss the advantages of integrating higher technology into the classroom and the impact of the inquiry method on education. Ms. Rader's experience stems from coordinating inquiry-based programs for students at the Kennedy Space Center (KSC), such as releasing 1,200-gram meteorological weather balloons with atmospheric and global positioning system (GPS) payloads and live cameras that transmit data back to ground stations at the KSC Visitor Complex.

*Ellen Rader has several years of experience working within the space industry and with various education activities, including the Space Florida Academy Program (provided for middle school and high school students, undergraduate/graduate students, and Florida teachers), Space and Aeronautics Internship Program (SAIP), Florida Space Research Program (FSRP), and Inquiry Training Equipping Teachers (ITET)—Teach the Teacher.*



**2:00–3:00 PM Meeting**

**National Science Education Leadership Association  
Open Membership Meeting**

*Dolphin, Hilton*

Join us (NSELA) to share your current insights and concerns. Discover this national NSTA affiliate group that is focused to meet the needs of science education leaders.

**2:00–3:00 PM Presentations**

**SESSION 1**



**Improving Real-World Connections and Science  
Comprehension in the Middle School Classroom**

**(Gen)**

*(General)*

*Floridian Blrm. A, Conv. Center*

**David M. Murduck** (*dave.murduck@neomin.org*), Champion Middle School, Warren, Ohio

Textbooks fail to engage? Incorporate picture books in the classroom to improve student comprehension. Enriching hands-on demonstrations used in conjunction with literature provide real-world connections. Free materials!

**SESSION 2**



**Life Science Labs for Students at Every Level (Bio)**

*(Middle Level–High School)*

*Floridian Blrm. D, Conv. Center*

**Jeneane M. Maddaloni** (*jmaddalo@pasco.k12.fl.us*) and **Christina Page**, Pasco High School, Dade City, Fla.

Learn to modify standard biology labs to engage all learning levels. Ready-to-go handouts!



**The Christopher Columbus  
Fellowship Foundation . . .**

. . . a Federal agency, partners with the U.S. Chamber of Commerce to present monetary **2010 Life Sciences Awards** to secondary school educators and AP science high school students; and with the American Farm Bureau Federation to present new monetary **2010 Agriscience Awards** to educators and students. *For more info:*

**(315) 258-0090**

**[www.columbusfoundationawards.org](http://www.columbusfoundationawards.org)**



**The Christopher  
Columbus Awards . . .**

. . . is a national, community-based science and technology competition for middle school students. Teams of three to four, with an adult coach, identify a problem in the community and apply the scientific method to solve the issue. This is a cross-curricular program that promotes science and technology while encouraging community service. *For more info:*

**[www.christophercolumbusawards.com](http://www.christophercolumbusawards.com)**

**SESSION 3**

**Become an Einstein Fellow! (Gen)**

(Elementary–High School) *Grand Floridian Blrm. C, Conv. Center*  
**Kirk Beckendorf** ([kirk.beckendorf@noaa.gov](mailto:kirk.beckendorf@noaa.gov)), Einstein Fellow, NOAA, Washington, D.C.

**Kathryn Culbertson** ([culbertsonk@triangle-coalition.org](mailto:culbertsonk@triangle-coalition.org)), Triangle Coalition for Science and Technology Education, Arlington, Va.

Become an Einstein Fellow and spend a year living in Washington, D.C., working on national education programs.

**SESSION 4**

**Classroom Teachers: Using Multiple Strategies to Engage Learners in Scientific Inquiry (Gen)**

(Elementary) *Grand Floridian Blrm. D, Conv. Center*

**Theodore J. Richter, Kim Rostick, Linda Wenzel, Michelle Hill, and Vickii Ausburn**, Independent Day School, Tampa, Fla.

We'll share research-based strategies that motivate the learner and model team teaching, cooperative learning, multi-age instruction, and multiple intelligences.

**SESSION 5**

**NARST Session: Enhancing Reform-based Preservice Elementary Science Teaching Practices Through Out-of-School-Time Teaching (Gen)**

(College/Informal Education) *Room 203/204, Conv. Center*

**Tina J. Cartwright** ([tina.cartwright@marshall.edu](mailto:tina.cartwright@marshall.edu)) and **Katie McDilda** ([katie.mcdilda@marshall.edu](mailto:katie.mcdilda@marshall.edu)), Marshall University, Huntington, W.Va.

Research in Appalachia schools has revealed changes in teaching practices of elementary preservice teachers through significant out-of-school-time teaching.

**SESSION 6**

**Dark Skies as a Universal Resource (Earth)**

(Elementary–High School) *Atlantic Ballroom Section II, Hilton*

**Robert T. Sparks** ([rsparks@noao.edu](mailto:rsparks@noao.edu)), National Optical Astronomy Observatory, Tucson, Ariz.

Learn how your students can become involved with helping preserve our dark skies through a unique citizen science project called Globe at Night.

**SESSION 7**

**Integrating the Story of Science Throughout the Curriculum (Gen)**

(Middle Level–High School) *Grande Ballroom Salon A, Hilton*  
**Juliana Texley** ([jtexley@att.net](mailto:jtexley@att.net)), Palm Beach Community College, Boca Raton, Fla.

NSTA has developed two free publications of activities and curriculum materials to facilitate the development of programs that integrate the *Story of Science* series with science process and other disciplines. See how to build such a program, explore the resources available on NSTA's website, and discuss the award-winning informational text with the authors.

**SESSION 8**

**Understanding Sustainability: A Two-Week Unit for the Middle School Science Classroom (Env)**

(Middle Level–High School) *Grande Ballroom Salon E, Hilton*

**Thomas R. Allison** ([kalyanamitras@cfl.rr.com](mailto:kalyanamitras@cfl.rr.com)), Lake Weir Middle School, Summerfield, Fla.

Develop students' understanding of global interdependency by integrating sustainability concepts into your science classes. Take home the curriculum.

**SESSION 9**

**NSTA High School Committee Share Session (Gen)**

(High School) *Crystal Ballroom Salon I, Hyatt*

**Jean Tushie** ([jtushie@comcast.net](mailto:jtushie@comcast.net)), NSTA Director, High School, and Eden Prairie High School, Eden Prairie, Minn.

The NSTA High School Committee highlights excellent presenters sharing inquiry and assessment through best practices, teaching tips, labs, and activities. Join us for some GREAT ideas

**SESSION 10**

**Storytelling and Case Studies in Science Education (Env)**

(High School) *Crystal Ballroom Salon II, Hyatt*

**Anthony C. Derriso**, ([acderriso@crimson.ua.edu](mailto:acderriso@crimson.ua.edu)), The University of Alabama, Tuscaloosa

Use case studies to capture students' imagination. They become a part of a story and learn science without even realizing it.

2:00–3:00 PM Workshops

★ **Bring Literacy and Science Together: B.L.A.S.T.© for Success at School and Home** (Gen)

(Elementary) Grand Floridian Blrm. A, Conv. Center

**Margaret Dee** ([drpeggydee@verizon.net](mailto:drpeggydee@verizon.net)) and **Renee G. O’Leary**, Caravel Academy, Bear, Del.

Discover simple, multisensory hands-on explorations for grades 2–5 using fairy tales as catalysts. Activities include take-home and language arts follow-up. Leave with sample plans and materials.

**How Do We Know? Using the Electromagnetic Spectrum to Explore the Universe** (Earth)

(General) Grand Floridian Blrm. B, Conv. Center

**Linda Smith** ([lsmith@paulsboro.k12.nj.us](mailto:lsmith@paulsboro.k12.nj.us)), Paulsboro (N.J.) Public Schools

Learn how to use ordinary supplies to teach students about light at different wavelengths and how NASA scientists use the electromagnetic spectrum to map the universe. NASA giveaways.

**National Earth Science Teachers Association Rock and Mineral Raffle** (Earth)

(General) Palm B, Conv. Center

**Parker O. Pennington IV** ([parkiv@umich.edu](mailto:parkiv@umich.edu)), Retired Educator, Ann Arbor, Mich.

**Roberta M. Johnson**, University Corporation for Atmospheric Research, Boulder, Colo.

President: **Ron Fabick** ([rfabick@zoominternet.net](mailto:rfabick@zoominternet.net)), Medina, Ohio

Win display-quality specimens of rocks, minerals, fossils, and other earth science–related materials while learning about earth materials from areas other than your own.

“With FOSS, students are engaged in learning about science.”

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— Marlene Felix, Director  
Elementary History/Social Science and Science  
Los Angeles Unified School District



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**LHS**  
Lawrence Hall of Science

FOSS engages students and results in a deep understanding of science concepts. FOSS is research-based and extensively field-tested in diverse schools across the country. FOSS works because students learn science best by doing science.

To learn more, schedule a presentation, or participate in a pilot, call 800-258-1302 or visit [www.deltaeducation.com/FOSS](http://www.deltaeducation.com/FOSS).

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 **NSTA Press Session: Stop Faking It! Finally Understand ELECTRICITY and MAGNETISM So You Can Teach It** (Phys)

(Elementary–Middle Level) Room 113, Conv. Center

**Bill Robertson** ([wrobert9@ix.netcom.com](mailto:wrobert9@ix.netcom.com)), NSTA Press Author, Woodland Park, Colo.

Join the author of the *Stop Faking It!* books for a hands-on workshop covering key content in electricity and magnetism. Knowledge given away free to all participants. Lame jokes quite probable.

**PSD Session: Dynamic System Earth: Water, Life, Land, and Air** (Earth)

(Elementary–Middle Level) Room 207/208, Conv. Center

**Ann Benbow**, American Geological Institute, Alexandria, Va.

Analyze common systems and apply the systems approach to the geosphere to model and locate earthquakes. Take home a handout of all activities.

**ACS Session Five: Chemistry of Aqueous Solutions of Gases** (Chem)

(High School) Room 209/210, Conv. Center

**Jerry A. Bell** ([j\\_bell@acs.org](mailto:j_bell@acs.org)), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

**Accessible Technology to Bring Climate and Climate Change to Your Students** (Earth)

(Elementary–High School) Atlantic Ballroom Section I, Hilton

**Preston M. Lewis, Jr.** ([preston.lewis@nasa.gov](mailto:preston.lewis@nasa.gov)), SSAI/NASA Langley Research Center, Hampton, Va.

Learn about two NASA education projects that can help you teach about climate and climate change while integrating authentic uses of technology in the classroom.

**Renewables Are Ready! Are You?** (Gen)

(Middle Level–High School/Informal) Grande Ballroom Salon B, Hilton

**Susan T. Schleith** ([susan@fsec.ucf.edu](mailto:susan@fsec.ucf.edu)) and **Penny Hall** ([penny@fsec.ucf.edu](mailto:penny@fsec.ucf.edu)), Florida Solar Energy Center, Cocoa  
**William Young** ([young@fsec.ucf.edu](mailto:young@fsec.ucf.edu)), University of Central Florida, Cocoa

Explore renewable energy technologies such as solar thermal, photovoltaics, and hydrogen power as solutions to our most pressing global issues. Take home free materials. Door prizes!

**Teaching AP Environmental Science with Games and Models** (Env)

(High School) Crystal Ballroom Salon III, Hyatt

**Kristen R. Dotti** ([kristen.dotti@catalystlearningcurricula.com](mailto:kristen.dotti@catalystlearningcurricula.com)), Christ School, Arden, N.C.

Congressional cocktail parties, power plant exchange programs, carrying-capacity scurry games—could this be AP science? Come see hands-on learning with rigorous AP content.

**AAPT Session: Bridging the Gaps: Physics Student to Preservice Teacher to Inservice Teacher** (Phys)

(High School–College) Crystal Ballroom Salon IV, Hyatt

**Laird Kramer** and **David Jones** ([djones@fiu.edu](mailto:djones@fiu.edu)), Florida International University, Miami

Learning communities provide members with opportunities to collaborate with colleagues; enhance their content, pedagogical, and content pedagogical knowledge; and provide mentoring.



**2:00–3:15 PM Exhibitor Workshops**

**Take the Leap: Carolina’s Perfect Solution® Frog Dissection** (Bio)

(Grades 6–12) Room 124, Conv. 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. Practice basic classroom dissection techniques and explore the anatomy and physiology of the frog. Free dissection supplies and door prizes.



### Discover the Solar System and Beyond with GEMS® Space Science Sequences (Earth)

(Grades 3–8) Room 125, Conv. Center

Sponsor: Carolina Biological Supply Co.

#### Carolina Teaching Partner

GEMS, along with Carolina Curriculum, is launching the innovative Space Science Sequences, which provide a coherent, standards-based curriculum while addressing key space science concepts for grades 3–8.

### A Natural Approach to Chemistry (Chem)

(Grades 9–12) Room 221, Conv. 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 course takes a fresh look at how chemistry is used today in and out of the laboratory. 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.

### Experience Digital Physics Curriculum (Phys)

(Grades 9–College) Room 301, Conv. Center

Sponsor: Kinetic Books

**Mark Bretl**, 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.

### MS Degree in Geosciences Via Distance Learning from Mississippi State University (Earth)

(Grades K–12) Room 302, Conv. Center

Sponsor: Mississippi State University

**Doug Gillham** ([dmg3@msstate.edu](mailto:dmg3@msstate.edu)) and **Kathleen M. Sherman-Morris** ([kms5@msstate.edu](mailto:kms5@msstate.edu)), Mississippi State University, Mississippi State, Miss.

Discover how you can earn an MS degree in geosciences via distance learning through the Teachers in Geosciences program. Our 12-course, 36-credit hour graduate program is designed to take two years and includes courses in meteorology, geology, planetary science, oceanography, hydrology, and environmental geoscience. Over 250 students from across the country and around the world are enrolled.

### Ensure Your Students' Success on the AP\* Chemistry Exam (Chem)

(Grades 9–12)

Room 304, Conv. 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.

*\*AP is a registered trademark of the College Board, which was not involved in the production of this product.*

### Bring Biology to Life (Bio)

(Grades 9–12)

Room 315, Conv. Center

Sponsor: Houghton Mifflin Harcourt

**Jeannie Dennard** ([jeannie\\_dennard@hmhpub.com](mailto:jeannie_dennard@hmhpub.com)), Houghton Mifflin Harcourt, Boston, Mass.

One of the most effective strategies for engaging and motivating students is to connect the subject to students' daily lives. All too often, students think that success in a biology course comes from memorizing facts and terms, yet they have no personal connection to motivate their interest or imagination. Biology offers a unique opportunity to engage students because almost everything in today's world is affected by biological discoveries.

### Teaching Science with Foldables (Gen)

(Grades 3–12)

Room 316, Conv. Center

Sponsor: Macmillan/McGraw-Hill and Glencoe

**Dinah Zike**, Dinah-Might Adventures, LP, San Antonio, Tex.

Learn how to improve your students' reading and study skills with Foldables. These interactive, hands-on graphic organizers will revolutionize the way you teach and the way your students study. Participants will make their own examples and learn strategies for implementing this powerful learning tool.

### 2:00–3:30 PM Exhibitor Workshop

#### Chemistry and the Atom: Fun with Atom-building Games! (Chem)

(Grades 5–12) Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Erik Benton**, CPO Science/School Specialty Science, Nashua, N.H.

