Florida Association of Science Teachers
October 21-23, 2010
St. Augustine, Florida

Navigating Through Science

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About the Conference Artwork

The program cover and logo for the 2010 FAST conference were designed by students from St. Johns County public schools. An art contest was held in late 2009. Ninety-two pieces of artwork were submitted, and prizes were awarded to the top three program designs from both elementary and middle school categories, and the top logo design from elementary and middle school categories. The program cover features the artwork that was selected as the overall winner. The design was created by 14-year-old Sarah Schreck. The conference logo was created by combining designs submitted by 10-year-old Julia Worman and 12-year-old Rodney Padgett. Look for the art display in the conference center lobby area near the registration desk.

Prizes for the art contest were donated by the following:

- Anastasia Bowling Lanes
- Fiesta Falls Miniature Golf
- Five Star Pizza
- Jacksonville Zoo
- Marineland’s Dolphin Conservation Center
- Ripley’s Believe It or Not!
- Ripley’s Sightseeing Trains
- Sagaponak Books (Pelican Pete books)
- St. Augustine Alligator Farm and Zoological Park
- St. Augustine Lighthouse and Museum
- St. Augustine Scenic Cruise
President’s Welcome

I am glad that you are able to attend this year’s conference. It is a very special one!

Professional Development is a critical part of our professional lives. It is what we do, so we can better educate others and guide our national future.

You are joining science educators from Florida and other states, to confer, share ideas, lesson plans, and professionally network.

This year’s conference is sure to fulfill all your expectations.

FAST is very excited to be here in St. Augustine.

I send a HUGE thank you to the Conference Planning Committee, especially Mark Lewis, Mary Sullivan, and Maia McGuire. They have worked tremendously hard in putting together this year’s conference. If you run into them in your conference travels, thank them personally....anyone who has done such planning knows the amount of effort required.

This program will be very helpful in planning your next few days at the FAST conference. Inside you will find descriptions of the sessions, keynote speakers, and social events. We have many interesting and exciting things happening at the conference, so please take a few minutes to look over this program.

I especially want to point out some of the jewels of this year’s conference.

We have the National Geographic Society’s Sylvia Earle as our keynote speaker. Ms. Earle has world-wide recognition as a naturalist and speaker and we warmly welcome her to our podium. The National Geographic Society is recognized and thanked as well, for assisting to bring such international quality to our program.

You will also not want to miss Mr. Phillip Cousteau’s presentation. Yes, that is the Cousteau family of Calypso and Cousteau Society fame, which we have often seen on TV in various educational and research roles. Join me in welcoming this environmental hero to our program. For making this happen I’d like to thank the Discovery Channel.

And I want to thank each of you as participants here; for all that you do in promoting the science learners, future scientists and environmental leaders of tomorrow! Your teaching legacy defines what pride is made of.

My last presidential wish is that you have a great time!

Brad Tanner
Mote Marine Labs, Sarasota, FL
FAST President
FAST AREAS
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Area 2: Washington, Jackson, Bay, Calhoun, Gulf, Liberty, Gadsden, Leon, Wakulla, Franklin, Jefferson, Madison, Taylor
Area 3: Hamilton, Suwannee, Lafayette, Dixie, Columbia, Gilchrist, Levy, Baker, Union, Bradford, Alachua, Marion, Putnam
Area 4: Nassau, Duval, Clay, St. Johns
Area 5: Flagler, Volusia, Lake, Seminole, Orange
Area 6: Citrus, Hernando, Sumter, Pasco, Hillsborough, Pinellas, Polk
Area 7: Manatee, Hardee, Sarasota, De Soto, Highlands
Area 8: Brevard, Osceola, Indian River, Okeechobee, St. Lucie, Martin
Area 9: Charlotte, Glades, Lee, Hendry, Collier
Area 10: Palm Beach, Broward
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* Area Directors are the official representatives for their assigned geographic area. Please make contact with your area director regarding science education in your county. The area director serves on the FAST Board of Directors.
What is FAST?

The Florida Association of Science Teachers (FAST) is the state's largest non-profit professional organization dedicated to improving science education at all levels, from preschool through college. The Association's membership includes science teachers, science supervisors, administrators, scientists, representatives of business and industry, and others interested in science education.

It is the position of the Florida Association of Science Teachers that quality science education is important for all students facing a world where everyday decisions depend more and more on a sound knowledge of science. Our goal is to provide leadership and a community that promotes a society that understands current technology and makes meaningful decisions as scientifically literate citizens. FAST is an advocate for science education in a variety of forms.

CONFERENCES: An annual conference for Science Educators is held each October. The emphasis is on excellence, describing outstanding programs, innovative teaching techniques, research findings, new materials and equipment, and providing make and take workshops.

AWARDS: Each year an extensive search is conducted to reward excellence in science teaching at all levels - elementary, middle, and high school science educators. These teachers are recognized publicly and with monetary awards.

General Conference Information

Name Badges: Remember to wear your name badge—it is your admission to the general sessions, concurrent sessions and special events during the conference!

FAST Membership: Not a FAST member? Annual dues are only $20—members receive FAST journal and newsletters throughout the year, and are eligible for cash awards!

Parking: Parking is free at the Renaissance Resort Hotel and Conference Center.

Meals: There are various lunch and dinner options within walking distance. Check your registration materials for special offers!

