



# ASTA

ALABAMA SCIENCE TEACHERS ASSOCIATION

Annual Professional Development Conference  
November 5 & 6 2018  
Bryant Conference Center  
Tuscaloosa, AL



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## Welcome Letter from the President of ASTA - 2018 Conference Chair

Welcome back!

I am as excited as a first year teacher on the first day of school, and I hope you are too! This year we have a new place, a new time, and some new experiences planned for you. Like conferences in the past, we have an amazing lineup of presenters to provide ideas and tools you can use in your classroom. This year the schedule has been modified a little to allow us to come together as a group to focus on moving Science education in Alabama into the future.

We live in one of the most beautiful, diverse, resource rich areas of the world. This conference will leave you thinking of ASTA as one of those resources, just as you are a resource for your students, and your students are a resource for the future workforce of Alabama. As educators we are all connected like the cars on a train, each carrying the responsibility of getting our cargo where it needs to go. The careers of the future are the driving force. Together, we must give the students of Alabama the tools they need to get the job they want and do it well. Students need all the STEAM they can get to move forward: from the foundations they get in Pre-K and Elementary, to the practice stages in Middle and High school, to the enrichment in Post-Secondary, to the application of the skills in their career. They have to be able to think things out, to analyze a situation and come up with a solution, and not be afraid to fail and try again. This conference is designed to give you the STEAM resources, ideas and network of support needed to charge “Full STEAM Ahead” into the future of Science Education in Alabama.

I am so glad you are here, thanks for coming.

Sincerely,  
*Teresa T. Gregory*  
ASTA President  
2018 Conference Chair



Be sure to tweet “I am Excited too!” and why to @ALSciTeachers, #FullSTEAM18 to be entered into a special Welcome drawing.

## Welcome Letter From the President-Elect of ASTA/2018 Program Chair

It is my privilege to welcome you to the 2018 Alabama Science Teachers Association conference. Five years ago, I attended my first ASTA conference. It was immediately obvious to me that this conference offered the best science professional development I had ever received. Upon returning home from the conference, I immediately began to plan how to get all the science teachers at my school to the conference the following year. I hope you leave with that same feeling and emotion.

I also felt a desire to be part of this organization in a more active capacity. In 2015, I joined the board of ASTA as Supervision Director. During that term I communicated with school district leaders and principals to promote ASTA as a platform to give high quality professional development to science teachers at all grade levels throughout the state. As president-elect, I will work with our current president to spotlight all that ASTA has to offer science teachers in Alabama.

As an ASTA board member, I am a servant for the science teachers of this state. We are here for you and because of you. Please feel free and welcome to communicate your concerns, questions, and ideas with any member of the ASTA board. Again, welcome to our conference..."Full STEAM Ahead!"

Sincerely,  
*Bill Shelton*  
2018 Program Chair

A large, elegant cursive script that reads "Thank you". The letters are fluid and connected, with a long, sweeping underline that extends to the left and right.

Special thanks to all of the ASTA Board Members and the fantastic staff of Bryant Conference Center and Hotel Capstone for making this conference run as smoothly as possible. Thank you to The College of Continuing Studies, University of Alabama, for sponsoring the Fitzpatrick room in Hotel Capstone. Thank you to Amanda Rylant, Flowers by Amanda, Montgomery, Alabama for designing the beautiful floral arrangements.

## Conference Leadership Team

Conference Chair.....	Teresa Gregory
Program Chair.....	Bill Shelton
Voices of Reason.....	Madelene Loftin/Cindy Willingham
Publicity.....	Karla McInnis/Keshia Williams
Registration.....	Jennifer McCrary
Presenter Check-In.....	Jennifer Carden/Keshia Williams
Exhibits.....	Kay Warfield/Barbara Dunham
NSTA Bookstore.....	Rachel Pace
Awards/Travel Scholarships.....	Shelly Huver/Jennifer Carden
Social Arrangements.....	Mary Ellen Manning
T-Shirts.....	Shannon Bridges
Photographer .....	Stephanie LeGrone
Problem Solving .....	Madelene Loftin
Door Prizes.....	Becky Gibson

## ASTA 2018 Executive Board

Teresa Gregory  
 Bill Shelton  
 Mary Ellen Manning  
 Nancy Caffee  
 Madelene Loftin  
 Cindy Willingham  
 Kay Warfield  
 Jennifer McCrary  
 Karla McInnis  
 Keshia Williams  
 Jennifer Carden  
 Rachel Pace  
 Stephanie LeGrone  
 Mary Busbee  
 Becky Gibson