Our understanding of matter is so abstract that students have a hard time making sense of these fascinating concepts. In this workshop, you will experience innovative games and activities that give students with different learning styles opportunities to explore and grasp atomic structure and the periodic table.

#### Developing 21st-Century Minds with Vernier (Gen)

(Grades 7–College) Room 222, Conv. Center

Sponsor: Vernier Software & Technology

**Dan Holmquist** ([info@vernier.com](mailto:info@vernier.com)), Vernier Software & Technology, Beaverton, Ore.

Discover how technology can transform your classroom into a 21st-century laboratory. Explore state-of-the-art probeware solutions that help teach core science topics in physics, chemistry, biology, earth science, and environmental science. Learn tips and tricks from master teachers and technology experts and receive hands-on training with both Logger Pro and Vernier's LabQuest application.

### 2:00–4:30 PM Exhibitor Workshop

#### Making Sense of Science Notebooks with FOSS 3–6 (For Experienced Users) (Gen)

(Grades 3–6) Room 118/119, Conv. Center

Sponsor: Delta Education/School Specialty Science—FOSS

**Ellen Mintz**, Consultant, Charleston, S.C.

**Joanna Totino**, **Brian T. Campbell**, and **Diana Valez**, Lawrence Hall of Science, University of California, Berkeley

**Jeri Calhoun**, Science Associate, Isle of Palms, S.C.

Through a hands-on FOSS investigation, we'll expand on the essential elements of student-centered science notebooks, look for evidence of learning, and explore ways to provide effective feedback. We'll demonstrate how to use notebooks to guide instruction through embedded assessments and next-step strategies. Sample materials provided.

### 2:30–3:00 PM Presentation

#### SESSION 1

#### Nontraditional Grading in a Traditional Environment (Gen)

(General) Room 223, Conv. Center

**Jesse Southwick** ([jesse.southwick@gmail.com](mailto:jesse.southwick@gmail.com)), Boston Latin School, Boston, Mass.

Learn about an untraditional grading method that involves self-assessment and reflection.

### 2:30–4:00 PM Exhibitor Workshop

#### Use the SPARK Science Learning System to Enhance Hands-On Science (Gen)

(Grades 6–12) Room 305, Conv. Center

Sponsor: PASCO Scientific

**Angela Hill**, Blythewood High School, Blythewood, S.C.

**Rhonda Rosales**, PASCO Scientific, Roseville, Calif.

To prepare science learners today for the demands of tomorrow, PASCO introduces the SPARK Science Learning System. See how its design can help you transform your classroom into a 21st-century learning environment. Participate in a powerful, memorable learning experience as you complete one of the 60 pre-installed lab activities. Learn how interacting with real-time data collection on a mobile device that delivers full-color touch screen visualizations can change the experience of science learning for your students!

**3:30–4:30 PM Presentations****SESSION 1****NABT Session: Science Education, What For? Answered by the Aesthetic Realism Teaching Method!** (Bio)*(Middle Level–High School)* Room 203/204, Conv. Center**Rosemary Plumstead** ([aldersgate@msn.com](mailto:aldersgate@msn.com)), Retired Educator, Bloomfield, N.J.**Sarah Ross** ([s.ross3@verizon.net](mailto:s.ross3@verizon.net)), Retired Educator, New York, N.Y.

Using exciting demos illustrating the importance of enzymes, we will demonstrate how the Aesthetic Realism Teaching Method captures students' interest and promotes learning.

**SESSION 2****Writing for NSTA's Journals** (Gen)*(General)*

Room 220, Conv. Center

**Ken Roberts**, Assistant Executive Director, Journals, NSTA, Arlington, Va.

Meet the editors of NSTA's journals and learn how to prepare and submit your article for publication.

**3:30–4:30 PM Workshops****PSD Session: Energy and the Earth System** (Earth)*(Elementary–Middle Level)* Room 207/208, Conv. Center**Ann Benbow**, American Geological Institute, Alexandria, Va.

Investigate potential and kinetic energy in the Earth system by creating and observing convection cells, exploring the effect of heat on lava flow, and studying the topography of volcanoes. Take home a handout of all activities.

**ACS Session Six: Coupled Reactions, Energetics, and Chemical Bonds** (Chem)*(High School)*

Room 209/210, Conv. Center

**Jerry A. Bell** ([j\\_bell@acs.org](mailto:j_bell@acs.org)), American Chemical Society, Washington, D.C.

Engage in activities, discussion, analyses, and assessment that help understanding of the chemical bond and how it is responsible for the properties of matter.

**NSTA Press Session: Stop Faking It! Finally Understand CHEMISTRY So You Can Teach It** (Chem)*(Elementary–Middle Level)*

Room 113, Conv. Center

**Bill Robertson** ([wrobert9@ix.netcom.com](mailto:wrobert9@ix.netcom.com)), NSTA Press Author, Woodland Park, Colo.

Quit having your students memorize the periodic table. Instead, learn how you and your students can understand atomic structure so that the table becomes an organizational tool instead of an end in itself. Join the author of the *Stop Faking It!* books for hands-on activities and irreverence.



### 3:30–4:45 PM General Session

#### Saving Species: Science to the Rescue

(General) Grand Floridian Ballroom E–H, Conv. Center



**Julie Scardina**, Animal Ambassador, SeaWorld, Busch Gardens, and Discovery Cove, San Diego, Calif.

President: Pat Shane, NSTA President, and The University of North Carolina at Chapel Hill

Introduction of Speaker: Jane Hart, West Palm Beach, Fla.

Platform Guests: Julie Scardina; Pat Shane; Jane Hart; Page Keeley, NSTA Retiring President, and Maine Mathematics and Science Alliance, Augusta; Alan J. McCormack, NSTA President-Elect, and San Diego State University, San Diego, Calif.; Tom Medcalf, Chairperson, NSTA Fort Lauderdale Area Conference, President, Florida Association of Science Teachers, and Palm Beach County School District, West Palm Beach, Fla.; Peggy Cook, Program Coordinator, NSTA Fort Lauderdale Area Conference, and Lake Worth Middle School, Lake Worth, Fla.; J.P. Keener, Local Arrangements Coordinator, NSTA Fort Lauderdale Area Conference, and School Board of Broward County, Fort Lauderdale, Fla.; Kelly Price, NSTA Director, District V, and Forsyth County Schools, Cumming, Ga.; Francis Q. Eberle, NSTA Executive Director, Arlington, Va.

Join Julie Scardina, animal ambassador for SeaWorld and Busch Gardens, for a special presentation aimed at celebrating how science and technology are helping save at-risk animals and entire ecosystems. Experience some extraordinary exotic animals while also learning how we humans, from students and teachers here in the U.S. to veteran conservationists around the world, are stepping up in big ways to protect wildlife and wild places. Stop by the SeaWorld and Busch Gardens booth in the exhibit hall during the conference and receive a free *Saving a Species: Science to the Rescue* classroom curriculum guide to help engage and inspire new generations of conservationists.

*In addition to working with the media, Julie Scardina works with many conservation organizations, including the National Wildlife Federation and World Wildlife Fund. In support of the SeaWorld & Busch Gardens Conservation Fund, she travels around the world to learn firsthand about conservation issues and raise awareness of worldwide conservation efforts.*

### 4:00–5:00 PM Exhibitor Workshop

#### Bio-Rad Cloning and Sequencing Explorer Series (Bio)

(Grades 6–College) Room 317/318, Conv. Center

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** ([biotechnology\\_explorer@bio-rad.com](mailto:biotechnology_explorer@bio-rad.com)), Bio-Rad Laboratories, Winston-Salem, N.C.

Get your students published in GenBank! In this unique modular lab series, students are guided through an innovative research workflow identical to those performed in genomics labs worldwide. Learn about this multiple-week lab course where students combine traditional and cutting-edge molecular biology techniques and bioinformatics to clone, sequence, and analyze a housekeeping gene from a plant of your choice, ensuring that each class produces unique and novel data.

### 4:00–5:15 PM Exhibitor Workshops

#### Need “Energy” in Your Environmental Classes? Learn About Carolina’s NEW Inquiries in Science™ Environmental Series (Env)

(Grades 9–12) Room 124, Conv. Center

Sponsor: Carolina Biological Supply Co.

**Kelly Branchaud**, Carolina Biological Supply Co., Burlington, N.C.

Looking for relevant, exciting lab activities for environmental science? Investigate climate change and explore alternative energy sources in this inquiry-based workshop. This series provides hands-on activities to make teaching challenging topics effortless. Free teacher materials and door prizes!

#### DNA on a Chain (Bio)

(Grades 6–12) Room 125, Conv. Center

Sponsor: WARD’s Natural Science

**Joe Iacono** ([joe\\_iacono@vwreducation.com](mailto:joe_iacono@vwreducation.com)), WARD’s Natural Science, Tonawanda, N.Y.

Learn to extract DNA from cheek tissue, collect cells, lyse cell membranes, separate DNA from other cell contents, and isolate DNA in an easy experiment that uses a minimal amount of materials. Make your own DNA necklace to take with you!



***A Natural Approach to Chemistry* (Chem)***(Grades 9–12)* Room 221, Conv. 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 course takes a fresh look at how chemistry is used today in and out of the laboratory. 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.

**Pluto Yet Again! (Earth)***(Grades K–12)* Room 301, Conv. Center

Sponsor: Starry Night Education

**Herb Koller** (*hkoller@simcur.com*), Starry Night Education, New York, N.Y.

This workshop will explore the unique aspects of Pluto leading to its reclassification. Using technology in the classroom, participants will learn how they can explain Pluto's unique orbit, structure, and size using contemporary simulation tools.

**Living by Chemistry: Feeling Under Pressure****(Chem)***(Grades 9–11)* Room 302, Conv. Center

Sponsor: Key Curriculum Press

**Jeffrey Dowling** (*jdowling@keypress.com*), Key Curriculum Press, Emeryville, Calif.

Teach rigorous chemistry with guided inquiry. The gas laws can be challenging for students, but hands-on experiences can help them to make sense of gas behavior. Explore activities that help students understand gas behavior and gas laws through a weather context. Sample lessons from Living by Chemistry provided.

**Planet Diary: Web-based Science News and Activities Engage Students in Science (Gen)***(Grades 6–8)* Room 304, Conv. Center

Sponsor: Pearson

**Jack Hankin**, Pacifica, Calif.

Jack Hankin, creator of the beloved (and free!) PlanetDiary.com, will discuss how to use Earth's Journal, Earth's Calendar, and many of the site's rich activities to increase student engagement and achievement in science. Learn how to use Planet Diary to introduce concepts and demonstrate student mastery in a way that both captivates and helps students see the science in their everyday lives.

**Misconception Mania: Exciting and Engaging Ways to Address Common Misunderstandings in Science (Gen)***(Grades K–8)*

Room 315, Conv. Center

Sponsor: Houghton Mifflin Harcourt

**Michael DiSpezio** (*icaris@aol.com*), Science Writer and Educational Consultant, North Falmouth, Mass.

Join Houghton Mifflin Harcourt and Michael DiSpezio for an entertaining and eye-opening survey of common misconceptions in science. Not only will you expand your awareness of science myths through game show–style interactions, you'll engage in a variety of easy-to-repeat and inexpensive activities that address misunderstandings about gravity, electricity, sound, and light.

**Teaching Science with Foldables (Gen)***(Grades 3–12)*

Room 316, Conv. Center

Sponsor: Macmillan/McGraw-Hill and Glencoe

**Dinah Zike**, Dinah-Might Adventures, LP, San Antonio, Tex.

Learn how to improve your students' reading and study skills with Foldables. These interactive, hands-on graphic organizers will revolutionize the way you teach and the way your students study. Participants will make their own examples and learn strategies for implementing this powerful learning tool.

**4:00–5:30 PM Exhibitor Workshop****Collision Physics: A Smashing Good Time! (Phys)***(Grades 5–12)*

Room 122/123, Conv. Center

Sponsor: CPO Science/School Specialty Science

**Patsy Eldridge**, CPO Science/School Specialty Science, Nashua, N.H.

What happens when you launch a car on a track system and hit another car? You can change the force used to launch the moving car and the mass of both the moving car and target car. See how concepts can meet mathematics and accurate data collection in a SMASHING investigation.

### 5:00–6:30 PM Reception

#### Student Chapter and Student Members Reception

*(By Invitation Only) Atlantic Ballroom Section III/IV, Hilton*

This very special reception for NSTA student members has been created especially to recognize and honor your hard work and enthusiasm as you begin what is hopefully a long and fruitful career toiling in the vineyards of education. If your school has an NSTA Student Chapter, bring examples of the work of your chapter, best practices, and stories to share with students at institutions that don't yet have a chapter. If your school does not yet have an NSTA Student Chapter, hear your future colleagues' best practices and learn about starting and running a successful chapter at your school. Hors d'oeuvres and refreshments will be served as you network with your peers. You'll also get to hear from and share your insights with key NSTA leadership, including NSTA President Pat Shane.

### 7:00–10:00 PM Social

#### Desserts and Discovery in 3-D: An Evening at the Museum of Discovery and Science (M-3)

*(Tickets Required; \$36) Museum of Discovery and Science*

Network with colleagues as you enjoy dessert and coffee in the Museum of Discovery and Science in downtown Fort Lauderdale. The museum is home to more than 200 fascinating interactive exhibits. Walk the nature trails in the Living in the Everglades exhibit. Fasten your seatbelts and get ready to fly in Runways to Rockets. Explore some of the world's most unique ecosystems in Florida EcoScapes.

Learn about science in a new way. Sit back and enjoy an exciting presentation by "Mr. Electricity" Robert Krampf, who is famed for his high-voltage demonstrations of electricity, lightning, and fire. Mr. Krampf's "Experiment of the Week" is e-mailed to over 180,000 households in more than 95 countries. Mr. Krampf will demonstrate his replica of a Tesla coil, a Van de Graaff generator, and much, much more.

Then, explore the beauty and natural wonder of the oceans, as well as the impact of global climate change, in a uniquely inspirational and entertaining way. Under the Sea 3-D, a new IMAX™ 3-D adventure, will transport you to some of the most exotic and isolated undersea locations on Earth. Experience face-to-face encounters with some of the most mysterious and stunning creatures of the sea.

Shuttles will leave for the museum from the Convention Center from 6:45 to 8:30 PM. Shuttles will return participants to route hotels at 9:00, 9:30, and 10:00 PM.

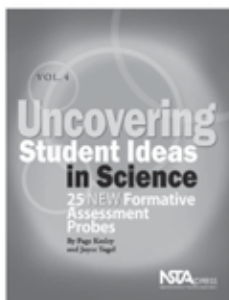
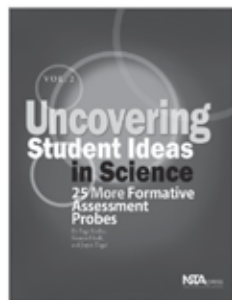
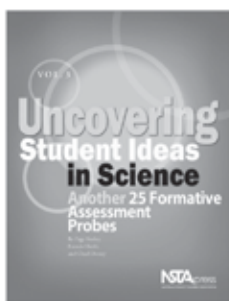
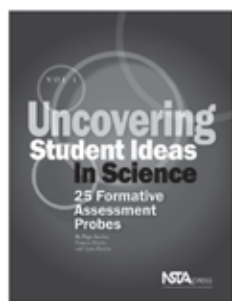
*Tickets, if still available, must be purchased at the Ticket Sales Counter in the NSTA Registration Area before 12 Noon on Thursday.*



# Experience “ah-ha” moments with NSTA’s *Uncovering Student Ideas in Science Series*

*“Finally a down-to-earth, research-based source that teachers can read today and begin using tomorrow.”*

— K-12 Science Supervisor



- Ideal for K-12 science teachers, preservice teachers, professional developers, and college science and methods professors.
- 4 bestsellers packed with lesson plans and teaching strategies that dispel students’ preconceptions about science
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Call 1-800-277-5300 to order by phone.

