Science for All: Putting the Pieces Together

GSTA Conference Leadership Team

Zoe Evans, Director
- Carroll County Schools

Dr. Jeremy Peacock, Program Chair
- Northeast Georgia RESA

Brian Butler, Local Arrangements
- Bibb County Schools

Dr. Sharon Boyer, Exhibits
- Retired

Dr. Kelly Price, Registration
- Forsyth County Schools

Dr. Sally Creel, Awards
- Cobb County Schools

Eric Thompson, Field Trips
- Bibb County Schools

Zoe Evans, Volunteer Coordinator
- Carroll County Schools

SCIENCE FOR ALL
Putting the Pieces Together
CCGPS SEP STEM TKES GPS CCC

Get Conference Information and Connect With Your Colleagues

Get the Conference App

Search "GSTA" in the iOS or Android app store

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#GSTA15

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facebook.com/groups/GSTANews/

GSTA Board of Directors 2014-2015

Director	Zoe Evans
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President Elect	Dr. Jeremy Peacock
Vice President	Brian Butler
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District VIII Director	Dr. Heather Scott
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District X Director	Marty Howard
District XI Director	Michelle Bergozza
District XII Director	Joey Nunn

GSTA Presidents

Name	Term	Conference Location	Name	Term	Conference Location
Donna Governor	2014-2015	Macon	**Kathy O'Neil**	1985-1986	Peachtree City
Zoe Evans	2013-2014	Macon	**Don Berkowitz**	1984-1985	Rock Eagle
Sally Creel	2012-2013	Atlanta: NSTA Regional	**Judy Dennison**	1983-1984	Rock Eagle
Kelly Price	2011-2012	Atlanta	**Carol Rutland**	1982-1983	Rock Eagle
Chris Kennedy	2010-2011	Atlanta	**Jaunita Chitwood**	1981-1982	Callaway Gardens
Ann Collins	2009-2010	Savannah	**Jaunita Chitwood**	1980-1981	Callaway Gardens
Wendy Joiner	2008-2009	Savannah	**Betty Higgins**	1979-1980	Woodward Academy
Gail Sinkule	2007-2008	Athens	**Kathryn Garrard**	1978-1979	NSTA Regional
Marion Reeves	2006-2007	Athens	**William Barrow**	1977-1978	Athens History Village
Steve Rich	2005-2006	Columbus	**James Coleman**	1976-1977	Locust Grove
Gail Marshall	2004-2005	Columbus	**Odell Owens, Jr.**	1975-1976	NSTA Regional
Venetia Butler	2003-2004	Atlanta: NSTA National	**Connie McNeil**	1974-1975	Macon
Karol Stephens	2002-2003	Jekyll Island	**Wayne Edwards**	1973-1974	Savannah
Judy Godfrey	2001-2002	Jekyll Island	**Willis Brown, Jr.**	1972-1973	---
Ellen Roach	2000-2001	Macon	**Lonnie Love**	1971-1972	---
Mary Atwater	1999-2000	Macon	**Richard Johnson**	1970-1971	---
Mark Stallings	1998-1999	Atlanta	**Lucy Smith**	1969-1970	---
Sharon Boyer	1997-1998	Atlanta	**Helen Carter**	1968-1969	---
Bob Moore	1996-1997	Augusta	**Tully Pennington**	1967-1968	---
Joe Moore	1995-1996	Augusta	**Montine Wilson**	1966-1967	---
Francis Gardner	1994-1995	Savannah	**Charles Coleman**	1965-1966	---
Mary Wilde	1993-1994	Savannah	**H.V. Bullock**	1964-1965	---
Ellen Averill	1992-1993	Atlanta Airport	**Al Woodard**	1963-1964	---
Linda Bostick	1991-1992	Atlanta Airport	**Bill Leach**	1962-1963	---
Melody Hall	1990-1991	Columbus	**Dallas Stewart**	1961-1962	---
Margaret Eidson	1989-1990	Atlanta: NSTA National	**Cora Middleton**	1960-1961	---
Linda Mitchell	1988-1989	Savannah	**Betty Cheek**	1959-1960	---
Daisy Waldrep	1987-1988	Savannah	**Liley Calhoun**	1958-1959	---
John Finley	1986-1987	Peachtree City			

GEORGIA SCIENCE TEACHERS ASSOCIATION

Vist us at Exhibit Hall Booth 103/104

GSTA Store

- T-shirts
- Lab Coats
- Science Toys
- NSTA Books

Georgia Presidential Awardees for Excellence in Science Education

The Presidential Award for Excellence in Science Teaching is the Nation's highest honor for teachers of science and mathematics. It is awarded annually by the White House and administered by the National Science Foundation. One Georgian is honored annually in Washington, DC during a weeklong celebration featuring visits to the White House and a State Dinner. More information is available at www.paemst.org. In Georgia, the award is administered through the Georgia Department of Education.

Year	Awardee (Grade Level)	
2012	Christy Garvin, Powder Springs (K-6)	
2011	Kelly Stewart, Fulton County (7-12)	
2010	Amanda McGehee, DeKalb (K-6)	
2009	Rachael Parr, Jefferson (7-12)	
2008	Halley Page, Athens (K-6)	
2007	Donna Governor, Forsyth County (7-12)	
2006	Pamela Krohne-Googe, Dallas (K-6)	
2005	Zoe Evans, Carrollton (7-12)	
2004	Vicki Jacobs, Morrow (K-6)	
2003	Janice Hudson, Columbus (7-12)	
2002	Terrie Kielborn, Carrollton (K-6)	Wynn Mott, Woody Gap (7-12)
2001	Clelia Scott, Brunswick (K-6)	Steve Rich, Douglasville (7-12)
2000	Jane Moore, Gwinnett (K-6)	Tina Cross, Columbus (7-12)
1999	Amanda Buice, Barnesville (K-6)	Amy Denty, Jesup (7-12)
1998	Marlee Tierce, Conyers (K-6)	Sandra Eidson, Oakwood (7-12)
1997	Rhonda Toon, Barnesville (K-6)	Marsha Hood, College Park (7-12)
1996	Sylvia Dee Shore, Columbus (K-6)	Roger Wesley McCoy, Kennessaw (7-12)
1995	Rita VanFleit, Lithonia (K-6)	Barbara Cornelius, Winder (7-12)
1994	Teresa Jordan Gruendl, Savannah (K-6)	Phyllis Rump, Woodstock (7-12)
1993	Betty Ann Ingram Smith, Newnan (K-6)	Thomas E. Hall, Moultrie (7-12)
1992	Barbara G. Piper, Austell (K-6)	Lynda H. Peterson, Marietta (7-12)
1991	Cathy Rich Robinson, Savannah (K-6)	Trissa Luftig, Norcross (7-12)
1990	Carol Burbilis, Winder (K-6)	Sandra J. Rhoades, Kennessaw (7-12)
1989	Michael Edmondson, Columbus (7-12)	
1988	Jeffrey D. Cramer, Atlanta (7-12)	
1987	Daniela M. Taylor, Norcross (7-12)	
1986	Beverly S. Lang, Newnan (7-12)	
1985	Lila Kathryn McGahee, Adair (7-12)	
1984	Annie Laura Pace, Athens (7-12)	
1983	Richard R. Bell, Lithia Springs (7-12)	

2015 GSTA Awards

MINI-GRANT WINNERS

Paige Flores
Stephens County Schools

"Comparing Local Water Quality of a Pristine and Disturbed Stream"

Kenneth Linsley
Oconee River GYSTC

"Mini Mobile Makerspace"

Nicholas Mayhew
Walton County Schools

"Argumentation by Design: Wind Turbine Electricity Generation"

Patricia Dianto-Ucciferri
Cobb County Schools

"Snaptricity in the STEM Lab"

PRESIDENTIAL AWARDS FOR EXCELLENCE IN MATHEMATICS AND SCIENCE TEACHING

Mr. Steven King
2014 Science Finalist
Whit Davis Elementary School

Mrs. Susan Oltman
2014 Science Finalist
Kittredge Magnet School

Mrs. Susie Throop
2014 Science Finalist
Marietta Center for Advanced Academics

Mr. Joseph Cox
2013 Science Finalist
Brookwood High School

Mrs. Pauline Henry
2013 Science Finalist
Garrett Middle School

Mrs. Sureka Taylor
2013 Science Finalist
The Champion School

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ETA hand2mind hands-on learning for growing minds

Sargent-Welch VWR

2015 GSTA Elections

GSTA's 2015 election brings two important issues to the membership: Constitution Revisions and Board Elections. See below for an introduction to each issue. Visit our website (http://www.georgiascienceteacher.org/2015-GSTA-Elections) for details and to access your member ballot.

Constitution Revision

This is a regular, required process last completed in 2005. The GSTA Board of Directors has worked on these revisions since last summer in a process that involved committee work, full board involvement, member feedback, and final board approval. Following this extensive process, the board is now asking our membership to approve the revised document.

Board Candidates

The following candidates were nominated for open positions on GSTA's Board of Directors, based on the regular election cycle. The successful candidates will fill critical leadership roles in the organization and in science education in Georgia.

Position	Candidate	Professional Position
President Elect	Brian Butler	Science Teacher & Department Chair, Rutland High School, Macon
Vice President	Sarah Eales	Science Teacher & Department Chair, Peachtree Ridge High School, Suwanee
	Michelle Bergozza	Elementary Content Coordinator, Dougherty County Schools, Albany
College Representative	Pam Gore	Professor of Geology, Georgia Perimeter College, Clarkston
	Georgia Hodges	Assistant Research Scientist, University of Georgia, Athens
Middle School Representative	Rachel Parr	Learning Lab Teacher, East Jackson Middle School, Commerce
	Kristina Istre	Science Teacher, Pine Hill Middle School, Hephzibah
District I Director	Brandie Freeman	Science Teacher, Woodland High School, Cartersville
District III Director	Donna Barrett	Science Content Specialist, Metro RESA, Smyrna
District V Director	Stephanie Miles	Science Teacher, Villa Rica High School, Villa Rica
District VII Director	Eric Thompson	Science Teacher, Westside High School, Macon
	LaTrina Howell	Technology Teacher, Blandy Hills Elementary School, Milledgeville
District IX Director	Donita Legoas	Science Teacher, Pine Hill Middle School, Hephzibah
District XI Director	Deb Baltenberger	Science Teacher, Lee County High School, Leesburg
	Jennifer Phillips	Second Grade Teacher, Crisp County Primary School, Cordele

Conference At A Glance

Wednesday, February 4, 2015

- 6:00 - 8:00 pm Registration

Thursday, February 5, 2015

- 7:00 am - 5:00 pm Registration
- 8:00 am - 5:00 pm Exhibit Hall Open
- 8:00 am - 5:00 pm Field Trips *(Tickets Required)*
- 8:00 am - 11:00 am Concurrent Sessions
- 11:00 am - 11:50 am General Session, Exhibit Hall B
  - Featured Speaker: Dr. Marshall Shepherd, Professor of Geography, University of Georgia, ***Building Public Understanding of Weather and Climate Science***
- 12:00 pm - 5:00 pm Concurrent Sessions
- 5:00 pm - 5:30 pm District Meet & Greet, Registration Lobby

Friday, February 6, 2015

- 7:00 am - 5:00 pm Registration
- 8:00 am - 5:00 pm Exhibit Hall Open
- 8:00 am - 5:00 pm Field Trips *(Tickets Required)*
- 8:00 am - 11:00 am Concurrent Sessions
- 11:00 am - 12:30 am General Session, Exhibit Hall B
  - GSTA Annual Meeting
  - Featured Speaker: Dr. Stephen Pruitt, Senior Vice President for Content, Research and Development, Achieve, Inc., ***Using Your Teacher Voice***
- 1:00 pm - 5:00 pm Concurrent Sessions
- 5:00 pm - 5:30 pm Exhibitor Door Prize Drawing, Exhibit Hall
- 6:30 pm - 10:00 pm Awards Banquet, Armory Ballroom *(Tickets Required)*
  - Featured Speaker: Bill Badders, NSTA Past President

Saturday, February 7, 2015

- 7:30 am - 9:30 am Registration
- 8:00 am - 12:00 pm Concurrent Sessions
- 8:00 am - 3:00 pm Touching Triton Workshop for High School Biology Teachers *(Tickets Required)*

Field Trips

GSTA is offering a variety of excellent, STEM-related field trips around Middle Georgia this year. All trips require tickets, which were sold during advance registration. Any remaining tickets are available at the registration booth. All trips will depart outside the registration lobby of the conference center (not the hotel entrance) at the times listed below. Please pay special attention to the trip information below as several trips require extensive walking or specific clothing.

Thursday Morning

The Hay House

- One of Georgia's most historic homes and distinguished structures, the Johnston-Felton-Hay House in Macon was declared a National Historic Landmark in 1974 and is an engineering marvel of the 19th century.
- 10:00 am - Noon; $20 (includes ticket and transportation)

Museum of Arts and Sciences

- The MAS is the only cultural institution in Georgia focused on both art and science and the largest general purpose museum in the state. Its features include exhibits, a full-dome planetarium, an observatory, and a mini zoo with over 70 live animals, a Discovery House with interactive exhibits, beautiful nature trails, a 200+ seat auditorium, the Museum Store, and more.
- 8:15 am - Noon; $15 (includes ticket and transportation)

Piedmont National Wildlife Refuge

- Visit the Piedmont NWR to learn how the endangered Red Cockaded Woodpecker is being protected. Tour includes a visit to the onsite education area and a tour of some of the refuge to see how different portions of the refuge are utilized. This tour may include extensive walking.
- 8:00 am - Noon; $15 (includes transportation)

Thursday Afternoon

Ocmulgee National Monument

- Established in 1936, this location protects the earthen mounds built by the Muscogee Creek Indians. Watch a video about the history and archaeological excavation of the area, see the museum that details the food sources and technologies of the time, and finally take an interpretive tour of the grounds, including the mounds, swamp, railroad cut, and available walking trails. This tour may include extensive walking.
- 1:00 - 3:00 pm; $10 (includes transportation)

Museum of Aviation - Robins Air Force Base

- Visit the Robins Air Museum and see more than 70 aircraft from the WWII era forward, including the flight speed world record holding SR-71A "Blackbird." Tour is guided and includes STEM activities, such as a flight simulator. The museum and grounds are very large and will require a fair amount of walking.
- 1:00 - 3:45 pm; $15 (includes ticket and transportation)

Friday Morning

The Hay House

- One of Georgia's most historic homes and distinguished structures, the Johnston-Felton-Hay House in Macon was declared a National Historic Landmark in 1974 and is an engineering marvel of the 19th century.
- 10:00 am - Noon; $20 (includes ticket and transportation)

Kamin, Inc.

- Visit a large-scale kaolin mining operation located right in Middle Georgia. This tour will include a visit to an active open pit mine, a tour of a reclaimed mine site, and a visit to the processing facility to see how kaolin can be used commercially and industrially. This tour will include a fair amount of walking and will require close-toed, low-heeled shoes for safety.
- 8:30 am - Noon; $15 (includes transportation)

Friday Afternoon

Boeing Macon

- Visit the Boeing Aircraft Manufacturing facility to see how the A-10 Warthog wings, Chinook Helicopter, and C-17 GlobeMaster are built. Close-toed shoes and sleeved shirts are required for safety. This tour will require a fair amount of walking and stair climbing. Hearing protection will be provided.
- 1:00 - 3:30 pm; $10 (includes transportation)

Plant Scherer

- Peak producing a total of 3520 GW from its 4 turbines, Plant Scherer is one of the largest coal-fired power plants in the world. This tour will include the turbine room, coal field, and other areas. Close-toed shoes are required for safety, and hearing protection will be provided. This tour will require a fair amount of walking and stair climbing.
- 1:00 - 3:30 pm; $15 (includes transportation)

Museum of Arts and Sciences

- The MAS is the only cultural institution in Georgia focused on both art and science and the largest general purpose museum in the state. Its features include exhibits, a full-dome planetarium, an observatory, and a mini zoo with over 70 live animals, a Discovery House with interactive exhibits, beautiful nature trails, a 200+ seat auditorium, the Museum Store, and more.
- Noon - 3:45 pm; $15 (includes ticket and transportation)

The Learning Continues in the Exhibit Hall

- Learn about resources, products, and services from a variety of vendors.
- Stop by the GSTA Store
- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Conference Theme & Strands

It is critical to Georgia's economic and social well-being that all students receive an excellent K-12 science education. To accomplish this, Georgia's teachers must skillfully integrate many pieces—Common Core, GPS, science & engineering practices, STEM, TKES, and crosscutting concepts—of the science education puzzle. This year's conference explores how these pieces build on, overlap with, and support one another in the science classroom. The conference will highlight sessions within the following strands, along with other great sessions from excellent science educators around Georgia. The following pages present an abbreviated listing of sessions in each strand. Please also refer to the extended schedule in the later pages for a full description of all sessions, including those that are not part of specific strand.

Integrated STEM Education

Sessions will focus on programs and approaches that truly integrate learning experiences across the STEM disciplines with the goal of supporting science learning for all students. (Strand based in Ballroom A.)

Integrating Science Within the CCGPS

With a special focus on the elementary grades, sessions will focus on intersections among science standards and the CCGPS for mathematics, English language arts, and literacy in science. (Strand based in Ballroom B.)

GPS Within the Framework

Sessions will focus on instructional approaches that integrate the science and engineering practices and crosscutting concepts of the *Framework for K-12 Science Education* with the content of the science GPS. (Strand based in Ballroom C.)

Preservice & Early Career Teachers

This strand will kick off with the *Conference First Timers Session* Thursday morning and will continue with a special series of sessions aimed at supporting preservice and early career teachers in their transition into the profession. (All sessions in Magnolia A.)

Want to Earn PLUs for Your Conference Sessions? Here's How...

- Visit the Chattahoochee-Flint RESA website at www.cfresa.org
- Create a profile
- Register for "GSTA PLU 2015"
- Find your PLU form in the conference bags. Teachers can submit their completed PLU forms with signatures to the Registration desk after 12 pm on Friday.

Integrated STEM Education
(Based in Ballroom A)

Thursday 8:00-8:50
303
Motivating the 21st Century STEM Learner
Donald White

Thursday 8:00-8:50
306
Leveraging Literacy for K-5 STEM
Jessica Holden, Jen Johnston, Monica Grace, Lesley Grimes

Thursday 8:00-8:50
308
Earthquake Technology STEM Challenge
Kelly Bodner

Thursday 8:00-8:50 313
Nanoscale Science as an Avenue to STEM in Elementary and Middle Schools
Joyce Allen

Thursday 8:00-8:50
324
Georgia Tech's RET: Creating K-12 STEAM Lessons Based on Engineering Research
Jamila Cola

Thursday 8:00-8:50
Ballroom A
Using real-time solar energy data ... related to ... energy in living systems
Gail Marshall, Judy Cox

Thursday 8:00-8:50
Ballroom D
Ancient Egypt...It's All Elementary!
Dawn Hardy, Heidi Hines

Thursday 9:00-9:50
303
Genetics and incorporating STEM with CPO Crazy Traits Kit
Erik Benton

Thursday 9:00-9:50
313
Making a School Garden Grow
David Knauft, Maria Bowie, Judy Hibbs, Susan Reinhardt

Thursday 9:00-9:50
324
Differentiation and STEM...a Win-Win Situation
Lynn Larsen, Dean Laskey

Thursday 9:00-9:50
Ballroom A
Say NO to STEMwashing
Kelly Bodner, Colleen Cauffiel, Sally Creel

Thursday 9:00-9:50
Ballroom D
Science Smash Up!
Christina Hood, Cindy Gay

Thursday 9:00-9:50
Grand Salon A
Are You Out Of Your Flipping Mind?
Randy Smith

Thursday 9:00-9:50
Magnolia B
Go Virtual! Field Trips for the Millennial Learner
Bejanae Kareem, Tommy Clay

Thursday 9:00-10:50 308
Destination Imagination - Innovation STEMs from Creativity
Annette Rogers, LaTrina Howell

Thursday 9:00-10:50
310
Teaching High School Epidemiology
Evern Williams

Thursday 9:00-10:50
Magnolia CD
Eco-Tech: ...Integrating Technology in Outdoor Learning
Captain Planet Foundation

Thursday 9:00-10:50
Exhibit Hall A
NOAA Fisheries Research in the Engineering Classroom
Janelle Wilson

Thursday 10:00-10:50
303
STEM—Early Childhood Style!
Terri George

Thursday 10:00-10:50 309
Sci. and Eng. Practices & STEM come alive in the Middle School ... Classroom
Kathy Armstrong, Marilyn Enoch

Science for All: Putting the Pieces Together

Thursday 10:00-10:50
312
Post-Secondary Partnerships: Utilizing Resources
Kania Greer

Thursday 10:00-10:50 324
STEM (STREAM) and Sea Turtles
Susan Collins, Caitlin Crews, Jessica Timms, Jennifer Erhardt

Thursday 10:00-10:50
Ballroom A
Ready, Set, Go STEM
Erin Anderson

Thursday 10:00-10:50
Ballroom D
STEM Teacher Leadership
Martha Milam

Thursday 10:00-10:50
Grand Salon A
Top 10 High-Tech Formative Asssesment Strategies for Science
Tom Brown, Mike Eby

Thursday 10:00-10:50
Grand Salon B
...Case Studies in Elementary School to Teach Science, ... Literacy, and Mathematics
Georgia Hodges and others

Thursday 10:00-10:50
Magnolia B
Engineering Made Easy
Bejanae Kareem

Thursday 10:00-10:50
Exhibit Hall B
The Model of STEM in Georgia
Gilda Lyon, Juan Carlos Aguilar

Thursday 11:00-12:50
324
Integrating the Art of Nanotubes
Mariah Buchanan

Thursday 12:00-12:50
306
Camp Invention and Invention Project--Be a Part of Something BIG!
Kim Moore

Thursday 12:00-12:50
308
Hands on STEM in Action: Ron's Habitat Adventure
Debi Goodman

Thursday 12:00-12:50 309
What Causes Change of Motion? A STEMriffic perspective
Marilyn Enoch, Kathy Armstrong

Thursday 12:00-12:50 312
Where the Wild Things Are - K-3 Arts Integrated STEAM Unit
Sherri Jarrett, Tonya Rogers

Thursday 12:00-12:50
Ballroom A
STEM Now--How?
Debbie Stuckey

Thursday 12:00-12:50
Ballroom E
The Engineering and Design Process in Kindergarten? Absolutely!
Angie Curtis

Thursday 1:00-1:50 308
Getting the Most Out of Middle Schoolers Integrating Science and Math with Data
Karol Stephens

Thursday 1:00-1:50
310
Science Exposition to the Rescue!
Rachael Parr, Thomas Layfield, Tiffany Barnett

Thursday 1:00-1:50
Ballroom A
Google Classroom & Inquiry-Based Learning
Christine Jackson, Amanda Palmer

Thursday 1:00-2:50
306
Getting Started with STEM in the Elementary Classroom
Colleen Cauffiel

Thursday 1:00-2:50
313
Viewing the Invisible
Ann Robinson, Sharon Kirby, Dave Todd

Thursday 1:00-2:50
324
Making Sense of Sensors: A Hands-On Exploration
Carrie Beth Rykowski

Thursday 1:00-2:50
Magnolia B
Moving Full STEAM Ahead!
Bejanae Kareem, Shermaine Perry, Dharma Stevens

Thursday 1:00-2:50
Magnolia CD
Citizen Science Sampler
Donna Barrett, Karan Wood

Thursday 2:00-2:50
308
Yes They Can! Elementary Students Can Do Data!
Karol Stephens

Thursday 2:00-2:50
Ballroom A
Science and Math Nights-Using STEM
Susan Collins and others

Thursday 2:00-2:50
Ballroom E
Fully Integrated Problem and Place-Based Projects
Bonnie Pratt, Nancy Cobb

Thursday 3:00-3:50
303
CPO Science Wind Turbine with a focus on STEM
Erik Benton

Thursday 3:00-3:50
309
There's an App for That!
Donna Governor

Science for All: Putting the Pieces Together

Thursday 3:00-3:50
Ballroom D

Using PhETs in the Classroom and Writing them Too

Erica Peddi

Thursday 3:00-3:50

Grand Salon A

Bring STEM into Your Classroom with Datalogging

Alan Gorlin and others

Thursday 3:00-4:50

306

STEM-Sational Science

Donita Legoas, Kristina Istre

Thursday 3:00-4:50 308

PINEMAP Southeastern Forest and Climate Change Curriculum

Lauren Johnson, Janet Forrest Kent

Thursday 3:00-4:50
324

Mechanochemical Phenomena in Blood: A STEAM Lesson

Renuka Rajasekaran & others

Thursday 3:00-4:50 313

Mechanisms of Solar Energy: ...waves, energy, circuits, and solar cells

Tyson Harty, Sharmistha Basu-Dutt

Thursday 3:00-4:50
Ballroom A

STEM the "Right Way": Building Collaboration with Vital Team Members

Jessica Holden and others

Thursday 3:00-4:50
Ballroom E

Stuck Like Glue: Integrated STEM challenge

Patricia Ucciferri

Thursday 4:00-4:50 303

Project-Based Inquiry Learning (PBIL): Science Teaching and Learning for the 21st Century

Sabrina Grossman

Thursday 4:00-4:50
310

Surviving Science Fair

Nick Zomer

Thursday 4:00-4:50 312

Vertical Teaming: Using NGSS to Give Students Tools for Success in Advanced Secondary STEM Classes

Rabieh Jamal Hafza

Friday 8:00-8:50
303

Chemistry and the Atom: Atom Building and the Periodic Table

Erik Benton

Friday 8:00-8:50
306

Life jackets, density, & STEM

Donna Barrett

Friday 8:00-8:50
312

From Biology to Bio-engineering: Changing Paradigm and Practice

Joan Graham

Friday 8:00-8:50 313

Redefining Traditional High School Physics Using the Engineering Design Process

Hyunjin Son, Jeff Matthews

Friday 8:00-8:50
Ballroom A

ENGAGE, EMPOWER, and EXCEL with Integrated STEM In Your Classroom!