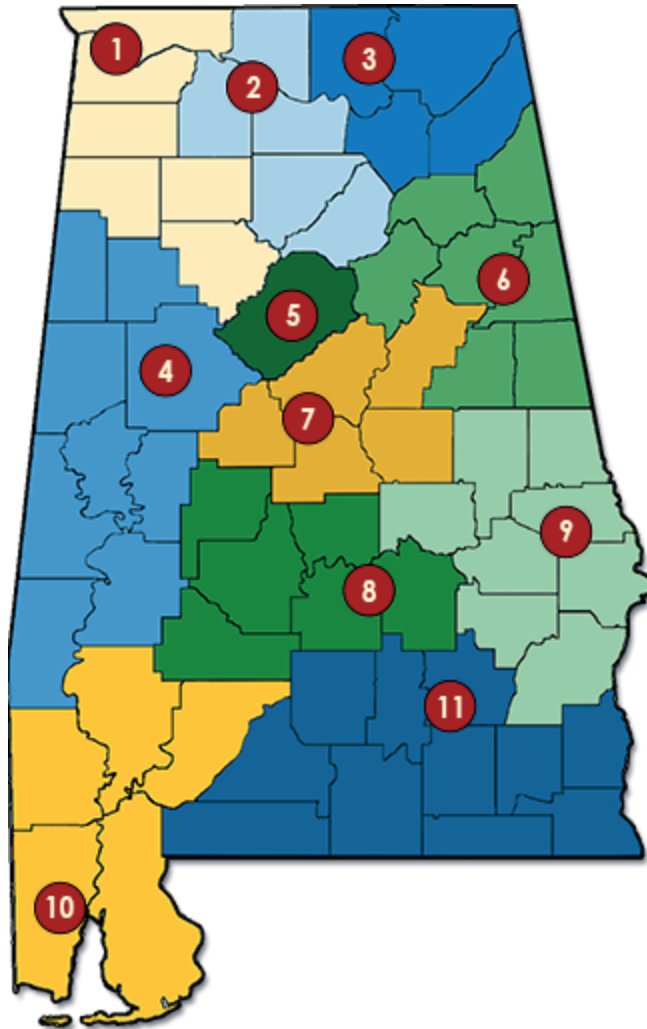
Ellen Thompson  
 Barbara Dunham  
 Whitney Smith  
 Emily Burton  
 Mary Beth Katz  
 Shannon Bridges  
 Maggie Johnston  
 Stephanie Wainwright  
 Samantha Strachan  
 Joy Bates  
 Virginia Hall  
 Shelly Huver  
 Teresa Patterson  
 Suzan Morris



## 2018 ASTA Congress District Directors

Region 1 - Lorraine Perez  
Region 2 - Connie Briehn  
Region 3 - Madelene Loftin  
Region 4 - Rachel Halper  
Region 5- Tammy Dunn  
Region 6 - Jocelyn Colley

Region 7 - Narissa DeRamus  
Region 8 - Volunteers welcome  
Region 9 - Volunteers welcome  
Region 10 - Carolanne Grogan  
Region 11 - Crystal Krausz



## Past Presidents of ASTA

2017-2018	Nancy Caffee
2016-2017	Mary Ellen Manning
2015-2016	Madelene Loftin
2014-2015	Rebecca Gibson
2013-2014	Paul Norgaard
2012-2013	Dwight Jinright
2011-2012	Rachel Pace
2010-2011	Libby Little
2009-2010	Stan Hart
2008-2009	Christine Nassar
2007-2008	Cathy Ivey
2000-2007	Cindy Willingham
2005-2006	Terri Bowman
2004-2005	Ann LaChance
2003-2004	Janis Stewart
2002-2003	Mary Beth Katz
2001-2000	Lynne McElhane
2000-2001	Nancy Vawter
1998-2000	Kay Atchison-Warfield
1996-1998	Jim Harris
1994-1996	Ron Dodson
1992-1994	Mary Beth Katz
1990-1992	Robert S. Davis
1989-1990	Mary C. Thomaskutty
1988-1989	Semidoll Bevel
1987-1988	Betty Bingham
1986-1987	Barbara Reynolds
1985-1986	Jim Kline
1984-1985	Doris Cook
1983-1984	Linda Keith
1982-1983	Wilma G. Graben
1981-1982	Fannie Nelson
1980-1981	Elsie Spencer
1979-1980	Marllin Simon
1978-1979	Phyllis E. Walsh
1977-1978	Donna Bentley
1976-1977	Loyce Whitson
1975-1976	Margo Saddler
1974-1975	Betty Mills

# Invited Keynote Speaker: Daniel Whitt

*Keynote Session: Teaching in the Future Tense*

Monday, November 5, 2018

Sellers Auditorium

9:00-10:00



Daniel Whitt is currently the Instructional Technology Coordinator for Madison City Schools in Madison, Alabama. Daniel is a native Alabamian, but his early adulthood was spent pursuing music and filmmaking in New York City. He spent his early years in education teaching language arts and video production, which led to a heavier focus on facilitating adult learning. Now Daniel combines his passion for the needs of our youth with his technical and creative skills to help solve complex problems in the world of education. His latest creation is a documentary and accompanying repository of resources to accelerate the advent of digital portfolios; it's entitled "Digital Portfolios: the Whole Child, the Whole Story". With a near-obsession for the future, Daniel advocates for student voice, global awareness, access equity, and accomplishment-based pedagogy as precursors for positive change. Daniel is an Apple Distinguished Educator and a TEDx speaker.