**NSTA** National  
Science  
Teachers  
Association





—Photo courtesy of Blue Moon Outdoor Center



## 7:30–9:00 AM PreK–8 CESI Breakfast

### GEMS-U: Girls Engaged in Math and Science University—Opening the World of Math and Science to Girls (M-4)

(Tickets Required; \$33)

Palm A/B, Conv. Center



Shannon Parks



Stephanie Ann Baird

**Shannon Parks**, ALEX and Thinkfinity State Administrator, Alabama Dept. of Education, Montgomery

**Stephanie Ann Baird**, ALEX Project Manager, The University of Alabama at Birmingham

Enjoy a delicious breakfast and a motivating presentation by speakers Shannon Parks and Stephanie Ann Baird about the Alabama Learning Exchange (ALEX), which provides resources to capture girls' interest in math and science. The speakers will take us on a walking tour of the program's contents, including lesson plans designed for the unique way girls learn. They will also review the research on girls' involvement in math and science and strategies for using the internet and technology to build girls' interest and proficiency. Girls' issues related to math and science academics and career opportunities will also be examined.

## 8:00–9:00 AM Presentations

### SESSION 1

#### Virtual Middle School Science (Gen)

(Elementary–Middle Level) Grand Floridian Blrm. A, Conv. Center  
**Michelle Hankey**, St. Andrew Catholic School, Cape Coral, Fla.

Be an “armchair scientist”! Take a field trip without leaving your classroom using online guided resources.

### SESSION 2

#### Creating Science Learning Communities on the Social Network (Gen)

(General) Room 220, Conv. Center

**Brenda Conway** ([bconway@ms.spotsylvania.k12.va.u](mailto:bconway@ms.spotsylvania.k12.va.u)), Ni River Middle School, Spotsylvania, Va.

**Corey J. Peloquin** ([corey.peloquin@technosavvyteacher.com](mailto:corey.peloquin@technosavvyteacher.com)), Coleman Middle School, Tampa, Fla.

“We sites” such as Facebook and Twitter can be used to connect your students to NASA missions and other online science learning communities.

## 8:00–9:00 AM Workshops



### Sweet Sustainable Education Resources: Bananas and Rain Forest Conservation in Honduras (Env)

(Elementary–High School) Floridian Blrm. A, Conv. Center

**Al Stenstrup** ([astenstrup@forestfoundation.org](mailto:astenstrup@forestfoundation.org)), American Forest Foundation, Washington, D.C.

**Julianne Schrader** ([jschrader@ra.org](mailto:jschrader@ra.org)), Rainforest Alliance, New York, N.Y.

Sample lessons by Rainforest Alliance and Project Learning Tree that were created to teach the wonders of rain forests and the importance of sustainable agriculture in protecting Honduras's resources.



### Effectively Using Video Production in the Science Classroom (Gen)

(Elementary–High School) Floridian Blrm. B/C, Conv. Center

**Lisa V. Milenkovic** ([lisa.milenkovic@browardschools.com](mailto:lisa.milenkovic@browardschools.com)) and **Rhonda Weimann** ([rhonda.weimann@browardschools.com](mailto:rhonda.weimann@browardschools.com)), Eagle Point Elementary School, Weston, Fla.

Learn how students can create authentic work products using video production, including documenting the local ecosystem, producing a local weather forecast, or demonstrating natural or physical phenomena.

**Service Learning and Environmental Education** (Env)

(General) Grand Floridian Blrm. B, Conv. Center  
**Sheryl Terepka** (*sthom51259@embarqmail.com*), Florida Learn and Serve, Cape Coral

**Holly Rollo**, Ida S. Baker High School, Cape Coral, Fla.  
This lively presentation includes team-building activities and environmental games and is guaranteed to get you up and moving.

**Inquiry Experiences in Science and Math: Making the Most of Technology** (Gen)

(Elementary) Grand Floridian Blrm. E, Conv. Center  
**Brian L. Gerber** (*blgerber@valdosta.edu*), Valdosta State University, Valdosta, Ga.

Learn about a collaborative partnership designed to increase the quality of science and math in grades 3–5 through in-service, content enrichment, field trips, videoconferences, preloaded iPods, and extensive visits by university faculty. Try some representative activities.

**Elastic Power: Wind Up Your Engines and Explore** (Phys)

(Elementary–Middle Level) Grand Floridian Blrm. F, Conv. Center  
**Norman Barstow**, Elementary Science Consultant, Hartford, Conn.

Use an elastic-powered wooden car to explore concepts of energy transfer and force and motion. We'll focus on mass, friction, inertia, motion, momentum, and force.

★ **Linking Home and School with P.A.S.S.© (Portable Affordable Simple Science)** (Gen)

(Preschool/Elementary) Grand Floridian Blrm. G, Conv. Center  
**Renee G. O'Leary** and **Margaret Dee** (*drpeggydee@verizon.net*), Caravel Academy, Bear, Del.

Presider: Margaret Dee

Discover simple, multisensory, hands-on early childhood/elementary explorations (preK–2)—in zippable plastic bags—with take-home and multidisciplinary follow-up. Leave with sample lesson plans/bags and follow-up.

**AMSE Session: Strategies and Resources: Enhancing the Science Learning of Students from Underrepresented Groups in the Sciences** (Gen)

(General) Room 207/208, Conv. Center

**Cherry C. Brewton** (*cbrewton@georgiasouthern.edu*), Georgia Southern University, Statesboro

**Robert L. Ferguson** (*r.l.ferguson1@csuohio.edu*), Cleveland State University, Cleveland, Ohio

Members of the Association for Multicultural Science Education will share strategies and resources that enhance the science learning of students from underrepresented groups in the sciences.

**Sorting Out the Galaxy Zoo** (Earth)

(Middle Level–College) Room 209/210, Conv. Center

**Robert T. Sparks** (*rsparks@noao.edu*), National Optical Astronomy Observatory, Tucson, Ariz.

Learn about the different types of galaxies and how your students can contribute to scientific research by participating in the Galaxy Zoo project.

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**8:00–9:15 AM Exhibitor Workshops**

**Fast and Furious Force and Motion** (Chem)

(Grades 6–9) Room 221, Conv. Center  
Sponsor: Lab-Aids, Inc.

**Mark Koker**, Lab-Aids, Inc., Ronkonkoma, N.Y.

This engaging middle level unit from SEPUP's Issues and Physical Science course lets students study core force and motion concepts using the 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.

**Fuel Our Future Now** (Gen)

(Grades 6–12) Room 301, Conv. Center  
Sponsor: Discovery Education

**Brad Fountain**, Discovery Education, Silver Spring, Md.  
Fuel student curiosity about alternative energy sources, advanced vehicle design, climate change, and the future of transportation with the engaging K–12 classroom resources connected to the Progressive Automotive X Prize Education Program, including the DASH+ national high school student contest, sponsored by the U.S. Department of Energy.

**Reasons Why Teaching Earth Science Will Save Your Life! (Earth)***(Grades 6–8)**Room 304, Conv. Center*

Sponsor: Pearson

**Michael Wyession**, Washington University in St. Louis, Mo.

Many of the major challenges we face today are based in earth science: resource availability, energy sources, dwindling water supplies, global climate change, and increased risks from natural hazards due to human activities. In this presentation, Professor Wyession will show how the history of humanity has been drastically shaped by geological forces and events and how our survival, as individuals and nations, hinges upon our understanding of these forces.

**Bio-Rad Genes in a Bottle™ Kit (Bio)***(Grades 6–College)**Room 317/318, Conv. Center*

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** (*biotechnology\_explorer@bio-rad.com*), Bio-Rad Laboratories, Winston-Salem, N.C.

How do you fit a person in a bottle? Your DNA contains all the information that makes you who you are. Isolate your own DNA and capture your unique essence in a stylish glass necklace.

**9:00 AM–12 Noon Meeting****Multicultural/Equity in Science Education Committee Meeting***Room 213, Conv. Center*

The topic of Teaching Science to Students in Urban Areas will be a focus of this official committee meeting called by the Chair to all committee members. Any NSTA member is welcome to attend all or part of this meeting. Please join us!

**9:00 AM–12 Noon Exhibits***Exhibit Hall A, Conv. Center*

Come see the most up-to-date science textbooks, software, equipment, and other teaching materials. Some exhibitors will offer materials for sale.

**9:00 AM–2:00 PM Meeting****CSSS Member Meeting***(By Invitation Only)**Dolphin, Hilton***9:30–10:30 AM Presentations****SESSION 1****Promoting Scientific Inquiry and Active Reading (Gen)***(Elementary–High School)**Floridian Blrm. D, Conv. Center***Susan J. Cooper** (*sjcooper@fgcu.edu*), Florida Gulf Coast University, Fort Myers

Learn how to create and use anticipation guides to promote active engagement in reading and scientific inquiry.

**SESSION 2****NASA eClips for Elementary Students: Effective Ways to Engage Students in Science (Earth)***(General)**Grand Floridian Blrm. A, Conv. Center***Sharon Bowers** (*sharon.bowers@nianet.org*), National Institute of Aerospace, Hampton, Va.

NASA eClips are short, relevant educational video segments designed to inspire students, helping them see real-world connections. These resources are available on demand and can be integrated into daily lesson planning.

SESSION 3

**NSTA** NSTA Avenue Session: **Pete Conrad Spirit of Innovation Awards** (Earth)

(High School) Room 203/204, Conv. Center

**Clementine Ntshaykolo** ([clementine@conradawards.org](mailto:clementine@conradawards.org)) and **Kristin Hoyer**, Conrad Foundation, San Francisco, Calif.

Building on astronaut Charles “Pete” Conrad’s legacy of innovation and entrepreneurship, the Awards invites teams of high school students, led by their teacher or other coach, to create new products to solve real-world challenges in aerospace, renewable energy, space nutrition, and green schools. The program connects teams with leading scientists, engineers, and entrepreneurs and awards \$100,000 in prizes and grant monies to help take student products to the commercial marketplace.

SESSION 4

**Learning Science in Informal Environments** (Gen)

(General) Room 220, Conv. Center

**Jennifer L. Childress** ([jchildress@si.edu](mailto:jchildress@si.edu)), National Science Resources Center, Washington, D.C.

Learn the latest from the National Research Council about improving science education in informal environments such as the media, libraries, museums, and nature centers.

9:30–10:30 AM Workshops



**Investigating Supernova Remnants** (Chem)

(High School–College/Informal) Floridian Blrm. B/C, Conv. Center

**Donna L. Young** ([donna.young@tufts.edu](mailto:donna.young@tufts.edu)), The Wright Center for Science Education, Tufts University, Medford, Mass.

**Pamela Perry** ([pperry@lewistonpublicschools.org](mailto:pperry@lewistonpublicschools.org)), Lewiston High School, Lewiston, Maine

**Doug Lombardi** ([lombardi.doug@gmail.com](mailto:lombardi.doug@gmail.com)), Southern Nevada Regional Professional Development Program, North Las Vegas

Use spectra from supernova remnants to study the distribution of elements and determine the masses and evolutionary histories of the stars that were destroyed.

**Forestry Certification as a Conservation Tool: A Guatemalan Case Study** (Env)

(Elementary–High School) Grand Floridian Blrm. B, Conv. Center

**Al Stenstrup**, American Forest Foundation, Washington, D.C.

**Julianne Schrader**, Rainforest Alliance, New York, N.Y.

These lessons by Rainforest Alliance and Project Learning Tree were created to teach about the wonders of rain forests and the importance of sustainable forestry in protecting Guatemala’s resources.

**Inquiry Matters** (Chem)

(Elementary–Middle Level) Grand Floridian Blrm. E, Conv. Center

**Patti Galvan** ([p\\_galvan@acs.org](mailto:p_galvan@acs.org)), American Chemical Society, Washington, D.C.

Conduct two tests on four look-alike household liquids, then use their characteristic properties to identify unknowns. Free animations explain observations on the molecular level. Handouts.

**AAPT Session: Classroom Particle Physics with QuarkNet’s Cosmic Ray ELab** (Phys)

(High School–College) Grand Floridian Blrm. G, Conv. Center

**Thomas S. Jordan** ([jordant@fnal.gov](mailto:jordant@fnal.gov)), University of Florida, Gainesville

Bring the excitement of particle physics into the classroom with QuarkNet’s Cosmic Ray ELab. This is the second of a two-part session (for part 1, see page 97).

**Activities from Across the Earth System** (Earth)

(Elementary–High School) Room 207/208, Conv. Center

**Roberta M. Johnson** ([rmjohnsn@ucar.edu](mailto:rmjohnsn@ucar.edu)), **Sandra Henderson**, **Susan Foster**, **Lisa Gardiner**, **Becca Hatheway**, **Julia Genyuk**, and **Marina LaGrave**, University Corporation for Atmospheric Research, Boulder, Colo.

**David F. Mastie**, Retired Educator, Chelsea, Mich.

**Jennifer Bergman**, Curiosity Consulting, Atlanta, Ga.

Educators and scientists share their repertoire of hands-on, inquiry-based activities spanning the five “spheres” of Earth system science. Handouts.



**The New Galileoscope—See It and Use It! (Earth)***(Middle Level–High School) Room 209/210, Conv. Center***John McFarland** (*johanneskepler@att.net*), Johannes Kepler Project, Charleston, S.C.

Johannes Kepler will introduce the new student telescope kit, a cornerstone project of the International Year of Astronomy 2009. Several scopes will be assembled, and all participants will use one. Day and night activities will be offered. Door prizes—five Galileoscopes!

**10:00–11:30 AM Exhibitor Workshop****Grant Writing Workshop: Finding Funds for Biotech (Bio)***(Grades 6–College) Room 317/318, Conv. Center*

Sponsor: Bio-Rad Laboratories

**Sherri Andrews** (*biotechnology\_explorer@bio-rad.com*), Bio-Rad Laboratories, Winston-Salem, N.C.

Whether you want to introduce a few hands-on labs or build an entire biotechnology program at your school, this workshop will prepare you to turn your dreams into a reality. Pick up a number of grant writing tools, including proposal samples, letters of support, budgets, and justifications to get you started. For a practical application of the new tools, participants are encouraged to submit proposals for a competitive grant from Bio-Rad for \$500 in materials.

**11:00–11:30 AM Presentation****SESSION 1****The Internet Science and Technology Fair (ISTF): 2009 Update (Gen)***(Elementary–High School) Floridian Blrm. B/C, Conv. Center***Robert M. Everett** (*everett@mail.ucf.edu*), University of Central Florida, Orlando

The ISTF is an online science and technology competition that offers K–12 students the opportunity to learn how to work as a team to research solutions to problems, including locating and analyzing information using IT tools and presenting research findings using web-based applications.