Alana Davis

Friday 8:00-8:50
Ballroom D

Using apps for student presentations

Lisa Henriquez, Erin Wood

Friday 8:00-8:50

Magnolia B

Learning Power - Home As A System

Cedric Sheffield

Friday 8:00-8:50
Magnolia CD

K-5 NASA Education Resources

Lester Morales

Friday 9:00-9:50
308

STEM In Action-Sidewalk Safety Exploration

Debi Goodman

Friday 9:00-9:50 309

Motion, Engineering, Design and Redesign for the Primary Classroom

Marilyn Enoch, Kathy Armstrong

Friday 9:00-9:50
Ballroom A

Teaching STEM through Literacy for All

Maria Thurmond, Beth Feustel

Friday 9:00-9:50
Ballroom E

Getting Physical with I-Pads

Tracy Robinson

Friday 9:00-9:50
Magnolia CD

Shark Trackers: Utilizing STEM to Connect Research and Education

Chantal Audran

Friday 9:00-9:50
Exhibit Hall A

Enrich Your STEM Curriculum with Ham Radio I

North Fulton Amateur Radio League

Friday 9:00-10:50
303

Focus and Explore Wave Energy and STEM Education K-8

Terri George

Friday 9:00-10:50 Magnolia B

The CDC: ...teaching epidemiology and public health science in middle and high school

Ralph Cordell, Kelly Cordeira

Friday 10:00-10:50
309

Building an Electric Motor the STEM way with CPO Science

Erik Benton

Science for All: Putting the Pieces Together

Friday 10:00-10:50 312

Approaches to attract under-represented students into STEM career learning pathways

Lawrence King

Friday 10:00-10:50
Ballroom D

Robotic Bee and Bugs - Let's Learn About Our Environment!!

Joannah Shoushtarian

Friday 10:00-10:50
Exhibit Hall A

Enrich Your STEM Curriculum w/ Ham Radio II

North Fulton Amateur Radio League

Friday 1:00-1:50
303

STEM—Early Childhood Style!

Terri George

Friday 1:00-1:50
324

Using STEAM to teach Chemistry NGSS

Maria Thurmond,
Beth Feustel

Friday 1:00-2:50
308

MDJunior - An Integrated Afterschool STEM Program

Sid Verma, Shaun Verma, Deepa Ranganathan

Friday 1:00-2:50 Ballroom A

STEMstars: Explore STEM resources generated from a long-standing university-school district partnership

Laura Regassa and others

Friday 2:00-2:50

306

STEM: Engineering Design Process

Michael Bush

Friday 3:00-3:50
Exhibit Hall A

Enrich Your STEM Curriculum w/ Ham Radio III

North Fulton Amateur Radio League

Friday 3:00-4:50 303

Creating and Implementing Effective Watersheds of Georgia Lessons for All Students

Cherry Brewton

Friday 3:00-4:50 309

21st Century Instruction: Problem-Based Learning in the Middle and High School Classroom

John Schafer

Friday 3:00-4:50
Ballroom A

Integrated STEM Instruction through Project Based Learning

Michael Reilly and others

Friday 3:00-4:50
Ballroom E

Biotechnology Tool Box

Catherine Teare Ketter, John Rose, Chip Pollard

Friday 3:00-4:50
Grand Salon A

Teaching STEM through Birds

Deb Jenkins, Melanie Furr, Area Teachers

Friday 3:00-4:50
Magnolia CD

Environmental Stewardship: 5 Engaging Project-Based Learning Activities

Karan Wood

Friday 4:00-4:50
310

Energizing your students with Robotics, Sponsors and Resources

Walton Robotics

Friday 4:00-4:50
312

Using Interdependence to Foster Inquiry

Heather Scott and others

Friday 4:00-4:50
324

Georgia Envirothon: an outdoor natural resource high school competition

Josh Seehorn, Tyson Harty

Friday 4:00-4:50
Ballroom D

Host a STEAM Summer Camp at your Middle School

Kari Salomon

Friday 2:00-2:50
324

Engineering in Elementary Grades Where do I start?

Denise Webb, Amber Hoke

Saturday 8:00-8:50
309

Science E-Learning tool for Parents and Teachers

Sudeep Kumar

Saturday 8:00-8:50
Ballroom A

Using real-time solar energy data ... in ... earth science investigations.

Judy Cox, Gail Marshall

Saturday 8:00-8:50
Ballroom D

Fast, easy and CHEAP STEM

Lisa Henriquez, Erin Wood

Saturday 8:00-8:50
Ballroom E

Science Intensive Program at the Satit Kaset International Program School, Bangkok

Larry Hampton and others

Saturday 8:00-8:50
Grand Salon A

Just Go With the Flow! Classroom STEM Integration in an Inclusion Setting

Alana Davis

Thursday 3:00-4:50
Magnolia CD

Transforming Your Schoolyard into an Outdoor STEM Lab

Captain Planet Foundation

Saturday 8:00-9:50
308

Learning Technology

Carnellia Ajasin, Kina Champion

Saturday 9:00-9:50 306

Teaching 21st-Century Reasoning Skills Through ... STEM Research Experience

Deborah Walker, Robert Mayes

Science for All: Putting the Pieces Together

Saturday 9:00-9:50
310
Breathe easy with hands-on STEM for Middle School
Joseph Giunta, Gretchen Gigley

Saturday 9:00-9:50 324
Using Maps, Fossils, and Place-Based Learning To Explore the History of Life in Georgia
Christy Visaggi and others

Saturday 9:00-9:50
Ballroom A
Using Contextualized STEM to Engage At-Risk Students
Jeremy Dockery

Saturday 9:00-9:50
Ballroom D
Science Ambassadors
Donna Governor, Denise Webb

Saturday 9:00-9:50
Ballroom E
Integrating a STEM Day and STEM Lessons
Lucas Findlay

Saturday 9:00-9:50
Grand Salon B
How to Revolutionize Ordinary Labs
Marc Pedersen

Saturday 10:00-10:50
Ballroom A
Stemulating Science Lessons for the Elementary Science Classroom
Steven King

Saturday 10:00-10:50
Magnolia CD
A Vacation Through the Solar System
April Leachman

Saturday 10:00-11:50
306
Robots on the Move
Ronnie Thomas, Reggie Oneil, Tommy Clay

Saturday 10:00-11:50
308
Breadboards are Not Just for Kitchens!
Susannah Lomant

Saturday 10:00-11:50
313
Got CSI?
Linnell Burton

Saturday 10:00-11:50
324
Mars Colony STEM
Joanna Beck, Timothy Lees, Katie Williams

Saturday 10:00-11:50
Ballroom E
Engineering the Periodic Table, An Arts Integration Unit
Stanley Adkins

Saturday 10:00-11:50
Grand Salon A
I AM SOME BODY
Roslynn Stewart

Saturday 11:00-11:50
310
Helping Students Understand that Facing Challenges Is a Good Thing
Chris Campbell

Saturday 11:00-11:50
Ballroom A
The Work of an Engineer
Amy Gilbert, Katie Wade

Saturday 11:00-11:50
Ballroom B
STEMming out in AP Science & Electives
Amy Coleman and others

Saturday 11:00-11:50
Ballroom C
STEM overhaul for your classroom
Patti Grammens, Lilly Turpin

Saturday 11:00-11:50
Ballroom D
Get There Green: Transportation Challenge
Joseph Giunta, Gretchen Gigley

Saturday 11:00-11:50
Grand Salon B
Science Virtually
Belynda Songer

Saturday 11:00-11:50
Magnolia B
Sisters in Science
Tynisha Harris

Integrating Science Within the CCGPS (Based in Ballroom B)

Thursday 8:00-8:50 309 ***Build the Bridge ... through FOSS Science-Centered Language Development*** Marilyn Enoch, Kathy Armstrong	Thursday 8:00-8:50 310 ***Accelerating Science Through Learning Labs*** Rachael Parr, Tiffany Barnett	Thursday 8:00-8:50 312 ***But I don't teach Language Arts!*** Michael Kelly	Thursday 8:00-8:50 Ballroom B ***Literature Comes ALIVE!*** Tresa Snow, Devon Chodos
Thursday 8:00-8:50 Magnolia B ***Motivating Students: Wrapped Up in Motion*** Bonita Fallon and others	Thursday 9:00-9:50 306 ***Outstanding Mastery Guides for Science - Creating a Reference Resource for Middle School Students*** Amy Gilbert	Thursday 9:00-9:50 312 ***The Effects of Field Experiences Upon Students' Outlook Toward ... Conservation*** Stacy Wolfe	Thursday 9:00-10:50 Ballroom B ***Picture Perfect Science, Grades K-2*** Karen Ansberry, Emily Morgan
Thursday 10:00-10:50 Ballroom E ***Watershed Conservation Curriculum*** Michael Dias and others	Thursday 12:00-12:50 Ballroom B ***Next Time You See… Nonfiction Books*** Emily Morgan	Thursday 12:00-12:50 Magnolia B ***NASA Remote Sensing Tools for Educators*** Lester Morales	Thursday 12:00-12:50 Magnolia CD ***Earth Science Investigation Stations*** Amber Hoke
Thursday 1:00-1:50 Ballroom D ***Strategies that enhance literacy in ... science...*** John Garrett	Thursday 1:00-2:50 303 ***Integrating Literacy Strategies Into Middle School Life Science*** Terri George	Thursday 1:00-2:50 Ballroom B ***Picture Perfect Science, Grades 3-5*** Karen Ansberry, Emily Morgan	Thursday 2:00-2:50 310 ***STEM is Literacy: Using Evidence from Collaborative Conversations to Construct a Response*** Monia Grace and others
Thursday 3:00-3:50 31 ***Secrets in the Garden*** Rachael Parr, Jenny Buley	Thursday 3:00-4:50 Ballroom B ***Tech.-Enhanced 5E Cycle to Support Literacy in Science*** Adam Shirley, Jeremy Peacock	Saturday 8:00-9:50 Magnolia B ***Field Testing SAGES*** Captain Planet Foundation teachers	Friday 8:00-8:50 Ballroom B ***Literacy in Science*** Whitney Patterson, Janee Smith, Ashli Jay

Science for All: Putting the Pieces Together

Friday 9:00-9:50 310

It's not all Black and White! Implementing R.A.C.E. in the Science classroom.

Shandreka Gibson and others

Friday 9:00-9:50
Ballroom D

Got Bones?

Sarida Hoy

Friday 9:00-10:50
324

Lunar and Meteorites Disk Program

Lester Morales

Friday 9:00-10:50
Ballroom B

Picture Perfect Science, Grades 3-5

Karen Ansberry, Emily Morgan

Friday 10:00-10:50 308

Science Reimagined: Using Claims, Evidence, and Reasoning to Promote Literacy in Science

Melinda Roberson

Friday 10:00-10:50
313

NASA Powers of Ten: Scaling the Universe

Tyson Harty

Friday 10:00-10:50
Grand Salon A

Explaining Science Mysteries

Kenneth Linsley

Friday 1:00-1:50
312

Incorporating ELA into Science labs (K-5)

Heather Hayes, Heidi Morea

Friday 1:00-2:50
Ballroom B

Picture Perfect Science, Grades K-2

Karen Ansberry, Emily Morgan

Friday 1:00-1:50
Ballroom D

Take a Bite out of Data Analysis!

Sarida Hoy

Friday 1:00-2:50 Ballroom E

Using ... water activities to teach phys. and earth sci. ... in elem. and middle grades.

Catherine Teare Ketter and others

Friday 1:00-2:50
Exhibit Hall A

And the Tide Comes In

Venetia Butler

Friday 2:00-2:50
303

Interested? Tell me about it!

Lynn Weber

Friday 2:00-2:50
Ballroom D

Who Are You?

Sarida Hoy

Friday 3:00-3:50
312

Project-Based Learning Partnership between Language Arts and Science

Michele Langhans

Friday 3:00-3:50
Ballroom B

Reading a Test is Hard Work!

Jodi Wheeler-Toppen

Friday 3:00-4:50
Magnolia B

Science Driven Interactive Writing

Bejanae Kareem, Tommy Clay

Friday 4:00-4:50
308

POST-it: Vocabulary fit for 5E's classrooms

Amy Rejmer

Friday 4:00-4:50
Ballroom B

Technology in Science

Whitney Patterson, Janee Smith, Ashli Jay

Friday 4:00-4:50
Magnolia A

Scientific Argumentation Through Explicit Inquiry and Immersion

Jayma Koval and others

Saturday 8:00-9:50
Ballroom B

Quick Literacy Strategies that Increase Student Engagement

Cheryl Hudson

Saturday 8:00-9:50
Magnolia CD

Integrating Sci. Literacy and Problem-Based Learning

Mashawn Duncan-Young and others

Saturday 9:00-9:50
309

Physics Labs: Starting from Scratch

Laura A. Whitlock, Ioana Beldeanu

Saturday 10:00-10:50
309

Lighten Your STEM Load with Color and Optics

Tom Hsu

Saturday 10:00-10:50
Ballroom B

Scientific Explanation in Elementary Classrooms

Michelle Bergozza

Saturday 11:00-11:50
309

The Delightful STEM Science of Music and Sound Waves

Tom Hsu

GPS Within the Framework
(Based in Ballroom C)

Thursday 8:00-8:50
Ballroom C
Web 2.0 Tools and You!
Polly Baron

Thursday 9:00-9:50 309
How to... fun STEM lesson for the primary classroom without losing your mind
Marilyn Enoch, Kathy Armstrong

Thursday 9:00-9:50
Ballroom E
Science On a Shoestring
Pamela Lane

Thursday 9:00-9:50
Grand Salon B
Chain of Food
Shiona Drummer

Thursday 9:00-10:50
Ballroom C
Integrating Science and Engineering
Ellen Granger, Todd Bevis

Thursday 10:00-10:50
313
Models in the Physical Sciences
Ann Marie Dubick

Thursday 12:00-12:50
Ballroom C
Constructing Explanations ... to build an Academically Challenging Environment
Moneak McCrary

Thursday 12:00-12:50
Grand Salon A
What's the hardest concept for you to teach?
Kristina Cummings, Amanda Erceg, and others

Thursday 12:00-12:50
Grand Salon B
Biotechnology in the Classroom
Marc Pedersen

Thursday 12:00-1:50
Exhibit Hall A
Teaching Physical Science through Robotics ...
Mike Ryan, Sabrina Grossman, and others

Thursday 1:00-1:50
309
Fun Weird Science
Ronnie Thomas

Thursday 1:00-1:50
Grand Salon B
Turning Labs into Arguments
Jennifer Barnes

Thursday 1:00-2:50
Ballroom C
Developing and Using Models in the Science Classroom
Todd Bevis, Ellen Granger

Thursday 2:00-2:50
Grand Salon B
Show me what you've Learned-Part 2
Sue Burrell, Barbara Mullis

Thursday 3:00-3:50
312
Applying the GPS to Stabilize Earth Hazards
Bill Witherspoon, Pamela Gore

Thursday 3:00-3:50
Grand Salon B
Beak of the Finch - Evolution + Math
Jennifer Barnes

Thursday 3:00-4:50
Ballroom C
Integrating ... Elementary Science Performance Standards
Barbara Rascoe

Thursday 3:00-4:50
Magnolia B
Georgia Rocks and Minerals
Naomi Thompson, Donna Mullenax

Thursday 4:00-4:50
309
Activities for High School Biology - POGIL
Denise Lester

Thursday 4:00-4:50
Grand Salon A
This is not your mother's environmental science class
Claudia Hagan

Science for All: Putting the Pieces Together

Thursday 4:00-4:50
Grand Salon B

Interactive Notebooks: ... get ALL students to succeed

Tanya Flynn, AnnMarie Alford

Friday 8:00-8:50
308

Streamline Your Preparation & Presentation with Student Notebooks

Doug Miller

Friday 8:00-8:50 309

Crosscutting Concepts: What Do They Look Like in an Elementary Classroom?

Kathy Armstrong, Marilyn Enoch

Friday 8:00-8:50
310

Morphing Physics and Engineering

Sheila Harmony

Friday 8:00-8:50
Ballroom C

Teaching Outdoor Science with Children's Literature

Steve Rich

Friday 8:00-8:50
Grand Salon A

Engaging Students in Productive Science Talk

Kenneth Linsley, Jeremy Peacock

Friday 8:00-8:50
Grand Salon B

Notebooking for HS Biology

Sue L Burrell, Barbara Mullis

Friday 9:00-9:50
Grand Salon A

Mitosis and Meiosis, Let's List It

Paul Barber, Jefferey Hargrove

Friday 9:00-9:50
Grand Salon B

Classroom Redesign Pt. 1: Putting the Framework Into Practice

Jennifer Barnes and others

Friday 9:00-10:50
306

Building Science Vocabulary via Notebook Foldables®

Nancy Wisker

Friday 9:00-10:50
Ballroom C

Using Argument-Driven Inquiry to Support Students' Science Proficiency

Jonathon Grooms

Friday 10:00-10:50
Ballroom A

Fostering STEM collaboration ...

John Murnan, Michelle Barthlow

Friday 10:00-10:50
Ballroom E

Using Interactive Science Notebooks...

Heather Davison, Denise Finley

Friday 10:00-10:50
Grand Salon B

Classroom Redesign Pt. 2: Putting the Framework Into Practice

Jennifer Barnes and others

Friday 1:00-1:50
309

Engineering Design with FOSS Next Generation!

Marilyn Enoch, Kathy Armstrong

Friday 1:00-1:50
310

Solutions in Chemistry: A GPS Unit Plan

Nancy Brim

Friday 1:00-1:50
Grand Salon B

Using Interactive Case Studies in the Biology Classroom

Georgia Hodges and others

Friday 1:00-2:50
Ballroom C

Argumentation in the Science Classroom

Ellen Granger, Todd Bevis

Friday 2:00-2:50 309

Using Science Notebooks to Impact Student Learning for Middle School

Kathy Armstrong, Marilyn Enoch

Friday 2:00-2:50
Grand Salon A

Biodiversity Big and Small: Exploring Georgia's Flora and Fauna

Karen Garland

Friday 2:00-2:50
Grand Salon B

Gene Regulation & the Evolution of the Stickleback

Jennifer Barnes

Friday 3:00-3:50
306

Modeling: A Scientific Beauty Contest

Lynn Weber

Friday 3:00-3:50
308

Make Motion Physics Engaging and Accessible with Robots

Tom Hsu

Friday 3:00-3:50
310

Composting and the Next Generation Science Standards

Paige Flores

Friday 3:00-3:50
313

Show that you know

Monica Baker-Eady

Friday 3:00-3:50
Ballroom C

Ranking Activities for Science

Rie Cowan, Ouida Dunton

Friday 3:00-4:50
Grand Salon B

Bringing Authentic Modeling Into the Science Classroom

Zoe Evans, Jeremy Peacock

Friday 4:00-4:50
306

Argumentation and Discourse in the STEM Classroom

Heather Wilde

Science for All: Putting the Pieces Together

Friday 4:00-4:50
Ballroom C

Equations Don't Fall from the Ceiling, or Anywhere Higher

Frank Lock

Saturday 8:00-8:50
306

Coteaching: How to make the marriage work

Tanya Flynn

Saturday 8:00-8:50
310

Are science courses changing again??????

Marion Reeves

Saturday 8:00-8:50 324

GEOLOGY! Straight out of the box and on to your classroom lab table.

Stephen Csukas, Desmond Lee, Angela Sauve'

Saturday 8:00-8:50
Ballroom C

Integrating science with confidence

Lynette Clark, Rochelle Mungin

Saturday 8:00-8:50
Grand Salon B

Capturing Students ... through Photography

John Behr, Deb Jenkins, Melanie Furr

Saturday 9:00-9:50
313

Focusing on Change Across the Curriculum

Katie Brkich, Tamra Lamb

Saturday 10:00-10:50
Ballroom C

See.Do. Experience

Christopher Holmes

Saturday 10:00-10:50
Grand Salon B

"Meet me at your iPad?"