# Invited Keynote Speaker: Jennifer Brown

**Keynote Session: *Blueprint for Awesomeness: Transforming your Classroom Culture with S.T.E.A.M.***

**Tuesday, November 6, 2018**

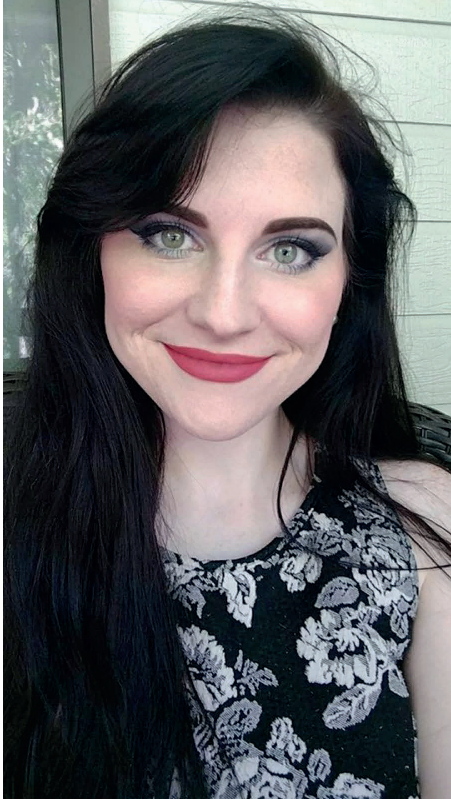
**Sellers Auditorium**

**10:30-11:30**

Alabama's 2015-16 State Teacher of the Year Jennifer Brown began her 20<sup>th</sup> year in education this year. She holds a degree in Secondary Science Education from the University of Alabama at Birmingham; she also earned a Master's degree in Instructional Leadership at Montevallo University. Jennifer is passionate about positively impacting students, inquiry-based learning, hands-on science, and empowering teacher leaders. While serving as a science teacher at Vestavia Hills High School, she and a colleague co-founded "Leading by Learning," a system of teacher-led instructional rounds designed to allow teachers the opportunity to observe, share, collaborate, and reflect with teachers of all subject areas throughout the school. During her tenure as Alabama's State Teacher of the Year, she visited schools throughout the state, attended and presented at conferences, met the President and Vice President in Washington, D.C., attended International Space Camp with other state and international teachers of the year, represented Alabama's teachers (on the field at halftime) at the 2016 Alabama vs Clemson National Championship game, spoke at legislative public hearings at the Alabama State House, and worked to form partnerships between Alabama legislators and educators. Currently, Jennifer Brown serves as the Assistant Principal of Curriculum and Instruction at Vestavia Hills High School. She visits classrooms every day in the hope that she can positively impact the lives of both students and teachers.

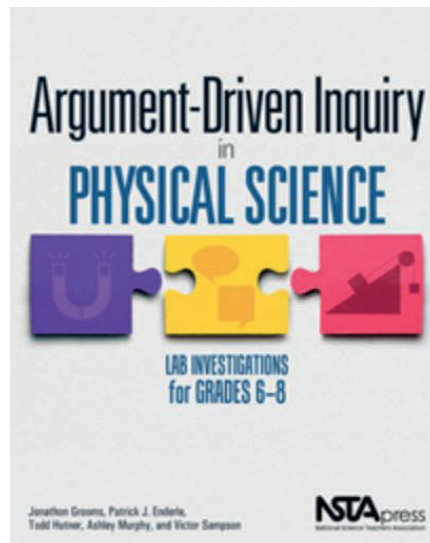
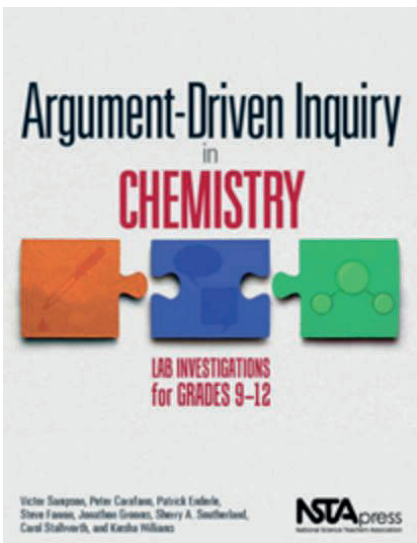
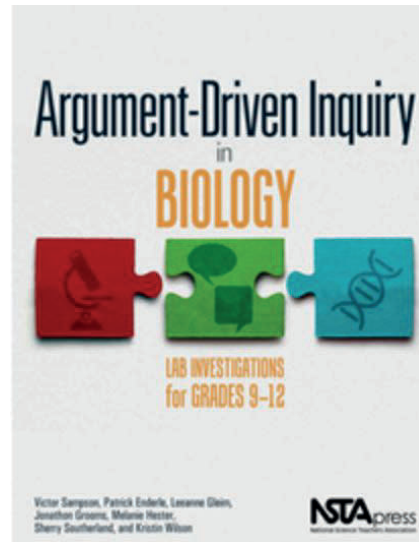
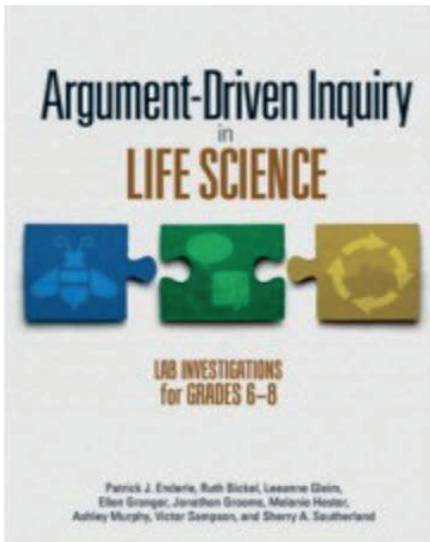