**11:00 AM–12 Noon Presentations****SESSION 1****Physics at the Art Museum (Phys)***(General) Floridian Blrm. D, Conv. Center***Mary Jo F. Grdina** (*mfg29@drexel.edu*) and **Michel L. Miller** (*mlm334@drexel.edu*), Drexel University, Philadelphia, Pa.

This piece of the “Physics in Philadelphia” project demonstrates how a trip to the art museum can have the added value of providing a science lesson for all learners.

**SESSION 2****How Can We Create K–6 Classrooms That Embrace Science Inquiry? Helping Students Think and Work Like Scientists (Gen)***(General) Room 220, Conv. Center***Donna L. Knoell** (*dknoell@sbcglobal.net*), Educational Consultant, Shawnee Mission, Kans.

We will examine what inquiry encompasses and how to create a classroom environment that embraces it, including the development of effective questioning strategies and modeling and facilitating the scientific method.

### 11:00 AM–12 Noon Workshops



#### **GreenSchools!** (Gen)

(Elementary–High School) *Floridian Blrm. A, Conv. Center*  
**Al Stenstrup**, American Forest Foundation, Washington, D.C.

GreenSchools! connects and builds on the success of Project Learning Tree (PLT) schools and classroom activities and GreenWorks! service-learning grants. Take home GreenSchools! investigations and get your school involved!

#### **Integrating Nonfiction Reading and Writing While Teaching About Energy** (Gen)

(Preschool/Elementary) *Grand Floridian Blrm. B, Conv. Center*  
**Rebecca Lamb** ([info@need.org](mailto:info@need.org)), The NEED Project, Manassas, Va.

Integrate reading and writing in an energy unit with the use of science notebooks. Come get some practical experience you can use right away!

#### **Nature Connections for Early Learners: Project WILD's Early Childhood Program** (Env)

(Preschool/Elementary) *Grand Floridian Blrm. C, Conv. Center*  
**Lori M. Haynes**, Florida Fish and Wildlife Conservation Commission, West Palm Beach

Engage in activities from Project WILD's Early Childhood program.

#### **Don't Be Afraid! You Can Have Animals in the Classroom** (Bio)

(Preschool–Middle Level) *Grand Floridian Blrm. D, Conv. Center*  
**Stephanie Selznick**, Curley K–8 School, Jamaica Plain, Mass.

**Suzanne Flynn**, Cambridge College, Cambridge, Mass.

Presider: Suzanne Flynn

Learn the ins and outs of having animals in the classroom. We'll look at easy-to-care-for insects and their habitat requirements. Door prizes!

#### **Integrating Science Inquiry, Hands-On Activities, Reading, and Writing** (Gen)

(Elementary) *Grand Floridian Blrm. E, Conv. Center*  
**Laura R. Saef** ([laura.saef@browardschools.com](mailto:laura.saef@browardschools.com)), Fort Lauderdale, Fla.

Hands-on science can help students make connections and bring meaning to text. Writing about their scientific investigations helps students communicate understanding of scientific concepts and applications. *Note:* Hands-on activities available to the first 40 participants.

#### **Magnetism Activities, Earth's Magnetism, and Space Weather from Windows to the Universe** (Earth)

(Informal Education) *Room 207/208, Conv. Center*  
**Roberta M. Johnson** ([rmjohnsn@ucar.edu](mailto:rmjohnsn@ucar.edu)), **Sandra Henderson**, **Susan Foster**, **Lisa Gardiner**, **Becca Hatheway**, **Julia Genyuk**, and **Marina LaGrave**, University Corporation for Atmospheric Research, Boulder, Colo.

**David F. Mastie** ([mastie@umich.edu](mailto:mastie@umich.edu)), Retired Educator, Chelsea, Mich.

**Jennifer Bergman**, Curiosity Consulting, Atlanta, Ga.

Try some tested hands-on activities and resources about the basics of magnetism, Earth's magnetic field and poles, and space weather. Handouts.

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### 12:30–2:30 PM Meeting

#### **Association for Multicultural Science Education (AMSE) Board Meeting**

(By Invitation Only) *Room 213, Conv. Center*

Some exhibitors have classified their products by grade level and subject area. Subject areas are abbreviated here as follows:

Biology/Life Science	Bio
Chemistry/Physical Science	Chem
Earth/Space Science	Earth
Environmental Science	Env
Integrated/General Science	Gen
Physics/Physical Science	Phys

A foldout floor plan of the Exhibit Hall is available at Program Pickup.



**A.D.A.M., Inc.** #1116  
 10 Tenth St. NE, Suite 500 Bio  
 Atlanta, GA 30309 K-12, College  
 Phone: 404-604-2757  
 E-mail: [marketing@adamcorp.com](mailto:marketing@adamcorp.com)  
 Website: [www.adam.com](http://www.adam.com)

**AIMS Education Foundation** #501  
 1595 S. Chestnut Ave. Bio, Earth, Gen  
 Fresno, CA 93702 K-9  
 Phone: 888-733-2467  
 E-mail: [nradke@aimsedu.org](mailto:nradke@aimsedu.org)  
 Website: [www.aimsedu.org](http://www.aimsedu.org)

AIMS Education Foundation develops curriculum for K-9 using hands-on activities. AIMS curriculum focuses on math and science investigations. The AIMS Model of Learning provides a practical method for differentiating instructional strategies to meet the diverse needs of all students.

**American Association of Physics Teachers** #611  
 One Physics Ellipse Phys  
 College Park, MD 20740 7-12, College  
 Phone: 301-209-3626  
 E-mail: [mlapps@aapt.org](mailto:mlapps@aapt.org)  
 Website: [www.aapt.org](http://www.aapt.org)

Visit the AAPT booth to see our line of physics toys and gifts, first-time books from our Physics Store Catalog, new and favorite T-shirts, and exciting giveaways. Be sure to pick up copies of AAPT's informational brochures on some of the leading physics education programs such as PTRA and Physics Olympiad.

**American Chemical Society** #1101  
 1155 16th St. NW Chem, Gen  
 Washington, DC 20036 K-12, College  
 Phone: 202-872-6269  
 E-mail: [p\\_isikoff@acs.org](mailto:p_isikoff@acs.org)  
 Website: [www.acs.org](http://www.acs.org)

The American Chemical Society (ACS) is the world's largest scientific society. The ACS will exhibit textbooks, reference materials, videos, and other materials to supplement the K-12 and college science curricula. We will also provide information on programs for students and teachers.

**American Lab Design** #1010  
 404 S. Beach St., #304 Bio, Chem,  
 Daytona Beach, FL 32114 Earth, Phys  
 Phone: 800-494-3237 6-12, College  
 E-mail: [mikelee6677@aol.com](mailto:mikelee6677@aol.com)

American Lab Design is a design-manufacturer specializing in renovation of K-12 science labs. It does not use distributors or rep groups but rather deals with the schools directly. In this way it is able to pass considerable savings on to schools. For free site visits, architectural drawings, and quotes, contact Mike Lee at 800-494-3237 or [mikelee6677@aol.com](mailto:mikelee6677@aol.com).

**American Meteorological Society** #405  
 1120 G St. NW, Suite 800 Earth  
 Washington, DC 20005 College  
 Phone: 202-737-1043  
 E-mail: [tkiley@ametsoc.org](mailto:tkiley@ametsoc.org)  
 Website: [www.ametsoc.org/amsedu](http://www.ametsoc.org/amsedu)

AMS Weather Studies, AMS Ocean Studies, and coming soon, AMS Climate Studies, are introductory college-level courses developed by the AMS. The courses place students in an exciting learning environment where they investigate the Earth system using real-world data. The courses can be offered in traditional, blended, or totally online settings.

# Exhibitors

<p><b>American Nuclear Society</b> #1112 555 N. Kensington Ave. La Grange Park, IL 60526 Phone: 708-352-6611 E-mail: <a href="mailto:tbishop@ans.org">tbishop@ans.org</a> Website: <a href="http://www.ans.org">www.ans.org</a></p>	<p><b>Astronomy to Go</b> #1318 1115 Melrose Ave. Melrose Park, PA 19027 Phone: 215-831-0185 E-mail: <a href="mailto:astro2go@aol.com">astro2go@aol.com</a> Website: <a href="http://www.astronomyto.go.com">www.astronomyto.go.com</a></p>	<p><b>Bonnier Corp.</b> #1120 Two Park Ave., Ninth Floor New York, NY 10016 Phone: 712-542-2335 E-mail: <a href="mailto:eshonda.caraway@bonniercorp.com">eshonda.caraway@bonniercorp.com</a> Website: <a href="http://www.bonniercorp.com">www.bonniercorp.com</a></p>
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The American Nuclear Society (ANS) exhibit offers teachers free classroom-ready resources for teaching about nuclear science and technology. Educators may preview teacher handbooks offered through ANS workshops, and K–4 teachers receive a copy of the *Atoms Family* coloring books.

As a nonprofit education organization, we fund our traveling astronomy programs through our traveling museum shop, which carries a large assortment of astronomy- and science-related T-shirts, books, teaching aids, gifts, and the full line of Giant Microbes, as well as an extensive collection of meteorites and tektites.

Bonnier will distribute copies of *Popular Science* and *Science Illustrated* magazines.

<p><b>American Petroleum Institute</b> #505 1220 L St. NW Washington, DC 20005 Phone: 202-682-8000 E-mail: <a href="mailto:dobbinsr@api.org">dobbinsr@api.org</a> Website: <a href="http://www.classroom-energy.org">www.classroom-energy.org</a></p>	<p><b>Audubon Aquarium of the Americas</b> #404 #1 Canal St. New Orleans, LA 70130 Phone: 504-378-2675 E-mail: <a href="mailto:tleblanc@auduboninstitute.org">tleblanc@auduboninstitute.org</a> Website: <a href="http://www.auduboninstitute.org">www.auduboninstitute.org</a></p>
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*Classroom-energy.org*, created by the American Petroleum Institute (API), offers up-to-date classroom resources on a topic that affects us all every day—energy. What is it? Where do we get it? How is it used? The answers to these questions can be found in the site’s mix of curriculum materials, background references, interactive lessons and quizzes, and a comprehensive links library.

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 Website: [www.floridascienceolympiad.org](http://www.floridascienceolympiad.org)

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 Boynton Beach, FL 33435 K-12, College  
 Phone: 561-682-6747  
 Website: [www.fwea.org](http://www.fwea.org); [www.wef.org](http://www.wef.org)

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 Website: [www.nnin.org](http://www.nnin.org)

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Phone: 703-312-9364

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Contact: Amanda Upton

Phone: 703-312-9217

E-mail: [aupton@nsta.org](mailto:aupton@nsta.org)

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 E-mail: [ed@paracompusa.com](mailto:ed@paracompusa.com)  
 Website: [www.smartscience.net](http://www.smartscience.net)

Smart Science labs are the only real online science labs. We provide inquiry-based labs for grades 6–College with differentiated text and assessment levels, online lab reports, and full accountability and tracking of student work.

**SME/GEM Minerals Coalition #411**  
 8307 Shaffer Pkwy.  
 Littleton, CO 80127  
 Phone: 303-948-4227  
 E-mail: [vandervoort@smenet.org](mailto:vandervoort@smenet.org)  
 Website: [www.smenet.org](http://www.smenet.org)

The SME/GEM Mineral Coalition booth is sponsored by the SME Foundation. The booth is staffed by local volunteers who provide teachers with rock and mineral samples, literature, and CDs as well as answer any questions the teachers may have.

**Starry Night Education #515**  
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 Edina, MN 55436 K-12, College  
 Phone: 877-290-8256  
 E-mail: [mgoodman@simcur.com](mailto:mgoodman@simcur.com)  
 Website: [www.starrynighteducation.com](http://www.starrynighteducation.com)

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 San Antonio, TX 78233 7-12, College  
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 Website: [www.ten80education.com](http://www.ten80education.com)

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**Thomas Jefferson National Accelerator Facility #502**  
 628 Hoftstadter Rd., Suite Six Phys  
 Newport News, VA 23606 3-8  
 Phone: 757-269-7567  
 E-mail: [lachelle@jlab.org](mailto:lachelle@jlab.org)  
 Website: [www.jlab.org](http://www.jlab.org)

Highlight programs and activities available at Jefferson Lab and other U.S. Department of Energy National Laboratories.

**Toshiba/NSTA ExploraVision Awards #706**  
 1840 Wilson Blvd. Gen  
 Arlington, VA 22201 K-12  
 Phone: 800-EXPLOR-9  
 E-mail: [exploravision@nsta.org](mailto:exploravision@nsta.org)

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**Toyota TAPESTRY Grants for Science Teachers #710**  
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 Phone: 703-312-9258

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**U.S. Army Corps of Engineers Everglades Restoration Division #511**  
 701 San Marco Blvd. Env  
 Jacksonville, FL 32207 3-5  
 Phone: 561-472-8893  
 E-mail: [erica.a.robbs@usace.army.mil](mailto:erica.a.robbs@usace.army.mil)  
 Website: [www.evergladesplan.org](http://www.evergladesplan.org)

Educational initiatives and opportunities related to the comprehensive Everglades Restoration Plan.

# Exhibitors

**U.S. EPA SunWise Program #510**  
 1200 Pennsylvania Ave. NW Env  
 Washington, DC 20460 K-8  
 Phone: 202-343-9591  
 E-mail: [hall-jordan.luke@epa.gov](mailto:hall-jordan.luke@epa.gov)  
 Website: [www.epa.gov/sunwise](http://www.epa.gov/sunwise)

The U.E. EPA SunWise Program is an environmental and health education program that teaches how we can and why we should protect ourselves from UV overexposure. Our FREE toolkit provides cross-curricular, standards-based lesson plans and resources for K-8 students, plus a UV-sensitive Frisbee!