Amber Morgan, Randall Spaid, Michael Ryan

Saturday 10:00-10:50
Magnolia B

Classroom websites

Ann Alford, Tanya Flynn

The Learning Continues in the Exhibit Hall

- Learn about resources, products, and services from a variety of vendors.
- Stop by the GSTA Store
- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Preservice & Early Career Teachers (All sessions in Magnolia A)

Thursday 8:00-8:50
First Timers Sessions
Marlee Tierce

Thursday 9:00-9:50
Supporting newly hired science teachers: What the research says
Julie Luft

Thursday 10:00-10:50
What Am I Really Getting Myself Into: New Teacher Panel
Chelsea Sexton, Nicholas Mayhew, and others

Thursday 12:00-12:50
How You Are Evaluated? The State of Teaching Science in an Age of Accountability
George Stickel

Thursday 1:00-1:50
Finding Greatness In Your First Years
Drew Adams, Rebekah Cordeiro, Rebecca Mortensen

Thursday 2:00-2:50
Teach science and stay sane!
Louisa McDonald, Alan McGough, Jenna Harvey

Thursday 3:00-4:50
Integrate the Basics First! 3 Main Elements for Effective Classroom Management
Marjorie Bateman

Friday 8:00-8:50
If Neville can do it, so can you.
Claudia Hagan

Friday 9:00-9:50
Survival Guide for New Science Teachers
Michelle Bergozza

Friday 10:00-10:50
The Elephant in the Room
Sue Burrell

Friday 1:00-2:50
Classroom Managment-Is this piece missing from your science education puzzle?
Peter Vajda

Friday 3:00-3:50
Save the drama for your Mama
Deketa Cobb

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Conference Sessions - Thursday

Session Feedback Surveys - Thursday

- Please provide feedback on each session you attend today by following the URL or QR code to access the online feedback form.
- http://tinyurl.com/GSTA-Thu

Concurrent Session: Thursday 8:00-8:50					
Title:	***Motivating the 21st Century STEM Learner***			**Room:**	303
Presenter(s):	Donald White				
Description:	In this updated session, come find out why STEM can be a fantastic tool for engaging and motivating even your hardest to reach student. You'll learn about motivating yourself too! Some simple, low cost/no cost methods will be shared.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Asking Questions and Defining Problems	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Leveraging Literacy for K-5 STEM***			**Room:**	306
Presenter(s):	Jessica Holden, Jen Johnston, Monica Grace, Lesley Grimes				
Description:	Come see how children's literature can frame a STEM lesson. Participants will experience content integration through the engineering design process with a culminating literacy piece.				
Level:	Lower Elementary, Upper Elementary, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Earthquake Technology STEM Challenge***			**Room:**	308
Presenter(s):	Kelly Bodner			**Vendor:**	ETA hand2mind
Description:	You won't want to miss this chance to become a true engineer! Participants will use the engineering design process to construct an earthquake proof structure out of Knex'. All designs will be tested on a wobble top shake table. Prizes will be given to the strongest structures. Come have fun and learn some new ideas on how to make STEM affordable.				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 8:00-8:50					
Title:	***Build the Bridge from Hands-on Experiences to Scientific Understanding through FOSS Science-Centered Language Development***			**Room:**	309
Presenter(s):	Marilyn Enoch, Kathy Armstrong			**Vendor:**	Delta Education and FOSS
Description:	How to incorporate best practices in language arts instruction to support students' understanding of science concepts and their ability to communicate that understanding.				
Level:	Lower Elementary, Upper Elementary, Supervisor/Leadership			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Accelerating Science Through Learning Labs***			**Room:**	310
Presenter(s):	Rachael Parr, Tiffany Barnett				
Description:	Through our Learning Acceleration Lab we are able to integrate Science within the CCGPS and give students authentic learning experiences.				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Environmental Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***But I don't teach Language Arts! Reading and writing with document based argumentation in the science classroom***			**Room:**	312
Presenter(s):	Michael Kelly				
Description:	Learn to create science literacy mini units including sourcing text, choosing reading strategies, and developing writing prompts.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA
Title:	***Nanoscale Science as an Avenue to STEM in Elementary and Middle Schools***			**Room:**	313
Presenter(s):	Joyce Allen				
Description:	This hands-on workshop will support student learning of nanoscale science and increase student interest in STEM for grades 3-8.				
Level:	Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 8:00-8:50					
Title:	***Georgia Tech's RET: Creating K-12 STEAM Lesson Plans Based on Engineering Research***		**Room:**	324	
Presenter(s):	Jamila Cola				
Description:	Learn about Georgia Tech's paid summer internship to develop arts-integrated engineering lessons				
Level:	Upper Elementary, Middle, High		**Strand:**	Integrated STEM Education	
Content:	General	**Sci. & Eng. Practice:** NA	**Crosscutting Concept:**	Scale, Proportion, and Quantity	

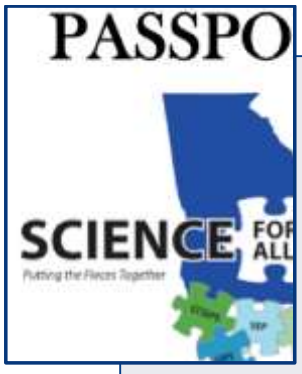
Georgia Tech STEAM Series

The session at left begins a special series in which Teachers from Georgia Tech's PRIME Research Experience for Teachers (RET) project present their art-integrated STEM lessons. See below for a list of all sessions in the series.

- ***Integrating the Art of Nanotubes***, Thursday 11:00-12:50 324
- ***Making Sense of Sensors: A Hands-On Exploration,*** Thursday 1:00-2:50 324
- ***Mechanochemical Phenomena in Blood: A STEAM Lesson,*** Thursday 3:00-4:50 324
- ***Engineering the Periodic Table, An Arts Integration Unit,*** Saturday 10:00-11:50 Ballroom E

Title:	***Sun Power for Schools Solar Energy Modules: Using real-time solar energy data to support student learning related to the role of energy in living systems***			**Room:**	Ballroom A
Presenter(s):	Gail H. Marshall, Judy Cox				
Description:	Developers of lesson modules for Green Power EMC's Solar Energy Curriculum will provide descriptions, with some hands on experiences, to introduce participants to the modules and lessons in this curriculum related to life science/biology/environmental science for middle and high school levels.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science, Environmental Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Literature Comes ALIVE!***			**Room:**	Ballroom B
Presenter(s):	Tresa Snow, Devon Chodos				
Description:	Use everyday books and use hands on activities to design and build characters or setting!				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Structure and Function
Title:	***Web 2.0 Tools and You!***			**Room:**	Ballroom C
Presenter(s):	Polly Baron				
Description:	Free, fast, and fun!				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Ancient Egypt...It's All Elementary!***			**Room:**	Ballroom D
Presenter(s):	Dawn Hardy, Heidi Hines				
Description:	Come and learn what place value, hieroglyphs and mummies have to do with Elementary STEM. Hands-on integrated study within a topic.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 8:00-8:50					
Title:	***Electrophoresis Lab in 20 Minutes***			**Room:**	Magnolia A
Presenter(s):	Pauline Cheng			**Vendor:**	The MiniOne Electrophoresis
Description:	The MiniOne Electrophoresis unit runs a gel in 20 minutes. Start and finish a lab in a 45 minute class period. Students can watch DNA migrate and get instant results to better supplement lecture and facilitate learning. Teachers can eliminate pre and post lab prep time with MiniLabs.				
Level:	Middle, High, AP/IB, College			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Multiple	**Sci. & Eng. Practice:**	Multiple
Title:	***First Timers Sessions***			**Room:**	Magnolia A
Presenter(s):	Marlee Tierce				
Description:	Is this your first time at a GSTA conference? If so, come and learn how to get the most out of the conference!				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Administrators, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Motivating Students: Wrapped Up in Motion***			**Room:**	Magnolia B
Presenter(s):	Bonita Fallon, Pepper Misinco, Melanie Peterson, Tammy Shiflett				
Description:	Participants will be involved in hands-on activities. Stations will be force and motion related with STEM connections.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	Physical Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Accommodation and Modifications: Creating Successful Classroom (for all)***			**Room:**	Magnolia CD
Presenter(s):	Sherrie Chovanec and Peter Fischer				
Description:	As the science classroom becomes more diverse in ability levels, accommodation and modifications and blending of differentiated practices has become necessary for a successful classroom.				
Level:	Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA



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- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Concurrent Session: Thursday 9:00-9:50					
Title:	***Genetics and Incorporating STEM with CPO Crazy Traits Kit***			**Room:**	303
Presenter(s):	Erik Benton				
Description:	Reinforce vocabulary and concepts while performing hands-on genetics activities based on probability and heredity.			**Vendor:**	CPO Science/School Specialty Science
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Outstanding Mastery Guides for Science - Creating a Reference Resource for Middle School Students***			**Room:**	306
Presenter(s):	Amy Gilbert			**Vendor:**	Outstanding Mastery Guide
Description:	In this workshop participants create part of an Outstanding Mastery Guide – curriculum that in its entirety supports students with Disciplinary Core Ideas of NGSS.				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Physical Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***How to combine the Engineering Practices, Cross Cutting Concepts, ELA, Math, Inquiry and the Disciplinary Core Ideas all together in a fun STEM lesson for the primary classroom without losing your m***			**Room:**	309
Presenter(s):	Marilyn Enoch, Kathy Armstrong			**Vendor:**	Delta Education FOSS
Description:	A recipe to teach it all: STEM, Engineering Practices, Disciplinary Core Ideas, Cross Cutting Concepts, ELA and Math with FOSS Next Generation Modules.				
Level:	Lower Elementary, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***The Effects of Field Experiences Upon Students' Outlook Toward Environmental and Ecological Conservation***			**Room:**	312
Presenter(s):	Stacy Wolfe				
Description:	Combating Nature Deficit Disorder, this session will focus on strategies to get students interested in nature and off the couch!				
Level:	Middle, High, AP/IB, Supervisor/Leadership			**Strand:**	Integrating Science Within the CCGPS
Content:	Environmental Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Patterns
Title:	***Making a School Garden Grow***			**Room:**	313
Presenter(s):	David Knauft, Maria Bowie, Judy Hibbs, Susan Reinhardt				
Description:	Join fellow teachers and UGA experts to dig into their school garden website, try your hand with a GPPS school garden lesson and enjoy trivia with cool UGA swag for prizes.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 9:00-9:50					
Title:	***Differentiation and STEM...a Win-Win Situation***			**Room:**	324
Presenter(s):	Lynn Larsen, Dean Laskey				
Description:	Explore the wonderful world of weather while constructing various weather instruments using STEM protocol.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Say NO to STEMwashing***			**Room:**	Ballroom A
Presenter(s):	Kelly Bodner, Colleen Cauffiel, Sally Creel				
Description:	Unsuspecting teachers are STEMwashing across the state. Activities, labs, and more are being labeled "STEM" just because students are building something. Children as young as kindergarten can successfully participate in STEM challenges that incorporate the engineering design process. Come and learn how to avoid STEMwashing in your classroom. Sample STEM challenges correlated to GPS standards will be shared.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Science Smash Up!***			**Room:**	Ballroom D
Presenter(s):	Christina Hood, Cindy Gay				
Description:	Looking for a quick lab, effective applications / programs, interactive notebook setup ideas, timesaving grading and time management tips? Come and visit Science Smash Up!				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Science On a Shoestring***			**Room:**	Ballroom E
Presenter(s):	Pamela Lane				
Description:	Cheap middle grade science activities will be demonstrated and discussed. Participants will get to complete some hands-on experiments. Handouts are provided.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Are You Out Of Your Flipping Mind?***			**Room:**	Grand Salon A
Presenter(s):	Randy Smith				
Description:	Utilizing flipped classroom strategies to maximize student engagement.				
Level:	Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA

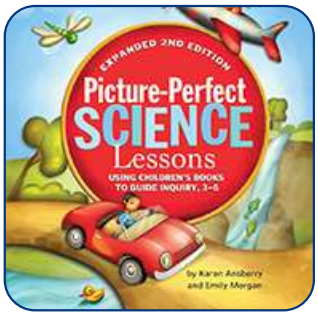
Featured Session

State of Education in Georgia, 9:00-9:50 Exhibit Hall B

- **Presenter:** Richard Woods, Georgia State School Superintendent
- **Description:** Mr. Richard Woods, Georgia's new state school superintendent, will discuss his outlook for education policy in 2015 and beyond. Woods was born in Pensacola, Florida and while growing up in a military family, lived in California, Hawaii, and Virginia before moving to Georgia. He graduated from Fitzgerald High School, and went on to receive a Bachelor's Degree from Kennesaw State University and a Master's Degree from Valdosta State University. Woods has over 22 years of pre-K through 12th grade experience in public education. Woods was a high school teacher for 14 years, serving as department chair and teacher mentor. During his tenure, he was also selected as Teacher of the Year. For eight years,Woods served in various administrative roles such as assistant principal, principal, curriculum director, testing coordinator, pre-K director, and alternative school director. Woods also brings a business background to the position, having been a purchasing agent for a national/multi-national laser company and a former small business owner.
- **Level:** Elementary, Middle, High, College, Administrators, Supervisor/Leadership, Pre-service/Early Career Teachers
- **Content:** Advocacy & Leadership

Concurrent Session: Thursday 9:00-9:50					
Title:	***Chain of Food***			**Room:**	Grand Salon B
Presenter(s):	Shiona Drummer				
Description:	Everyone along the Farm-to-Table Continuum plays a major role in keeping our food safe. If a link in this continuum is broken, our nation's food supply can be threatened.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	NA
Title:	***Supporting newly hired science teachers: What the research says***			**Room:**	Magnolia A
Presenter(s):	Julie Luft				
Description:	A review of research reveals what areas are important in supporting newly hired science teachers.				
Level:	Middle, High, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Go Virtual! Field Trips for the Millennial Learner***			**Room:**	Magnolia B
Presenter(s):	Bejanae Kareem, Tommy Clay			**Organization:**	BK International Education Consultancy
Description:	Limited funding for field trips? Go Virtual! This session explores web-based technologies such as Skype, Google Earth, 360Cities and Discovery Education to provide virtual field trips.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA

Featured Session



Picture Perfect Science, Grades K-2, 9:00-10:50 Ballroom B

- **Presenters:** Karen Ansberry & Emily Morgan, NSTA Press Authors
- **Description:** Authors of NSTA's award-winning Picture-Perfect Science series will share K-2 lessons that integrate science and reading through the use of engaging picture books. Ansberry co-authored *Picture-Perfect Science Lessons* to give science teachers the tools they need to help students learn to read and read to learn. As a former classroom teacher, she understands teachers are crunched for time and need high-interest, ready-to-use lessons that integrate literature, reading strategies, and science. Morgan feels that tapping into students' fascination with science will give them the motivation to read about it. She believes every teacher is a reading teacher and enjoys writing lessons that use engaging picture books and integrate reading strategies.
- **Level:** Lower Elementary
- **Strand:** Integrating Science Within the CCGPS
- **Content:** General
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Featured Session

Integrating Science & Engineering, 9:00-10:50 Ballroom C

- **Presenters:** Ellen Granger, Ph.D., & Todd Bevis, Florida State University
- **Description:** Integrating engineering within the science classroom is a new challenge for science instructors. This session is an introduction to integrated science and engineering lessons. Dr. Granger is the Director of the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University and the Co-Director of the FSU-Teach program for preparing secondary science and mathematics teachers. Bevis is the Director of Teacher Professional Development for the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University.
- **Level:** Middle, High, AP/IB, Supervisor/Leadership
- **Strand:** GPS Within the Framework
- **Content:** Engineering
- **Science & Engineering Practice:** Developing and Using Models
- **Crosscutting Concept:** Cause and Effect: Mechanisms and Explanations

Concurrent Session: Thursday 9:00-10:50					
Title:	***Destination Imagination - Innovation STEMs from Creativity***			**Room:**	308
Presenter(s):	Annette Rogers, LaTrina Howell			**Vendor:**	Destination Imagination Georgia
Description:	2014-15 Destination Imagination Program Materials will be provided to participants for use and dissemination in their school, organization, or district.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General, Physics, Technology and Engineering	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Teaching High School Epidemiology***			**Room:**	310
Presenter(s):	Evern Williams				
Description:	Excite your students with cross curriculum integration, rigor and relevance, real world application, biostatistics, engineering, and biomedical research by teaching high school Epidemiology. This session will include: hands on labs, cross cutting concepts, engineering modules, problem-based learning techniques, and differentiated instruction strategies.				
Level:	High, AP/IB, College, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Eco-Tech: Tools and Resources for Integrating Technology in Outdoor Learning***			**Room:**	Magnolia CD
Presenter(s):	Captain Planet Foundation Teachers			**Organization:**	Captain Planet Foundation
Description:	Explore exciting opportunities at the intersection of the "Maker" movement, STEM, and Environmental Science. Discover how enthusiasm for technology can be channeled into standards-based learning.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***NOAA Fisheries Research in the Engineering Classroom***			**Room:**	Exhibit Hall A
Presenter(s):	Janelle Wilson				
Description:	Compete in an engineering design challenge, and learn how NOAA's Teacher at Sea experience aboard the Henry Bigelow led to new understanding of engineering practices.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Structure and Function

Concurrent Session: Thursday 10:00-10:50					
Title:	***STEM—Early Childhood Style!***			**Room:**	303
Presenter(s):	Terri George			**Vendor:**	Carolina Curriculum
Description:	Come experience STEM investigations, designs, and products related to Georgia weather standards.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Making the Most of Interactive Notebooks***			**Room:**	306
Presenter(s):	Lynn Larsen				
Description:	All teachers love for their students to be organized! Using simple interactive notebooks helps with the organizational skills needed.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Science and Engineering Practices and STEM come alive in the Middle School Science Classroom***			**Room:**	309
Presenter(s):	Kathy Armstrong, Marilyn Enoch			**Vendor:**	Delta Education/FOSS
Description:	Incorporate STEM with the Science & Engineering Practices in your classroom using FOSS Middle School Modules.				
Level:	Middle, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Systems and System Models
Title:	***Post-Secondary Partnerships: Utilizing Resources***			**Room:**	312
Presenter(s):	Kania Greer				
Description:	Partnering with Post-secondary schools creates a win-win for everyone. But how do we do it effectively?				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Models in the Physical Sciences***			**Room:**	313
Presenter(s):	Ann Marie Dubick				
Description:	Learn and practice strategies on how to incorporate models with students to promote better understanding of content standards in the physical sciences with LEGOs™, drawings, diagrams, and computer simulations.				
Level:	Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	Physical Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***STEM (STREAM) and Sea Turtles***			**Room:**	324
Presenter(s):	Susan Collins, Caitlin Crews, Jessica Timms, Jennifer Erhardt				
Description:	Despite teachers' best efforts, STEM activities are often abstractions of our world. Leave this presentation with STEM classroom activities based on real world experiences.				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Environmental Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 10:00-10:50					
Title:	***Ready, Set, Go STEM***			**Room:**	Ballroom A
Presenter(s):	Erin Anderson				
Description:	Experience an interactive example of a life science STEM activity and receive resources and examples for use in your own classroom.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Structure and Function
Title:	***STEM Teacher Leadership***			**Room:**	Ballroom D
Presenter(s):	Martha Milam				
Description:	Develop your role as a STEM Leader for your school. Take advantage of your own strengths (and weaknesses) to support, train, and encourage other educators to create and improve STEM opportunities. All teachers can serve as informal leaders to develop a thriving STEM culture within your school.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Watershed Conservation Curriculum***			**Room:**	Ballroom E
Presenter(s):	M Dias & B Ensign with B Cook, G Davis, A Dennis, K Gibson, J Gustin, S Horzewski, K Jackson, C Johnson, D LaVigne, B McClain, M Pedersen, A Pierce, B Schmidt, J Stanhope, R Tumlin, J Wolf				
Description:	High school biology/environmental science teachers provide guided-inquiry lessons based on fieldwork and data analysis from monitoring activities in the Etowah and Chattahoochee watersheds.				
Level:	High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	Environmental Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Top 10 High-Tech Formative Assessment Strategies for Science***			**Room:**	Grand Salon A
Presenter(s):	Tom Brown, Mike Eby				
Description:	This session will explore the top BYOD tools and apps that can be used to enhance engagement, rekindle curiosity, and monitor comprehension.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Integrated Curriculum: Using Case Studies in Elementary School to Teach Science, Language and Literacy, and Mathematics***			**Room:**	Grand Salon B
Presenter(s):	Georgia Hodges, Peggy McKay, Alex Turbyfield				
Description:	Researchers will share developed case studies that seamlessly align science, language and literacy, and mathematics.				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 10:00-10:50					
Title:	***What Am I Really Getting Myself Into: New Teacher Panel***			**Room:**	Magnolia A
Presenter(s):	Chelsea Sexton, Nicholas Mayhew, and others				
Description:	Bring your questions as this panel of first- and second-year teachers share their experiences and advice.				
Level:	Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Engineering Made Easy***			**Room:**	Magnolia B
Presenter(s):	Bejanae Kareem			**Organization:**	BK International Education Consultancy
Description:	This session will demonstrate the engineering process and characteristics of quality engineering design challenges through a hands-on demonstration and list of resources.				
Level:	Lower Elementary, Upper Elementary, Middle, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***The Model of STEM in Georgia***			**Room:**	Exhibit Hall B
Presenter(s):	Gilda Lyon, Juan Carlos Aguilar			**Agency:**	Georgia Department of Education
Description:	The Georgia DOE will define what a STEM classroom should look like K-12.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 11:00-12:50					
Title:	***Integrating the Art of Nanotubes***			**Room:**	324
Presenter(s):	Mariah Buchanan				
Description:	Explaining the importance of nanotubes in today's world and showing how it connects to art.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Structure and Function

Want to Earn PLUs for Your Conference Sessions? Here's How...

- Visit the Chattahoochee-Flint RESA website at www.cfresa.org
- Create a profile
- Register for "GSTA PLU 2015"
- Find your PLU form in the conference bags. Teachers can submit their completed PLU forms with signatures to the Registration desk after 12 pm on Friday.