# About the Artist - Sarah Brown



Sarah Brown graciously donated her time and energy to create the artwork for this year's conference. She captured the symbolism of the conference theme as only a teacher could. She is an AP Biology teacher and Science Olympiad coach at Clay-Chalkville High School in Jefferson County. She is currently in her third year of teaching. She grew up in Cullman, Alabama, where she graduated from Good Hope High School. She is a Phi Beta Kappa graduate of The University of Alabama, where she earned her bachelor's degree *summa cum laude* in secondary general science education. When she is not at school, she can be found spending time with her husband Ricky and their two rescue dogs, Copper and Coal. She is an amateur painter of oils and watercolors.





***Please visit the ASTA Specialty Sales  
to purchase these books.***

## Conference Sponsors

The Alabama Science Teachers Association would like to thank you conference sponsors. Our sponsors make this event possible and we are grateful for their support of science educators in Alabama.



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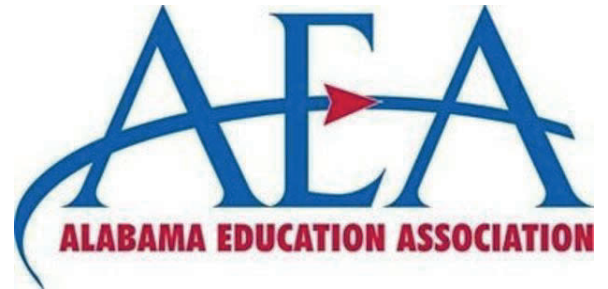
THE UNIVERSITY OF  
**ALABAMA**<sup>®</sup>

*College of*  
**Continuing Studies**  
**Bryant Conference Center**



**HOTEL CAPSTONE**

Conference Exhibitors



Conference Exhibitors

**STEMscopes™**

**PREK-12**

THE LEADER in PreK-12 STEM EDUCATION



**NSTA**

National Science Teachers Association



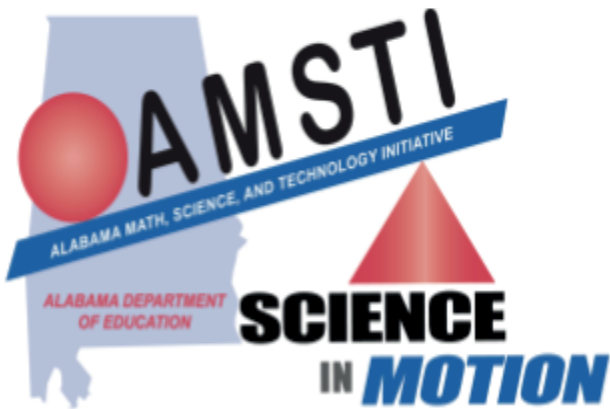
**MCDOWELL**  
Farm School



## Conference Exhibitors



**MICROSCOPES** and **MORE**  
Presented By: Capital Microscope Services, Inc





Conference Exhibitors



**Conference Exhibitors**



THE UNIVERSITY OF  
**SOUTHERN  
MISSISSIPPI**®

GULF COAST RESEARCH  
LABORATORY



## Congratulations to our 2018 Travel Scholarship Winners



### **Pre-Service:**

Tatyanna Lawson

Alabama A&M University

### **Elementary:**

Danyel Hatfield

Beth Caperton

Elizabeth Bero

Amber Moore

Pisgah High School

Flat Rock Elementary School

Horizon Elementary

New Market School

### **Middle School:**

Charles Longshore

Brian Sauls

Albertville Middle School

Hayden Middle School

### **High School:**

Tiffany Roy

Melissa Lewis

Emily Doty

Abbeville High School

Sylacauga High School

Citronelle High School

Congratulations to these scholarship winners who wrote a 250-word essay about why they would like to attend the ASTA conference. These winners received a complimentary registration and will receive \$200 upon the end of the conference to help defray the cost of travel expenses, mileage, or substitute in order to attend our 2018 "Full STEAM Ahead" Conference. Each winner will give back to ASTA by writing a reflection piece highlighting the take home points from their conference experiences and how their students will be impacted by their professional development. These articles will be published in future ASTA newsletters.