Conference Sponsors
Leading Florida

Florida Power & Light is proud to support FAST to “Navigate Through Science” to lead the next generation.
2010 Conference Committee

The 2010 FAST conference was planned and organized by a team of volunteers from St. Johns County. Many thanks to:

**Susan Babish**, Mill Creek Elementary School (concurrent sessions, signage)
**Robert Connery**, Creekside High School (committee member)
**Nicole Crecco**, Mill Creek Elementary School (committee member)
**Daisy Huffman**, Fruit Cove Middle School (field trips, concurrent sessions, volunteers)
**Kathryn Kehoe**, Ponte Vedra High School (committee member)
**Mark Lewis**, Science Curriculum Supervisor, St Johns County (chair)
**Maia McGuire**, UF/IFAS Sea Grant Extension Program (program, concurrent sessions, registration, field trips)
**Kathleen McLaughlin**, Durbin Creek Elementary School (committee member)
**Brian Radaker**, Gamble Rogers Middle School (committee member)
**Joy Reichenbach**, Liberty Pines Academy (registration)
**Anna Sabate**, Otis Mason Elementary School (exhibitors/vendors)
**Mary Sullivan**, Fruit Cove Middle School (exhibitors/vendors)
**Brad Tanner**, Mote Marine Laboratory (guest speakers, meals)

Have questions while you are at the conference? Look for our committee members and other volunteers in their LIME GREEN t-shirts!
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# Overall Schedule of Events

All activities take place at the conference center except for field trips (shaded).

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 am – 1 pm</td>
<td>CONFERENCE REGISTRATION Open</td>
<td>Pre-convene area</td>
</tr>
<tr>
<td>8 am – 4 pm</td>
<td>VENDOR REGISTRATION OPEN</td>
<td>Pre-convene area</td>
</tr>
<tr>
<td>8 am – 4 pm</td>
<td>VENDOR SETUP</td>
<td>St. Augustine C &amp; D</td>
</tr>
<tr>
<td>9 am – noon</td>
<td>Field Trip #1—Where the River Meets the Sea</td>
<td>GTMNERR (Ponte Vedra)</td>
</tr>
<tr>
<td>9 am – noon</td>
<td>Field Trip # 2—St. Augustine Alligator Farm</td>
<td>St. Augustine Alligator Farm</td>
</tr>
<tr>
<td>9 am – 4 pm</td>
<td>Workshop—Great Water Odyssey</td>
<td>St. Augustine F</td>
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<tr>
<td>9:30 am – 12:15 pm</td>
<td>Field Trip #3—Communicating Scientific Results Through Maritime Tradition</td>
<td>St. Augustine Lighthouse</td>
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<tr>
<td>10 am – 4 pm</td>
<td>Field Trip #4—Marine Biotechnology</td>
<td>Whitney Lab (Town of Marineland)</td>
</tr>
<tr>
<td>10 am – 4 pm</td>
<td>Field Trip #5—Marine Critters: Invertebrates to Mammals</td>
<td>Whitney Lab and Dolphin Conservation Center (Marineland)</td>
</tr>
<tr>
<td>Noon-4 pm</td>
<td>Workshop—Make &amp; Take</td>
<td>St. Augustine E</td>
</tr>
<tr>
<td>12:30 pm – 2:30 pm</td>
<td>FAST BOARD MEETING</td>
<td>Legends 1</td>
</tr>
<tr>
<td>1 pm – 4 pm</td>
<td>Field Trip #6—Exploring the Estuary by Kayak</td>
<td>Whitney Lab dock (Town of Marineland)</td>
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<tr>
<td>1 pm – 4 pm</td>
<td>Workshop—Fire in Florida’s Ecosystems</td>
<td>Troon</td>
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<tr>
<td>1 pm – 5 pm</td>
<td>Workshop—Growing Up WILD</td>
<td>Wentworth</td>
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<tr>
<td>5 pm – 8 pm</td>
<td>CONFERENCE REGISTRATION OPEN</td>
<td>Pre-convene area</td>
</tr>
<tr>
<td>6 pm – 8 pm</td>
<td>Planetarium open</td>
<td>Hallway outside St Augustine A&amp;B</td>
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<tr>
<td>6 pm – 8 pm</td>
<td>Social (sponsored by FPL)</td>
<td>Patio</td>
</tr>
<tr>
<td>7 pm – 9 pm</td>
<td>Stargazing with NE FL Astronomical Society</td>
<td>Outdoors (follow signs from pre-con area)</td>
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<tr>
<td>Time</td>
<td>Event</td>
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</tr>
<tr>
<td>7 am – 4 pm</td>
<td>CONFERENCE REGISTRATION Open</td>
<td>Pre-convene area</td>
</tr>
<tr>
<td>7:30 am – 8 am</td>
<td>Continental Breakfast</td>
<td>St. Augustine EFG</td>
</tr>
<tr>
<td>8 am – 8:55 am</td>
<td>General session &quot;Superintendent’s Welcome Recognition of Science Educator Awardees&quot;</td>
<td>St. Augustine EFG</td>
</tr>
<tr>
<td>9 am – 5 pm</td>
<td>Vendor area open</td>
<td>St. Augustine CD</td>
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<tr>
<td>9 am – 5 pm</td>
<td>Concurrent sessions</td>
<td>St. Augustine ABEFG, Troon, Legends 123, Wentworth</td>
</tr>
<tr>
<td>4:15 pm – 5 pm</td>
<td>Presentation by Dr. Sylvia Earle Book signing; Refreshments IMAX movie-Sea Monsters Sponsored by National Geographic</td>
<td>IMAX Theater</td>
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<td>5 pm – 6 pm</td>
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<tr>
<td>7 am – 9 am</td>
<td>CONFERENCE REGISTRATION Open</td>
<td>Pre-convene area</td>
</tr>
<tr>
<td>8 am – 8:55 am</td>
<td>General Session &quot;Keynote Speaker: Philippe Cousteau (Sponsored by Discovery Channel) Meet the new FAST board&quot;</td>
<td>St. Augustine EFG</td>
</tr>
<tr>
<td>8 am – noon</td>
<td>Vendor area open</td>
<td>St. Augustine CD</td>
</tr>
<tr>
<td>9 am - noon</td>
<td>Concurrent sessions</td>
<td>St. Augustine ABEFG, Troon, Legends 123, Wentworth</td>
</tr>
<tr>
<td>Noon-1:30 pm</td>
<td>FAST Life members’ Luncheon Sponsor by Science Matters</td>
<td>Troon</td>
</tr>
<tr>
<td>Noon – 3 pm</td>
<td>Vendors break down exhibits</td>
<td>St. Augustine CD</td>
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Pre-conference Workshops and Educational Field Trips
Thursday, October 21