General Session

Building Public Understanding of Weather and Climate Science, 11:00-11:50 Exhibit Hall B

- **Presenter:** J. Marshall Shepherd, FAMS, Ph.D., University of Georgia
- **Description:** Dr. Shepherd is a past president of the American Meteorological Society and a Professor of Geography and Research Meteorologist at the University of Georgia in Athens. He directs the Atmospheric Sciences Program, teaches, and conducts research in the atmospheric sciences, climatology, water cycle processes, and urban climate systems. Dr. Shepherd is a leading international expert in weather, and climate, and he regularly advises government agencies. Dr. Shepherd hosts *The Weather Channel's* weekly talk show, *Weather Geeks*, and has contributed to multiple media outlets. Dr. Shepherd has BS, MS and PhD degrees in physical meteorology from Florida State University. He was the first African American to earn a PhD from the FSU Department of Meteorology, one of the nation's oldest and most respected. Dr. Shepherd is the author of a forthcoming textbook, *The Urban Climate System*, and he co-authored a children's book on weather and weather instruments.
- **Level:** Elementary, Middle, High, College, Pre-service/Early Career Teachers
- **Content:** Earth Science

Featured Session

Next Time You See… Nonfiction Books, 12:00-12:50 Ballroom B

- **Presenter:** Emily Morgan, NSTA Press Author
- **Description:** The author of the "Next Time You See" picture books from NSTA Kids will share books and classroom activities that integrate science and reading...and inspire a sense of wonder about the natural world. Morgan feels that tapping into students' fascination with science will give them the motivation to read about it. Morgan taught seventh grade science at Northridge Local Schools in Dayton, Ohio, and second through fourth grade science lab at Mason City Schools in Mason, Ohio. She has served as a science consultant for the Hamilton County Educational Service Center in Cincinnati, Ohio and as the science leader for the High AIMS Consortium.
- **Level:** Lower Elementary
- **Strand:** Integrating Science Within the CCGPS
- **Content:** General
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 12:00-12:50					
Title:	***Using Descriptive Drawings to improve understanding of biological concepts***			**Room:**	303
Presenter(s):	Alan Gorlin, Katrina Beasley, Lauren Billak				
Description:	Biology includes processes that students find difficult to learn. To better assess their level of understanding, students need opportunities to draw their own descriptive illustrations.				
Level:	High			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Camp Invention and Invention Project--Be a Part of Something BIG!***			**Room:**	306
Presenter(s):	Kim Moore			**Vendor:**	Invent Now
Description:	Inspired by the inductees at the National Inventors Hall of Fame, Camp Invention (K-5) and Invention Project (6-8) provide an opportunity for young inventors to live their dreams.				
Level:	Lower Elementary, Upper Elementary, Middle, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***Hands on STEM in Action: Ron's Habitat Adventure***			**Room:**	308
Presenter(s):	Debi Goodman			**Vendor:**	ETA Hand2Mind
Description:	This session will preview the ETA Hand2Mind Kit - Ron's Habitat. It will build an understanding of animals' needs and habitats. We will also explore ways to incorporate this STEM kit into our Math and Literacy units.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Structure and Function
Title:	***What Causes Change of Motion? A STEMriffic perspective***			**Room:**	309
Presenter(s):	Marilyn Enoch, Kathy Armstrong			**Vendor:**	Delta Education FOSS
Description:	Create conceptual and physical models to explain how something works and look at cause/effect.				
Level:	Upper Elementary, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

The Learning Continues in the Exhibit Hall

- Learn about resources, products, and services from a variety of vendors.
- Stop by the GSTA Store
- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Concurrent Session: Thursday 12:00-12:50					
Title:	***Where the Wild Things Are - K-3 Arts Integrated STEAM Unit***			**Room:**	312
Presenter(s):	Sherri Jarrett, Emilee Black, Tonya Rogers				
Description:	Turn STEM into STEAM by integrating the arts in this delightful elementary unit - connect critical areas with arts practices for an entire pallet of learning.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Group Intelligence***			**Room:**	313
Presenter(s):	Martha Grover, Ariel Fristoe, Christopher Parsons				
Description:	A classroom MP3 activity to demonstrate concepts of chemical evolution.				
Level:	High, AP/IB, College			**Strand:**	NA
Content:	Chemistry	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	Stability and Change
Title:	***STEM Now--How?***			**Room:**	Ballroom A
Presenter(s):	Debbie Stuckey				
Description:	Learn how to implement STEM effectively in your classroom, and leave with STEM lessons to adapt for your grade level.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Patterns
Title:	***Constructing Explanations in Science to build an Academically Challenging Environment (TKES Standard 8)***			**Room:**	Ballroom C
Presenter(s):	Moneak McCrary				
Description:	Learn how to guide elementary students to construct scientific explanations. We will discuss approaches to support students in talk and writing associated with scientific explanations.				
Level:	Upper Elementary			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Guided Inquiry or Just Inquiry? Physics Labs Redesigned***			**Room:**	Ballroom D
Presenter(s):	Kathy Switzer				
Description:	A presentation of classic physics labs redesigned and reworked to encourage student directed inquiry.				
Level:	High, AP/IB			**Strand:**	NA
Content:	Physics	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***The Engineering and Design Process in Kindergarten? Absolutely!***			**Room:**	Ballroom E
Presenter(s):	Angie Curtis				
Description:	Come experience strategies to incorporate the engineering and design process with kindergarten.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Structure and Function

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 12:00-12:50					
Title:	***What's the hardest concept for you to teach? Ideas from an MSP cohort***			**Room:**	Grand Salon A
Presenter(s):	Kristina Cummings, Amanda Erceg, Lonessa Harris, Holley Stejskal, Allison Walker, Dana Winborne, Sabrina Walthall				
Description:	Activities, models, and labs to address some of the most challenging K-5 concepts are presented. Participants will receive hand-outs for each one.				
Level:	Lower Elementary, Upper Elementary, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Biotechnology in the Classroom: A Study of the Clonality of Bristle Worms in Aquaria using Randomly Amplified Polymorphic DNA (RAPD) Fingerprinting***			**Room:**	Grand Salon B
Presenter(s):	Marc Pedersen				
Description:	The presenter will describe an authentic inquiry-based project that utilizes cutting edge biotechnology and science to explore the genetic diversity of a marine polychaete worm.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Patterns
Title:	***How You Are Evaluated? The State of Teaching Science in an Age of Accountability***			**Room:**	Magnolia A
Presenter(s):	George W. Stickel				
Description:	How to be a good science teacher & navigate through accountability? Understand TKES, edTPA, InternKeys, ethics, etc.—all the assessments required of you & new colleagues.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Stability and Change
Title:	***NASA Remote Sensing Tools for Educators***			**Room:**	Magnolia B
Presenter(s):	Lester Morales			**Agency:**	NASA-Kennedy Space Center EPD
Description:	NASA provides Educators with the ability to participate in National and International Earth Systems programs that utilize remote sensing for investigative research.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Earth Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***Earth Science Investigation Stations***			**Room:**	Magnolia CD
Presenter(s):	Amber Hoke				
Description:	Use inquiry to provide learning stations for hands-on investigations in elementary Earth Science				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Systems and System Models

Concurrent Session: Thursday 12:00-1:50					
Title:	***Teaching Physical Science through Robotics and Engineering Design***			**Room:**	Exhibit Hall A
Presenter(s):	Mike Ryan, Sabrina Grossman, Jayma Koval, Jason Fiorito, Lynn Torrance, Russell Johnson				
Description:	Experience how to use LEGO® robotics to integrate engineering into middle school physical science classes. Engage in inquiry activities and receive access to NSF-developed materials.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	Physical Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models

Concurrent Session: Thursday 1:00-1:50					
Title:	***Getting the Most Out of Middle Schoolers Integrating Science and Math with Data***			**Room:**	308
				Vendor:	Ward's Science/Sargent-Welch
Presenter(s):	Karol Stephens				
Description:	Data is a natural integration point for math and science. Technology tools can increase the rigor and provide meaningful integration opportunities.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Fun Weird Science***			**Room:**	309
Presenter(s):	Ronnie Thomas			**Vendor:**	Fun Weird Science
Description:	Interactive science engagement demonstration with content explanation.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Science Exposition to the Rescue!***			**Room:**	310
Presenter(s):	Rachael Parr, Thomas Layfield, Tiffany Barnett				
Description:	Come and learn how we turned the Science Fair into a Science Exposition! It was a totally new and exciting way for students to display projects and have fun!				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	NA
Title:	***Incorporating Google Classroom into Inquiry-Based Learning***			**Room:**	Ballroom A
Presenter(s):	Christine Jackson, Amanda Palmer				
Description:	Students use inquiry and technology to discover relationships between shore birds, horseshoe crabs, and humans.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Featured Session

Exploring Your Inner Fish, 1:00-1:50 Exhibit Hall B

- **Presenter:** Cary Woodruff
- **Description:** Based on the bestselling book and documentary mini-series, in this lecture we will explore our own human evolutionary history, while learning new and exciting ways to teach and incorporate evolution in the classroom. Cary Woodruff grew up in rural central Virginia, received a BS in Earth sciences with an emphasis in paleontology from Montana State University, and is currently working on an MS in geobiology at MSU under famed paleontologist Dr. Jack Horner. Cary has had several papers published ranging from the first burrowing dinosaur *Oryctodromeus cubicularis* to the majority being dedicated to sauropod dinosaurs and their growth. Cary described and named a new sauropod dinosaur *Rugocaudia cooneyi*, which is the northernmost sauropod found in North America to date.
- **Level:** Elementary, Middle, High, AP/IB
- **Content:** Earth Science, Biology/Life Science

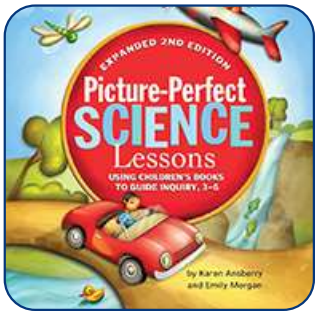
Concurrent Session: Thursday 1:00-1:50					
Title:	***Strategies that enhance literacy in the science classroom***			**Room:**	Ballroom D
Presenter(s):	John Garrett				
Description:	Participants will be engaged by completing a SEPUP (Science Education for Public Understanding Program) activity while learning about embedded literacy strategies that will benefit students inside and outside of the classroom.				
Level:	Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Visualization Activities for Chemistry and Physical Science***			**Room:**	Ballroom E
Presenter(s):	Kelly Ramey				
Description:	Presentation of a classroom activity to help students understand basic terminology and the correlation between atoms/molecules and what we see in real life.				
Level:	Middle, High			**Strand:**	NA
Content:	Chemistry	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Structure and Function
Title:	***Using Governmental Agencies as a Classroom Resource***			**Room:**	Grand Salon A
Presenter(s):	Susan Collins				
Description:	The mystery is solved; pennies are saved. You will be given web sites, see samples of free materials, and walk away with some "freebies!"				
Level:	Upper Elementary			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 1:00-1:50					
Title:	***Turning Labs into Arguments***			**Room:**	Grand Salon B
Presenter(s):	Jennifer Barnes				
Description:	Argumentation & communication are two Science & Engineering Practices in the NGSS. Bring a lab that you can turn into an argument-based inquiry during this session.				
Level:	High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA
Title:	***Finding Greatness In Your First Years***			**Room:**	Magnolia A
Presenter(s):	Drew Adams, Rebekah Cordeiro, Rebecca Mortensen				
Description:	Second-year KSU Noyce teaching fellows host a session to share productive ideas to overcome bad days and make more good ones in your first years.				
Level:	Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Featured Session

Picture Perfect Science, Grades 3-5, 1:00-2:50 Ballroom B



- **Presenters:** Karen Ansberry & Emily Morgan, NSTA Press Authors
- **Description:** Authors of NSTA's award-winning Picture-Perfect Science series will share 3-5 lessons that integrate science and reading through the use of engaging picture books. Ansberry co-authored *Picture-Perfect Science Lessons* to give science teachers the tools they need to help students learn to read and read to learn. As a former classroom teacher, she understands teachers are crunched for time and need high-interest, ready-to-use lessons that integrate literature, reading strategies, and science. Morgan feels that tapping into students' fascination with science will give them the motivation to read about it. She believes every teacher is a reading teacher and enjoys writing lessons that use engaging picture books and integrate reading strategies.
- **Level:** Upper Elementary
- **Strand:** Integrating Science Within the CCGPS
- **Content:** General
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Featured Session

Developing and Using Models in the Science Classroom, 1:00-2:50 Ballroom C

- **Presenters:** Todd Bevis & Ellen Granger, Ph.D., Florida State University
- **Description:** Explore and compare the development of scientific and mathematical models as tools for learning core disciplinary content in science classrooms. Bevis is the Director of Teacher Professional Development for the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University. Dr. Granger is the Director of the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University and the Co-Director of the FSU-Teach program for preparing secondary science and mathematics teachers.
- **Level:** Middle, High, AP/IB, Supervisor/Leadership
- **Strand:** GPS Within the Framework
- **Content:** Engineering
- **Science & Engineering Practice:** Developing and Using Models
- **Crosscutting Concept:** Systems and System Models

Concurrent Session: Thursday 1:00-2:50					
Title:	***Integrating Literacy Strategies Into Middle School Life Science***			**Room:**	303
Presenter(s):	Terri George			**Vendor:**	Carolina Curriculum
Description:	Come experience literacy MS strategies with investigations of the black worm!				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Scale, Proportion, and Quantity
Title:	***Getting Started with STEM in the Elementary Classroom***			**Room:**	306
Presenter(s):	Colleen Cauffiel				
Description:	Teachers will learn how to integrate math and science concepts at the elementary level.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***A Taste of Dragons***			**Room:**	312
Presenter(s):	Marlee Tierce				
Description:	Children come to school filled with curiosity. Their imaginations color everything. A goal for teachers is to keep that curiosity alive and foster it. A thematic unit based on Dragons.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Structure and Function

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 1:00-2:50					
Title:	***Viewing the Invisible***			**Room:**	313
Presenter(s):	Ann Robinson, Sharon Kirby, Dave Todd				
Description:	Participants will discover a cost-effective method of introducing static electricity. A series of experiments will produce a "hair raising" experience and reveal static electricity phenomenon.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***Making Sense of Sensors: A Hands-On Exploration***			**Room:**	324
Presenter(s):	Carrie Beth Rykowski				
Description:	Have you ever turned a shoe box into a space rover? Come learn how you can easily incorporate mechanical engineering and nanotechnology in the classroom with cool STEAM lessons for Earth Science.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	NA	**Content:**	Earth Science
Title:	***Moving Full STEAM Ahead!***			**Room:**	Magnolia B
Presenter(s):	Bejanae Kareem, Shermaine Perry, Dharma Stevens			**Organization:**	Georgia STEAM Alliance Network
Description:	Curious about STEAM Education? Interested in learning STEAM best practices? This session will focus on the integration of STEAM across the curriculum. Attendees will garner strategies through small group collaboratives.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Administrators, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Citizen Science Sampler***			**Room:**	Magnolia CD
Presenter(s):	Donna Barrett, Karan Wood			**Organization:**	Captain Planet Foundation
Description:	Join Captain Planet Foundation and Metro RESA to explore Citizen Science! Engage students in field investigations and data collection shared with scientists doing exciting, authentic research.				
Level:	Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Stability and Change

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Science for All: Putting the Pieces Together

Concurrent Session: Thursday 2:00-2:50					
Title:	***Yes They Can! Elementary Students Can Do Data!***			**Room:**	308
Presenter(s):	Karol Stephens			**Vendor:**	Ward's Science/Sargent-Welch
Description:	Elementary students can collect, use, and interpret data to better understand math and science. It's all about making it relevant, using available technology, and providing a purpose.				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Utilizing the NSTA Learning Center for Professional Development***			**Room:**	309
Presenter(s):	Donna Governor			**Organization:**	National Science Teachers Association
Description:	The NSTA Learning Center is an online professional development portal to help you address your professional needs. Use the nearly 12,000 online resources (most free) to help meet your individual professional development needs.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***STEM is Literacy: Using Evidence from Collaborative Conversations to Construct a Response***			**Room:**	310
Presenter(s):	Monia Grace, Jessica Holden, Jen Johnston, Lesley Grimes				
Description:	This session will equip teachers with literacy routines that promote critical thinking, questioning, and problem-solving, so students have a deeper understanding of science concepts.				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Earth Science	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Science and Math Nights - Using STEM***			**Room:**	Ballroom A
Presenter(s):	Susan Collins, Anita Vanbrackle, Morgan Gordon, Amie Sorrow, Shay Laughton, Karen Woodleif				
Description:	Have you ever wanted to get parents involved in your students' school activities? See how hands-on STEM activities get parents included in their child's education.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 2:00-2:50					
Title:	***The Georgia Vision Project and the Collective Voices Supporting Public Education: What's in it for GSTA?***			**Room:**	Ballroom D
Presenter(s):	Stanley DeJarnett			**Organization:**	A Vision for Public Education
Description:	The Georgia Vision Project lists 41 organizations, agencies and companies as partners in its work to transform our public schools and raise the level of trust and support for education in Georgia. Georgia's science educators are uniquely qualified to join this effort because of your connection to the high-priority STEM initiative and your support for strong curriculum and assessment the way it OUGHT to be done. Your voice is needed to build a collective message across Georgia and the time is now. Come find out how we are working with the other partner organizations and why GSTA plays a part NO ONE ELSE can play.				
Level:	Elementary, Middle, High, AP/IB, College, Administrators, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Fully Integrated Problem and Place-Based Projects***			**Room:**	Ballroom E
Presenter(s):	Bonnie Pratt, Nancy Cobb				
Description:	An overview of how our STEM Cohort integrates math and science with a "workshop" session to develop P3BL's				
Level:	High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Scale, Proportion, and Quantity
Title:	***Safety and Professional Responsibility for Science Teachers***			**Room:**	Grand Salon A
Presenter(s):	Nick Zomer			**Organization:**	GSTA, Georgia Science Supervisors Association
Description:	This session will foster collaboration and dialogue regarding best practices to ensure student safety during science lessons. Topics will include teacher responsibilities and guidelines, student expectations, and legal ramifications.				
Level:	Elementary, Middle, High, AP/IB, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Show me what you've Learned-Part 2***			**Room:**	Grand Salon B
Presenter(s):	Sue L Burrell, Barbara Mullis				
Description:	Using inexpensive, easy to construct manipulative learning "kits," students are able to demonstrate their knowledge while the teacher, through purposeful questioning, increases depth of knowledge.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Teach science and stay sane!***			**Room:**	Magnolia A
Presenter(s):	Louisa McDonald, Alan McGough, Jenna Harvey				
Description:	Tame that paper monster!				
Level:	Middle, High, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Middle School Share-a-thon***			**Room:**	Exhibit Hall A
Presenter(s):	Nathan Watson				
Description:	Middle school teachers are encouraged to bring and share quick activities and ideas.				
Level:	Middle			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 3:00-3:50					
Title:	***CPO Science Wind Turbine with a focus on STEM***			**Room:**	303
Presenter(s):	Erik Benton			**Vendor:**	CPO Science/School Specialty Science
Description:	Apply key science concepts, technology, and math to engineer a wind turbine.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***There's an App for That!***			**Room:**	309
Presenter(s):	Donna Governor				
Description:	Discover free apps with real-time data students can use to explore earth science concepts. Explore STEM integrated activities using your smart phone in this session.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns
Title:	***Secrets in the Garden***			**Room:**	310
Presenter(s):	Rachael Parr, Jenny Buley				
Description:	Engage students in reading, writing, and thinking about science through investigations in a school garden.				
Level:	Upper Elementary, Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Applying the GPS to Stabilize Earth Hazards***			**Room:**	312
Presenter(s):	Bill Witherspoon, Pamela J.W. Gore				
Description:	From the Leaning Tower of Pisa to the LBJ Rocks on Jekyll Island, spice up your lessons with real-world problems caused by Earth phenomena.				
Level:	Upper Elementary, Middle, High, AP/IB, College, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	Earth Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Stability and Change
Title:	***Using PhETs in the Classroom and Writing them Too***			**Room:**	Ballroom D
Presenter(s):	Erica Peddi				
Description:	Understanding how to use and work through the PhET simulation site and the process of writing an assignment and submitting it for them.				
Level:	Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Chemistry	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Systems and System Models
Title:	***Bring STEM into Your Classroom with Datalogging***			**Room:**	Grand Salon A
Presenter(s):	Alan Gorlin, Gaganjot Singh, John Cox, Linda Stockton			**Vendor:**	Genesis Collaboration
Description:	Datalogging allows any student to apply technology in the science classroom. Participate in NGSS correlated, hands-on lessons and try your hand at digital data collection.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Scale, Proportion, and Quantity

Concurrent Session: Thursday 3:00-3:50					
Title:	***Beak of the Finch - Evolution + Math***			**Room:**	Grand Salon B
Presenter(s):	Jennifer Barnes				
Description:	Continuity & Change - an ironic concept seen within Evolution. Come work through an activity from HHMI Biointeractive that integrates science, math and argumentation.				
Level:	AP/IB			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns
Title:	***Elementary Share-a-thon***			**Room:**	Exhibit Hall A
Presenter(s):	Denise Webb				
Description:	Elementary school teachers are encouraged to bring and share quick activities and ideas.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Thursday 3:00-4:50					
Title:	***STEM-Sational Science***			**Room:**	306
Presenter(s):	Donita Legoas, Kristina Istre				
Description:	With almost 20 years of teaching experience each, the "Science Sisters" will share some of their cheap, easy, and tried-and-true hands-on ideas for teaching science and STEM in your classroom.				
Level:	Lower Elementary, Upper Elementary, Middle, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***PINEMAP Southeastern Forest and Climate Change Curriculum***			**Room:**	308
Presenter(s):	Lauren C. Johnson, Janet Forrest Kent			**Vendor:**	Project Learning Tree
Description:	PINEMAP Southeastern Forest and Climate Change Curriculum; a FREE curriculum for middle and high school.				
Level:	Middle, High, AP/IB, College			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Stability and Change
Title:	***Mechanochemical Phenomena in Blood: A STEAM Lesson***			**Room:**	324
Presenter(s):	Renuka Rajasekaran, accompanied by her 5 students: Ashley Johnson, Shailyn Moore, Shaena Carter, Jahmar Jordan, Myka Lowery				
Description:	The mechanochemical phenomena in Blood are learned by modeling in a STEAM integrated chemistry lesson.				
Level:	High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 3:00-4:50					
Title:	***Mechanisms of Solar Energy: Exploring the fundamentals of waves, energy, circuits, and solar cells***			**Room:**	313
Presenter(s):	Tyson Harty, Sharmistha Basu-Dutt				
Description:	Solar energy will be vital for humanity's future, yet its fundamentals can be confusing to students. Explore hands-on methods to integrate waves, circuits, and energy.				
Level:	Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***STEM the "Right Way:" Building Collaboration with Vital Team Members***			**Room:**	Ballroom A
Presenter(s):	Jessica Holden, Monica Grace, Lesley Grimes, Lisa Lee, Jen Johnston				
Description:	Identifying and recruiting the right people for your STEM team will foster collaboration across the content areas and ensure program success.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Using a Technology-Enhanced 5E Learning Cycle to Support Literacy in the Science Classroom***			**Room:**	Ballroom B
Presenter(s):	Adam Shirley, Jeremy Peacock				
Description:	Technology can both engage student interest and support scientific thinking. At the same time, the 5E learning cycle provides a research-based approach to inquiry-based science teaching. Engage in a model lesson that shows how you can combine these strategies to move your students' learning forward.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Integrating Engineering Standards, Common Core ELA Standards, Common Core Mathematics Standards, and Elementary Science Performance Standards***			**Room:**	Ballroom C
Presenter(s):	Barbara Rascoe				
Description:	This session will provide methodologies for designing science instruction for elementary teachers that comply with integrating common core, science performance standards, and engineering standards.				
Level:	Upper Elementary, Middle			**Strand:**	GPS Within the Framework
Content:	Engineering	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Stuck Like Glue: Integrated STEM Challenge***			**Room:**	Ballroom E
Presenter(s):	Patricia Ucciferri				
Description:	Work through an integrated STEM challenge designed for second grade matter.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Thursday 3:00-4:50					
Title:	***Integrate the Basics First! 3 Main Elements for Effective Classroom Management***			**Room:**	Magnolia A
Presenter(s):	Marjorie Bateman				
Description:	Participants will learn the critical elements to developing a classroom management style that communicates to students observable behaviors that will help them be successful.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Georgia Rocks and Minerals***			**Room:**	Magnolia B
Presenter(s):	Naomi Thompson, Donna Mullenax			**Organization:**	Stone Mountain Memorial Association
Description:	Participate in map activities and rock observation to learn about the regions of Georgia and the rocks, minerals, and sand that can be collected. Takeaway your own samples for classroom use.				
Level:	Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	Earth Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Patterns
Title:	***Field Testing SAGES: an Engaging Environmental Pathway through Standards-based STEM Learning***			**Room:**	Magnolia CD
Presenter(s):	Captain Planet Foundation teachers			**Organization:**	Captain Planet Foundation
Description:	Transform science education by teaching the K-12 CCGPS core ideas from an environmental perspective, engaging students in science practices and engineering design challenges.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Content:**	General

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- Stop by the GSTA Store
- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Featured Session

The Work of Scientists: Why the Questions are as Important as the Answers, 4:00-4:50 Exhibit Hall B

- **Presenter:** Cary Woodruff
- **Description:** How reading, writing, and problem solving lead to effective and engaging science research. As stated in the NGSS, we need methods for importing knowledge of the tactics and strategies of science to those who are not scientists. Join us for this discussion of the nature of science. Cary Woodruff grew up in rural central Virginia, received a BS in Earth sciences with an emphasis in paleontology from Montana State University, and is currently working on an MS in geobiology at MSU under famed paleontologist Dr. Jack Horner. Cary has had several papers published ranging from the first burrowing dinosaur *Oryctodromeus cubicularis* to the majority being dedicated to sauropod dinosaurs and their growth. Cary described and named a new sauropod dinosaur *Rugocaudia cooneyi*, which is the northernmost sauropod found in North America to date.
- **Level:** Elementary, Middle, High, AP/IB
- **Content:** Earth Science