# Congratulations to the 2018 ASTA Award Winners



**Award**

**Presented to**

**Fannie Mae Nelson Teacher Of Promise**

Susan Caffee  
Clay Chalkville High School  
Jefferson County Schools

**Outstanding Elementary Science Teacher**

Lori Nelson  
Roger B. Chaffee Elementary School  
Huntsville City Schools

**Outstanding Middle School Science Teacher**

Kevin Pughsley  
Berry Middle School  
Hoover City Schools

**Outstanding High School Science Teacher**

Sonya Scott  
Mary G. Montgomery High School  
Mobile County Public Schools



**ASTA**  
ALABAMA SCIENCE TEACHERS ASSOCIATION

**Special Thanks to Vulcan Materials for Sponsoring the 2018 ASTA Awards**



# Full STEAM Ahead!

## 2018 Conference at a Glance



### Monday, November 5th

Time	Event	Location
7:30 – 10:00	Registration	Registration Area, Bryant Conference Center (BCC), Level 1
8:30 – 10:00	Welcoming Remarks / General Session / Exhibit Hall Ribbon Cutting	Sellers Auditorium, Level 1
10:10 – 11:00	Concurrent Sessions 1	BCC Levels 1 & 2, Hotel Capstone
11:10 – 12:00	Concurrent Sessions 2	BCC Levels 1 & 2, Hotel Capstone
12:00 – 1:30	Lunch (On-Site) & Awards Ceremony	Sellers Auditorium, Level 1
1:40 – 2:30	Concurrent Sessions 3	BCC Levels 1 & 2, Hotel Capstone
2:40 – 3:30	Concurrent Sessions 4	BCC Levels 1 & 2, Hotel Capstone
3:40 – 4:30	Concurrent Sessions 5	BCC Levels 1 & 2, Hotel Capstone
Upon Leaving Either Day	ASTA PD Certificate	Turn in your Conference Evaluation Form found in the back of the program at the Registration desk to receive your PD certificate.

### Tuesday, November 6th

Time	Event	Location
7:30 – 12:45	Registration	Registration Area, Bryant Conference Center (BCC), Level 1
8:30 – 9:20	Concurrent Sessions 6	BCC Levels 1 & 2, Hotel Capstone
9:30 – 10:20	Concurrent Sessions 7	BCC Levels 1 & 2, Hotel Capstone
10:30 – 11:30	General Session	Sellers Auditorium, Level 1
11:30 – 12:45	Lunch (On-Site) and Voting on Bylaw revisions	Sellers Auditorium
12:50 – 1:40	Concurrent Sessions 8	BCC Levels 1 & 2, Hotel Capstone
1:50 – 2:40	Concurrent Sessions 9	BCC Levels 1 & 2, Hotel Capstone
2:50 – 3:40	Concurrent Sessions 10	BCC Levels 1 & 2, Hotel Capstone
3:50 – 4:40	Concurrent Sessions 11	BCC Levels 1 & 2, Hotel Capstone
Upon Leaving Either Day	ASTA PD Certificate	Turn in your Conference Evaluation Form found in the back of the program at the Registration desk to receive your PD certificate.

## General Conference Information

**Registration** will start at 7:30 AM at the Bryant Conference Center registration desk. If you are pre-registered, please check in at the Registration desk to pick up your conference packet. Presenters and Vendors and those registering on site will need to visit the registration desk also.

**Concurrent sessions** are 50 minutes unless otherwise noted. Please check your program carefully for session times. There are 10 minutes between each session to allow participants and presenters to prepare for the next session.

**Food & Beverage** - Beverage service will be provided all day, both days, in the self serve beverage stations throughout the Bryant Conference Center.



A limited selection of breakfast pastries and fruit will be available both mornings to welcome you.

Lunch will be provided both days in Sellers Auditorium. There will be special events each day at lunch. Monday we will have the awards ceremony and disco celebration. Tuesday will be the annual meeting and voting on amendments to the bylaws.

**Awards Ceremony** will be held Monday at lunch concluding with a Disco celebration. So pull out those platform shoes, bring your best dance moves, and dress in your disco duds if you dare.



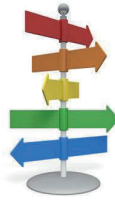
**Free Parking** is available in select lots on the University of Alabama campus with a parking permit. **Print your parking permit before you leave the house to save time and energy.** Your conference parking pass must be displayed appropriately according to the directions on the pass. The pass is good for the entire conference.

**Exhibits** will be open from 10 AM – 4:30 PM, Monday and 8:00 AM -3PM, Tuesday. Vendors will be located on both floors so be sure to check out the lobby on both levels.



**Door Prizes** will be given away through out the conference during General sessions and at Lunch in Sellers Auditorium. *You must be present to win.*

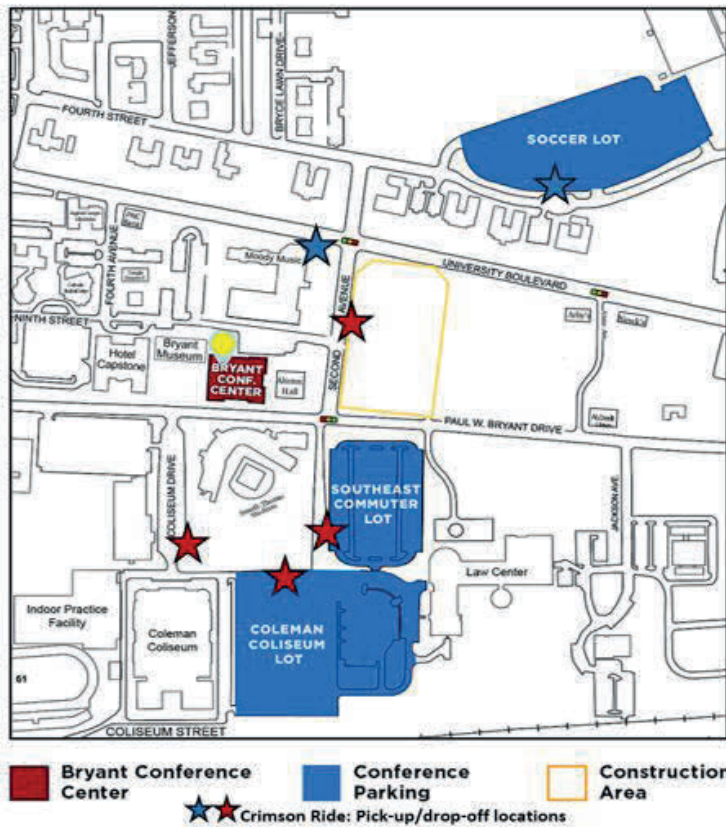
**Professional Development Certificates** will be awarded to participants upon completion of the two-page Conference Critique/Session Evaluation Form. Bring the completed form to the registration desk before leaving in exchange for a certificate. Forms may also be emailed to the address on the form, after which a PDF certificate will be sent to the email address provided. *No certificates will be mailed to attendees.*