**Workshop: The Great Water Odyssey**

*Time:* 9:00am – 4:00 pm  
*Location:* St. Augustine F  

**This program is developed for:** 3rd, 4th and 5th grade teachers

The Great Water Odyssey is an interactive computer-based curriculum that was created for Florida teachers to use to meet education requirements while learning about Florida's watery environments. This workshop will provide participants with the curricula and educator’s manuals for each grade level along with other teacher resources. Lunch is not provided, so participants should plan to bring a bag lunch.

**Workshop: Make and Take**

*Time:* noon-4:00 pm  
*Location:* St. Augustine E

The Brevard Elementary Science Leadership and Training Cadre and guests have put together high-quality hands-on, minds-on activities and explorations to share with other elementary teachers. Each will be a make-and-take, with excellent alignment to the Next Generation Sunshine State Standards for Science, and all materials and lesson plans will be provided. You are invited to move from station to station to participate in explorations that you can take back to use with your students and share with your colleagues. Our cadre of teachers will be there to model and explain each activity, and attending teachers will leave with new activities and lessons to take back to their students and colleagues. REGISTRATION IS NOT REQUIRED FOR THIS WORKSHOP, AND INTERESTED TEACHERS ARE FREE TO COME AND GO AS THEY WISH.

**Workshop: Growing up WILD**

*Time:* 1:00-5:00 pm  
*Location:* Wentworth

Growing Up WILD is an early childhood education program that builds on children’s sense of wonder about nature and invites them to explore wildlife and the world around them. Through a wide range of activities and experiences, Growing Up WILD provides an early foundation for developing positive impressions about the natural world and lifelong social and academic skills. Educators will learn creative ways to teach science, math or language arts; connect your students with nature; and learn new outdoor skills. After participating in the 4-hour course, you will receive the Growing Up WILD activity guide featuring 27 field-tested, hands-on, nature based activities in a full-color 11”x17” book full of outstanding hands-on, interactive activities to share with your students. It includes crafts, art projects, music, conservation activities, reading and math connections and much more. The book is correlated to the National Association for the Education of Young Children (NAEYC) Standards and the Head Start Domains.

**Workshop: Fire in Florida’s Ecosystems**

*Time:* 1:00-4:00 pm  
*Location:* Troon

Fire in Florida’s Ecosystems (FIFE) is a FREE workshop and materials designed to give educators the information and tools to teach about the natural role of fire in Florida. The Florida Division of Forestry has sponsored FIFE since 2000 and in that time over 2,700 teachers have attended workshops across the state. FIFE is open to any educator and no fire background is necessary. Each participant receives a free...
curriculum package that includes a curriculum notebook with 13 activities, fire education videos, posters, teaching Power Points, and supplemental materials. The curriculum includes hands-on activities designed to provide 3rd to 12th grade students with Sunshine State Standards-correlated science learning experiences. All activities include comprehensive, grade-specific reading passages and FCAT assessment questions. The workshop integrates hands on learning with discussion and presentations to teach educators about fire’s natural role in Florida. Go to www.fireinflorida.org to learn more about the program!

Field Trip #1: **GTM Research Reserve; Where the River Meets the Sea**

**Time:** 9:00am-12:00pm

**Cost:** FREE!

**Location:** GTM Research Reserve (Ponte Vedra Beach). This site is about a 30-minute drive from the conference location.

This field trip will begin with an introductory talk about the National Estuarine Research Reserve System, a network of 27 protected areas charged with conducting research, stewardship, and education activities on and about estuaries ([http://www.nerrs.noaa.gov/](http://www.nerrs.noaa.gov/)). Participants will then head out in the field to explore the estuary, one of the most productive ecosystems on Earth. Exploration activities include pulling a seine net to examine aquatic organisms, taking a salinity measurement, and looking at salt marsh vegetation. Next participants will head to a pristine beach with 40 foot high sand dunes where participants can measure the beach profile and examine coquina sand. Participants will then head back to the Environmental Education Center for a tour of the exhibit hall and classrooms followed by time to visit the Nature Store and learn about K-12 program offerings.

**What to Bring:** Hat, sunglasses, rain coat (if rain predicted), water bottle, shoes that can get dirty, clothing suitable for the outdoor temperature

**Lunch:** On your own. If people bring a bag lunch, they can eat at outdoor picnic tables overlooking the salt marsh.

Field Trip # 2: **St. Augustine Alligator Farm and Zoological Park**

**Time:** 9:00 am-12:00 pm

**Cost:** $11.50

This field trip includes two programs and a tour of the park. In the first program, “Reptile Rally”, teachers will define reptiles and subcategories using visual aids. Teachers will also learn about reptile groups and characteristics using hands on animal interactions and biofacts. In the second program, "Animal Classification", teachers will learn key characteristics that make animals similar to and different from each other. They will examine several different classes of animals and learn what traits set them apart. Teachers will also be able to tour the park and watch an alligator feeding at noon.