**University of Miami #1316**  
**Rosenstiel School of Marine Bio, Chem,**  
**and Atmospheric Science Earth, Env,**  
 4600 Rickenbacker Causeway Gen, Phys  
 Miami, FL 33149 9-12, College  
 Phone: 305-421-4207  
 E-mail: [lbracken@rsmas.miami.edu](mailto:lbracken@rsmas.miami.edu)  
 Website: [www.rsmas.miami.edu](http://www.rsmas.miami.edu)

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**Vernier Software & Technology #909**  
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 Beaverton, OR 97005 Env, Gen, Phys  
 Phone: 888-837-6437 3-12, College  
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**W.H. Freeman & Co. #1213**  
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 Cranbury, NJ 08512 Env, Gen, Phys  
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 E-mail: [jseltzer@bfpwpub.com](mailto:jseltzer@bfpwpub.com)  
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**Wacky Wild Science Adventures #1307**  
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 Miramar, FL 33025 Env, Gen  
 Phone: 954-562-6803 K-8  
 E-mail: [seth@wackywild.com](mailto:seth@wackywild.com)  
 Website: [www.wackywild.com](http://www.wackywild.com)

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 Salt Lake City, UT 84107 Earth, Phys  
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 Sarasota, FL 34240 9-12, College  
 Phone: 941-371-1003  
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 Website: [www.wpiinc.com](http://www.wpiinc.com)

**Zula International #1305**  
 4111 W. Alameda Ave. Bio, Chem, Earth,  
 Suite 501 Env, Gen, Phys  
 Burbank, CA 91505 PreK-3  
 Phone: 818-840-1695  
 E-mail: [info@zula.com](mailto:info@zula.com)  
 Website: [www.zula.com](http://www.zula.com)

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## Pearson (Booth No. 1100)

Thursday, Nov. 12	8:00–9:15 AM	Room 304, Conv. Center	Inquiring with Interactive Science (p. 46)
Thursday, Nov. 12	10:00–11:15 AM	Room 304, Conv. Center	Inquiry in the Chemistry Classroom (p. 51)
Thursday, Nov. 12	12:30–1:45 PM	Room 304, Conv. Center	What’s Up with the Flu? Ecology and Evolution of Infectious Disease Come to Life (p. 58)
Thursday, Nov. 12	2:15–3:30 PM	Room 304, Conv. Center	Meet the Untamed Science Crew and Learn How to Make Your Own Science Videos! (p. 64)
Thursday, Nov. 12	4:00–5:15 PM	Room 304, Conv. Center	Wow! Realistic Laboratory Simulations for the Entire High School Science Curriculum You Have to See to Believe! (p. 70)
Friday, Nov. 13	8:00–9:15 AM	Room 304, Conv. Center	The Digital Path and Essential 21st-Century Skills (p. 78)
Friday, Nov. 13	10:00–11:15 AM	Room 304, Conv. Center	Inquiry, Evidence, and Thinking: The Heart of Science Teaching (p. 87)
Friday, Nov. 13	12 Noon–1:15 PM	Room 304, Conv. Center	What’s Next in a Science Text? Interact with Your Textbook (p. 94)
Friday, Nov. 13	2:00–3:15 PM	Room 304, Conv. Center	Ensure Your Students’ Success on the AP* Chemistry Exam (p. 103)
Friday, Nov. 13	4:00–5:15 PM	Room 304, Conv. Center	Planet Diary: Web-based Science News and Activities Engage Students in Science (p. 107)
Saturday, Nov. 14	8:00–9:15 AM	Room 304, Conv. Center	Reasons Why Teaching Earth Science Will Save Your Life! (p. 113)

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## Pitsco Education (Booth No. 606)

Friday, Nov. 13	12 Noon–1:15 PM	Room 125, Conv. Center	Introducing Straw Rockets in Your Classroom (p. 93)
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## Sargent-Welch (Booth No. 1113)

Thursday, Nov. 12	2:15–3:30 PM	Room 302, Conv. Center	The Physics Behind the Roller Coaster (p. 63)
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## Science Kit & Boreal Labs (Booth No. 1111)

Friday, Nov. 13	8:00–9:15 AM	Room 125, Conv. Center	Science Kit Presents: Products Developed by Middle School Teachers (p. 76)
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## Smart Science® Education (Booth No. 403)

Thursday, Nov. 12	4:00–5:15 PM	Room 302, Conv. Center	Using Online Labs to Maximize Learning and Minimize Costs (p. 70)
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## Starry Night Education (Booth No. 515)

Thursday, Nov. 12	2:15–3:30 PM	Room 301, Conv. Center	Galileo Skies (p. 63)
Friday, Nov. 13	4:00–5:15 PM	Room 301, Conv. Center	Pluto Yet Again! (p. 107)

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## Swift Optical Instruments (Booth No. 1212)

Friday, Nov. 13	12 Noon–1:15 PM	Room 301, Conv. Center	It’s Easy to Go Digital! (p. 94)
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## Vernier Software & Technology (Booth No. 909)

Friday, Nov. 13	8:00–9:30 AM	Room 222, Conv. Center	K–8 Science with Vernier (p. 79)
Friday, Nov. 13	10:00–11:30 AM	Room 222, Conv. Center	Developing 21st-Century Minds with Vernier (p. 88)
Friday, Nov. 13	12 Noon–1:30 PM	Room 222, Conv. Center	Developing 21st-Century Minds with Vernier (p. 95)
Friday, Nov. 13	2:00–3:30 PM	Room 222, Conv. Center	Developing 21st-Century Minds with Vernier (p. 104)

## Index of Exhibitor Workshops

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### WARD's Natural Science (Booth No. 1109)

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Friday, Nov. 13	4:00–5:15 PM	Room 125, Conv. Center	DNA on a Chain (p. 106)
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### Wavefunction, Inc. (Booth No. 1301)

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Thursday, Nov. 12	10:00–11:15 AM	Room 301, Conv. Center	Learning Chemistry with Software for Molecular-Level Visualization (p. 51)
Thursday, Nov. 12	12:30–1:45 PM	Room 301, Conv. Center	Teaching AP Chemistry with Molecular-Level Visualization and Simulation Tools (p. 57)
Friday, Nov. 13	10:00–11:15 AM	Room 301, Conv. Center	Learning Chemistry with Software for Molecular-Level Visualization (p. 87)

# Schedule at a Glance

G = General	M = Middle School	S = Supervision/Administration	T = Teacher Preparation
P = Preschool	H = High School	I = Informal Education	E = Elementary
C = College	R = Research		

## Biology/Life Science

### Thursday

8:00–9:00 AM	G	Room 223, Conv. Ctr.	Scientific Inquiry in an Online Environment (p. 44)
8:00–9:00 AM	M–H	Grande Blrm. Salon B, Hilton	What Affects Reaction Time? (p. 44)
8:00–9:15 AM	9–12	Room 221, Conv. Ctr.	Building Inquiry with <i>BSCS Biology: A Human Approach</i> (p. 46)
8:00–9:15 AM	6–C	Room 302, Conv. Ctr.	EDVOTEK Biotechnology—Teaching DNA Forensics (p. 46)
10:00–11:30 AM	5–12	Room 122/123, Conv. Ctr.	Genetics: Crazy Traits and Adaptation Survivor (p. 52)
11:00 AM–12 Noon	6–8	Room 305, Conv. Ctr.	Project-Based Inquiry Science (PBIS): A New Generation of Life, Earth, and Physical Science (p. 52)
11:30 AM–1:00 PM	K–8	Room 118/119, Conv. Ctr.	Taking Science Outdoors with FOSS K–8 (p. 52)
12:30–1:00 PM	H	Crystal Blrm. Salon II, Hyatt	A “Novel” Approach to Science Literacy: Using Popular Fiction to Teach Life Science Concepts (p. 54)
12:30–1:30 PM	H	Crystal Blrm. Salon III, Hyatt	Award-winning Inquiry Lab Activities for High School Biology (p. 55)
12:30–1:45 PM	6–12	Room 124, Conv. Ctr.	Comparative Mammalian Organ Dissection with Carolina’s Perfect Solution® Specimens (p. 57)
12:30–1:45 PM	9–12	Room 304, Conv. Ctr.	What’s Up with the Flu? Ecology and Evolution of Infectious Disease Come to Life (p. 58)
2:00–3:00 PM	H	Crystal Blrm. Salon II, Hyatt	P.A.C.T. (Preventing Adolescent Crime Together) (p. 60)
2:15–3:30 PM	9–12	Room 124, Conv. Ctr.	Amplify Your Genetics Teaching Skills with Carolina’s New Inquiries in Science™ Biology Units (p. 63)
2:15–3:30 PM	6–9	Room 221, Conv. Ctr.	Understanding Mendelian and Non-Mendelian Inheritance (p. 63)
2:30–3:00 PM	E	Grand Floridian A, Conv. Ctr.	Fantastic Freshwater Life: Integrating Literacy and Science in the Elementary Classroom (p. 59)
3:30–4:30 PM	E–H	Grand Floridian F, Conv. Ctr.	Butterfly Bonanza (p. 68)
3:30–4:30 PM	M–H	Room 223, Conv. Ctr.	Photosynthesis: An Interactive Play (p. 66)
3:30–4:30 PM	6–8	Room 305, Conv. Ctr.	Project-Based Inquiry Science (PBIS): A New Generation of Life, Earth, and Physical Science (p. 68)
3:30–4:30 PM	H–C/I	Crystal Blrm. Salon II, Hyatt	Keys to Success with Blended Inquiry Learning (p. 66)
4:00–5:15 PM	K–12	Room 124, Conv. Ctr.	Hands-On Science with Classroom Critters (p. 69)

### Friday

8:00–8:30 AM	E/I	Grand Floridian D, Conv. Ctr.	Creating Floor Maps for Interdisciplinary Teaching (p. 73)
8:00–9:00 AM	H	Crystal Blrm. Salon III, Hyatt	Exploring Bioethics: A New Model for High School Instruction (p. 76)
8:00–9:15 AM	9–12	Room 124, Conv. Ctr.	AUTOPSY: Forensic Dissection Featuring Carolina’s Perfect Solution® Pigs (p. 76)
8:00–9:15 AM	6–C	Room 302, Conv. Ctr.	EDVOTEK Biotechnology—Biotechnology on a Budget (p. 78)
8:00–9:15 AM	6–C	Room 317/318, Conv. Ctr.	Light Up Your Classroom with Nobel Prize–winning Science (p. 78)
8:00–9:30 AM	5–12	Room 122/123, Conv. Ctr.	Genetics: Crazy Traits and Adaptation Survivor (p. 78)
9:30–10:30 AM	6–12	Room 305, Conv. Ctr.	Tough Topics in Biology: Cell Respiration (p. 86)
9:30–10:30 AM	H	Crystal Blrm. Salon III, Hyatt	Examining the Bioethics of Animals in Research (p. 86)
10:00–11:00 AM	6–C	Room 317/318, Conv. Ctr.	How to Start a Biotech Program (p. 86)
10:00–11:15 AM	8–12	Room 124, Conv. Ctr.	Strawberry DNA and Molecular Models (p. 86)
10:00–11:15 AM	8–C	Room 302, Conv. Ctr.	EDVOTEK Biotechnology—New! Achieve Successful PCR in One Lab Session (p. 87)
11:30 AM–12 Noon	G	Floridian Blrm. A, Conv. Ctr.	Citrus Waste to Ethanol: Green Promise of the Future (p. 88)
11:30 AM–12 Noon	H–C	Room 203/204, Conv. Ctr.	NABT Session: Bringing College to the High School Biology Classroom: A Unique Program to Augment Learning in the Biological Sciences (p. 92)

## Schedule at a Glance Biology/Life Science

12 Noon–1:15 PM	K–12	Room 124, Conv. Ctr.	Introduction to Wisconsin Fast Plants® (p. 93)
12:30–1:30 PM	M	Floridian Blrm. B/C, Conv. Ctr.	Integrating Web Adventures into Your Lessons (p. 95)
1:00–3:30 PM	6–C	Room 317/318, Conv. Ctr.	Bio-Rad Forensic DNA Fingerprinting Kit (p. 98)
2:00–3:00 PM	M–H	Floridian Blrm. D, Conv. Ctr.	Life Science Labs for Students at Every Level (p. 99)
2:00–3:15 PM	6–12	Room 124, Conv. Ctr.	Take the Leap: Carolina’s Perfect Solution® Frog Dissection (p. 102)
2:00–3:15 PM	9–12	Room 315, Conv. Ctr.	Bring Biology to Life (p. 103)
3:30–4:30 PM	M–H	Room 203/204, Conv. Ctr.	NABT Session: Science Education, What For? Answered by the Aesthetic Realism Teaching Method! (p. 105)
4:00–5:00 PM	6–C	Room 317/318, Conv. Ctr.	Bio-Rad Cloning and Sequencing Explorer Series (p. 106)
4:00–5:15 PM	6–12	Room 125, Conv. Ctr.	DNA on a Chain (p. 106)

### Saturday

8:00–9:15 AM	6–C	Room 317/318, Conv. Ctr.	Bio-Rad Genes in a Bottle™ Kit (p. 113)
10:00–11:30 AM	6–C	Room 317/318, Conv. Ctr.	Grant Writing Workshop: Finding Funds for Biotech (p. 115)
11:00 AM–12 Noon	P–M	Grand Floridian D, Conv. Ctr.	Don’t Be Afraid! You Can Have Animals in the Classroom (p. 116)

## Chemistry/Physical Science

### Thursday

8:00–9:30 AM	5–12	Room 122/123, Conv. Ctr.	Chemistry and the Atom: Fun with Atom-building Games! (p. 47)
10:00–11:15 AM	9–12	Room 124, Conv. Ctr.	“Finding Solutions” for Your Chemistry Labs with Carolina’s New Inquiries in Science™ Chemistry Units (p. 51)
10:00–11:15 AM	9–C	Room 301, Conv. Ctr.	Learning Chemistry with Software for Molecular-Level Visualization (p. 51)
10:00–11:15 AM	9–12	Room 304, Conv. Ctr.	Inquiry in the Chemistry Classroom (p. 51)
10:00–11:15 AM	9–12	Room 315, Conv. Ctr.	Promote Inquiry Using Demonstrations (p. 51)
12:30–1:30 PM	G	Room 209/210, Conv. Ctr.	Four Predictors of Success on the FCAT (p. 55)
12:30–1:45 PM	9–C	Room 301, Conv. Ctr.	Teaching AP Chemistry with Molecular-Level Visualization and Simulation Tools (p. 57)
12:30–1:45 PM	9–11	Room 302, Conv. Ctr.	Living by Chemistry: What Is the Shape of That Smell? (p. 58)
12:30–1:45 PM	5–8	Room 315, Conv. Ctr.	Hands-On Integrated Science Activities for Middle School (p. 58)
2:00–3:00 PM	M–H	Room 209/210, Conv. Ctr.	The “Periodic Table of Students” (p. 60)
2:00–3:00 PM	9–12	Room 305, Conv. Ctr.	Active Chemistry: Your Students Will React to Chemistry Like You Have Never Seen Before (p. 62)
2:00–3:00 PM	H	Crystal Blrm. Salon I, Hyatt	Engaging Students in Chemistry Outside the Classroom with ChemClub (p. 62)
3:30–4:30 PM	H	Crystal Blrm. Salon I, Hyatt	Inquiry-based Chemistry Labs on a Budget (p. 68)

### Friday

8:00–9:00 AM	E–M	Room 207/208, Conv. Ctr.	PSD Session: There’s More to Dissolving Than Meets the Eye (p. 75)
8:00–9:00 AM	H	Room 209/210, Conv. Ctr.	ACS Session One: What’s Matter Made Of? (p. 75)
8:00–9:15 AM	9–12	Room 221, Conv. Ctr.	Teaching Chemistry Without Hearing “When Am I Ever Going to Need to Know This?” (p. 76)
8:00–9:15 AM	9–12	Room 315, Conv. Ctr.	Flinn Scientific’s <i>Teaching Chemistry</i> ™ eLearning Video Series (p. 78)
9:30–10:30 AM	E–M	Room 207/208, Conv. Ctr.	PSD Session: Chemical Change: The Breaking and Making of Bonds (p. 84)
9:30–10:30 AM	H	Room 209/210, Conv. Ctr.	ACS Session Two: What Holds Molecules Together? (p. 84)
9:30–10:30 AM	M–H	Grande Blrm. Salon B, Hilton	Technology Binds Mathematics and Science (p. 84)
10:00–11:15 AM	9–12	Room 221, Conv. Ctr.	<i>Forensic Science for High School: An Inquiry-rich Curriculum</i> (p. 86)
10:00–11:15 AM	9–C	Room 301, Conv. Ctr.	Learning Chemistry with Software for Molecular-Level Visualization (p. 87)
11:00 AM–12 Noon	M–H	Floridian Blrm. B/C, Conv. Ctr.	Integrating Web 2.0 Technologies in Grades 6–12 Science (p. 90)
11:00 AM–12 Noon	H	Room 209/210, Conv. Ctr.	ACS Session Three: Why Is Water Different? (p. 91)
11:00 AM–12 Noon	6–12	Room 305, Conv. Ctr.	Tough Topics in Chemistry: States of Matter (p. 92)