## Directions to Bryant Conference Center - 240 Paul W. Bryant Drive, Tuscaloosa, AL 35487

From I-20/59, take the MFarland Boulevard/US 82 exit and proceed north to the University Boulevard interchange. Exit and turn right. Stay on University Boulevard down the hill and turn left on Second Avenue. Open parking will be on your left, the Conference Center complex on your right.

### Map of area and parking:



**1.** To avoid parking tickets, this permit must be displayed in the driver's lower right hand corner of parked vehicle's windshield.

**2.** This permit is good in the **Southeast Commuter Lot, Coleman Coliseum Lot, and Soccer Lot only.** Avoid Faculty/Staff "F/S Green Decal" parking spaces.

**3.** Crimson Ride shuttles available.

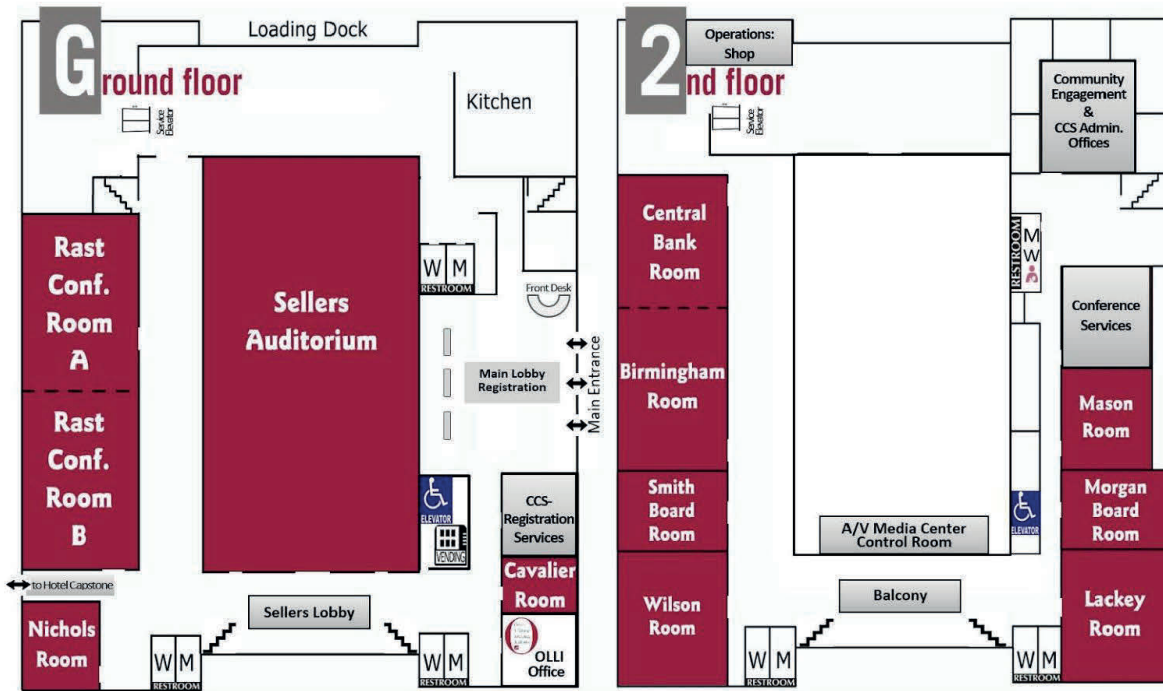


Southeast Commuter and Coleman lots will take **Crimson Route** ★ Soccer Lot will take **Blue Route** ★

**4.** Shuttles run 7a-9p, Monday-Friday. After hours, call 348-RIDE.

THIS PERMIT IS NOT VALID WHEN USED BY CURRENT UNIVERSITY OF ALABAMA STUDENTS, FACULTY/STAFF, OR OTHERS REQUIRED TO PURCHASE PERMITS.

**Floor plan of Bryant Conference Center breakout rooms:**



All but two of the breakout rooms are in the Bryant Conference Center. However, the Bagby and Fitzpatrick rooms are in the Hotel Capstone. It is just a short walk across the courtyard, Go out between Nichols and Rast B, cross the courtyard, turn to the right when you enter the Hotel Capstone.