Concurrent Session: Thursday 4:00-4:50					
Title:	***Project-Based Inquiry Learning (PBIL): Science Teaching and Learning for the 21st Century***			**Room:**	303
Presenter(s):	Sabrina Grossman				
Description:	Learn how to incorporate Project-Based Inquiry Learning and critical thinking skills in your classroom through participation in online professional development through the Georgia STEM Incubator.				
Level:	Upper Elementary, Middle, High, AP/IB, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***Activities for High School Biology- POGIL***			**Room:**	309
Presenter(s):	Denise Lester			**Vendor:**	Flinn Scientific
Description:	Process Oriented Guided Inquiry Learning is a group-learning, researched based instructional strategy.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Structure and Function

Concurrent Session: Thursday 4:00-4:50					
Title:	***Surviving Science Fair***			**Room:**	310
Presenter(s):	Nick Zomer				
Description:	Simple tips for teachers to make the Science Fair a more rewarding and less stressful experience.				
Level:	Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Vertical Teaming: Using NGSS to Give Students Tools for Success in Advanced Secondary STEM Classes***			**Room:**	312
Presenter(s):	Rabieh Jamal Hafza				
Description:	This session will focus on the implementation of the NGSS physical science core ideas as students progress from elementary through high school, focusing on diversity.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Physics	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Patterns
Title:	***How to Flip Your Science Classroom***			**Room:**	Ballroom D
Presenter(s):	Michele Langhans				
Description:	Do you want to flip your classroom, but have no idea how to start? Then my session will help you by providing you a list of tools that I use to flip my class.				
Level:	Middle			**Strand:**	NA
Content:	Physical Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***This is not your mother's environmental science class.***			**Room:**	Grand Salon A
Presenter(s):	Claudia Hagan				
Description:	This isn't your mother's environmental science course. Wait. She didn't have one. You probably didn't either. Tips and Tricks to teach today's environmental science class.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Environmental Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Content:**	Environmental Science
Title:	***Interactive Notebooks: How to get ALL students to succeed***			**Room:**	Grand Salon B
Presenter(s):	Tanya Flynn, AnnMarie Alford				
Description:	Using notebooks to enhance mastery along the Science Standards.				
Level:	Middle, High, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	NA
Title:	***High School Share-a-thon***			**Room:**	Exhibit Hall A
Presenter(s):	Jennifer Barnes				
Description:	High school teachers are encouraged to bring and share quick activities and ideas.				
Level:	High, AP/IB			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

District Meet & Greet Social

- This is a great, informal opportunity to meet your District Director, network with others from your district, and enjoy light hors d'oeuvres.
- Thursday, 5:00 PM In Registration Area

GSTA Districts & District Directors

District	School Districts	Director
1	Bartow, Bremen City, Calhoun City, Cartersville City, Catoosa, Chattooga, Chickamauga City, Dade, Dalton City, Floyd, Gordon, Haralson, Murray, Paulding, Polk, Rome City, Trion City, Walker, and Whitfield	Erin Anderson
2	Banks, Cherokee, Dawson, Fannin, Forsyth, Franklin, Gainesville City, Gilmer, Hall, Habersham, Hart, Lumpkin, Pickens, Rabun, Stephens, Towns, Union, and White	Dr. Karen Henman
3	Atlanta City, Clayton, Cobb, Douglas, Fulton, and Marietta City	Tonya Pugh
4	Barrow, Clarke, Commerce City, Elbert, Greene, Jackson, Jasper, Jefferson City, Lincoln, Madison, Morgan, Oconee, Oglethorpe, Putnam, Social Circle City, Taliaferro, Walton, and Wilkes	Dr. Amy Peacock
5	Butts, Carroll, Carrollton City, Coweta, Fayette, Heard, Henry, Lamar, Meriwether, Pike, Spalding, Thomaston-Upson, and Troup	Stephanie Miles
6	Chattahoochee, Clay, Harris, Macon, Marion, Muscogee, Quitman, Randolph, Schley, Stewart, Sumter, Talbot, Taylor, and Webster	Moneak McCrary
7	Baldwin, Bibb, Bleckley, Crawford, Dodge, Dooly, Dublin City, Houston, Jones, Laurens, Monroe, Montgomery, Peach, Pulaski, Telfair, Treutlen, Twiggs, Wheeler, Wilcox, and Wilkinson	Latrina Howell
8	Appling, Bryan, Bulloch, Candler, Chatham, Effingham, Evans, Jeff Davis, Liberty, Long, McIntosh, Tattnall, Toombs, Vidalia City, and Wayne	Dr. Heather Scott
9	Burke, Columbia, Emanuel, Glascock, Hancock, Jefferson, Jenkins, Johnson, McDuffie, Richmond, Screven, Warren, and Washington	Donita Legoas
10	Atkinson, Bacon, Brantley, Camden, Charlton, Clinch, Coffee, Glynn, Pierce, and Ware	Marty Howard
11	Baker, Ben Hill, Berrien, Brooks, Calhoun, Colquitt, Cook, Crisp, Decatur, Dougherty, Early, Echols, Grady, Irwin, Lanier, Lee, Lowndes, Miller, Mitchell, Pelham City, Terrell, Thomas, Thomasville City, Tift, Turner, Seminole, Valdosta City, and Worth	Michelle Bergozza
12	Buford City, Decatur City, DeKalb, Gwinnett, Newton, and Rockdale	Joey Nunn

Conference Sessions - Friday

Session Feedback Surveys - Friday

- Please provide feedback on each session you attend today by following the URL or QR code to access the online feedback form.
- http://tinyurl.com/GSTA-Fri

Concurrent Session: Friday 8:00-8:50					
Title:	***Chemistry and the Atom: Atom Building and the Periodic Table***			**Room:**	303
Presenter(s):	Erik Benton			**Vendor:**	CPO Science/School Specialty Science
Description:	Our understanding of matter is so abstract that students have a hard time making sense of these fascinating concepts.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Structure and Function
Title:	***Life jackets, density, & STEM***			**Room:**	306
Presenter(s):	Donna Barrett				
Description:	In this STEM activity, you will design life jackets for a toy soldier; experience an application of density, and the inverse relationship between volume and density.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Scale, Proportion, and Quantity
Title:	***Streamline Your Preparation & Presentation with Student Notebooks***			**Room:**	308
Presenter(s):	Doug Miller			**Vendor:**	LearnEd Notebooks
Description:	Explore science notebooking strategies and learn how to efficiently prepare your instruction to meet the latest standards. Participants will receive free samples and lesson plans.				
Level:	Middle, High, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Friday 8:00-8:50					
Title:	***Crosscutting Concepts: What Do They Look Like in an Elementary Classroom?***			**Room:**	309
Presenter(s):	Kathy Armstrong, Marilyn Enoch			**Vendor:**	Delta Education FOSS
Description:	Learn how utilizing crosscutting concepts can deepen students' understanding across the science disciplines. Engage in experiences exposing cause and effect, patterns, and structure and function.				
Level:	Lower Elementary, Upper Elementary, Supervisor/Leadership			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Patterns
Title:	***Morphing Physics and Engineering***			**Room:**	310
Presenter(s):	Sheila Harmony				
Description:	Traditional 9th grade physics and engineering courses are morphed into what is known today as PhysEng in hopes of accomplishing three major teaching and learning goals.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Physics	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***From Biology to Bio-engineering: Changing Paradigm and Practice***			**Room:**	312
Presenter(s):	Joan Graham				
Description:	The purpose of this session is to share the experience infusing Biology with engineering, math, and technology.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Structure and Function
Title:	***A Paradigm Shift: Redefining Traditional High School Physics Using the Engineering Design Process***			**Room:**	313
Presenter(s):	Hyunjin Son, Jeff Matthews				
Description:	The journey one high school embarked upon to provide equal access to STEM experiences for their 11th grade physics students emphasizing rigor, relevance, and relationships.				
Level:	High, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	Physics	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***Earth Science Sure Fire Winners!***			**Room:**	324
Presenter(s):	Stephanie Miles, Brandie Freeman				
Description:	Walk away with several Earth Science sure fire activities.				
Level:	Middle, High			**Strand:**	NA
Content:	Earth Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Friday 8:00-8:50					
Title:	***ENGAGE, EMPOWER, and EXCEL with Integrated STEM In Your Classroom!***			**Room:**	Ballroom A
Presenter(s):	Alana Davis				
Description:	Many educators might think that you can't integrate your STEM challenges with the other subjects, well you are WRONG! YOU CAN and it's easy!				
Level:	Lower Elementary, Upper Elementary, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Literacy in Science***			**Room:**	Ballroom B
Presenter(s):	Whitney Patterson, Janee Smith, Ashli Jay				
Description:	Printable literacy strategies.				
Level:	Upper Elementary, Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Patterns
Title:	***Teaching Outdoor Science with Children's Literature***			**Room:**	Ballroom C
Presenter(s):	Steve Rich				
Description:	Discover resources from the author of Outdoor Science, My School Yard Garden, & Mrs. Carter's Butterfly Garden. Free seeds.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	GPS Within the Framework
Content:	Environmental Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Using apps for student presentations***			**Room:**	Ballroom D
Presenter(s):	Lisa Henriquez, Erin Wood				
Description:	Several apps students can use during presentations.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Flipping the Classroom in Advanced Placement Environmental Science***			**Room:**	Ballroom E
Presenter(s):	Brandie Freeman				
Description:	Take home a year's worth of ready-to-use discussion prompts, reading strategy ideas, and meaningful ways to get your APES students to do their homework! Tips for math in APES will also be provided.				
Level:	High, AP/IB			**Strand:**	NA
Content:	Environmental Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation

Concurrent Session: Friday 8:00-8:50					
Title:	***Let's Talk About Science: Engaging Students in Productive Science Talk***			**Room:**	Grand Salon A
Presenter(s):	Kenneth Linsley, Jeremy Peacock				
Description:	Helping students become scientific thinkers requires that we help them get their science ideas out into the open for reinforcement or revision. Productive, evidence-based discussions in the science classroom allow students to clarify their own thinking and draw on their peer's thinking. This session will demonstrate several "talk moves" that will help you move from basic Q&A sessions to in-depth discussions that support science learning.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Notebooking for HS Biology***			**Room:**	Grand Salon B
Presenter(s):	Sue L Burrell, Barbara Mullis				
Description:	Notebooks used for the development and inclusion of visuals and foldables to help students organize, visualize, and make connections with their learning. An excellent tool to incorporate science literacy.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***If Neville can do it, so can you.***			**Room:**	Magnolia A
Presenter(s):	Claudia Hagan				
Description:	In this interactive presentation, teachers will gain resources and strategies to conquer their first year in the science classroom.				
Level:	High, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Learning Power - Home As A System***			**Room:**	Magnolia B
Presenter(s):	Cedric Sheffield			**Organization:**	Georgia Power
Description:	The Home as a System lesson addresses the natural forces of Heat, Air, and Moisture through the lenses of physical science, environmental science, and economics.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***K-5 NASA Education Resources***			**Room:**	Magnolia CD
Presenter(s):	Lester Morales			**Agency:**	NASA-Kennedy Space Center-EPD
Description:	Learn about NASA's vast resources for K-5 Educators from books, websites, videos, and NASA missions.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Concurrent Session: Friday 8:00-8:50					
Title:	***Poster Session from Earth Systems Teacher Quality Workshop***			**Room:**	Exhibit Hall A
Presenter(s):	Judy Cox, Stephanie Miles, Cobb County Teachers				
Description:	Poster Session from Earth Systems Teacher Quality Workshop.				
Level:	Middle, High, College			**Strand:**	NA
Content:	Earth Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Featured Session

Doughnuts & Dinos: The Scientific Legacy of Jurassic Park, 8:30-9:50 Exhibit Hall B

- **Presenter:** Cary Woodruff
- **Description:** Enjoy complimentary doughnuts while learning about the science behind the blockbuster dinosaur movies. Twenty-two years ago Jurassic Park forever changed our perception of paleontology. This film united a scientific discipline and the public in a way unique to our generation. With the fourth installment of the film to be released this summer, we will explore the science of the series and how teachers can incorporate this film into the classroom to engage and educate students about paleontology. Cary Woodruff grew up in rural central Virginia, received a BS in Earth sciences with an emphasis in paleontology from Montana State University, and is currently working on an MS in geobiology at MSU under famed paleontologist Dr. Jack Horner. Cary has had several papers published ranging from the first burrowing dinosaur *Oryctodromeus cubicularis* to the majority being dedicated to sauropod dinosaurs and their growth. Cary described and named a new sauropod dinosaur *Rugocaudia cooneyi*, which is the northernmost sauropod found in North America to date.
- **Level:** Elementary, Middle, High, AP/IB
- **Content:** Earth Science

The Learning Continues in the Exhibit Hall

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- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
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Science for All: Putting the Pieces Together

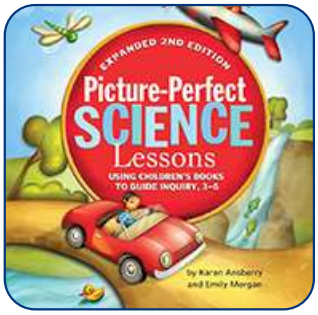
Concurrent Session: Friday 9:00-9:50					
Title:	***STEM In Action-Sidewalk Safety Exploration***			**Room:**	308
Presenter(s):	Debi Goodman			**Vendor:**	ETA Hand2Mind
Description:	This session will preview the ETA Hand2Mind kit-- Sidewalk Safety. We will discover the world of safety and the motion of pushes and pulls with slopes and going uphill.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Motion, Engineering, Design and Redesign for the Primary Classroom***			**Room:**	309
Presenter(s):	Marilyn Enoch, Kathy Armstrong			**Vendor:**	Delta Education FOSS
Description:	A study in different ways to produce and predict rotational motion while communicating, comparing, predicting and recording data.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***"It's not all Black and White! Implementing R.A.C.E. in the Science classroom."***			**Room:**	310
Presenter(s):	Shandreka Gibson, Travis Phelps, Felicia Poole, Daphne Todd				
Description:	Using the R.A.C.E. strategy in our classrooms to help students with critical aspects of writing in science: engaging in a task, understanding a prompt, and transitioning to writing under the CCGPS.				
Level:	Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***A layered way to think about science: Using multiple frameworks to represent science concepts***			**Room:**	312
Presenter(s):	Ben Campbell, Ryan Nixon				
Description:	Participants in this session will be introduced to and discuss multiple frameworks for reconsidering biology, chemistry, and physics concepts for their teaching.				
Level:	Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***AP Chemistry for All***			**Room:**	313
Presenter(s):	Jamie Akin				
Description:	Strategies to teach both Chemistry and AP Chemistry so that all students will have an opportunity to do well on the AP exam.				
Level:	High, AP/IB			**Strand:**	NA
Content:	Chemistry	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA

Concurrent Session: Friday 9:00-9:50					
Title:	***Teaching STEM through Literacy for All***			**Room:**	Ballroom A
Presenter(s):	Maria Thurmond, Beth Feustel				
Description:	Science Literacy can be increased by applying the NGSS through project based learning and formative assessment throughout the projects.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Got Bones?***			**Room:**	Ballroom D
Presenter(s):	Sarida Hoy				
Description:	Participants will identify a set of "human bones" in this cross-curricular lesson that incorporates science, math, social studies and literacy. This lesson can be implemented/modified for any level.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Structure and Function
Title:	***Getting Physical with I-Pads***			**Room:**	Ballroom E
Presenter(s):	Tracy Robinson				
Description:	If you are currently wanting to increase the rigor and relevance through technology via I-Pads, Google classroom and Google drive this is the session for you.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Mitosis and Meiosis, Let's List It***			**Room:**	Grand Salon A
Presenter(s):	Paul Barber, Jefferey Hargrove				
Description:	A hands on strategy to make mitosis and meiosis tangible.				
Level:	Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	NA
Title:	***Classroom Redesign Pt. 1: Putting the Framework into Practice in Middle School and High School Life Science***			**Room:**	Grand Salon B
Presenter(s):	Jennifer Barnes, Chelsea Sexton, Jeremy Peacock, Zoe Evans				
Description:	How can you incorporate the science and engineering practices and crosscutting concepts into your life science classroom? See the three-dimensional approach of the Framework in action in a model life science investigation.				
Level:	Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Multiple	**Crosscutting Concept:**	Multiple
Title:	***Survival Guide for New Science Teachers***			**Room:**	Magnolia A
Presenter(s):	Michelle Bergozza				
Description:	Hidden resources revealed.				
Level:	Lower Elementary, Upper Elementary, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Friday 9:00-9:50					
Title:	***Shark Trackers: Utilizing STEM to Connect Research and Education***			**Room:**	Magnolia CD
Presenter(s):	Chantal Audran			**Organization:**	Tybee Island Marine Science Center
Description:	An exploration of the latest OCEARCH tracking technology is implemented into learning basic skills and methods of conducting scientific research.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns
Title:	***Enrich Your STEM Curriculum with Ham Radio I***			**Room:**	Exhibit Hall A
Presenter(s):	Martha Muir, Chuck Catledge, Jim Stafford, John Kludt, Mike Cohen, Wes Lamboley (all members of the North Fulton Amateur Radio League)			**Organization:**	North Fulton Amateur Radio League
Description:	Ham Radio provides a means to vastly increase the STEM curriculum at your school. We'll show you how and why! This session will give attendees hands-on exposure to the topics "Electricity is Magnetic!," "Components That Make Radios Work," and "Ham Radio = Science."				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Structure and Function

Featured Session

Picture Perfect Science, Grades 3-5, 9:00-10:50 Ballroom B



- **Presenters:** Karen Ansberry & Emily Morgan, NSTA Press Authors
- **Description:** Authors of NSTA's award-winning Picture-Perfect Science series will share 3-5 lessons that integrate science and reading through the use of engaging picture books. Ansberry co-authored *Picture-Perfect Science Lessons* to give science teachers the tools they need to help students learn to read and read to learn. As a former classroom teacher, she understands teachers are crunched for time and need high-interest, ready-to-use lessons that integrate literature, reading strategies, and science. Morgan feels that tapping into students' fascination with science will give them the motivation to read about it. She believes every teacher is a reading teacher and enjoys writing lessons that use engaging picture books and integrate reading strategies.
- **Level:** Upper Elementary
- **Strand:** Integrating Science Within the CCGPS
- **Content:** General
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Science for All: Putting the Pieces Together

Concurrent Session: Friday 9:00-10:50					
Title:	***Focus and Explore Wave Energy and STEM Education K-8***			**Room:**	303
Presenter(s):	Terri George			**Vendor:**	Carolina Curriculum
Description:	Come explore alternative energy sources for K-8 STEM.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Building Science Vocabulary via Notebook Foldables®***			**Room:**	306
Presenter(s):	Nancy Wisker			**Vendor:**	Dinah-Might Adventures
Description:	Time flies in this session on as you create Notebook Foldables® that can help your instruction of, and student retention of, science vocabulary.				
Level:	Upper Elementary, Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Lunar and Meteorites Disk Program***			**Room:**	324
Presenter(s):	Lester Morales			**Agency:**	NASA-Kennedy Space Center-EPD
Description:	Provide students the opportunity to work with Moon and Meteorites rock samples.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns
Title:	***Using Argument-Driven Inquiry to Support Students' Science Proficiency***			**Room:**	Ballroom C
Presenter(s):	Jonathon Grooms				
Description:	Teachers and administrators will experience Argument-Driven Inquiry by participating in an investigation that emphasizes the essential practices of science and discipline specific writing skills.				
Level:	High, Supervisor/Leadership			**Strand:**	GPS Within the Framework
Content:	Physical Science	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***The Centers for Disease Control and Prevention (CDC): The why, what, and how of teaching epidemiology and public health science in middle and high school***			**Room:**	Magnolia B
Presenter(s):	Ralph Cordell, Kelly Cordeira			**Agency:**	Centers for Disease Control and Prevention
Description:	CDC will outline the rationale for teaching public health in high school, present NGSS-aligned standards to guide course development, and discuss how to adapt CDC resources for classroom use.				
Level:	Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns

Concurrent Session: Friday 10:00-10:50					
Title:	***Science Reimagined: Using Claims, Evidence, and Reasoning to Promote Literacy in Science***			**Room:**	308
Presenter(s):	Melinda Roberson				
Description:	Evidence-based argumentation is a cornerstone concept across CC, NGSS, and GPS frameworks. Come explore C-E-R strategies that can boost student literacy and achievement in science.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA
Title:	***Building an Electric Motor the STEM way with CPO Science***			**Room:**	309
Presenter(s):	Erik Benton			**Vendor:**	CPO Science/School Specialty Science
Description:	Use the highly versatile CPO Science Electric Motor to change variables in a hands-on learning environment.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Physical Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Futures in Histotechnology and Plastination***			**Room:**	310
Presenter(s):	Shirley Powell			**Organization:**	Histology Curricular Support Laboratory, Mercer University School of Medicine, Pathology Department
Description:	Histology is the study of tissue; Pathology is the study of disease. Tissues removed in the hospital Operating Room or clinics, in the doctor's office, or at autopsy have to be examined by a Pathologist grossly and microscopically, in order to make a diagnosis to help the clinicians to treat the patient correctly. Histotechnology is an allied Health Field that is widely overlooked for students looking for a future profession. This presentation will discuss the profession, the requirements to achieve certification, as well as a little background of what happens to specimens that arrive at the histology laboratory. The second part of this presentation will use plastinated specimens to explain plastination, what it is, its use in medical education, veterinary medicine, as well as archiving museum specimens.				
Level:	Middle, High, AP/IB			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Approaches to attract under-represented students into STEM career learning pathways***			**Room:**	312
Presenter(s):	Lawrence King				
Description:	Review of economic need, examples of successful programs, and suggestions for improvement.				
Level:	Upper Elementary, Middle, High, AP/IB, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA

Concurrent Session: Friday 10:00-10:50					
Title:	***NASA Powers of Ten: Scaling the Universe***			**Room:**	313
Presenter(s):	Tyson Harty				
Description:	How big is big? How small is small? Help your students “Scale the Universe" as we investigate the Powers of Ten with free NASA materials.				
Level:	Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Scale, Proportion, and Quantity
Title:	***Fostering STEM collaboration and preparedness between high school and elementary school teachers***			**Room:**	Ballroom A
Presenter(s):	John Murnan, Michelle Barthlow				
Description:	Insights from a workshop led by HS teachers for ES teachers that fostered collaboration and communication to increase future student preparedness for HS STEM courses.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Robotic Bee and Bugs - Let's Learn About Our Environment!!***			**Room:**	Ballroom D
Presenter(s):	Joannah Shoushtarian			**Vendor:**	BeeBots and Bugs
Description:	Can K-2 learn to program robotic bees? I believe so and I show you how to teach students to love the environment while learning basic logo path programming.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Stability and Change
Title:	***Using Interactive Science Notebooks in the Gifted Classroom***			**Room:**	Ballroom E
Presenter(s):	Heather Davison, Denise Finley				
Description:	Middle school science teachers will learn how to use ISN in a gifted science classroom as a way for students to demonstrate mastery of the content.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	Physical Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	NA
Title:	***Explaining Science Mysteries***			**Room:**	Grand Salon A
Presenter(s):	Kenneth Linsley				
Description:	Students often struggle to provide a scientific explanation of the phenomena they experience in their everyday lives. This session will introduce participants to the C-E-R (Claim, Evidence, Reasoning) Framework. This framework will help guide students in writing a quality explanation of scientific phenomena.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