Field Trip # 3: **Communicating Scientific Results Through Maritime Tradition**

**Time:** 9:30 – 12:15

**Cost:** $15

**Location:** St. Augustine Lighthouse and Museum. This site is about a 25-minute drive from the conference location.

**This program is developed for:** 3rd Grade and up

Sailors and maritime scientists have always been keenly aware of the importance of knowing the water, the wind, the waves, and the weather – all part of the water cycle. Students are required to study the water cycle at various levels in school. This involves investigating, understanding, and articulating the relationship between evaporation, condensation, and precipitation through the scientific method. This workshop suggests experiments that teachers can do with their students to investigate various aspects of
the water cycle and how the results of those experiments can be presented through the arts – specifically in poems or songs. These poems and songs can then become a novel and memorable way for them to present their findings to other class members as well as other audiences within the school or community. Events and information of all types have been documented in ballads throughout history and as part of the maritime tradition.

**Field Trip #4: Marine Biotechnology Lab for High School Teachers**

**Time:** 10 am – 4 pm

**Cost:** $15 (includes lunch)

**Location:** Whitney Laboratory for Marine Biosciences, Town of Marineland. This site is about a 45-minute drive from the conference location.

Teachers will participate in a hands-on marine biotechnology program at the University of Florida’s Whitney Lab for Marine Bioscience. Participants will perform experiments using DNA samples, PCR, and gel electrophoresis. They will isolate segments of DNA from unknown samples. By measuring the length of the DNA, and comparing it to the known lengths of two possible sources, participants will determine whether the mystery sample was taken from a fish or mollusk.

**Field Trip #5: Marine critters: invertebrates to mammals.**

**Time:** 10 am – 4 pm

**Cost:** $25 (includes lunch)

**Location:** Whitney Laboratory for Marine Biosciences and Dolphin Conservation Center, Town of Marineland. This site is about a 45-minute drive from the conference location.

This program is geared towards teachers of elementary-middle grades. In the morning, teachers will participate in hands-on experiments at the University of Florida’s Whitney Lab for Marine Bioscience. Activities include learning about marine invertebrates at the touch tanks, observing and drawing plankton, and forming and testing hypotheses (conducting several experiments.) After lunch, teachers will walk across the street to Marineland’s Dolphin Conservation Center, where they will participate in a classroom education program about marine mammals, followed by a touch-and-feed with one of Marineland’s bottlenose dolphins.

**Field Trip #6: Exploring the Estuary by Kayak**

**Time:** 1pm – 5 pm

**Cost:** $25 (includes all kayaking equipment)

**Location:** Departing from Whitney Laboratory dock, Town of Marineland. This site is about a 45-minute drive from the conference location.

Come and learn field-based activities from St Johns County teachers who run an annual marine science summer camp program for rising 6th-9th grade students in the district. You will paddle from station to station in sit-on-top kayaks, and will learn about estuaries, salt marshes and life within these ecosystems. Come and see why the marine science summer camp is one of the most popular summer camps in the county!

**What to Bring:** Hat, sunglasses, rain gear (if rain predicted), water bottle, shoes that can get wet/dirty, clothing suitable for the outdoor temperature
Thursday Evening Events

After the pre-conference workshops and field trips, there will still be more to do on Thursday! Florida Power and Light has sponsored an evening social (look for signs in the pre-convene area—the social will be outdoors). This will start at 6 pm. In addition, Science First will have its Planetarium set up in the pre-convene area of the convention center. Stop by to see the variety of activities that they have to offer.

At 7 pm, the Northeast Florida Astronomical Society volunteers will have telescopes set up outdoors (again, look for signs in the conference pre-convene area). They will also have star charts and educational stations set up in the pre-convene area. Teachers are welcome to bring their own telescopes and volunteers from NEFAS will provide instruction on how to properly use them. Additionally, they will provide advice on how to fix or where to get parts for broken telescopes. Be sure to take advantage of this FREE resource!

Friday Special IMAX Theater Events

Stop by the National Geographic booth (# 74-76) in the vendor hall to pick up FREE tickets to hear Dr. Sylvia Earle’s presentation (4:15 pm) and/or to see the IMAX movie Sea Monsters (6 pm). Both events will be in the IMAX Theater on Friday. From 5-6 pm, Dr. Earle will sign copies of her book The World is Blue (available for purchase all day Friday in the pre-con area of the conference center) and free refreshments will be available in the IMAX lobby. Dr. Earle’s presentation, the refreshments and the IMAX movie are all sponsored by National Geographic.
Featured Speakers

Featured Speaker: Dr. Joseph Joyner
Friday, 8 am General Session, St Augustine EFG

Dr. Joseph G. Joyner has been Superintendent of Schools for the St. Johns County School District since July 1, 2003.

St. Johns County School District is one of only 10 school districts in the state to earn an “A” for the past eight years. Student test scores continue to rise, and the district’s most recent FCAT scores were the highest in the state out of 67 school districts in Florida. The district continually ranks in the top 14% of the nation in “What Parents Want” in public schools. High school graduates rank second in the state in readiness for college.

The Superintendent initiated the first Pursuing Victory with Honor program in the state which incorporates character education into athletic programs.