**2018 Daily Conference Guide  
Monday, November 5, 2018**

Time	Event	Location
7:30—10:00	Registration	Registration Area, Bryant Conference Center
7:30—8:30 or until it's gone	<b>Breakfast</b> - pastries and fruit available	Sellers auditorium
8:30 - 9:00	<b>Welcoming Remarks</b>	Sellers auditorium
9:00—10:00	<b>Keynote Speaker: Daniel Whitt</b>	Sellers Auditorium
10:00	Exhibit Hall Ribbon Cutting	Sellers Auditorium
10:10 -11:00	Concurrent Sessions 1	BCC & Hotel Capstone
11:10 - 12:00	<b>Elementary Roundhouse</b> Session for all Elementary teachers.	Sellers Auditorium
11:10 -12:00	Concurrent Sessions 2	BCC & Hotel Capstone
12:00—1:30	<b>Lunch &amp; ASTA Awards Ceremony &amp; Disco Celebration</b>	Sellers Auditorium
1:40 - 2:30	<b>Middle School Roundhouse</b> Session for all Middle School Teachers	Sellers Auditorium
1:40 -2:30	Concurrent Sessions 3	BCC & Hotel Capstone
2:40 -3:30	<b>High School Roundhouse</b> Session for all High School Teachers	Sellers Auditorium
2:40 -3:30	Concurrent Sessions 4	BCC & Hotel Capstone
3:40—4:30	Concurrent Sessions 5	BCC & Hotel Capstone
Upon Leaving Either Day	ASTA PD Certificate	Turn in your Conference Evaluation Form found in the back of the program at the Registration desk to receive your PD certificate.



**2018 Daily Conference Guide  
Tuesday, November 6, 2018**

Time	Event	Location
7:30—10:00	Registration	Registration Area, Bryant Conference Center
7:30—8:30 or until it's gone	<b>Breakfast</b> - pastries and fruit available	Sellers auditorium
8:30 - 9:20	Concurrent Sessions 6	BCC & Hotel Capstone
9:30-10:20	Concurrent Sessions 7	BCC & Hotel Capstone
10:30-11:30	<b>Keynote Speaker: Jennifer Brown</b>	Sellers Auditorium
11:30-12.:45	Lunch & Annual Business Meeting to Vote on Bylaw changes	Sellers Auditorium
12:50 -1:40	Concurrent Sessions 8	BCC & Hotel Capstone
1:50 -2:40	Concurrent Sessions 9	BCC & Hotel Capstone
2:50 -3:40	Concurrent Sessions 10	BCC & Hotel Capstone
3:50—4:40	Concurrent Sessions 11	BCC & Hotel Capstone
Upon Leaving Either Day	ASTA PD Certificate	Turn in your Conference Evaluation Form found in the back of the program at the Registration desk to receive your PD certificate.

**Suggested Bylaws revisions are on the ASTA website and in Appendix A.**





## Concurrent Sessions

Monday, November, 2018

Session Code: **M-1**

**Time: 10:10 - 11:00 - Session 1**

Title: **Council of the Future**

Location: Sellers Auditorium (Level 1)

Presenter: Daniel Whitt

School/ Institution: Madison City Schools

Target Audience: General Audience

Content Area: General Science

For the ones who see things differently. Future Shock was published in 1970 and now we're living it. Multipurpose workshop around a big idea. Part will be an introduction to the ideas of Future Shock and related educational impact; then a participant-driven simulation of a Council of the Future.

Session Code: **M-2**

Time: 10:10 - 11:00

Title: **Integrating Phenomena into Hands-On Science**

Location: Rast Room A (Level 1)

Presenter: Carolyn Pistorius

School/ Institution: Carolina Biological Supply

Target Audience: Early Elementary Pre-K - 3



Content Area: General Science

Add phenomena-based learning at the beginning, middle, and end of your science units to help K-5 students develop questions that will lead to deeper understanding. See how digital and literacy resources help make connections between concept and phenomena through reading, videos, and classroom discussion. Take home 3 valuable strategies for phenomena-based learning.

Session Code: **M-3**

Time: 10:10 - 11:00

Title: **Growing Our Food on Mars with Hydroponics**

Location: Rast Room B (Level 1)

Presenter: Lori Nelson

School/ Institution: Roger B. Chaffee Elementary School

Target Audience: Elementary 1-6

Content Area: Earth and Space Science

Growing Food on Mars with Hydroponics is a unit I created to teach the challenges of growing food for long term space travel. There are three basic parts to this unit: building knowledge about the challenges of growing plants in space; an experiment to compare plant growth in Earth soil, simulated Martian soil, and hydroponics; and an engineering activity to design a hydroponics unit to grow seeds.

Session Code: **M-4**

Time: 10:10 - 11:00

Title: **Earth Day Celebration and Sunflower House**

Location: Nichols Room (Level 1)

Presenter: Beth Bero

School/ Institution: Horizon Elementary

Target Audience: Elementary 1-6

Content Area: Environmental Science

Help your students develop a service learning project with an Earth Day Celebration! Learn how to involve primary students in the development of their own Sunflower House.