Concurrent Session: Friday 10:00-10:50					
Title:	***Classroom Redesign Pt. 2: Putting the Framework into Practice in Middle School and High School Life Science***			**Room:**	Grand Salon B
Presenter(s):	Jennifer Barnes, Chelsea Sexton, Jeremy Peacock, Zoe Evans				
Description:	How can you incorporate the science and engineering practices and crosscutting concepts into your life science classroom? Come and translate your favorite biology lab into a student-centered, three-dimensional investigation.				
Level:	Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Multiple	**Crosscutting Concept:**	Multiple
Title:	***The Elephant in the Room***			**Room:**	Magnolia A
Presenter(s):	Sue L Burrell				
Description:	Everyone knows it's there but no one addresses it...ineffective instruction. Presentation reviews classroom management research, styles, practices, and procedures to enhance instruction.				
Level:	Middle, High			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***CPALMS: Thousands of Free, Vetted Resources***			**Room:**	Magnolia CD
Presenter(s):	Michelle Ferro, Meghan Hauptli, Rabieh Razzouk				
Description:	Looking for free high-quality resources? CPALMS was built primarily for Florida's educators but transformed to a global resource. Find out what CPALMS can offer you!				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Enrich Your STEM Curriculum with Ham Radio II***			**Room:**	Exhibit Hall A
Presenter(s):	Martha Muir, Chuck Catledge, Jim Stafford, John Kludt, Mike Cohen, Wes Lamboley (all members of the North Fulton Amateur Radio League)			**Organization:**	North Fulton Amateur Radio League
Description:	Ham Radio provides a means to vastly increase the STEM curriculum at your school. We'll show you how and why! This session will give attendees hands-on exposure to the topics "On the Air with Ham Radio!" and "Ham Radio is Digital." Computers have not replaced ham radio, they enhance it!				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Structure and Function

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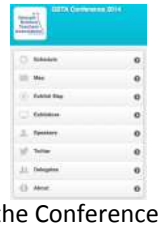

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General Session

Georgia Science Teachers Association Annual Business Meeting, 11:00-11:30 Exhibit Hall B

- **Presider:** Donna Governor, Ph.D., GSTA President
- **Agenda:**
  - Annual Membership and Financial Reports
  - Introduction of Candidates for GSTA Board of Directors
  - Introduction of featured speaker

Using Your Teacher Voice, 11:30-12:30 Exhibit Hall B

- **Presenter:** Stephen Pruitt, Ph.D., Achieve, Inc.
- **Description:** Have you ever found yourself or a colleague saying, "It's not my job to set policy, I'm just a teacher." Dr. Pruitt will discuss the importance of putting aside such thoughts and using your specialized professional knowledge and connection to students as a platform to speak up on behalf of those students and their learning. Dr. Pruitt is Achieve's Senior Vice President for Content, Research and Development. He led the development of and is currently working to support the implementation of the *Next Generation Science Standards*. Dr. Pruitt began his career as a high school Chemistry teacher in Georgia, where he taught for 12 years. Dr. Pruitt served as the Program Manager for Science, Director of Academic Standards, Associate Superintendent of Assessment and Accountability, and then Chief of Staff to State School Superintendent Kathy Cox.
- **Level:** Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Pre-service/Early Career Teachers
- **Content:** Advocacy & Leadership

Concurrent Session: Friday 1:00-1:50					
Title:	***STEM—Early Childhood Style!***			**Room:**	303
Presenter(s):	Terri George			**Vendor:**	Carolina Curriculum
Description:	Come experience STEM investigations, designs, and products related to Georgia weather standards.				
Level:	Lower Elementary			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***The Envelope Please…Creating Science Projects that Pop!***			**Room:**	306
Presenter(s):	Nancy Wisker			**Vendor:**	Dinah-Might Adventures
Description:	How can a simple manila envelope be transformed into a science project that pops? Discover how in this hands-on session and watch the possibilities unFOLD!				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Engineering Design with FOSS Next Generation!***			**Room:**	309
Presenter(s):	Marilyn Enoch, Kathy Armstrong			**Vendor:**	Delta Education and FOSS
Description:	FOSS Next Generation modules provide students with opportunities to engage in engineering experiences, develop solutions to problems, construct and evaluate models, and use systems thinking.				
Level:	Upper Elementary			**Strand:**	GPS Within the Framework
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Solutions in Chemistry: A GPS Unit Plan***			**Room:**	310
Presenter(s):	Nancy Brim				
Description:	Go through the solutions unit in chemistry - labs, demos.				
Level:	High			**Strand:**	GPS Within the Framework
Content:	Chemistry	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	Stability and Change
Title:	***Incorporating ELA into Science labs (K-5)***			**Room:**	312
Presenter(s):	Heather Hayes, Heidi Morea				
Description:	Incorporate writing in your Science block.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Using STEAM to teach Chemistry NGSS***			**Room:**	324
Presenter(s):	Maria Thurmond, Beth Feustel				
Description:	Build permanent products that apply the NGSS to the Chemistry content that make an impact on student learning.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Chemistry	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA

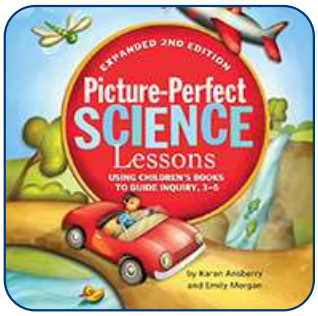
Science for All: Putting the Pieces Together

Concurrent Session: Friday 1:00-1:50					
Title:	***Take a Bite out of Data Analysis!***			**Room:**	Ballroom D
Presenter(s):	Sarida Hoy				
Description:	Can bite marks assist in identifying an individual? Let's find out by making our own bite impressions. Inexpensive materials, yet effective in introducing statistics to your student's data analysis.				
Level:	Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	Forensic Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Structure and Function
Title:	***Creating a Blended Learning Environment***			**Room:**	Grand Salon A
Presenter(s):	Kelly Ingle, Philip Matthews				
Description:	We will discuss how we have transformed our classes from traditional, lecture-based to a student-centered environment with an online component.				
Level:	Middle, High, AP/IB			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Using Interactive Case Studies in the Biology Classroom: Leveraging Technology to teach the Scientific Practices and Crosscutting Concepts***			**Room:**	Grand Salon B
Presenter(s):	Georgia Hodges, Sophia Jeong, Peggy McKay, Matt Baker				
Description:	Bring your laptop and experience newly created interactive case studies that address the NGSS framework and the GPS.				
Level:	High, AP/IB			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Successful Ideas for Co-teaching and Collaboration***			**Room:**	Magnolia CD
Presenter(s):	Sherrie Chovanec, Peter Fischer				
Description:	Collaboration and co-teaching between special education/science teachers is not an option, but necessary. Learn about successful practices to meet the needs of individual students.				
Level:	Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

The Learning Continues in the Exhibit Hall

- Learn about resources, products, and services from a variety of vendors.
- Stop by the GSTA Store
- Collect 15 stamps in your Exhibit Hall Passport for a chance to win great door prizes. Drop your passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Door Prize drawing will be held on Friday at 5:10 PM in the Exhibit Hall. ***You must be present to win.***

Featured Session



Picture Perfect Science, Grades K-2, 1:00-2:50 Ballroom B

- **Presenters:** Karen Ansberry & Emily Morgan, NSTA Press Authors
- **Description:** Authors of NSTA's award-winning Picture-Perfect Science series will share K-2 lessons that integrate science and reading through the use of engaging picture books. Ansberry co-authored *Picture-Perfect Science Lessons* to give science teachers the tools they need to help students learn to read and read to learn. As a former classroom teacher, she understands teachers are crunched for time and need high-interest, ready-to-use lessons that integrate literature, reading strategies, and science. Morgan feels that tapping into students' fascination with science will give them the motivation to read about it. She believes every teacher is a reading teacher and enjoys writing lessons that use engaging picture books and integrate reading strategies.
- **Level:** Lower Elementary
- **Strand:** Integrating Science Within the CCGPS
- **Content:** General
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Featured Session

Argumentation in the Science Classroom, 1:00-2:50 Ballroom C

- **Presenters:** Ellen Granger, Ph.D., & Todd Bevis Florida State University
- **Description:** An introduction to argumentation in the science classroom. This instructional technique includes all of the Practices of Science. Dr. Granger is the Director of the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University and the Co-Director of the FSU-Teach program for preparing secondary science and mathematics teachers. Bevis is the Director of Teacher Professional Development for the Office of Science Teaching Activities in the College of Arts and Sciences at Florida State University.
- **Level:** Middle, High, AP/IB, Supervisor/Leadership
- **Strand:** GPS Within the Framework
- **Content:** Engineering
- **Science & Engineering Practice:** Constructing Explanations and Designing Solutions
- **Crosscutting Concept:** Patterns

Concurrent Session: Friday 1:00-2:50					
Title:	***MDJunior - An Integrated Afterschool STEM Program***			**Room:**	308
Presenter(s):	Sid Verma, Shaun Verma, Deepa Ranganathan			**Vendor:**	MDJunior
Description:	MDJunior - "Inspiring Selfless Service through Mentorship" with Knowledge, Skills and Attitude sessions that exemplify a truly integrative approach to learning the Science of Medicine.				
Level:	Middle, High, AP/IB, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Fun with Science!!!***			**Room:**	313
Presenter(s):	Jamie Akin				
Description:	Demonstrations for physics and chemistry can be fun for the kiddies as well as an awesome learning experience. I'll be sharing and doing lots of excellent demos and labs. Bring a flash drive and a				
Level:	High			**Strand:**	NA
Content:	Physics	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***STEMstars: Explore STEM resources generated from a long-standing university-school district partnership***			**Room:**	Ballroom A
Presenter(s):	Laura Regassa, Missy Bennett, Louise Zehr, Laura Ike, Cynthia Dean, Alicia Garcia				
Description:	Join STEMstars faculty, graduate students and partner teachers for a highly interactive, hands-on session exploring inquiry-based STEM classroom activities.				
Level:	High, AP/IB, Supervisor, Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Using hands-on water activities to teach physical and earth science concepts in elementary and middle grades***			**Room:**	Ballroom E
Presenter(s):	Catherine A. Teare Ketter, Seth Crew, Students				
Description:	Participants will use water to demonstrate concepts such as friction, density, and wave morphology using everyday items.				
Level:	Upper Elementary, Middle, Pre-service/Early Career Teachers			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***Classroom Management-Is this piece missing from your science education puzzle?***			**Room:**	Magnolia A
Presenter(s):	Peter Vajda				
Description:	Proven research-based classroom management strategies to reduce discipline issues by 70% or more.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Plants of the Muck & Mire***			**Room:**	Magnolia B
Presenter(s):	Jerry Hightower, Penny Costanzo			**Agency:**	National Park Service
Description:	Teachers investigate the external and internal structures of hydrophytic plants by dissecting, sketching and recording notes in provided field journals.				
Level:	Upper Elementary, Middle, High			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA

Concurrent Session: Friday 1:00-2:50					
Title:	***And the Tide Comes In***			**Room:**	Exhibit Hall A
Presenter(s):	Venetia Butler				
Description:	Teaching science concepts is easier and more fun when taught through experiential learning and books and activities focused on Georgia's own coast.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Environmental Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Stability and Change

Featured Session

How can we "Walk with the Dinosaurs?," 2:00-2:50
Exhibit Hall B

- **Presenter:** Cary Woodruff
- **Description:** Every child grows up fascinated by dinosaurs. These towering, bizarre behemoths captivate us because they were real monsters. All that remains of them today are their fossilized bones, and while we can examine and study these remnants, a part of the dinosaur allure remains in the mystique these near fabricated beasts. While children are near professionally versed in dinosaur knowledge, most reflect back on that time of their life as simply a hobby or fascination. So how does one take that childhood passion and turn it into a serious career? And why on Earth would anyone want to make a career out of dinosaurs? Cary Woodruff grew up in rural central Virginia, received a BS in Earth sciences with an emphasis in paleontology from Montana State University, and is currently working on an MS in geobiology at MSU under famed paleontologist Dr. Jack Horner. Cary has had several papers published ranging from the first burrowing dinosaur *Oryctodromeus cubicularis* to the majority being dedicated to sauropod dinosaurs and their growth. Cary described and named a new sauropod dinosaur *Rugocaudia cooneyi*, which is the northernmost sauropod found in North America to date.
- **Level:** Elementary, Middle, High, AP/IB
- **Content:** Earth Science

Concurrent Session: Friday 2:00-2:50					
Title:	***Interested? Tell me about it!***			**Room:**	303
Presenter(s):	Lynn Weber			**Vendor:**	Activate Learning
Description:	Elicit questions, start conversations, facilitate discussions and encourage argumentation all while doing science. Let's ask questions, talk about what you know and get our "hands on" science!				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***STEM: Engineering Design Process***			**Room:**	306
Presenter(s):	Michael Bush				
Description:	Participants will learn how to implement the steps of the Engineering Design Process by utilizing engineering concepts in the classroom.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Structure and Function
Title:	***Using Science Notebooks to Impact Student Learning for Middle School***			**Room:**	309
Presenter(s):	Kathy Armstrong, Marilyn Enoch			**Vendor:**	FOSS- Delta Education-School Specialty, Science.
Description:	Using active investigations see how science notebooks impact student achievement, develop conceptual understanding, and aid in gathering evidence and facilitate argumentation.				
Level:	Middle, Supervisor/Leadership			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Futures in Histotechnology and Plastination***			**Room:**	310
Presenter(s):	Shirley Powell			**Organization:**	Histology Curricular Support Laboratory, Mercer University School of Medicine, Pathology Department
Description:	Histology is the study of tissue; Pathology is the study of disease. Tissues removed in the hospital Operating Room or clinics, in the doctor's office, or at autopsy have to be examined by a Pathologist grossly and microscopically, in order to make a diagnosis to help the clinicians to treat the patient correctly. Histotechnology is an allied Health Field that is widely overlooked for students looking for a future profession. This presentation will discuss the profession, the requirements to achieve certification, as well as a little background of what happens to specimens that arrive at the histology laboratory. The second part of this presentation will use plastinated specimens to explain plastination, what it is, its use in medical education, veterinary medicine, as well as archiving museum specimens.				
Level:	Middle, High, AP/IB			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Friday 2:00-2:50					
Title:	***Clueless No More***			**Room:**	312
Presenter(s):	Dan Maley				
Description:	Getting underachievers engaged with forensic science.				
Level:	High			**Strand:**	NA
Content:	Forensic Science	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Elementary Science Olympiad - No Experience Necessary!***			**Room:**	Exhibit Hall A
Presenter(s):	Amber Hoke				
Description:	Whether starting a team at your school, or using events for a Science Fun Day, Science Olympiad promotes cooperative problem solving and a love for Science.				
Level:	Upper Elementary			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Content:**	General
Title:	***Who Are You?***			**Room:**	Ballroom D
Presenter(s):	Sarida Hoy				
Description:	Use fingerprint patterns in a cross-curricular lesson that incorporates science, math, literacy, and social studies. This lesson can be modified for use from elementary through high school level.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Structure and Function
Title:	***Biodiversity Big and Small: Exploring Georgia's Flora and Fauna***			**Room:**	Grand Salon A
Presenter(s):	Karen Garland				
Description:	Bring diverse ecological concepts to life by exploring various Georgia ecosystems. Explore engaging hands-on activities to complete seasonal science projects for the indoor and outdoor classroom.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models
Title:	***Gene Regulation & the Evolution of the Stickleback***			**Room:**	Grand Salon B
Presenter(s):	Jennifer Barnes				
Description:	Wondering how to teach eukaryotic gene regulation? Participate in a modeling activity that goes through how genes are regulated in the Stickleback Fish, and how this relates to Evolution.				
Level:	AP/IB			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Teaching genetics with case-based learning***			**Room:**	Magnolia CD
Presenter(s):	Sarah Eales, Laura Kohnke, Amy Maxwell, Christine Wahl				
Description:	Come see how a group of biology teachers have integrated case-based learning into a genetics unit.				
Level:	High			**Strand:**	NA
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Patterns

Concurrent Session: Friday 3:00-3:50					
Title:	***Modeling: A Scientific Beauty Contest***			**Room:**	306
Presenter(s):	Lynn Weber			**Vendor:**	Activate Learning
Description:	What do you think of when you hear the word "model"? A pie plate cell? A globe? A supermodel? Learn how scientific models explain a phenomenon.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	Physical Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***Make Motion Physics Engaging and Accessible with Robots***			**Room:**	308
Presenter(s):	Tom Hsu			**Vendor:**	Ergopedia, Inc.
Description:	Hands-on workshop uses extraordinary classroom robot to teach speed, acceleration, graphs, vectors, and more. Come apply physics to STEM challenges such navigating a real maze.				
Level:	High, AP/IB			**Strand:**	GPS Within the Framework
Content:	Physics	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Composting and the Next Generation Science Standards***			**Room:**	310
Presenter(s):	Paige Flores				
Description:	Integrate science and engineering practices with the GPS through composting! Learn how students can design and build their own compost bins to optimize the decomposition process.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	Environmental Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Project-Based Learning Partnership between Language Arts and Science***			**Room:**	312
Presenter(s):	Michele Langhans				
Description:	The session will include how one middle school has integrated Language Arts and Science in a PBL environment.				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	Physical Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Show that you know***			**Room:**	313
Presenter(s):	Monica Baker-Eady				
Description:	Show that you know-long term and short term projects.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	NA
Title:	***Moleo makes Stoichiometry easy!***			**Room:**	324
Presenter(s):	Maria Thurmond, Beth Feustel				
Description:	Moleo is a teacher created graphic organizer that is used as a teaching tool so that students can learn the math reasoning involved in stoichiometric conversion.				
Level:	High			**Strand:**	NA
Content:	Chemistry	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Patterns

Concurrent Session: Friday 3:00-3:50					
Title:	***Reading a Test is Hard Work!***			**Room:**	Ballroom B
Presenter(s):	Jodi Wheeler-Toppen				
Description:	Standardized tests represent a reading genre that challenges many students. Join the author of NSTA Press' Once Upon a Science Book series to learn a fun way to help your students read this genre.				
Level:	Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Ranking Activities for Science***			**Room:**	Ballroom C
Presenter(s):	Rie Cowan, Ouida Dunton				
Description:	Reinforce content and expose misconceptions using ranking activities in secondary sciences. Activities in chemistry/physical science, biological sciences, & earth science will be presented.				
Level:	High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Patterns
Title:	***Speaking Up for Science Education in Georgia***			**Room:**	Ballroom D
Presenter(s):	Brian Butler, Jeremy Peacock, T.J. Kaplan				
Description:	Many GSTA members are already leaders in your schools and districts, but our work is directly affected by decisions made at the state level. Are you ready to work to influence these decisions rather than simply waiting for them to be announced? Come and learn about GSTA's efforts to advocate for science education in our state, and learn about how you can use your teacher voice to support excellent science learning for all our students.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Administrators, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Save the drama for your Mama.***			**Room:**	Magnolia A
Presenter(s):	Deketa Cobb				
Description:	Keep student drama on the stage and out of your classrooms! Here are some strategies and tools to significantly reduce classroom drama and discipline issues.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Preservice & Early Career Teachers
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Enrich Your STEM Curriculum with Ham Radio III***			**Room:**	Exhibit Hall A
Presenter(s):	Martha Muir, Chuck Catledge, Jim Stafford, John Kludt, Mike Cohen, Wes Lamboley (all members of the North Fulton Amateur Radio League)			**Organization:**	North Fulton Amateur Radio League
Description:	Ham Radio provides a means to vastly increase the STEM curriculum at your school. We'll show you how and why! This session will give attendees hands-on exposure to the topics "Space the Final Frontier: ARISS, FUNcube, Radio Jove and Other Adventures," and "Resources to Support Your Use of Wireless Technology in the Classroom." Take your classroom into space with ham radio!				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Structure and Function

Concurrent Session: Friday 3:00-4:50					
Title:	***Creating and Implementing Effective Watersheds of Georgia Lessons for All Students: Use of Brain-based Learning Stations and Next Generation Science Standards' Appendix D and Case Studies***			**Room:**	303
Presenter(s):	Cherry C. Brewton				
Description:	Putting together GPS, CCGPS, and STEM for ALL students. Rotate through hands-on, Watershed Stations. Collect data; make scientific claims. Brain-based and NGSS "All Standards, All Students" emphasis.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***21st Century Instruction: Problem-Based Learning in the Middle and High School Classroom***			**Room:**	309
Presenter(s):	John Schafer			**Vendor:**	Classroom Unsquared
Description:	PBL is a curricular methodology that begins with real-world problems, progresses through cooperative learning, and concludes with potential solutions.				
Level:	Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Integrated STEM Instruction through Project Based Learning***			**Room:**	Ballroom A
Presenter(s):	Michael Reilly, Bonnie Driscoll, Jonathon Wetherington				
Description:	This session will immerse participants in a STEM experience that will help teachers connect Science, Technology, Engineering, and Mathematics in an interdisciplinary way through project based learning.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Biotechnology Tool Box***			**Room:**	Ballroom E
Presenter(s):	Catherine A. Teare Ketter, John Rose, Chip Pollard				
Description:	Basic Biotechnology lab skills and content alignment will be highlighted.				
Level:	High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	Structure and Function
Title:	***Teaching STEM through Birds***			**Room:**	Grand Salon A
Presenter(s):	Deb Jenkins, Melanie Furr, Area Teachers				
Description:	How teachers have used Learning About Birds bilingual curriculum to teach STEM.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation

Science for All: Putting the Pieces Together

Concurrent Session: Friday 3:00-4:50					
Title:	***Moving Beyond the Candy Cell: Bringing Authentic Modeling Into the Science Classroom***			**Room:**	Grand Salon B
Presenter(s):	Zoe Evans, Jeremy Peacock				
Description:	Teachers and students are familiar with tactile, 3D models but often lack experience with other types of scientific models. Yet, modeling lies at the center of both a crosscutting concept and a science and engineering practice in *A Framework for K-12 Science Education*. This session will use a hands-on task to help you answer these questions: What are authentic scientific models? Why are they important? And, how can you bring them into your teaching?				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***Science Driven Interactive Writing***			**Room:**	Magnolia B
Presenter(s):	Bejanae Kareem, Tommy Clay			**Organization:**	BK International Education Consultancy
Description:	This session will demonstrate how to integrate science, writing and technology through a hands-on demonstration and list of resources.				
Level:	Lower Elementary, Upper Elementary, Middle, Pre-service/Early Career			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Ideas	**Crosscutting Concept:**	NA
Title:	***Environmental Stewardship: 5 Engaging Project-Based Learning Activities***			**Room:**	Magnolia CD
Presenter(s):	Karan Wood			**Organization:**	Captain Planet Foundation
Description:	Empower your class to solve real-world environmental problems through stewardship projects such as restoring wildlife habitat, designing and building rain gardens, and mitigating pollution with mushrooms.				
Level:	Upper Elementary, Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Systems and System Models

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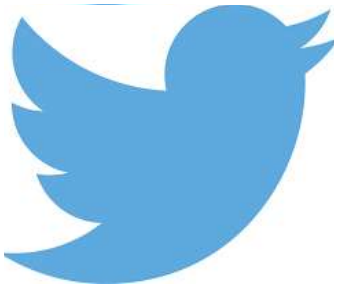