## Schedule at a Glance Chemistry/Physical Science

11:00 AM–12 Noon	M–H	Grande Blrm. Salon B, Hilton	Embedded Formative and Summative Assessment (p. 92)
11:00 AM–1:00 PM	5–8	Room 118/119, Conv. Ctr.	FOSS Chemical Interactions for Middle School Students (p. 92)
12 Noon–1:15 PM	9–12	Room 315, Conv. Ctr.	Capturing Attention in the Chemistry Classroom (p. 94)
12:30–1:30 PM	H	Room 209/210, Conv. Ctr.	ACS Session Four: Bond Connections in More Complex Molecules (p. 97)
2:00–3:00 PM	H	Room 209/210, Conv. Ctr.	ACS Session Five: Chemistry of Aqueous Solutions of Gases (p. 102)
2:00–3:15 PM	9–12	Room 221, Conv. Ctr.	<i>A Natural Approach to Chemistry</i> (p. 103)
2:00–3:15 PM	9–12	Room 304, Conv. Ctr.	Ensure Your Students' Success on the AP* Chemistry Exam (p. 103)
2:00–3:30 PM	5–12	Room 122/123, Conv. Ctr.	Chemistry and the Atom: Fun with Atom-building Games! (p. 104)
3:30–4:30 PM	E–M	Room 113, Conv. Ctr.	NSTA Press Session: Stop Faking It! Finally Understand CHEMISTRY So You Can Teach It (p. 105)
3:30–4:30 PM	H	Room 209/210, Conv. Ctr.	ACS Session Six: Coupled Reactions, Energetics, and Chemical Bonds (p. 105)
4:00–5:15 PM	9–12	Room 221, Conv. Ctr.	<i>A Natural Approach to Chemistry</i> (p. 107)
4:00–5:15 PM	9–11	Room 302, Conv. Ctr.	Living by Chemistry: Feeling Under Pressure (p. 107)

### Saturday

8:00–9:15 AM	6–9	Room 221, Conv. Ctr.	Fast and Furious Force and Motion (p. 112)
9:30–10:30 AM	H–C/I	Floridian Blrm. B/C, Conv. Ctr.	Investigating Supernova Remnants (p. 114)
9:30–10:30 AM	E–M	Grand Floridian E, Conv. Ctr.	Inquiry Matters (p. 114)

### Earth/Space Science

#### Thursday

8:00–9:00 AM	M	Floridian Blrm. B/C, Conv. Ctr.	Incorporating Social Networking and Gaming in the Classroom (p. 43)
8:00–9:00 AM	E–M	Grand Floridian C, Conv. Ctr.	Earth Treasure...The Highlight of Geology! (p. 44)
8:00–9:00 AM	G	Room 209/210, Conv. Ctr.	NASA's High-Energy Vision: Chandra and the X-ray Universe (p. 43)
9:30–10:30 AM	G	Floridian Blrm. A, Conv. Ctr.	Learn How to Use NOAA's Climate Change Resources in Your Classroom (p. 48)
9:30–10:30 AM	P/E	Grand Floridian B, Conv. Ctr.	Watching the Weather in Primary Classrooms (p. 49)
9:30–10:30 AM	M	Atlantic Blrm. Section I, Hilton	Thirty-Minute Labs with Maximum Results (p. 50)
10:00–11:15 AM	9–12	Room 221, Conv. Ctr.	Evidence for the Ice Ages: An Inquiry Approach (p. 51)
12:30–1:45 PM	6–9	Room 221, Conv. Ctr.	Teaching About the Rock Cycle and Earth Times (p. 57)
2:00–3:00 PM	M–H	Floridian Blrm. B/C, Conv. Ctr.	Teaching Earth Science with Google Earth (p. 59)
2:00–3:00 PM	M–H	Grande Blrm. Salon D, Hilton	Literacy in the Sciences (p. 62)
2:15–3:30 PM	5–C	Room 301, Conv. Ctr.	Galileo Skies (p. 63)
2:30–3:00 PM	G	Palm B, Conv. Ctr.	Extreme Exploration: Journey to Earth's Radiation Belts (p. 64)
3:30–4:30 PM	H	Floridian Blrm. A, Conv. Ctr.	Dendroclimatology: The Trees Tell a Tale (p. 67)
3:30–4:30 PM	I	Grand Floridian C, Conv. Ctr.	JetStream: An Online School for Weather (p. 68)
3:30–4:30 PM	E	Grand Floridian E, Conv. Ctr.	Inquiry Through Design Challenges (p. 68)
3:30–4:30 PM	E–M	Room 209/210, Conv. Ctr.	Engaging Upper Elementary and Middle School Students in International Science Inquiry (p. 66)
3:30–4:30 PM	M–H	Grande Blrm. Salon D, Hilton	Modeling Black Holes (p. 68)

#### Friday

8:00–9:00 AM	M–C	Atlantic Blrm. Section I, Hilton	Free Telescope Access from NASA and the Fermi Space Telescope (p. 75)
9:30–10:30 AM	M/I	Floridian Blrm. A, Conv. Ctr.	Climate Change: Classroom Tools to Explore the Past, Present, and Future (p. 83)
9:30–10:30 AM	G	Floridian Blrm. B/C, Conv. Ctr.	NASA eClips for Secondary Students: Using Video Segments to Engage Millennial Learners (p. 82)
9:30–10:30 AM	G	Grand Floridian B, Conv. Ctr.	"Aha!" Is Just a Stone's Throw Away (p. 83)
11:00 AM–12 Noon	E–H	Grand Floridian A, Conv. Ctr.	Fifty Great Astronomy Resources in Fifty Minutes...All Free! (p. 88)

## Schedule at a Glance Earth/Space Science

11:00 AM–12 Noon	H–C/I	Grand Floridian B, Conv. Ctr.	Ice Core Records—From Volcanoes to Stars (p. 90)
11:00 AM–12 Noon	M–H	Atlantic Blrm. Section I, Hilton	Cosmic Times: Astronomy History and Science for the Classroom (p. 92)
12:30–1:30 PM	M–H	Grand Floridian A, Conv. Ctr.	Solar Labs and Activities Workshop (p. 97)
12:30–1:30 PM	G	Grand Floridian B, Conv. Ctr.	Keeping Things in Motion: Using Newton’s Laws to Understand the Universe (p. 97)
12:30–1:30 PM	E	Grand Floridian D, Conv. Ctr.	Understanding Shadows Isn’t Easy (p. 96)
12:30–1:30 PM	E–H	Palm B, Conv. Ctr.	National Earth Science Teachers Association Earth Science Share-a-Thon (p. 97)
12:30–1:30 PM	E–M	Room 113, Conv. Ctr.	NSTA Press Session: Stop Faking It! Finally Understand AIR, WATER, and WEATHER So You Can Teach It (p. 97)
2:00–3:00 PM	G	Grand Floridian B, Conv. Ctr.	How Do We Know? Using the Electromagnetic Spectrum to Explore the Universe (p. 101)
2:00–3:00 PM	G	Palm B, Conv. Ctr.	National Earth Science Teachers Association Rock and Mineral Raffle (p. 101)
2:00–3:00 PM	E–M	Room 207/208, Conv. Ctr.	PSD Session: Dynamic System Earth: Water, Life, Land, and Air (p. 102)
2:00–3:00 PM	E–H	Atlantic Blrm. Section I, Hilton	Accessible Technology to Bring Climate and Climate Change to Your Students (p. 102)
2:00–3:00 PM	E–H	Atlantic Blrm. Section II, Hilton	Dark Skies as a Universal Resource (p. 100)
2:00–3:15 PM	3–8	Room 125, Conv. Ctr.	Discover the Solar System and Beyond with GEMS® Space Science Sequences (p. 103)
2:00–3:15 PM	K–12	Room 302, Conv. Ctr.	MS Degree in Geosciences Via Distance Learning from Mississippi State University (p. 103)
3:30–4:30 PM	E–M	Room 207/208, Conv. Ctr.	PSD Session: Energy and the Earth System (p. 105)
4:00–5:15 PM	K–12	Room 301, Conv. Ctr.	Pluto Yet Again! (p. 107)

### Saturday

8:00–9:00 AM	M–C	Room 209/210, Conv. Ctr.	Sorting Out the Galaxy Zoo (p. 112)
8:00–9:15 AM	6–8	Room 304, Conv. Ctr.	Reasons Why Teaching Earth Science Will Save Your Life! (p. 113)
9:30–10:30 AM	G	Grand Floridian A, Conv. Ctr.	NASA eClips for Elementary Students: Effective Ways to Engage Students in Science (p. 113)
9:30–10:30 AM	H	Room 203/204, Conv. Ctr.	NSTA Avenue Session: Pete Conrad Spirit of Innovation Awards (p. 114)
9:30–10:30 AM	E–H	Room 207/208, Conv. Ctr.	Activities from Across the Earth System (p. 114)
9:30–10:30 AM	M–H	Room 209/210, Conv. Ctr.	The New Galileoscope—See It and Use It! (p. 115)
11:00 AM–12 Noon	I	Room 207/208, Conv. Ctr.	Magnetism Activities, Earth’s Magnetism, and Space Weather from Windows to the Universe (p. 116)

## Environmental Science

### Thursday

8:00–8:30 AM	E–H	Room 207/208, Conv. Ctr.	The Aquarius Undersea Laboratory: A Platform for Learning (p. 43)
8:00–9:00 AM	E	Floridian Blrm. A, Conv. Ctr.	Environmental Issues Taught with an Inquiry Approach (p. 44)
8:00–9:00 AM	I	Grande Blrm. Salon A, Hilton	Anatomy of a Virtual Field Trip: Dissecting the Process (p. 44)
8:30–9:00 AM	G	Room 207/208, Conv. Ctr.	Biology Bob: Florida Fauna—A Musical Journey (p. 43)
9:30–10:30 AM	E–H	Floridian Blrm. D, Conv. Ctr.	Florida Ag in the Classroom (p. 49)
9:30–10:30 AM	E–M	Grand Floridian E, Conv. Ctr.	Visualizing Our Planet’s Future (p. 49)
9:30–10:30 AM	6–12	Room 305, Conv. Ctr.	American Geological Institute: Whom Else Would You Ask About Earth Science? (p. 50)
9:30–10:30 AM	G	Crystal Blrm. Salon I, Hyatt	NASA’s GLOBE Program: A U.S. Regional GLOBE Networking Session (p. 49)
12:30–1:00 PM	G	Floridian Blrm. A, Conv. Ctr.	The Embattled Estuary: Combining Research and Education to Preserve the Indian River Lagoon (p. 54)
12:30–1:30 PM	E–M	Room 207/208, Conv. Ctr.	NSTA Avenue Session: More and Muir Tech Tips for Teaching About a Greener Tomorrow (p. 55)

## Schedule at a Glance Environmental Science

12:30–1:30 PM	M–H	Atlantic Blrm. Section I, Hilton	Energy and Climate (p. 56)
12:30–1:30 PM	M	Grande Blrm. Salon A, Hilton	Hands Across the Rain Forest (p. 55)
12:30–1:30 PM	G	Grande Blrm. Salon B, Hilton	PLT’s Exploring Environmental Issues: Places We Live (p. 56)
2:00–2:30 PM	E	Grand Floridian A, Conv. Ctr.	An Investigation into the Environmental Knowledge, Attitudes, and Behavioral Intentions of Elementary School Students (p. 59)
2:00–3:00 PM	G	Room 203/204, Conv. Ctr.	Endangered Florida Panthers: The Science Behind Everglades Restoration (p. 60)
2:00–3:00 PM	M/I	Grande Blrm. Salon B, Hilton	Tackling the Global Warming Challenge in a Rapidly Changing World (p. 62)
3:30–4:00 PM	G	Grande Blrm. Salon A, Hilton	The Florida Everglades: Issues of Sustainability (p. 64)
3:30–4:30 PM	E–M	Palm B, Conv. Ctr.	Wetland Wonders (p. 68)
3:30–4:30 PM	E–H	Grande Blrm. Salon B, Hilton	Fueling the Future: Energy Interconnections and Sustainable Choices (p. 66)

### Friday

8:00–9:00 AM	E–M	Floridian Blrm. A, Conv. Ctr.	Getting Kids Outdoors (p. 73)
8:00–9:00 AM	E/I	Floridian Blrm. D, Conv. Ctr.	Building an Integrated Curriculum Through Environmental Literacy (p. 73)
8:00–9:00 AM	E–H	Grande Blrm. Salon A, Hilton	Climate Change: Global Connections and Sustainable Solutions (p. 74)
8:00–9:00 AM	M–H	Grande Blrm. Salon B, Hilton	Examining the Human Footprint: Population, Land Use, and the Global Environment (p. 76)
9:30–10:00 AM	M–C	Grande Blrm. Salon E, Hilton	Ground Water Curricular Potential to Initiate Researchable Questions (p. 80)
9:30–10:30 AM	M–C	Grand Floridian C, Conv. Ctr.	The Mathematics of Population Growth (p. 83)
9:30–10:30 AM	I	Palm B, Conv. Ctr.	Whale of a Share-a-Thon (p. 84)
11:00–11:30 AM	G	Floridian Blrm. A, Conv. Ctr.	Toyota TAPESTRY in Action (p. 88)
11:00 AM–12 Noon	G	Grand Floridian C, Conv. Ctr.	Global Connections: Forests of the World (p. 91)
11:00 AM–12 Noon	G	Grande Blrm. Salon E, Hilton	LEEF and the Greening of Education (p. 90)
12:30–1:30 PM	G	Floridian Blrm. A, Conv. Ctr.	How to Use a Three-Prong Approach to Teach Ecosystems (p. 97)
12:30–1:30 PM	P/I	Grand Floridian C, Conv. Ctr.	Preschool Science Education (p. 96)
1:00–2:00 PM	6–12	Room 305, Conv. Ctr.	Tough Topics in Environmental Science: Field Data Collection and Water Quality Sampling (p. 98)
2:00–3:00 PM	H	Crystal Blrm. Salon II, Hyatt	Storytelling and Case Studies in Science Education (p. 100)
2:00–3:00 PM	H	Crystal Blrm. Salon III, Hyatt	Teaching AP Environmental Science with Games and Models (p. 102)
2:00–3:00 PM	M–H	Grande Blrm. Salon E, Hilton	Understanding Sustainability: A Two-Week Unit for the Middle School Science Classroom (p. 100)
4:00–5:15 PM	9–12	Room 124, Conv. Ctr.	Need “Energy” in Your Environmental Classes? Learn About Carolina’s NEW Inquiries in Science™ Environmental Series (p. 106)