In 2007-08 Dr. Joyner served as President of the Florida Association of District School Superintendents (FADDS) and continues to serve on their board. In 2007 he received one of two Superintendent of the Year Awards from the Consortium of Florida Education Foundations. The following year he was selected as the Florida Superintendent of the Year by FADDS.

Dr. Joyner attended Florida State University on a football scholarship and holds master’s and doctoral degrees from the University of Central Florida. He was selected as a UCF Outstanding Alumnus for 2005 and as an Alumnus of the Decade in 2007.

Featured Presenter: Captain Jon McBride
ASTRONAUT ENCOUNTER
Friday, 9 am, St Augustine B

Jon McBride began his career as a Navy pilot, and was selected to become an astronaut in 1979. He was lead chase pilot for the maiden voyage of Columbia, and pilot of the Orbiter Challenger in 1984. During that eight-day mission, the crew deployed a satellite, conducted scientific observations of the Earth, and demonstrated potential satellite refueling in space. In 1987, McBride was reassigned to NASA Headquarters as Assistant Administrator for Congressional Relations. He retired from NASA and the Navy in May, 1989. He is currently a member of the Kennedy Space Center Astronaut Encounter team, and does lecturing and corporate motivational presentations.
Featured Speaker: **Dr. Sylvia Earle**  
*THE WORLD IS BLUE: HOW OUR FATE AND THE OCEAN'S ARE ONE*  
Friday, 4:15 pm, IMAX Theater  
Note: Limited seating—tickets required. Pick up your tickets at the National Geographic Booth (#74-76 in the Vendor Hall)

Dr. Sylvia Earle is an oceanographer, explorer, author and lecturer, Explorer in Residence at the National Geographic Society, called “Her Deepness” by the *New Yorker* and *New York Times*, a “Living Legend” by the Library of Congress, and “First Hero for the Planet” by *Time* Magazine. She has a B.S. degree from Florida State University, M.S. and PhD. from Duke University, 19 honorary degrees and has authored more than 175 scientific, technical and popular publications, lectured in more than 80 countries, and appeared in hundreds of radio and television productions. She has years of experience as a field research scientist, expedition leader, government official, and director for corporate and non-profit organizations including the Kerr McGee Corporation, Dresser Industries, Oryx Energy, the Aspen Institute, the Conservation Fund, World Wildlife Fund, Conservation International, Ocean Conservancy, Ocean Futures, American Rivers, Mote Marine Laboratory, Duke University Marine Laboratory, Rutgers Institute for Marine Science and the Woods Hole Oceanographic Institution, and the National Marine Sanctuary Foundation. She founded Mission Blue, a nonprofit organization dedicated to ocean exploration, research, and conservation aimed at developing networks of "Hope Spots," protected areas large enough to secure and restore health to the "blue heart of the planet" ([www.mission-blue.org](http://www.mission-blue.org)).

Dr. Earle’s participation is sponsored by:

Featured Speaker: **Philippe Cousteau, Jr.**  
Saturday, 8 am, St Augustine EFG

Philippe Cousteau is the son of Jan and Philippe Cousteau Sr. and the grandson of Captain Jacques-Yves Cousteau. Cousteau is continuing the work of his father and grandfather by educating the public about the environment. Cousteau is Discovery Education’s Chief Spokesperson for Environmental Education and the president of EarthEcho International, a non-profit environmental education and conservation organization founded by Philippe and his sister Alexandra in memory of their father.

Mr. Cousteau’s participation is sponsored by:
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Amy Kezman
Southeast Regional Manager
704.841.0962
akezman@lab-aids.com
TEACHER AWARDS

These awards will be presented during the General Session on Friday, October 22.

FAST Outstanding Teacher /Educator Awards

Presenter: Sharon Cutler, FAST Awards Chair, Lawton Chiles Elementary School

The OUTSTANDING TEACHER AWARDS are designed to recognize the significant contributions of teachers to science education.

The 2010 Outstanding Teacher Award recipients are:

<table>
<thead>
<tr>
<th>Elementary School Teacher</th>
<th>Middle/Jr. High School Teacher</th>
<th>High School Teacher</th>
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</thead>
<tbody>
<tr>
<td>Jonathan Gerlach</td>
<td>Judith Nova</td>
<td>Ryan Cilsick</td>
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<tr>
<td>District Resource Teacher,</td>
<td>Manatee K-8, St. Lucie County</td>
<td>Edgewood Jr./Sr. High School</td>
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<td>Hillsborough County</td>
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<td>Brevard County</td>
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The AWARD OF PROMISE is intended for a teacher with three to five years of experience who has demonstrated an interest and aptitude for teaching science.

The 2010 Award of Promise recipient is Kalyn Nova, Northpoint K-8, St. Lucie County

The OUTSTANDING SCIENCE EDUCATOR AWARD is intended to recognize the singular contributions of an individual for promoting science and science education over a significant period of time.

The 2010 Outstanding Science Educator Award recipient is Debra Bowen, Palm Beach School District
Presidential Awards for Excellence in Mathematics and Science Teaching

(PAEMST)

The Presidential Awards for Excellence in Mathematics and Science Teaching are the Nation's highest honors for teachers of mathematics and science. The Awards recognize outstanding K–12 teachers for their contributions in the classroom and to their profession. The 2010 awards program recognizes teachers of grades K–6. Three outstanding teachers have been selected as Florida’s finalists and their applications have been entered into the national selection process.