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Concurrent Session: Friday 4:00-4:50					
Title:	***Argumentation and Discourse in the STEM Classroom***			**Room:**	306
Presenter(s):	Heather Wilde			**Vendor:**	Accelerate Learning, Inc. STEMscopes
Description:	Building the Skills of Argumentation and Collaboration in STEM.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	NA
Title:	***POST-it: Vocabulary fit for 5E's classrooms***			**Room:**	308
Presenter(s):	Amy Rejmer				
Description:	An authentic vocabulary strategy for 5E/ inquiry-based classrooms.				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Energizing your students with Robotics, Sponsors and Resources***			**Room:**	310
Presenter(s):	Walton Robotics Team Members				
Description:	Description of all levels of FIRST Robotics and supporting information about funding/resource support.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Using Interdependence to Foster Inquiry***			**Room:**	312
Presenter(s):	Heather Scott, Missy Bennett, Lauren Stallard, Megan Troutt, Elizabeth Lozano, Donna Morgan				
Description:	Classroom teachers share their experiences from a summer course immersed in inquiry.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Environmental Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Student-Centered Physics Activities that Promote Engagement and Conceptual Understanding***			**Room:**	313
Presenter(s):	Jason Goodman, Philip Matthews				
Description:	Explore various methods of ensuring engagement in a student-centered physics classroom.				
Level:	High, AP/IB			**Strand:**	NA
Content:	Physics	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Systems and System Models
Title:	***Georgia Envirothon: an outdoor natural resource high school competition***			**Room:**	324
Presenter(s):	Josh Seehorn, Tyson Harty			**Organization:**	Georgia Envirothon
Description:	The Georgia Envirothon is an interactive, outdoor competition for high school students in the areas of Wildlife, Forestry, Soils/Land Use, Aquatic Ecology, and Current Issue.				
Level:	Middle, High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Environmental Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Concurrent Session: Friday 4:00-4:50					
Title:	***Technology in Science***			**Room:**	Ballroom B
Presenter(s):	Whitney Patterson, Janee Smith, Ashli Jay				
Description:	Integrating technology				
Level:	Upper Elementary, Middle, High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	NA
Title:	***Equations Don't Fall from the Ceiling, or Anywhere Higher***			**Room:**	Ballroom C
Presenter(s):	Frank Lock				
Description:	Strategies used in the modeling pedagogy to develop mathematical models (equations) that enable students to make predictions about how nature works will be introduced.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***Host a STEAM Summer Camp at your Middle School***			**Room:**	Ballroom D
Presenter(s):	Kari Salomon				
Description:	Planning and Strategies for a successful STEAM Summer Camp.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Structure and Function
Title:	***Scientific Argumentation Through Explicit Inquiry and Immersion***			**Room:**	Magnolia A
Presenter(s):	Jayma Koval, Beth Kostka, Sabrina Grossman, Mike Ryan				
Description:	Experience how to imbed scientific argument into your secondary science classroom using a one-week argument tutorial plus immersion model. Engage in inquiry activities and receive access to NSF-developed materials.				
Level:	Middle			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Engaging in Argument from Evidence	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Engineering in Elementary Grades Where do I start?***			**Room:**	324
Presenter(s):	Denise Webb, Amber Hoke				
Description:	Engage K-5 students in engineering design activities with real world applications. Packet full of Ideas and resources you can use in your classroom right away with low cost materials is provided.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Developing and Using Models	**Content:**	Engineering

Exhibit Hall Closing & Door Prize Giveaway

- After collecting 15 stamps, drop your Exhibit Hall Passport in the door prize box at the Exhibit Hall Registration Desk, by 4:30 PM on Friday.
- Be present for the Door Prize drawing Friday afternoon to win great prizes from our vendors. ***You must be present to win.***
- Friday, 5:00 PM in the Exhibit Hall

Exhibitors Providing Door Prizes:

Accelerate Learning
Activate Learning-Active Science and IQWST
Bridgeview Educational Resources
Capital Microscope Services
Carolina Curriculum
CPO Science
Delta Education
Dinah-Might Adventures
Dodge Learning Resources
Ergopedia, Inc.
ETA hand2mind
ExploreLearning
Flinn Scientific, Inc.
Frey Scientific
Georgia Envirothon
Georgia Project Learning Tree
georgiarocks.us
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High Touch High Tech, Inc.
Houghton Mifflin Harcourt
Lab-Aids
McWane Science Center
National Geographic Learning/Cengage Learning
National Science Teachers Association
Outstanding Guides
Oxford Institute for Environmental Education
PETRA, Inc./Teacher Created Materials/NSTA
Sargent-Welch and Ward's Science
Spark Point Innovations
Texas Instruments
The EDMAT Company, Inc.
The Georgia Mineral Society, Inc.
Triumph Learning/COACH Books
Tybee Island Marine Science Center
UGA - Georgia 4-H Environmental Education
Western Governors University

Awards Ceremony & Banquet

- Amory Ballroom, 484 First Street, Downtown Macon
- Friday 6:30 - 10:00 pm
  - Reception Begins at 6:30
  - Dinner & Ceremony Begin at 7:00
- Southern Menu Catered by Moonhanger Group
- Banquet Address by ***Bill Badders, NSTA Past President***. Badders is retired from the Cleveland Metropolitan School District (CMSD) in Cleveland, Ohio, where he was the director of the Cleveland Math and Science Partnership. For more than four decades, Badders has been a devoted teacher and leader in science education.
- Tickets Available at Registration $26.00
- Shuttle available from the conference hotel

Conference Sessions - Saturday

Session Feedback Surveys - Saturday

- Please provide feedback on each session you attend today by following the URL or QR code to access the online feedback form.
- http://tinyurl.com/GSTA-Sat

Special Workshop

Touching Triton High School Biology Workshop, 8:00 am - 3:00 pm Magnolia A

- **Presenter:** Adam Hott, HudsonAlpha Institute for Biotechnology
- **Description:** GSTA and HudsonAlpha are partnering to provide a special professional learning opportunity Saturday, February 7th, as part of our annual conference. Participants must be registered for the GSTA Annual Conference, but there is no additional fee for this workshop. This will include lunch and take-aways. Touching Triton is an online activity focused on teaching the genetic, environmental and family history influences on common complex disease. The session will last 7 hours and will train teachers to use and implement the activity into the high school life science classroom. Registration will be limited to 40 participants. ***Separate, FREE registration required.***
- **Level:** High, AP/IB
- **Content:** Biology/Life Science
- **Science & Engineering Practice:** Multiple
- **Crosscutting Concept:** Multiple

Concurrent Session: Saturday 8:00-8:50					
Title:	***Coteaching: How to make the marriage work***			**Room:**	306
Presenter(s):	Tanya Flynn				
Description:	How to be an effective team.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Saturday 8:00-8:50					
Title:	***Science E Learning tool for parents and Teachers***			**Room:**	309
Presenter(s):	Sudeep Kumar			**Vendor:**	www.echildstudy.com
Description:	How to improve science in education system.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Systems and System Models
Title:	***Are science courses changing again??????***			**Room:**	310
Presenter(s):	Marion Reeves				
Description:	Science is science right? No starting over is needed. Rethinking the best GPS lessons will move smoothly into the three strands of NGSS lessons.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***PBL What? A Newbie's Journey.***			**Room:**	313
Presenter(s):	Freddy Perry				
Description:	A brief presentation of our school and our struggle/success implementing STEAM/PBL lessons.				
Level:	Upper Elementary, Middle			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***GEOLOGY! Straight out of the box and on to your classroom lab table.***			**Room:**	324
Presenter(s):	Stephen Csukas, Desmond Lee, Angela Sauve'				
Description:	Engage your students! Use our pre-packaged earth science kits tested in actual classrooms and revised by science teachers. Come participate - take away geology lessons and kits.				
Level:	Middle			**Strand:**	GPS Within the Framework
Content:	Earth Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Sun Power for Schools Solar Energy Modules: Using real-time solar energy data to engage students in earth systems and earth science investigations.***			**Room:**	Ballroom A
Presenter(s):	Judy Cox, Gail Marshall				
Description:	Developers of lesson modules for Green Power EMC's Solar Energy Curriculum will provide descriptions, with some hands on experiences, to introduce participants to the modules and lessons in this curriculum related to earth systems/ earth science for middle and high school levels. Information will be provided to introduce the easily accessible website that houses real-time and archived data from solar panels on approximately 35 school campuses around the state. Each module for earth science/ earth systems contains three inquiry, "ready to use" standards-based lesson (Content/Characteristics of Science/Literacy) that help students investigate, collect and analyze data, and to apply what they are learning to real-life situations.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Science for All: Putting the Pieces Together

Concurrent Session: Saturday 8:00-8:50					
Title:	***Integrating science with confidence***			**Room:**	Ballroom C
Presenter(s):	Lynette Clark, Rochelle Mungin				
Description:	Integrating science with confidence will allow elementary science teachers an opportunity to learn how to teach science alongside reading and math lessons. Teachers will learn strategies that offer project based learning, technology incorporation and much more.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Fast, easy and CHEAP STEM***			**Room:**	Ballroom D
Presenter(s):	Lisa Henriquez, Erin Wood				
Description:	Fast, easy and cheap ways to incorporate STEM activities at your school.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***A Science Intensive Program at the Satit Kaset International Program School, Bangkok, Thailand***			**Room:**	Ballroom E
Presenter(s):	Larry K. Hampton, Naruemon Yutakom, David Paperno, Darryl Brese, Hannah Elaine James				
Description:	A discussion on the experiences of four Georgia science teachers participating in a novel approach to science education at the Satit Kaset IP School in Bangkok, Thailand.				
Level:	High, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	NA
Title:	***Just Go With the Flow! Classroom STEM Integration in an Inclusion Setting***			**Room:**	Grand Salon A
Presenter(s):	Alana Davis				
Description:	Learn how to integrate weekly STEM challenges in your inclusion classroom with ideas on how to plan, manage, and follow-through with engaging STEM challenges!				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Capturing Students for Science through Photography***			**Room:**	Grand Salon B
Presenter(s):	John Behr, Deb Jenkins, Melanie Furr				
Description:	Take and modify bird photographs to help teach GPS standards.				
Level:	Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Concurrent Session: Saturday 8:00-9:50					
Title:	***Making music: Exploring the nature of sound***			**Room:**	303
Presenter(s):	Brian Williams, Olga S. Jarrett, Betsy Stuart				
Description:	Following physics of sound demonstrations, participants will make and experiment with wind, percussion, and stringed instruments. Experiment with sound and music. Take away handouts.				
Level:	Lower Elementary, Upper Elementary, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	Physics	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Patterns
Title:	***Learning Technology***			**Room:**	308
Presenter(s):	Carnellia Ajasin, Kina Champion			**Vendor:**	Mind Katalyst
Description:	Computer Science in the Class				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Systems and System Models
Title:	***Quick Literacy Strategies that Increase Student Engagement***			**Room:**	Ballroom B
Presenter(s):	Cheryl Hudson				
Description:	How can you support literacy development in science and increase engagement simultaneously? Three strategies will be modeled and practiced that are easy to implement and incorporate technology.				
Level:	High			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Stability and Change
Title:	***Learning Gardens: Transforming Your Schoolyard into an Outdoor STEM Lab***			**Room:**	Magnolia CD
Presenter(s):	Captain Planet Foundation Teachers			**Organization:**	Captain Planet Foundation
Description:	Explore standards-based activities that turn school gardens into outdoor STEM labs; learn tips for managing students productively outdoors; and discover ways to make gardens sustainable.				
Level:	Lower Elementary, Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Content:**	General
Title:	***"Mystery Illness" Integrating Scientific Literacy and Problem Based Learning***			**Room:**	Magnolia CD
Presenter(s):	Mashawn Duncan-Young, Franklin-Jones, Mar-De Phle' Kilcrease				
Description:	This hands-on engaging session will embed scientific literacy and Problem Based Learning in High School Biology.				
Level:	High			**Strand:**	Integrating Science Within the CCGPS
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Concurrent Session: Saturday 9:00-9:50					
Title:	***Teaching 21st Century Reasoning Skills Through an Interdisciplinary STEM Research Experience***			**Room:**	306
Presenter(s):	Deborah Walker, Robert Mayes				
Description:	How teachers are using Place-based Education, Problem Based Learning and UbD to design authentic, real-world experiences that develop 21st Century reasoning skills will be shared.				
Level:	Middle, High, AP/IB, Supervisor/Leadership			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Systems and System Models
Title:	***Physics Labs: Starting from Scratch***			**Room:**	309
Presenter(s):	Laura A. Whitlock, Ioana Beldeanu				
Description:	A set of physics labs were developed, without the limitations of prior equipment or manuals, but with the new standards in mind.				
Level:	High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	Physics	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Breathe easy with hands-on STEM for Middle School***			**Room:**	310
Presenter(s):	Joseph Giunta, Gretchen Gigley			**Organization:**	Clean Air Campaign
Description:	Breathe easy with this STEM-based service-learning activity for grades 3rd-8th.				
Level:	Upper Elementary, Middle			**Strand:**	Integrated STEM Education
Content:	Environmental Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Advanced Training for Environmental Education in Georgia***			**Room:**	312
Presenter(s):	Sharon Boyer			**Organization:**	Environmental Education Aliance of Georgia
Description:	Learn about the Advanced Training for Environmental Education in Georgia. This is a nationally accredited, professional certification program for formal and non-formal educators based on the North American Association for Environmental Education (NAAEE) Guidelines for Excellence. This program is offered by the Environmental Education Alliance of Georgia in partnership with the Warnell School of Forestry and Natural Resources at the University of Georgia.				
Level:	Elementary, Middle, High, College			**Strand:**	NA
Content:	Environmental Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Focusing on Change Across the Curriculum***			**Room:**	313
Presenter(s):	Katie Brkich, Tamra Lamb				
Description:	Come learn about how we integrated the NGSS cross-cutting concept of Stability and Change across our elementary curriculum in an interdisciplinary fashion including science, engineering, writing, reading, and social studies through use of Change Notebooks.				
Level:	Lower Elementary, Upper Elementary, Pre-service/Early Career Teachers			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	Stability and Change

Concurrent Session: Saturday 9:00-9:50					
Title:	***Using Maps, Fossils, and Place-Based Learning To Explore the History of Life in Georgia***			**Room:**	324
Presenter(s):	Christy Visaggi, Rebecca Pickering, Laura Streib, Jessica Martinez, Matthew Toro				
Description:	This session will examine the paleontology of Georgia through our physiographic regions as based on a 2014 workshop organized by the Georgia Geographic Alliance.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Stability and Change
Title:	***Using Contextualized STEM to Engage At-Risk Students***			**Room:**	Ballroom A
Presenter(s):	Jeremy Dockery				
Description:	Exploring STEM careers, tools, and technologies in an innovative online platform.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Work Smarter Not Harder: Making Learning Targets and Formative Assessment Work in the Classroom***			**Room:**	Ballroom C
Presenter(s):	Brian Butler, Julie Scott, Lisa Thompson				
Description:	Strategies you can implement tomorrow to make your assessments more meaningful. Learning targets and formative assessments make your teaching easier not more complex. Learn how.				
Level:	Middle, High			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Science Ambassadors***			**Room:**	Ballroom D
Presenter(s):	Donna Governor, Denise Webb				
Description:	Looking for a way to have Science and Engineering night at your school and don't know where to start? Come to our session and we will share how to utilize high school students to run your program.				
Level:	Lower Elementary, Upper Elementary, High			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	NA
Title:	***Integrating a STEM Day and STEM Lessons***			**Room:**	Ballroom E
Presenter(s):	Lucas Findlay				
Description:	Instructors and schools that are new to STEM are encouraged to attend to receive ideas on the integration of a STEM day and STEM lessons.				
Level:	Upper Elementary			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***Guided Inquiry and Digital Video Technologies in Physical Science***			**Room:**	Grand Salon A
Presenter(s):	Karen Chassereau, Lucy Green				
Description:	Student-created video projects developed within the framework of guided inquiry, help learners shift from a focus on abstract, scientific concepts to practical scientific applications.				
Level:	Middle, High			**Strand:**	NA
Content:	Physical Science	**Sci. & Eng. Practice:**	Obtaining, Evaluating, and Communicating Information	**Crosscutting Concept:**	Systems and System Models

Concurrent Session: Saturday 9:00-9:50					
Title:	***How to Revolutionize Ordinary Labs***			**Room:**	Grand Salon B
Presenter(s):	Marc Pedersen				
Description:	This session will describe how one teacher was able to completely revolutionize his labs to increase rigor and inquiry in the classroom.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA

Concurrent Session: Saturday 10:00-10:50					
Title:	***Lighten Your STEM Load with Color and Optics***			**Room:**	309
Presenter(s):	Tom Hsu			**Vendor:**	Ergopedia, Inc.
Description:	Insightful experiments, lessons, and tools to teach light and optics. Hands-on session covers color, energy, reflection, refraction, magnification, telescopes, microscopes and even quantum light!				
Level:	High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	Physics	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Energy and Matter: Flows, Cycles, and Conservation
Title:	***Enacting Teacher Leadership to Support Science for All***			**Room:**	310
Presenter(s):	Zoe Evans, Jeremy Peacock				
Description:	Meaningful change in science education in Georgia can only be accomplished through the efforts of teacher leaders throughout the state. Learn how you can leverage your teaching practice to promote change in your school and district leading to excellent science education for all students.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Administrators, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	Advocacy & Leadership	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Georgia's Fossils; A 500 Million Year Record***			**Room:**	312
Presenter(s):	Thomas Thurman				
Description:	An introduction to the paleontology of Georgia and GeorgiasFossils.com.				
Level:	Elementary, Middle, High			**Strand:**	NA
Content:	Earth Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***Stemulating Science Lessons for the Elementary Science Classroom***			**Room:**	Ballroom A
Presenter(s):	Steven King				
Description:	STEM-based Science Lessons and Classroom Ideas for K-5 Science Classes.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations

Science for All: Putting the Pieces Together

Concurrent Session: Saturday 10:00-10:50					
Title:	***Scientific Explanation in Elementary Classrooms***			**Room:**	Ballroom B
Presenter(s):	Michelle Bergozza				
Description:	Use the C-E-R framework in Kindergarten through Fifth Grade to encourage scientific discussion and argumentation in the elementary classroom.				
Level:	Lower Elementary, Upper Elementary			**Strand:**	Integrating Science Within the CCGPS
Content:	General	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	NA
Title:	***See. Do. Experience.***			**Room:**	Ballroom C
Presenter(s):	Christopher Holmes				
Description:	Focusing of the intentional implementation of the instructional frameworks by establishing teacher roles, learning targets, performance and cognitive demand of science content via modes of instruction.				
Level:	Lower Elementary, Upper Elementary, Middle, High			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	Asking Questions & Defining Problems	**Crosscutting Concept:**	Structure and Function
Title:	***What's "App"ening With You?***			**Room:**	Ballroom D
Presenter(s):	Erica Peddi				
Description:	This session will highlight apps and websites to use in many different science classrooms.				
Level:	Upper Elementary, Middle, High, AP/IB, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	General	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models
Title:	***"Meet me at your iPad?" Rich, differentiated environments for active learning***			**Room:**	Grand Salon B
Presenter(s):	Amber Morgan, Randall Spaid, Michael Ryan				
Description:	In this session, we will describe how we create Personal Learning Environments and demonstrate effective strategies to increase student learning using technology iPads, iBook Author, and Prezi.				
Level:	Middle, High			**Strand:**	GPS Within the Framework
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Systems and System Models
Title:	***Classroom websites***			**Room:**	Magnolia B
Presenter(s):	Ann Alford, Tanya Flynn				
Description:	It's easy as 1. 2. 3...How to set up a website for your class.				
Level:	Upper Elementary, Middle, High, AP/IB			**Strand:**	GPS Within the Framework
Content:	General	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA
Title:	***A Vacation Through the Solar System***			**Room:**	Magnolia CD
Presenter(s):	April Leachman				
Description:	How to incorporate FREE NASA and AGI curriculum materials into your classroom. Learn how to video conference with NASA Scientists using the Digital Learning Network.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Systems and System Models

Concurrent Session: Saturday 10:00-11:50					
Title:	***Science from sand: Integrated activities for the elementary and middle school***			**Room:**	303
Presenter(s):	Olga S. Jarrett, Brian Williams				
Description:	This workshop, focusing on the sands of Georgia, includes eight hands-on learning stations to explore. Make sand viewers and receive a handout of classroom ideas.				
Level:	Lower Elementary, Upper Elementary, Middle, Pre-service/Early Career Teachers			**Strand:**	NA
Content:	Earth Science	**Sci. & Eng. Practice:**	Analyzing and Interpreting Data	**Crosscutting Concept:**	Scale, Proportion, and Quantity
Title:	***Robots on the Move***			**Room:**	306
Presenter(s):	Ronnie Thomas, Reggie Oneil, Tommy Clay				
Description:	Join us as we explore the exciting world of Sphero! Play is a powerful teacher and we plan to equip you with an exciting approach for implementing computer programming experiences. Sphero is a robot ball with several features that can be controlled through mobile apps. Participating teachers will create programs for the Sphero to replicate.				
Level:	Lower Elementary, Upper Elementary, Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Physics	**Sci. & Eng. Practice:**	Using Mathematical and Computational Thinking	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Breadboards are Not Just for Kitchens!***			**Room:**	308
Presenter(s):	Susannah Lomant				
Description:	Learn how to integrate breadboard and circuit concepts into your STEM classroom. Participants will build simple circuits, then move on to music-making machines using 555 timer chips. Several lucky people will get their own circuit kits for the classroom.				
Level:	Middle, High, AP/IB, College			**Strand:**	Integrated STEM Education
Content:	Physics	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Got CSI?***			**Room:**	313
Presenter(s):	Linnell Burton				
Description:	This workshop will demonstrate several investigative techniques for properly preserving, processing, documenting, and collecting physical evidence from a crime scene. The students will learn homemade skills to gather information and apply their knowledge to the forensic science world of Crime Scene Investigation.				
Level:	Middle, High, AP/IB, College, Supervisor/Leadership, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	Forensic Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Patterns
Title:	***Mars Colony STEM***			**Room:**	324
Presenter(s):	Joanna Beck, Timothy Lees, Katie Williams				
Description:	Integrating STEM through an IB project about landing and living on Mars.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Earth Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Structure and Function
Title:	***Engineering the Periodic Table, An Arts Integration Unit***			**Room:**	Ballroom E
Presenter(s):	Stanley Adkins				
Description:	Students collaboratively construct a three-dimensional visual representation of the periodic table.				
Level:	High			**Strand:**	Integrated STEM Education
Content:	Chemistry	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Patterns

Concurrent Session: Saturday 10:00-11:50					
Title:	***I AM SOME BODY***			**Room:**	Grand Salon A
Presenter(s):	Roslynn Stewart				
Description:	This activity includes the science, technology, engineering, and mathematic components. Student groups plan, create, and construct the 11 human body system on a 20" paper boy or girl doll.				
Level:	Middle			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Developing and Using Models	**Crosscutting Concept:**	Systems and System Models