### Saturday

8:00–9:00 AM	E–H	Floridian Blrm. A, Conv. Ctr.	Sweet Sustainable Education Resources: Bananas and Rain Forest Conservation in Honduras (p. 111)
8:00–9:00 AM	G	Grand Floridian B, Conv. Ctr.	Service Learning and Environmental Education (p. 112)
9:30–10:30 AM	E–H	Grand Floridian B, Conv. Ctr.	Forestry Certification as a Conservation Tool: A Guatemalan Case Study (p. 114)
11:00 AM–12 Noon	P/E	Grand Floridian C, Conv. Ctr.	Nature Connections for Early Learners: Project WILD’s Early Childhood Program (p. 116)

# Schedule at a Glance Integrated/General

## Integrated/General

### THU

8:00–8:30 AM	M	Grande Blrm. Salon C, Hilton	Entertaining Technology...The Art of Design (p. 44)
8:00–9:00 AM	E	Grand Floridian A, Conv. Ctr.	Integrating Science, Language Arts, Mathematics, Social Studies, and Technology Through Water Resource Education (p. 43)
8:00–9:00 AM	M–C	Grand Floridian B, Conv. Ctr.	Make Clickers Work for You: A Powerful Tool for Instruction and Assessment (p. 44)
8:00–9:00 AM	G	Palm A, Conv. Ctr.	NSTA Avenue Session: Is This Your First NSTA Conference? (p. 43)
8:00–9:00 AM	G	Room 203/204, Conv. Ctr.	Comparison Shopping: The Best in Books (p. 43)
8:00–9:00 AM	G	Atlantic Blrm. Section II, Hilton	FDA Symposium Session: Food Allergies (p. 44)
8:00–9:00 AM	M–H	Grande Blrm. Salon D, Hilton	Teaching About Energy Resources (p. 45)
8:00–9:15 AM	6–12	Room 113, Conv. Ctr.	A Closer Look at Biology, Chemistry, and Earth Science Virtual Labs (p. 46)
8:00–9:15 AM	1–6	Room 114, Conv. Ctr.	Experimental Design (p. 46)
8:00–9:15 AM	6–8	Room 304, Conv. Ctr.	Inquiring with Interactive Science (p. 46)
8:00–11:00 AM	5–8	Room 118/119, Conv. Ctr.	Using Science Notebooks with FOSS Middle School (p. 47)
8:30–9:00 AM	G	Grande Blrm. Salon C, Hilton	NSTA Teacher and Principal Awards and Recognitions (p. 44)
9:00–11:00 AM	2–6	Room 125, Conv. Ctr.	Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level (p. 48)
9:30–10:30 AM	E/S	Grand Floridian A, Conv. Ctr.	The “Principal” Difference: Leadership for Building a Quality Elementary Science Program (p. 48)
9:30–10:30 AM	G	Floridian Blrm. B/C, Conv. Ctr.	Tapping into the Digital Revolution: Revolutionizing Science Education for the 21st-Century Student (p. 48)
9:30–10:30 AM	G	Grand Floridian C, Conv. Ctr.	Cross-curricular Instruction Engages Students and Improves Performance (p. 49)
9:30–10:30 AM	E/C/S	Grand Floridian D, Conv. Ctr.	The Cleveland Math and Science Partnership: Building Partnerships to Improve Teacher Quality and Student Outcomes (p. 48)
9:30–10:30 AM	P/E	Grand Floridian F, Conv. Ctr.	Keeping Science Simple: Hands-On Science in Minutes (p. 49)
9:30–10:30 AM	G	Palm B, Conv. Ctr.	CESI Session: Make and Take (p. 50)
9:30–10:30 AM	E–M	Room 209/210, Conv. Ctr.	Using Biofuels as a Context for Teaching About Energy (p. 49)
9:30–10:30 AM	M	Grande Blrm. Salon B, Hilton	Turn It On: Inquiry and Literacy as Natural Partners (p. 50)
9:30–10:30 AM	G	Grande Blrm. Salon C, Hilton	FDA Symposium Session: Elementary-Level Food Safety Curriculum (p. 48)
10:00–11:15 AM	7–10	Room 113, Conv. Ctr.	Introducing Inquiry Investigations™: Hands-On Inquiry Activities Focusing on Technology (p. 50)
10:00–11:15 AM	5–8	Room 114, Conv. Ctr.	Inquiry and Literacy: Grades 5–8 (p. 51)
11:30 AM–1:30 PM	2–6	Room 125, Conv. Ctr.	Seeds of Science/Roots of Reading: Integrating Science and Literacy at the Elementary Level (p. 52)
12 Noon–1:15 PM	K–12	Room 113, Conv. Ctr.	Educational Science Lab Design and Implementation for the 21st Century Made Easy (p. 53)
12:30–1:30 PM	E–H	Grand Floridian A, Conv. Ctr.	FAST Online Science Professional Development Grants for Teachers (p. 54)
12:30–1:30 PM	G	Grand Floridian B, Conv. Ctr.	Integrating Science Across the Disciplines via Exploration of Patterns in Nature (p. 56)
12:30–1:30 PM	G	Grand Floridian C, Conv. Ctr.	Shrink the Mini-Board, Keep the Pizzazz! (p. 56)
12:30–1:30 PM	P/E	Grand Floridian D, Conv. Ctr.	NSTA Press Session: Fiction, Fact, and Fun (p. 54)
12:30–1:30 PM	P–M/I	Grand Floridian E, Conv. Ctr.	Magical Illusions Workshop for K–8 Teachers (p. 56)
12:30–1:30 PM	E–H	Grand Floridian F, Conv. Ctr.	Developing a Healthy Sense of Skepticism: Madison Avenue Exposed (p. 56)
12:30–1:30 PM	G	Room 203/204, Conv. Ctr.	Before and After Retirement: Practicalities and Possibilities (p. 54)
12:30–1:30 PM	G	Room 220, Conv. Ctr.	Outstanding Print Resources, Science Literacy Skills, and Hands-On Investigations: Don’t Settle for One Without the Others! (p. 55)
12:30–1:30 PM	G	Room 223, Conv. Ctr.	The Fairchild Challenge: Competitive, Multidisciplinary Environmental Education (p. 55)
12:30–1:30 PM	C	Palm A, Conv. Ctr.	Revising the NSTA Preservice Teacher Program Standards (p. 54)
12:30–1:30 PM	G	Palm B, Conv. Ctr.	Science Olympiad Fun Day for Grades K–5 (p. 54)
12:30–1:30 PM	G	Atlantic Blrm. Section II, Hilton	FDA Symposium Session: Investigating Outbreaks (p. 55)



## Schedule at a Glance Integrated/General

12:30–1:30 PM	G	Grande Blrm. Salon C, Hilton	Curriculum Mapping: Analyzing Affective Results and the Implications of Change (p. 55)
12:30–1:30 PM	G	Grande Blrm. Salon D, Hilton	Igniting Curiosity Through Discrepant Events (p. 56)
12:30–1:30 PM	M	Grande Blrm. Salon E, Hilton	Engaging Online Science Interactions: Another “Last, Best Chance” for Adolescents (p. 55)
12:30–2:30 PM	G	Grande Blrm. Salon E, Hilton	NSTA Exemplary Science Program (ESP)...Realizing the Visions of the National Standards: It Takes ESP to Find Exemplary Science Programs (p. 58)
1:00–2:30 PM	K–12	Room 114, Conv. Ctr.	What’s Going On in There? Inquiry Science for Administrators, Trainers, and Teachers (p. 59)
2:00–3:00 PM	G	Floridan Blrm. A, Conv. Ctr.	Featured Presentation: Chasing Science at Sea: Unveiling Stories of Wonder and Adventure from the Field and How Science Really Works (Speaker: Ellen Prager) (p. 59)
2:00–3:00 PM	E	Grand Floridian B, Conv. Ctr.	Integrating Science into the K–5 Curriculum (p. 61)
2:00–3:00 PM	G	Grand Floridian C, Conv. Ctr.	Engaging Students in Meaningful Activities Linking Science Content and Literacy Skills (p. 61)
2:00–3:00 PM	E	Grand Floridian D, Conv. Ctr.	NSTA Press Session: Picture-Perfect Science (p. 61)
2:00–3:00 PM	E–M	Grand Floridian E, Conv. Ctr.	Teach Smarter: Get Inside Their Minds (p. 62)
2:00–3:00 PM	M	Grand Floridian F, Conv. Ctr.	Miscommunication: How to Make Sense of Science Vocabulary (p. 62)
2:00–3:00 PM	E–H	Room 207/208, Conv. Ctr.	NSTA Avenue Session: SciLinks: Using the Online Assignment Tool (p. 60)
2:00–3:00 PM	G	Room 220, Conv. Ctr.	Supporting Investigative Science with Literacy Skills and Quality Resources (p. 60)
2:00–3:00 PM	G	Room 223, Conv. Ctr.	A Proposal for the Consilience of Science, Philosophy, and Religion (p. 60)
2:00–3:00 PM	G	Atlantic Blrm. Section II, Hilton	FDA Symposium Session: Dreaming at the Frontiers of Bioscience: Five Technologies That Will Change Your Life—Stay Tuned! (p. 60)
2:00–3:00 PM	E–H	Grande Blrm. Salon C, Hilton	Integrating Engineering into the Classroom via Web-based Tools (p. 60)
2:00–3:15 PM	7–10	Room 113, Conv. Ctr.	Doing DNA Electrophoresis Simply—with E-Gels®! (p. 63)
2:00–4:00 PM	3–6	Room 118/119, Conv. Ctr.	FOSS Assessment: Valuing Academic Progress in Grades 3–6 (p. 63)
2:15–3:30 PM	6–12	Room 304, Conv. Ctr.	Meet the Untamed Science Crew and Learn How to Make Your Own Science Videos! (p. 64)
2:15–3:30 PM	K–12	Room 315, Conv. Ctr.	Using Dinah Zike’s Foldables to Teach Science More Effectively (p. 64)
2:30–4:00 PM	K–8	Room 125, Conv. Ctr.	FOSS and DSM Kit Refurbishment/Material Management (p. 64)
3:00–4:30 PM	K–6	Room 114, Conv. Ctr.	Science Gnus: The Stories of Science in the Stories of Scientists and Process Skills (p. 64)
3:30–4:30 PM	M–H/I	Floridian Blrm. B/C, Conv. Ctr.	Using a Remotely Operated Vehicle (ROV) for Science Instruction in K–12 Settings (p. 67)
3:30–4:30 PM	G	Floridan Blrm. D, Conv. Ctr.	Featured Presentation: America’s Manned Space Program: Past, Present, and Future (Speaker: Jon A. McBride) (p. 65)
3:30–4:30 PM	G	Grand Floridian B, Conv. Ctr.	Starting an NSTA Student Chapter: Student and Faculty Perspectives (p. 65)
3:30–4:30 PM	I	Grand Floridian D, Conv. Ctr.	NSTA Press Session: Extreme Science: Scales from Nano to Galactic (p. 68)
3:30–4:30 PM	G	Room 203/204, Conv. Ctr.	NSRC High School Science Education Symposium (p. 65)
3:30–4:30 PM	G	Room 207/208, Conv. Ctr.	NSTA Avenue Session: Toshiba/NSTA ExploraVision Awards Program (p. 66)
3:30–4:30 PM	G	Room 220, Conv. Ctr.	Developing an Effective Outdoor Classroom (p. 66)
3:30–4:30 PM	G	Atlantic Blrm. Section II, Hilton	FDA Symposium Session: Nutrition Education (p. 66)
4:00–4:30 PM	E	Grand Floridian A, Conv. Ctr.	Beyond Line Leaders: Planning Classroom Jobs That Integrate Science and Math Skills (p. 65)
4:00–5:15 PM	7–10	Room 113, Conv. Ctr.	Inquiry Investigations™ Forensics Science Curriculum Module (p. 69)
4:00–5:15 PM	6–12	Room 221, Conv. Ctr.	Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts (p. 69)
4:00–5:15 PM	5–8	Room 301, Conv. Ctr.	Science of Everyday Life with the 3M/Discovery Education Young Scientist Challenge (p. 70)
4:00–5:15 PM	6–C	Room 302, Conv. Ctr.	Using Online Labs to Maximize Learning and Minimize Costs (p. 70)
4:00–5:15 PM	9–12	Room 304, Conv. Ctr.	Wow! Realistic Laboratory Simulations for the Entire High School Science Curriculum You Have to See to Believe! (p. 70)
4:00–5:15 PM	K–8	Room 315, Conv. Ctr.	Motivating Students Through Project Based Learning (PBL) (p. 70)