Presenters

Rebecca Braaten
President, Florida Association of Science Supervisors
Director of Academic Rigor, Polk County Schools

Todd Clark
Bureau Chief, Curriculum and Instruction
Florida Department of Education

2010 FLORIDA FINALISTS FOR K–6 SCIENCE

Janet Acerra
Forest Lakes Elementary School, Oldsmar, Florida
Pinellas County

Ruth Markham
Chocachatti Elementary School, Brooksville, Florida
Hernando County

Megan Tucker
Kenwood Elementary School, Fort Walton Beach, Florida
Okaloosa County
Good science literally starts in the elementary classroom. The pipeline for our next generation of scientists, engineers, and technicians begins early. Quality elementary science lessons capture children’s attention when they are most open, most curious, and most naturally disposed to asking questions about the world around them.

Young children who receive a strong foundation in science during their elementary schools years do better in science in later grades. Many students also make fundamental career decisions by the time they get to middle school, and engaging students in science at an early age provides them with more career opportunities in science, technology, engineering and mathematics (STEM) careers.

The National Science Teachers Association website, Science Matters (http://www.nsta.org/sciencematters/) invites you to:

- Read reports and policy statement from key stakeholders on why science matters.
- Determine if your children are receiving a quality science education by using the Science Education Checklist.
- Learn how parents, teachers, informal science educators, and community and business organizations can work together to foster better learning experience in K-12 science at the Teacher and Counselor Corner.
- Explore and share classroom and at-home hands-on science activities and experiments at the Awesome Websites and More section.
- Learn more about quality science education.

As a science educator in Florida, please consider joining Science Matters! As you may know the effort began as Building a Presence for Science in Florida in 2002. Visit us by selecting the teacher box at the website above and add to the list of Key Leaders and Points of Contact for Science Education in Florida. For additional information about joining, you may contact the Florida Coordinator at MWinegarner@embarqmail.com.
Introducing Glencoe Florida

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WWW.CONNECTED.MCGRAW-HILL.COM
Concurrent Session Schedule

Presentations designed for particular grade levels have been grouped together as much as possible (individual presentation rooms will contain presentations that are geared towards a particular grade or range of grades). In the tables that follow, each cell is set up using this design:

<table>
<thead>
<tr>
<th>Presenter last name(s)</th>
<th>Title of talk</th>
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<tbody>
<tr>
<td>EMHCA</td>
<td>NLPEA</td>
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- **Grade level:**
  - E=Elementary
  - M=Middle
  - H=High school
  - C=College
  - A=Administration

- **Body of Knowledge:**
  - N=Nature of Science
  - L=Life Science
  - P=Physical Science
  - E=Earth Science
  - A=All Bodies of Knowledge

To find descriptions of the presentations, look at the document titled “Concurrent Session Descriptions” which is available on the FAST conference website (www.fastscience.org –click on the “conferences” tab, then go to “Concurrent Sessions”). In this document, presentations are organized by the primary presenter’s last name.

Concurrent sessions last for 50 minutes and are scheduled at 1 hour intervals. On Friday, concurrent sessions run from 9 am to 4 pm (ending at 4:50 pm). On Saturday, they are scheduled from 9 am to 11 am (ending at 11:50 am).

Note that there is a special presentation by Dr. Sylvia Earle at 4 pm on Friday in the IMAX Theater. This session is not listed on the schedule below. Because there is limited seating in the IMAX Theater, if you wish to hear Dr. Earle speak you must stop by the National Geographic Booth (# 74-76) in the vendor hall to pick up a (free) ticket. Free tickets for the IMAX movie, Sea Monsters, which will be shown at 6 pm in the IMAX Theater, can also be picked up from the National Geographic Booth.
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<th>Time</th>
<th>St. Augustine A</th>
<th>St. Augustine B</th>
<th>St. Augustine E</th>
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</thead>
</table>
| 9:00  | Marsh, Culberson  
*Just What is Science?*  
H N | Specht, Stiles  
*Astronaut Encounter*  
EMHCA NE | | | |
| 10:00 | Bennett  
*Reading Strategies that Support Content Literacy in Your High School Science Students*  
H A | Stephens  
*Bringing Research into the Classroom: A Model of Global Warming and the Effects on Oyster Production*  
H NL | Benton  
*Race into Physics with the CPO Science Energy Car*  
MH P | Eddleman  
*Atom Building Game*  
MH P | Keiser, Wood  
*Read them a Story!*  
E A |
| 11:00 | Nowicki  
*Why do Bright Students Sometimes Fail Their First College Biology Course?*  
H L | Reedy, Stephens, Bokor  
*HIV-1: A Model of Evolutionary Genetics*  
H L | Peloquin, Ball  
*Tapping into the Digital Revolution*  
MH A | Schleith  
*Environmental Science in a World of Seven Billion*  
MH L | Novello  
*World Space Week*  
EM NE |
| noon  | Ford, Jannotti  
*Process Oriented Guided Inquiry Learning (POGIL) in the High School Science Classroom*  
H N | Brown, Davenport  
*The Four C's of a Highly Effective Science Classroom*  
H N | Villa  
*Tesla Tales*  
MH P | Maddaloni, Page  
*Life Science Labs for Every Level Student*  
MH L | Uttlinger, Reynolds  
*Science Buddies: 3 hands-on lessons for younger/older elem. students*  
E LPE |
| 1:00  | Willingham  
*Practical Inquiry for High School Science*  
H P | Cannaliato  
*Fish or Mollusk? You be the Scientist.*  
H L | Schotman  
*Anecdotal: Teaching the Test? How About Teaching Using the Test?*  
MH A | Falen, Lemole  
*Taking Foldables a Step Further*  
MH N | Mcilwaine, Cutler  
*Take your Physical Science Lessons to the Olympic Level*  
EM P |
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<td>Embryology in the Classroom</td>
<td>Sound the Trumpets! Switch on the Lights!</td>
<td>Comparative Mammalian Organ Dissection</td>
<td>FAST Online Professional Development</td>
<td>Labs, Labs, Labs and the 5e Model</td>
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<td>McGuire</td>
<td>Shelden, Short, Rice, Tarver, Conti, Robb</td>
<td>Wrobel, Tanner</td>
<td>Barger, Gilbert</td>
<td>Martin-Hansen</td>
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<td>There's a Manatee in My Classroom!</td>
<td>Building Young Earth and Space Scientists</td>
<td>Get Out of Your Seat, Dirty Your Feet</td>
<td>stEm-at-work puzzles</td>
<td>Fast and Furious—Force and Motion for Middle School</td>
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<td>Misconception Mania</td>
<td>Building Young Life Scientists</td>
<td>Stomp Rockets: Easy and Engaging</td>
<td>Sea Scents: What’s Smell Got To Do With It?</td>
<td>Middle School</td>
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<td>Developing the Literacy Budding Scientists Need</td>
<td>Friends Helping Friends—Harris Super Science Saturdays</td>
<td>Making Science POP Using Safe, Low-cost Materials</td>
<td>From Fast Gels to Fruit Flies</td>
<td>Dosmann Experiential Learning and the LIFE program</td>
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<td>Motivating Students Through Project-Based Learning</td>
<td>Where Shall I Live on this Big, Blue Planet?</td>
<td>Inquiry Teaching and Learning: The Periodic Table</td>
<td>Fueling the Future</td>
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# Navigating Through Science