Concurrent Session: Saturday 11:00-11:50					
Title:	***The Delightful STEM Science of Music and Sound Waves***			**Room:**	309
Presenter(s):	Tom Hsu			**Vendor:**	Ergopedia, Inc.
Description:	Ears-on exploration of sound using real and recorded instruments. Learn about resonance, wavelength, interference, voice recognition, and the science and technology of sound waves.				
Level:	High, AP/IB			**Strand:**	Integrating Science Within the CCGPS
Content:	Physics	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Patterns
Title:	***"Hard" Doesn't Mean "Bad": Helping Students Understand that Facing Challenges Is a Good Thing***			**Room:**	310
Presenter(s):	Chris Campbell			**Organization:**	NSTA/eCYBERMISSION
Description:	Don't let your grades 6–9 students say, "I'm no good at science" if they don't succeed immediately. Challenges are part of the scientific discovery process and students should embrace that. Join us as we "do" science and provide lesson plans and resources along with information about eCYBERMISSION, a competition that can provide both rigor and relevance to your classroom.				
Level:	Middle, High (9th Grade)			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Multiple	**Crosscutting Concept:**	Multiple
Title:	***The Work of an Engineer***			**Room:**	Ballroom A
Presenter(s):	Amy Gilbert, Katie Wade				
Description:	Do you need a "hook" for the year? This 5E teaches science and engineering practices that students can apply all year.				
Level:	Middle, High			**Strand:**	Integrated STEM Education
Content:	Engineering	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***STEMming out in AP Science & Electives***			**Room:**	Ballroom B
Presenter(s):	Amy Coleman, Lauren Ferguson, Lauren Horton, Tasha Young				
Description:	Are you looking for fun and exciting STEM activities to integrate in your class? Come join us and get ideas! FREE handouts to the first 25 attendees!!				
Level:	High, AP/IB			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA

Science for All: Putting the Pieces Together

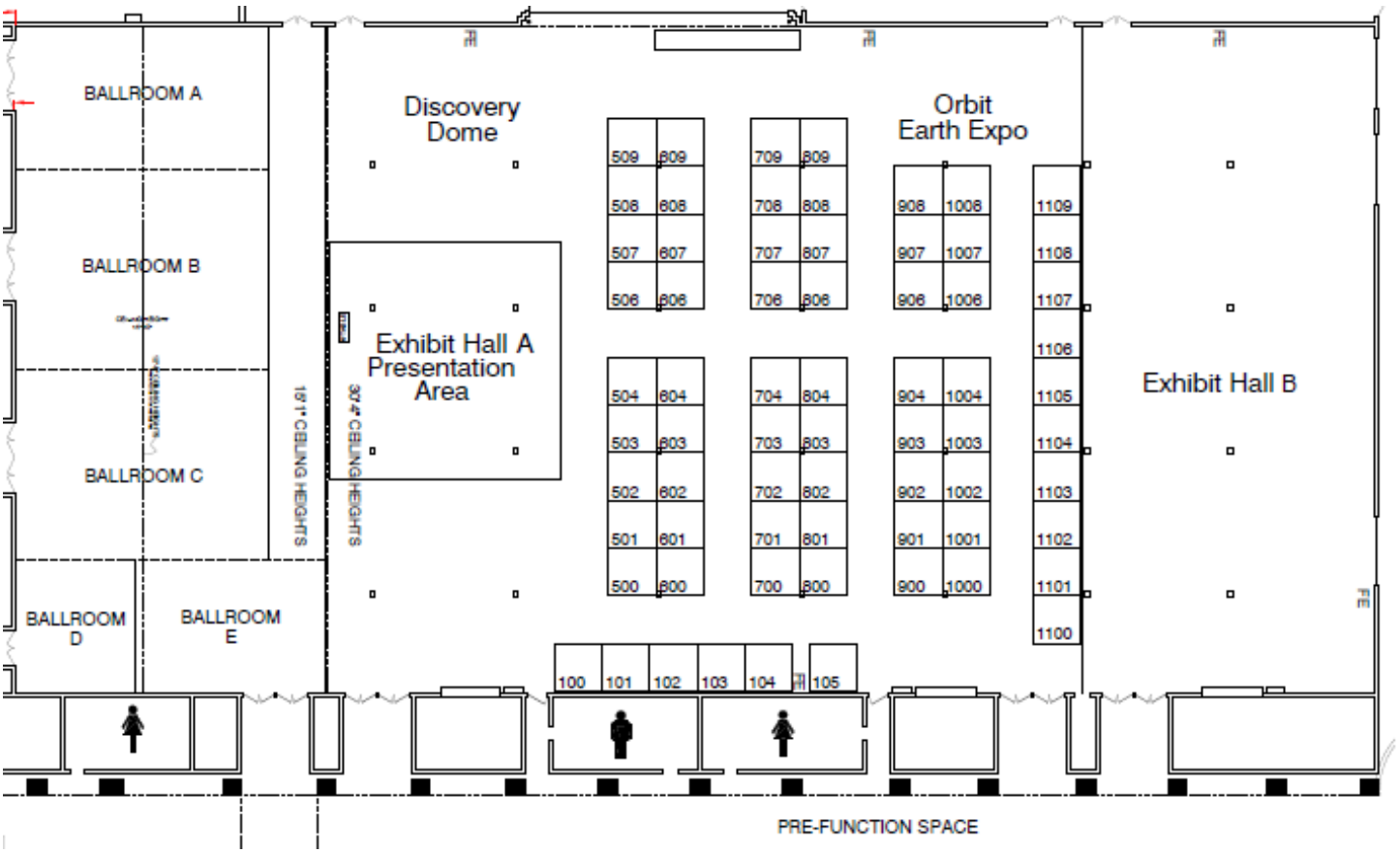
Concurrent Session: Saturday 11:00-11:50					
Title:	***STEM overhaul for your classroom***			**Room:**	Ballroom C
Presenter(s):	Patti Grammens, Lilly Turpin				
Description:	Two dynamic educators will lead you through ways to incorporate STEM into your classroom.				
Level:	Upper Elementary, Middle, High, Pre-service/Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Structure and Function
Title:	***Get There Green: Transportation Challenge***			**Room:**	Ballroom D
Presenter(s):	Joseph Giunta, Gretchen Gigley			**Organization:**	Clean Air Campaign
Description:	The environmental science competition puts high school students in the shoes of a transportation planner as they investigate air quality, traffic, and behavior choices.				
Level:	High, AP/IB			**Strand:**	Integrated STEM Education
Content:	Environmental Science	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	Cause and Effect: Mechanisms and Explanations
Title:	***Science Virtually***			**Room:**	Grand Salon B
Presenter(s):	Belynda Songer				
Description:	Science (STEM) teaching in a virtual world. Live synchronous lessons for full time online students or integrated online for traditional classrooms.				
Level:	Middle, High, AP/IB, College			**Strand:**	Integrated STEM Education
Content:	Biology/Life Science	**Sci. & Eng. Practice:**	Constructing Explanations and Designing Solutions	**Crosscutting Concept:**	Structure and Function
Title:	***Sisters in Science***			**Room:**	Magnolia B
Presenter(s):	Tynisha Harris				
Description:	Sisters in Science- Promoting gender advancement in science-related fields by increasing the number of female role models girls encounter and creating an environment that promotes curiosity.				
Level:	Lower Elementary, Upper Elementary, Middle, High, Pre-Service, Early Career Teachers			**Strand:**	Integrated STEM Education
Content:	General	**Sci. & Eng. Practice:**	Planning & Carrying Out Investigations	**Crosscutting Concept:**	NA
Title:	***Coastal Connections***			**Room:**	Magnolia CD
Presenter(s):	Vicki Albritton				
Description:	Explore how to integrate technology and the outdoors to teach about our Georgia coast and its creatures.				
Level:	Middle			**Strand:**	NA
Content:	Environmental Science	**Sci. & Eng. Practice:**	NA	**Crosscutting Concept:**	NA

Exhibitors List & Map

Booth#	Exhibitor	Website
1106	Accelerate Learning	www.acceleratelearning.com
100	Activate Learning-Active Science and IQWST	www.activatelearning.com
703	Atlanta Audubon Society	www.atlantaaudubon.org
806-807	Bridgeview Educational Resources	www.bridgeviewpress.com
1104	Camp Invention	www.campinvention.org
1000	Capital Microscope Services	www.microscopesandmore.com
802	Carolina Curriculum	www.carolinacurriculum.com
504	Central Georgia Technical College	http://acadweb.centralgatech.edu/programs/biotechnology
604	Charlie Elliott Wildlife Center / GA Project Wild	www.gaprojectwild.org
502	ChemEd2015	www.chemed2015.com
900-901	CPO Science	www.cposcience.com
902-903	Delta Education	www.deltaeducation.schoolspecialty.com
803-804	Dinah-Might Adventures	www.dinah.com
908	Dodge Learning Resources	www.dodgelearning.com
609	eCYBERMISSION	www.ecybermission.org
800-801	Ergopedia, Inc.	www.ergopedia.com
1100	ETA hand2mind	www.hand2mind.com
708	ExploreLearning	www.explorelearning.com
1004	Flinn Scientific, Inc.	www.flinnsci.com
904	Frey Scientific	www.freyscientific.com
907	Genesis Collaboration, LLC	www.genesiscollaboration.com
1107	Georgia Center for Assessment	www.gca.coe.uga.edu
702	Georgia Department of Natural Resources - Environmental Education	www.eeingeorgia.org
602	Georgia Envirothon	www.georgiaenvirothon.org

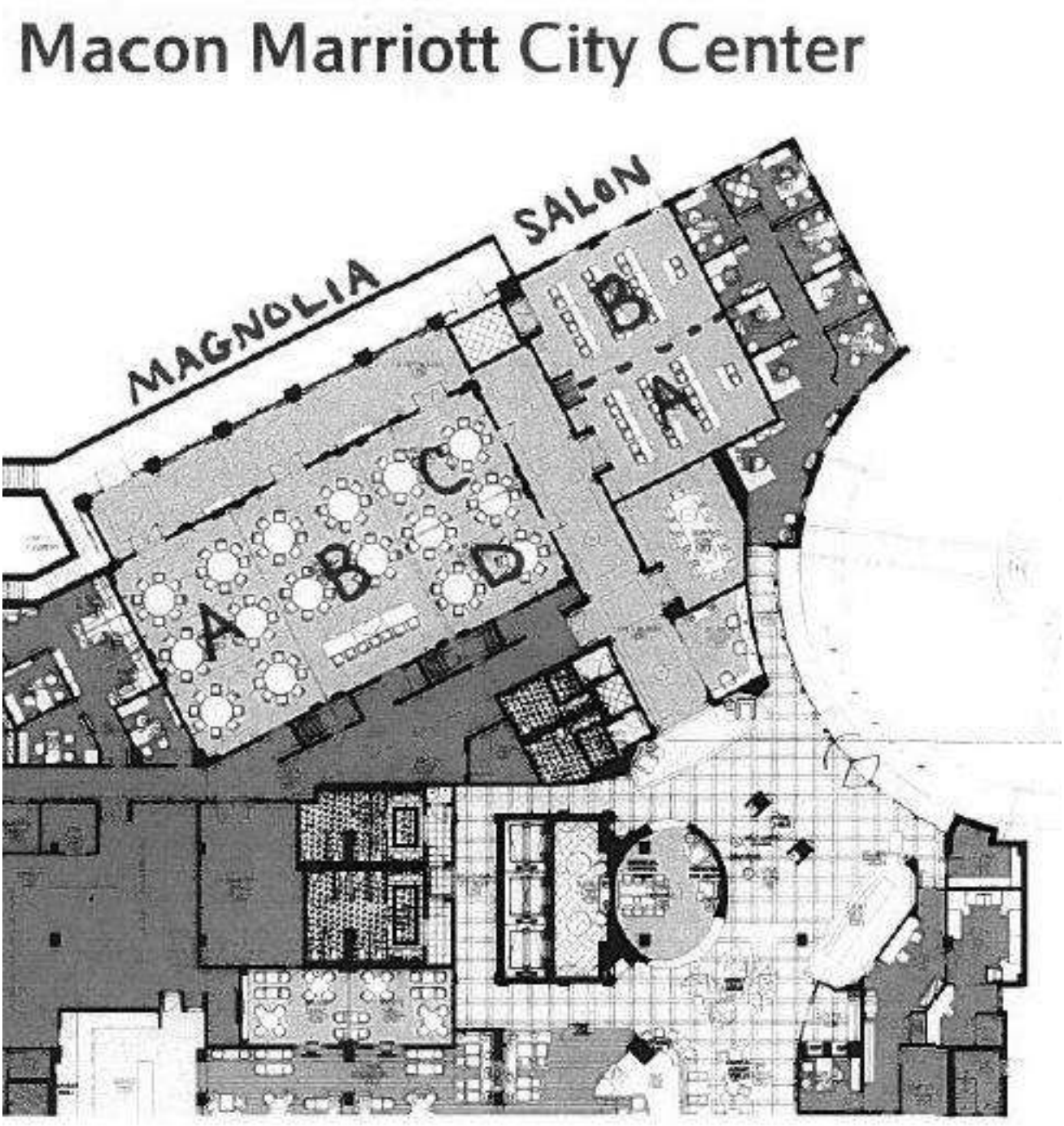
Booth#	Exhibitor	Website
1102	Georgia Power	www.georgiapower.com/learningpower
704	Georgia Project Learning Tree	www.georgiaplt.org
808	georgiarocks.us	http://georgiarocks.us
607	Green Power EMC	www.greenpoweremc.com
103-104	GSTA Store	www.georgiascienceteacher.org
506	GYSTC, Inc.	www.gystc.org
1101	High Touch High Tech, Inc.	www.sciencemadefunatl.net
1002	Houghton Mifflin Harcourt	www.hmhco.com
608	LAB-AIDS	www.lab-aids.com
1103	LearnEd Notebooks	www.learnednotebooks.com
501	Lego Education	www.legoeducation.us
600	McWane Science Center	www.mcwane.org
1108	MD Junior	www.mdjr.org
508	Museum of Arts and Sciences	www.masmacon.org
709, 809	National Geographic Learning/Cengage Learning	www.ngl.cengage.com
1001	National Nanotechnology Infrastructure Network	www.nnin.org
802	National Science Teachers Association	www.nsta.org
1007	Outstanding Guides	www.the outstanding guides.com
601	Oxford Institute for Environmental Education	www.oxford.emory.edu/oiee
906	Pearson	www.pearsonschool.com
102	PETRA, Inc./ Teacher Created Materials/NSTA	www.teachercreatedmaterials.com; www.nsta.org
706	Sargent-Welch and Ward's Science	www.sargentwelch.com; www.wardsci.com
1109	Spark Point Innovations	www.sparkpointinnovations.com
500	Texas Instruments	www.education.ti.com
606	The Centers for Disease Control and Prevention	www.cdc.gov/careerpaths
603	The Clean Air Campaign	www.cleanaircampaign.org/schools

Booth#	Exhibitor	Website
1006	The EDMAT Company, Inc.	www.edmatcompany.com
1008	The Georgia Mineral Society, Inc.	www.gamineral.org
503	The MiniOne Electrophoresis	www.theminione.com
101	Triumph Learning/COACH Books	www.triumphlearning.com
700	Tybee Island Marine Science Center	www.tybeemarinescience.org
701	UGA - Georgia 4-H Environmental Education	www.georgia4h.org/ee
1105	University of West Georgia - Uteach	www.westga.edu/uteach
501	ViziTech, USA	www.vizitechusa.com
1003	Western Governors University	www.wgu.edu
707	Woodrow Wilson National Fellowship Foundation	www.woodrow.org/teach
507	Zoo Atlanta	www.zooatlanta.org

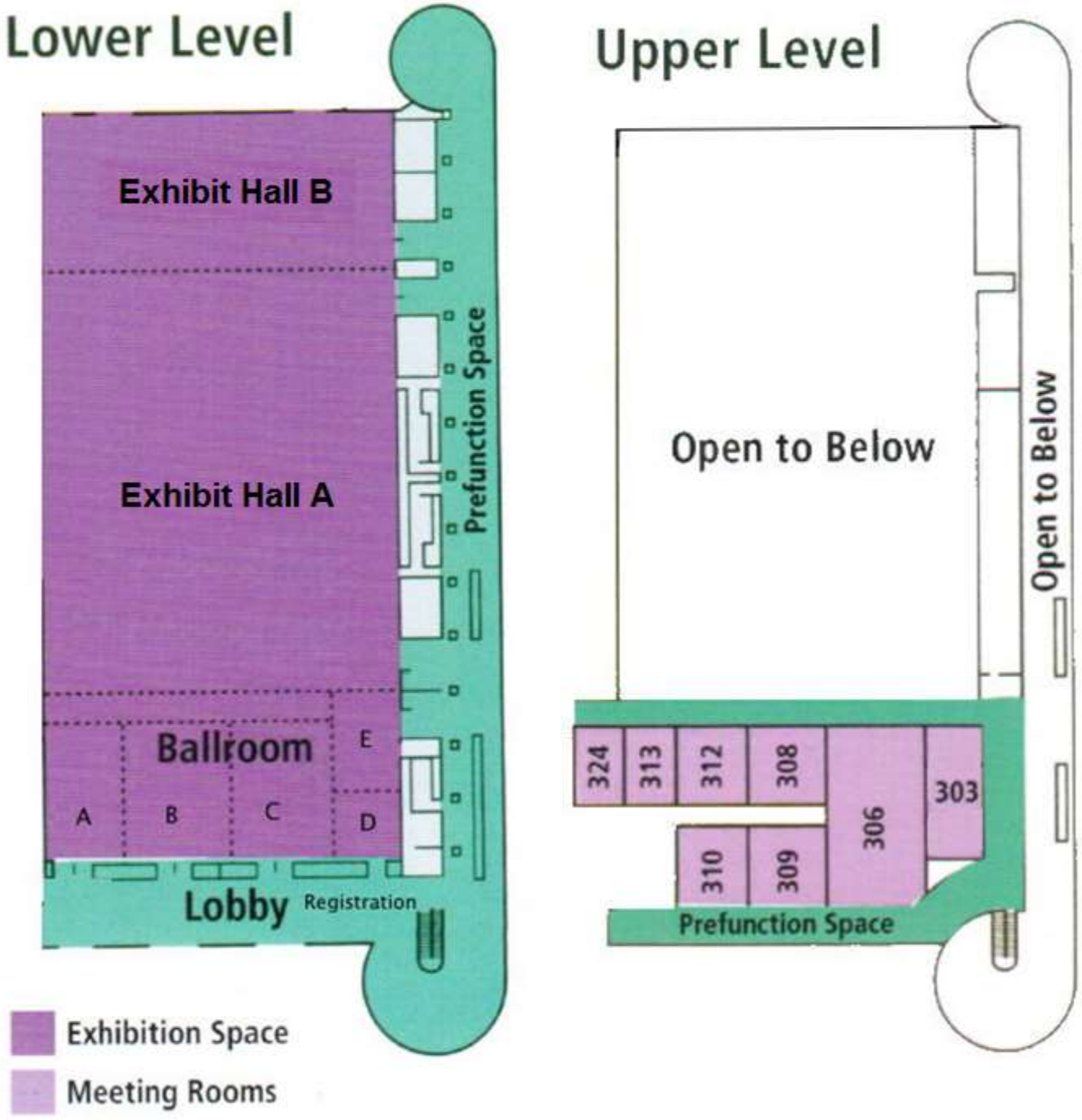


Meeting Room Maps

Marriott Meeting Rooms



Conference Center Meeting Rooms



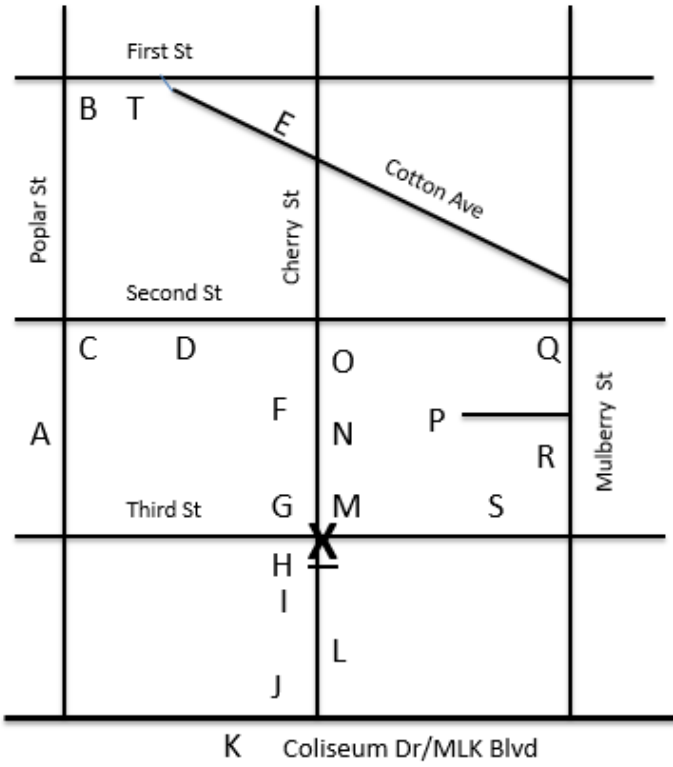
Make Yourself at Home: Macon Hospitality Information

Hospitality Shuttle

A free hospitality shuttle will runs from the Marriott entrance to Downtown in a continuous loop during the hours listed below. The shuttle will provide access to a variety of downton dining options.

Day	Schedule
Thursday	11:00 am – 2:00 pm
	5:00 pm – 10:00 pm
Friday	11:00 am – 2:00 pm
	5:00 pm – 10:00 pm (additional stop at Armory Ballroom for Awards Banquet)

Map & Dining Options



X = Bus drop off and pick up location

A—Taste and See Coffee Shop $
B – Just Tap'd Craft Beers $-$$
C – Ginger Stir Fry/Yabu Sushi $-$$
D – Roasted Café and Sandwiches $
E – Nu-Way Famous Wieners $
F – Doughboys Pizza $
G – Market City Café (sandwiches and more) $-$$
H – Spud Dogs (Loaded hot dogs and "done up" baked potatoes) $
I – Lemongrass Thai Bistro $$
J – Mollys Café (Homestyle) $
K – Tic Toc Room (Upscale) $$$
L – Bearfoot Tavern (Sports Bar and Restaurant) $-$$
M – Acapulcos (Mexican) $-$$
N – Rookery (American, Burgers and More) $-$$
O – Greek Corner Deli (Greek) $-$$
P – (Multiple--In Alley) Tokyo Alley: Asian $-$$; Downtown Grill: Steaks, etc $$$; Ninja: Asian and Sushi $-$$
Q – Michaels on Mulberry (upscale) $$$
R – Jeanines Café (southern home-cookin') $
S – Adriannas Café (Italian café) $
T – Armory Ballroom (Awards Ceremony Location with bus drop off and pick up Friday evening)

Personal Scheduler

Thursday Planner

Time	Room	Session
8 am		
9 am		
10 am		
11 am	Exhibit Hall B	Featured Speaker: Dr. Marshall Shepherd
12 pm		
1 pm		
2 pm		
3 pm		
4 pm		
5 pm	Registration Lobby	District Meet & Greet

Friday Planner

Time	Room	Session
8 am		
9 am		
10 am		
11 am	Exhibit Hall B	GSTA Annual Meeting
11:30 pm	Exhibit Hall B	Featured Speaker: Dr. Stephen Pruitt
1 pm		
2 pm		
3 pm		
4 pm		
5 pm	Exhibit Hall	Exhibit Hall Door Prizes – Must be Present to Win!
6:30 pm	Armory Ballroom	Awards Banquet – Ticket Required

Saturday Planner

Time	Room	Session
8 am		
9 am		
10 am		
11 am		

Notes

Notes