## Schedule at a Glance Integrated/General

### Friday

8:00–8:30 AM	G	Room 220, Conv. Ctr.	NSTA Avenue Session: NSTA Membership Jeopardy (p. 73)
8:00–9:00 AM	S	Floridian Blrm. B/C, Conv. Ctr.	Web-based Simulations to Enhance Teaching and Learning in Grades 3–12 (p. 73)
8:00–9:00 AM	E–M	Grand Floridian C, Conv. Ctr.	Making the Connection: Teaching Reading and Writing Concepts Using Science Content (p. 74)
8:00–9:00 AM	G	Room 113, Conv. Ctr.	NSTA Press Session: So You Want New Science Facilities (Science Facilities 101) (p. 74)
8:00–9:00 AM	E–H	Room 223, Conv. Ctr.	Teaching About the Rain Forests of the Oceans Using NOAA Resources (p. 74)
8:00–9:00 AM	G	Grande Blrm. Salon E, Hilton	Writing for Interactivity: Creating Online Content with ASPIRE (p. 74)
8:00–9:15 AM	1–5	Room 114, Conv. Ctr.	Put Some Spark into Science Investigations (p. 76)
8:00–9:15 AM	5–8	Room 125, Conv. Ctr.	Science Kit Presents: Products Developed by Middle School Teachers (p. 76)
8:00–9:15 AM	5–12	Room 301, Conv. Ctr.	Detecting Radiation in Our Radioactive World (p. 78)
8:00–9:15 AM	6–8	Room 304, Conv. Ctr.	The Digital Path and Essential 21st-Century Skills (p. 78)
8:00–9:15 AM	3–12	Room 316, Conv. Ctr.	Teaching Inquiry Science with Toys and Treats (p. 78)
8:00–9:30 AM	K–8	Room 222, Conv. Ctr.	K–8 Science with Vernier (p. 79)
8:00–10:00 AM	K–6	Room 118/119, Conv. Ctr.	Introducing Science Notebooks with FOSS K–6 (p. 79)
9:30–10:30 AM	G	Floridian Blrm. D, Conv. Ctr.	Featured Presentation: Student Equity and Science Integration: A Path to Ensure Success in Learning Science (Speaker: Randolph Tobias) (p. 80)
9:30–10:30 AM	E–M	Grand Floridian A, Conv. Ctr.	Worldwide Science (p. 82)
9:30–10:30 AM	E–M	Grand Floridian D, Conv. Ctr.	Brain-compatible Learning Is a No-Brainer! (p. 82)
9:30–10:30 AM	S	Room 113, Conv. Ctr.	NSTA Press Session: The Architects Have Started Without Me; What Do I Do Now? (Science Facilities 102) (p. 84)
9:30–10:30 AM	G	Room 203/204, Conv. Ctr.	CESI Session: GEMS-U: Girls Engaged in Math and Science University—Opening the World of Math and Science to Girls (p. 82)
9:30–10:30 AM	E–H	Room 220, Conv. Ctr.	NSTA Avenue Session: Toyota TAPESTRY Grants for Science Teachers = \$\$\$ for Your School! (p. 82)
9:30–10:30 AM	G	Room 223, Conv. Ctr.	Become a Teacher at Sea with NOAA Scientists (p. 82)
9:30–10:30 AM	C	Crystal Blrm. Salon II, Hyatt	Improving Science Instruction for Preservice Elementary Teachers (p. 82)
9:30–10:30 AM	M–C	Grande Blrm. Salon A, Hilton	Get a Clue! How to Start a Forensic Science Course (p. 82)
10:00–11:15 AM	1–6	Room 114, Conv. Ctr.	Integrating Science and Literacy: Grades 1–6 (p. 86)
10:00–11:15 AM	5–8	Room 304, Conv. Ctr.	Inquiry, Evidence, and Thinking: The Heart of Science Teaching (p. 87)
10:00–11:15 AM	3–12	Room 316, Conv. Ctr.	Teaching Inquiry Science with Toys and Treats (p. 88)
10:00–11:30 AM	7–C	Room 222, Conv. Ctr.	Developing 21st-Century Minds with Vernier (p. 88)
11:00 AM–12 Noon	G	Floridian Blrm. D, Conv. Ctr.	Using Science Notebooks in the Elementary Classroom (p. 88)
11:00 AM–12 Noon	E–H	Grand Floridian D, Conv. Ctr.	Critical Response Strategies: A Blueprint for Inquiry (p. 90)
11:00 AM–12 Noon	E–M/S	Room 113, Conv. Ctr.	NSTA Press Session: Teaching for Conceptual Change (p. 91)
11:00 AM–12 Noon	H	Crystal Blrm. Salon III, Hyatt	Helping High School Students Write Their Own Scientific Experiments (p. 92)
11:00 AM–12 Noon	E–M	Grande Blrm. Salon A, Hilton	Introduction to Science Literacy Lab (p. 90)
12 Noon–1:15 PM	6–12	Room 221, Conv. Ctr.	Nano in Your Classroom: Easy Lessons Tied to Basic Science Concepts (p. 94)
12 Noon–1:15 PM	4–C	Room 301, Conv. Ctr.	It's Easy to Go Digital! (p. 94)
12 Noon–1:15 PM	6–10	Room 302, Conv. Ctr.	STEMcart: Providing STEM Teachers with the Tools They Need (p. 94)
12 Noon–1:15 PM	6–7	Room 304, Conv. Ctr.	What's Next in a Science Text? Interact with Your Textbook (p. 94)
12 Noon–1:15 PM	1–8	Room 316, Conv. Ctr.	I See What You Mean: Developing Visual Literacy (p. 94)
12 Noon–1:30 PM	7–C	Room 222, Conv. Ctr.	Developing 21st-Century Minds with Vernier (p. 95)
12:30–1:00 PM	M–C	Room 203/204, Conv. Ctr.	NARST Session: Strengths and Weaknesses of Question Analysis (p. 95)
12:30–1:30 PM	G	Floridian Blrm. D, Conv. Ctr.	English Language Development Strategies in Science (p. 96)
12:30–1:30 PM	S	Room 220, Conv. Ctr.	NSTA Avenue Session: The NSTA Learning Center: Free Classroom Resources and Professional Development for Educators (p. 96)
12:30–1:30 PM	G	Atlantic Section III/IV, Hilton	NSTA ESP Symposium II: NSTA Exemplary Science Program (ESP)... Realizing the Visions of the National Standards: It Takes ESP to Find Exemplary Science Programs (p. 95)

## Schedule at a Glance Integrated/General

12:30–1:30 PM	H	Crystal Blrm. Salon I, Hyatt	NSTA High School Committee Presents Leading Beyond the Classroom (p. 96)
12:30–1:30 PM	M–H	Grande Blrm. Salon B, Hilton	The Great Energy Debate Game (p. 97)
12:30–1:30 PM	G	Grande Blrm. Salon E, Hilton	Professional Development Providers: What You Should Know and Be Able to Do (p. 96)
1:00–2:15 PM	K–8	Room 114, Conv. Ctr.	Working as One with Hands and Minds (p. 98)
2:00–3:00 PM	G	Floridian Blrm. A, Conv. Ctr.	Improving Real-World Connections and Science Comprehension in the Middle School Classroom (p. 99)
2:00–3:00 PM	G	Floridian Blrm. B/C, Conv. Ctr.	Featured Presentation: Advantages of Integrating Higher Technology into the Classroom (Speaker: Emma Rader) (p. 98)
2:00–3:00 PM	E	Grand Floridian A, Conv. Ctr.	Bring Literacy and Science Together: B.L.A.S.T.© for Success at School and Home (p. 101)
2:00–3:00 PM	E–H	Grand Floridian C, Conv. Ctr.	Become an Einstein Fellow! (p. 100)
2:00–3:00 PM	E	Grand Floridian D, Conv. Ctr.	Classroom Teachers: Using Multiple Strategies to Engage Learners in Scientific Inquiry (p. 100)
2:00–3:00 PM	C/I	Room 203/204, Conv. Ctr.	NARST Session: Enhancing Reform-based Preservice Elementary Science Teaching Practices Through Out-of-School-Time Teaching (p. 100)
2:00–3:00 PM	H	Crystal Blrm. Salon I, Hyatt	NSTA High School Committee Share Session (p. 100)
2:00–3:00 PM	M–H	Grande Blrm. Salon A, Hilton	Integrating the Story of Science Throughout the Curriculum (p. 100)
2:00–3:00 PM	M–H/I	Grande Blrm. Salon B, Hilton	Renewables Are Ready! Are You? (p. 102)
2:00–3:15 PM	3–12	Room 316, Conv. Ctr.	Teaching Science with Foldables (p. 103)
2:00–3:30 PM	7–C	Room 222, Conv. Ctr.	Developing 21st-Century Minds with Vernier (p. 104)
2:00–4:30 PM	3–6	Room 118/119, Conv. Ctr.	Making Sense of Science Notebooks with FOSS 3–6 (For Experienced Users) (p. 104)
2:30–3:00 PM	G	Room 223, Conv. Ctr.	Nontraditional Grading in a Traditional Environment (p. 104)
2:30–4:00 PM	6–12	Room 305, Conv. Ctr.	Use the SPARK Science Learning System to Enhance Hands-On Science (p. 104)
3:30–4:30 PM	G	Room 220, Conv. Ctr.	Writing for NSTA's Journals (p. 105)
3:30–4:45 PM	G	Grand Floridian E–H, Conv. Ctr.	General Session: Saving Species: Science to the Rescue (Speaker: Julie Scardina) (p. 106)
4:00–5:15 PM	6–8	Room 304, Conv. Ctr.	Planet Diary: Web-based Science News and Activities Engage Students in Science (p. 107)
4:00–5:15 PM	K–8	Room 315, Conv. Ctr.	Misconception Mania: Exciting and Engaging Ways to Address Common Misunderstandings in Science (p. 107)
4:00–5:15 PM	3–12	Room 316, Conv. Ctr.	Teaching Science with Foldables (p. 107)

### Saturday

7:30–9:00 AM	G	Palm A/B, Conv. Ctr.	PreK–8 CESI Breakfast: GEMS-U: Girls Engaged in Math and Science University—Opening the World of Math and Science to Girls (Speakers: Shannon Parks and Stephanie Ann Baird) (p. 111)
8:00–9:00 AM	E–H	Floridian Blrm. B/C, Conv. Ctr.	Effectively Using Video Production in the Science Classroom (p. 111)
8:00–9:00 AM	E–M	Grand Floridian A, Conv. Ctr.	Virtual Middle School Science (p. 111)
8:00–9:00 AM	E	Grand Floridian E, Conv. Ctr.	Inquiry Experiences in Science and Math: Making the Most of Technology (p. 112)
8:00–9:00 AM	P/E	Grand Floridian G, Conv. Ctr.	Linking Home and School with P.A.S.S.© (Portable Affordable Simple Science) (p. 112)
8:00–9:00 AM	G	Room 207/208, Conv. Ctr.	AMSE Session: Strategies and Resources: Enhancing the Science Learning of Students from Underrepresented Groups in the Sciences (p. 112)
8:00–9:00 AM	G	Room 220, Conv. Ctr.	Creating Science Learning Communities on the Social Network (p. 111)
8:00–9:15 AM	6–12	Room 301, Conv. Ctr.	Fuel Our Future Now (p. 112)
9:30–10:30 AM	E–H	Floridian Blrm. D, Conv. Ctr.	Promoting Scientific Inquiry and Active Reading (p. 113)
9:30–10:30 AM	G	Room 220, Conv. Ctr.	Learning Science in Informal Environments (p. 114)
11:00–11:30 AM	E–H	Floridian Blrm. B/C, Conv. Ctr.	The Internet Science and Technology Fair (ISTF): 2009 Update (p. 115)
11:00 AM–12 Noon	E–H	Floridian Blrm. A, Conv. Ctr.	GreenSchools! (p. 116)

## Schedule at a Glance Integrated/General

11:00 AM–12 Noon	P/E	Grand Floridian B, Conv. Ctr.	Integrating Nonfiction Reading and Writing While Teaching About Energy (p. 116)
11:00 AM–12 Noon	E	Grand Floridian E, Conv. Ctr.	Integrating Science Inquiry, Hands-On Activities, Reading, and Writing (p. 116)
11:00 AM–12 Noon	G	Room 220, Conv. Ctr.	How Can We Create K–6 Classrooms That Embrace Science Inquiry? Helping Students Think and Work Like Scientists (p. 115)

### Physics/Physical Science

#### Thursday

8:00–9:00 AM	G	Room 220, Conv. Ctr.	A University and District Collaboration to Improve Science Instruction (p. 43)
8:00–9:00 AM	7–9	Room 305, Conv. Ctr.	InterActions in Physical Science: When Your Students Interact with Science They Discover (p. 45)
8:00–9:00 AM	M–C	Atlantic Blrm. Section I, Hilton	Muscular Physics (p. 44)
8:00–9:15 AM	4–6	Room 124, Conv. Ctr.	Force! Momentum! Energy Kids Discover More with the STC Program™: Motion and Design (p. 46)
8:00–9:15 AM	9–C	Room 301, Conv. Ctr.	Experience Digital Physics Curriculum (p. 46)
9:30–10:30 AM	H	Crystal Blrm. Salon II, Hyatt	Bringing the Amazing High-Energy Universe into Focus (p. 49)
9:30–10:30 AM	H–C	Crystal Blrm. Salon III, Hyatt	Cosmic Rays in the Classroom (p. 50)
12 Noon–1:30 PM	5–12	Room 122/123, Conv. Ctr.	Collision Physics: A Smashing Good Time! (p. 53)
12:30–1:30 PM	9–12	Room 305, Conv. Ctr.	<i>Active Physics</i> ® Third Edition: Newly Revised with More Content, More Math, More Physics (p. 56)
2:00–3:00 PM	M–C	Atlantic Blrm. Section I, Hilton	Formative Assessment and Data Collection with the TI-Nspire Navigator (p. 62)
2:00–3:00 PM	H–C	Crystal Blrm. Salon III, Hyatt	The Physics of Supernovae (p. 62)
2:00–3:30 PM	5–12	Room 122/123, Conv. Ctr.	Fun with Electricity and Circuits (p. 63)
2:15–3:30 PM	9–12	Room 302, Conv. Ctr.	The Physics Behind the Roller Coaster (p. 63)
3:30–4:00 PM	E–M	Grand Floridian A, Conv. Ctr.	The Reflective Assessment Technique: Fifteen Minutes to Improved Instruction (p. 65)
3:30–4:30 PM	M	Atlantic Blrm. Section I, Hilton	Science Circus (p. 68)
3:30–4:30 PM	M–C	Grande Blrm. Salon C, Hilton	The Magnet Lab: Magnets Is What We Do! (p. 66)
4:00–5:30 PM	5–12	Room 122/123, Conv. Ctr.	Light and Optics: A Series of EnLIGHTening Experiments! (p. 70)

#### Friday

8:00–9:00 AM	E	Grand Floridian B, Conv. Ctr.	On the Move—Force and Motion for Grades 3–5 (p. 74)
8:00–9:00 AM	E–M	Grand Floridian F, Conv. Ctr.	Take Your Physical Science Lessons to the Olympic Level (p. 74)
8:00–9:00 AM	6–12	Room 305, Conv. Ctr.	Tough Topics in Physics and Physical Science: Motion (p. 76)
8:00–9:00 AM	M–H	Atlantic Blrm. Section II, Hilton	“Seeing” the Invisible: Exploring the EMS (p. 75)
8:00–9:00 AM	H–C	Crystal Blrm. Salon IV, Hyatt	AAPT Session: Transforming Your Science Classroom with Modeling Instruction (Part 1) (p. 76)
9:30–10:30 AM	M–H	Atlantic Blrm. Section II, Hilton	Modeling the Spectrum (p. 84)
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10:00–11:15 AM	6–8	Room 125, Conv. Ctr.	STC/MS™: Energy, Machines, and Motion (p. 86)
10:00–11:15 AM	3–9	Room 315, Conv. Ctr.	Get Charged Up with Educational Innovations! (p. 88)
10:00–11:30 AM	5–12	Room 122/123, Conv. Ctr.	Light and Optics: A Series of EnLIGHTening Experiments! (p. 88)
11:00 AM–12 Noon	E–M	Room 207/208, Conv. Ctr.	PSD Session: Laser Light: What Makes It So Special? (p. 91)
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11:00 AM–12 Noon	H	Crystal Blrm. Salon II, Hyatt	Energizing Physics (p. 90)
11:00 AM–12 Noon	M–C	Crystal Blrm. Salon IV, Hyatt	AAPT Session: Promoting Interaction in Your Science Classroom with Personal Whiteboards (p. 92)



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12 Noon–1:30 PM	5–12	Room 122/123, Conv. Ctr.	Music, Sound, and Waves (p. 95)
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12:30–1:30 PM	E–M	Room 207/208, Conv. Ctr.	PSD Session: Diffraction: Using Light to Measure (p. 97)
2:00–3:00 PM	E–M	Room 113, Conv. Ctr.	NSTA Press Session: Stop Faking It! Finally Understand ELECTRICITY and MAGNETISM So You Can Teach It (p. 102)
2:00–3:00 PM	H–C	Crystal Blrm. Salon IV, Hyatt	AAPT Session: Bridging the Gaps: Physics Student to Preservice Teacher to Inservice Teacher (p. 102)
2:00–3:15 PM	9–C	Room 301, Conv. Ctr.	Experience Digital Physics Curriculum (p. 103)
4:00–5:30 PM	5–12	Room 122/123, Conv. Ctr.	Collision Physics: A Smashing Good Time! (p. 107)

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