## F.A.S.T. Conference 2010

### FRIDAY CONCURRENT SESSIONS (cont.)

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<td>Understanding</td>
<td>Biotechnology in</td>
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### SATURDAY CONCURRENT SESSIONS

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<th>Time</th>
<th>MacDonald, Cheveallier</th>
<th>Jensen</th>
<th>Owen, Kopish,</th>
<th>McMaster, Franklin</th>
<th>Bassett, Lake, Leonard</th>
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<tbody>
<tr>
<td>9:00</td>
<td>Sustainability &amp; Service Learning</td>
<td>Inquiry Based Earth Science</td>
<td>Science Inquiry and Computer-based Manipulatives</td>
<td>Next Generation Resources you may not know about and won’t want to live w/o!</td>
<td>Aquatic Species Collecting Workshop (DOUBLE)</td>
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<td>Owen, Kopish,</td>
<td>McMaster, Franklin</td>
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<td></td>
<td>Bring Biology to Life</td>
<td>Teenagers Cars &amp; Driving—How to Get Students Actively Involved in Physics</td>
<td>Teens</td>
<td>Science Inquiry and Computer-based Manipulatives</td>
<td>Next Generation Resources you may not know about and won’t want to live w/o!</td>
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<td>Physics in Action</td>
<td>NASA and Free Education Resources</td>
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<td>Magnetic</td>
<td>3-D Science Navigation via Dynamite Foldables*</td>
<td>Teaching in the 21st Century: Integrating Curricula and Probeware</td>
<td>Engaging Students in Science through Global Issues &amp; Sustainability</td>
<td>Navigating a Standards-Based Field Trip</td>
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<td>Tiny Bubbles: A Big Solution to Inquiry Troubles</td>
<td>Simply Solar: Experiments for Elementary Students</td>
<td>Women in Science</td>
<td>Engaging Students with Climate Change</td>
<td>Professor Whys Powerful Adventure</td>
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<td>4:00</td>
<td>Powers</td>
<td>Coven</td>
<td>Stephens</td>
<td>Banas, Ernest</td>
<td>Skene</td>
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<td></td>
<td>In the Big Cypress—An Experience of a Teacher-Ranger-Teacher</td>
<td>The Building Blocks of Inquiry</td>
<td>Set Sail with NOAA</td>
<td>Down &amp; Dirty with Geospatial Visualizations</td>
<td>Understanding by Design in the Middle School Science Classroom</td>
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<td>EM LE</td>
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**SATURDAY CONCURRENT SESSIONS**

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<tr>
<th>Time</th>
<th>Legends 1</th>
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<th>Legends 3</th>
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<tr>
<td>9:00</td>
<td>Lederman</td>
<td>Martin-Hansen</td>
<td>Schleith</td>
<td>Hammerschlag, Winn</td>
<td>Everett</td>
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<td></td>
<td>Shaping Children’s Views of Science by Doing and Knowing About Inquiry</td>
<td>Bring Earth Science to Life in Your Elementary Classroom!</td>
<td>Solar for Middle School Students</td>
<td>Advancing Ocean Conservation Through Science and Education</td>
<td>Biology Bob: The Wonders of Life</td>
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<td>10:00</td>
<td>Herold, Brockwell, Cantaloupe Reasons for the Seasons</td>
<td>Bell Teaching the Nature of Science in Elementary Classrooms</td>
<td>Lewis NASA Insertion Modules for Sci., Technology &amp; Engineering Courses</td>
<td>Robbins, Belden Panther Science: The Endangered FL Panthers of Picayune Strand and SW Florida</td>
<td>Everett, Furino Engineering-Teacher Connection (ETC)</td>
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<td>11:00</td>
<td>Sinclair, Stevens It’s Simply Elementary, My Dear Watson!</td>
<td>Rehwoldt, Mentillo Who is IAN? Inter-active Notebooks in Science</td>
<td>Rodriguez, Cleveland, Carew, Rodriguez Natural Science +Environment = GREEN SCHOOLS</td>
<td>Kilch Florida Science Olympiad: Opportunities for All</td>
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Navigating Through Science

F.A.S.T. Conference 2010

NATIONAL GEOGRAPHIC

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K–5 Program

Promote active learning as you share
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  theater, get your free ticket at NGSP booth # 74
- Book signing and refreshments, IMAX lobby, 5:00 pm
- Nat Geo movie “Sea Monsters”, IMAX theater, 6:00 pm, get your
  free ticket at NGSP booth # 74

Meet the Florida NG Science Authors

Dr. Randy Bell’s Session:
Teaching the Nature of Science in Elementary Classrooms

Dr. Kathy Cabe Trundle’s
Session: Tiny Bubbles: A Big Solution to Inquiry Troubles

Dr. Judith Lederman’s
Session: Shaping Children’s Views of Science by Doing and Knowing Inquiry

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Thursday, October 21, 2010
- Evening Social

Friday, October 22, 2010
- Keynote Speaker, Dr. Sylvia Earle
- Refreshments & IMAX Movie

Saturday, October 23, 2010
- Keynote Speaker, Philippe Cousteau
- Life Members’ Luncheon

We thank the vendors & exhibitors who donated resources and door prizes:

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- WH Freeman Publishers
- Capital Microscope Services
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- Chamberlain College of Nursing
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- SeaCamp Association, Inc.
- SEO Enterprises
- Sylvan Dell Publishing
- Texas Instruments
- Visit Tallahassee
- Western Governor’s University

We would also like to recognize and thank the following businesses and organizations for their generous support of this conference:


Thanks to the St. Johns County School District for allowing its staff and teachers to participate in the planning of this conference
The Florida Association of Science Teachers would like to thank the following vendors for their support of science education. Please visit them in the exhibit hall (St Augustine C&D) while you are attending the conference. For every 10 vendors that you visit (and get checked off on your “passport”), you can get an extra door prize ticket (see the folks at the registration desk).

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Booth #</th>
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<tbody>
<tr>
<td>American Institute of Biological Sciences*</td>
<td>38</td>
</tr>
<tr>
<td>American Lab Design</td>
<td>63</td>
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<tr>
<td>AIMS Education Foundation*</td>
<td>33</td>
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<tr>
<td>AMSCO School Publications, Inc.</td>
<td>21</td>
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<tr>
<td>Bedford, Freeman &amp; Worth Publishers and WH Freeman*</td>
<td>36</td>
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<tr>
<td>Benchmark Education Co.</td>
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<tr>
<td>Capital Microscope Services*</td>
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<td>Carolina Biological Supply*</td>
<td>47</td>
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<tr>
<td>Cengage Learning*</td>
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<tr>
<td>Chamberlain College of Nursing*</td>
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<td>Coach/Options/Buckle Down/Triumph Learning*</td>
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<td>Computer Station of Orlando, Inc.</td>
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<td>Concise Science Educational Products &amp; Services</td>
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<td>CPO Science</td>
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<td>Current Publishing*</td>
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<td>Delta Education</td>
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<td>Discovery Education</td>
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<tr>
<td>Educational Experiences*</td>
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<td>Explore Learning (Cambium Learning Group)</td>
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<td>FAST/NSTA</td>
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<td>Florida Agriculture in the Classroom</td>
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<td>Florida Marine Science Educators Association</td>
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<td>Florida Power &amp; Light</td>
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<td>Florida Public Archaeology Network</td>
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<td>Frey Scientific</td>
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<td>Glencoe/McGraw-Hill School Education Group*</td>
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<td>Great Source Rigby Steck Vaughan</td>
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<td>HOLT McDougal</td>
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<td>Houghton Mifflin</td>
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<td>Invent Now Kids</td>
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<td>It’s About Time*</td>
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<tr>
<td>Kendall Hunt Publishing Company*</td>
<td>18-19</td>
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<tr>
<td>Kennedy Space Center Visitor Complex</td>
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<td>Vendor</td>
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<td>Lab-Aids, Inc.*</td>
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<tr>
<td>Learning A-Z</td>
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<tr>
<td>LEGOLAND Florida</td>
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<td>Loose in the Lab</td>
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<td>Marine Resources Development Foundation/MarineLab</td>
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<td>Museum of Science and Industry</td>
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<td>NASA- National Aeronautics &amp; Space Administration</td>
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<tr>
<td>National Geographic School Publishing*</td>
<td>74-76</td>
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<td>Nature’s Academy*</td>
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<td>Pearson Scott Foresman</td>
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<td>Peoples Education</td>
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<td>The Pigeon Key Foundation</td>
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<td>Riverside Scientific, Inc.</td>
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<td>Sargent Welch-Science Kit-Wards Natural Science</td>
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<td>Schoolyard Films, Inc.</td>
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<tr>
<td>Science First</td>
<td>67-69</td>
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<tr>
<td>SeaCamp Association, Inc.*</td>
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<tr>
<td>Sea World Parks &amp; Entertainment</td>
<td>62</td>
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<tr>
<td>SEO Enterprises*</td>
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<td>Texas Instruments*</td>
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<tr>
<td>US Army Corps of Engineers/ Sonshine Communications Sylvan Dell Publishing</td>
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<tr>
<td>University of Florida Center for Pre-collegiate Education Training</td>
<td>31</td>
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<tr>
<td>Visit Tallahassee*</td>
<td>80</td>
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<tr>
<td>Western Governors University*</td>
<td>49</td>
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* These vendors have donated door prizes
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