---

Session Code: **M-5**

Time: 10:10 -11:00

Title: **An Introduction to the Claim-Evidence-Reasoning (CER) Framework**

Location: Central Bank Room (Level 2)

Presenter: Debbie Jones

School/ Institution: Accelerate Learning/STEMscopes

Target Audience: Middle School 4-8

Content Area: General Science



When students write a scientific explanation using the claim-evidence-reasoning framework, we discover what students are thinking. By analyzing their thinking, we are better able to plan our next instructional move. Participate in a hands-on investigation followed by writing a CER scientific explanation.

---

Session Code: **M-6**

Time: 10:10 - 11:00

Title: **Evolution for Middle School Educators**

Location: Birmingham Room (Level 2)

Presenter: Patti Howell

School/ Institution: Baconton Community Charter School/The Teacher Institute for Evolutionary Science

Target Audience: Middle School 4-8

Content Area: Life Science

The Teacher Institute for Evolutionary Science is a teacher-run project to help middle school teachers. We provide free, high-quality evolution content and resources. The workshop would include: A bell ringer activity, a slide presentation, a tour of the TIES Online Learning Page, and a hands-on activity on natural selection.

---

Session Code: **M-7**

Time: 10:10 - 11:00

Title: **STEAMing through the Ocean**

Location: Smith Room (Level 2)

Presenter: Tina Miller-Way

School/ Institution: Dauphin Island Sea Lab

Target Audience: Secondary 9-12

Content Area: Earth and Space Science



The field of marine technology is growing globally providing local workforce opportunities for students. Drifters, instruments that move with and geographically track water currents, can be designed, built and deployed by students. Join this hands-on session to build a drifter and explore integrating this engineering activity into your classroom.

Session Code: **M-8**

Time: 10:10 - 11:00

Title: **Gap Years: Connecting with HudsonAlpha Resources outside of GREAT Workshops**

Location: Wilson Room (Level 2)

Presenter: Madelene Loftin Co-presenter(s): Jennifer Carden

School/ Institution: HudsonAlpha Institute for Biotechnology

Target Audience: Secondary 9-12



Content Area: Life Science

Are you looking for ways to engage with HudsonAlpha outside of attending GREAT Workshops? Get streaming video lessons from Dr. Lamb, sign up to be a pilot tester, learn more about digital resources and options.

---

Session Code: **M-9**

Time: 10:10 - 11:00

Title: **Preparing Interdisciplinary Scientists**

Location: Bagby Room (Level 2)

Presenter: Kimberly Genareau

School/ Institution: The University of Alabama

Target Audience: Secondary 9-12

Content Area: Earth and Space Science

This session focuses on the instruction of lessons in the Earth sciences with fundamental concepts that extend to many different branches (e.g., hydrology, volcanology, sedimentology). This session will demonstrate methods to best prepare students at all grade levels for a future interdisciplinary scientific career in a constantly interconnecting world.

---

Session Code: **M-10**

Time: 10:10 - 11:00

Title: **Presidential Award For Excellence In Mathematics and Science Teaching Award**

Location: Lackey Room (Level 2)

Presenter: Charlene Dindo

Co-presenter(s): Dr. Kay Atchison-Warfield

School/ Institution: Independent consultant

Target Audience: General Audience

Content Area: General Science

K-12 teachers learn how to apply for the 'Presidential Award for Excellence in Mathematics and Science Teaching' awards/\$10K. The session will cover nominations, application, Five Dimensions of Teaching and tips to video a classroom lesson. Applications are due May 1, 2018.

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Session Code: **M-11**

Time: 10:10 - 11:00

Title: **GEMS-Girls Engaged in Math and Science**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Geri Evans

Co-presenter: Krista Fehler

School/ Institution: Bluff Park Elementary

Target Audience: General Audience

Content Area: General Science

GEMS is a wonderful way to get girls excited about math and science. Learn how to start a GEMS Club started with a team of girls, apply for the state expo and even get a local expo started in your district. Connect girls with role models and the community to bring real world experiences to your students. Take advantage of resources in your community from local colleges, parents, and businesses to make your Expo an unforgettable experience for your girls.

**Session Note: Elementary Roundhouse from 11:10 - 12:00 in Sellars Auditorium**

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Session Code: **M-13**

Time: 11:10 - 12:00 - Session 2

Title: **Design. Build. Succeed.**

Location: Rast Room A (Level 1)

Presenter: Megan McCall

School/ Institution: Bayside Academy

Target Audience: Middle School 4-8

Content Area: Earth and Space Science

Design thinking is a critical component of STEAM. Learn what it is and activities that can help foster it for students to increase their problem-solving abilities.

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Session Code: **M-14**

Time: 11:10 - 12:00

Title: **MakeyMakey Engineering**

Location: Rast Room B (Level 1)

Presenter: Lee Brownell

School/ Institution: AMSTI UNA

Target Audience: Middle School 4-8

Co-presenter(s): Leah Torisky

Content Area: General Science



Using the MakeyMakey in your science classroom to teach a variety of topics.

---

Session Code: **M-15**

Time: 11:10 - 12:00

Title: **Drop, Stop, Don't Pop! Engineering Launcher**

Location: Nichols Room (Level 1)

Presenter: Dennis Engle

School/ Institution: AMSTI--Athens State University

Target Audience: Middle School 4-8

Content Area: General Science

Feeling like a daredevil? Get ready to drop! Students use the engineering design process to build a safe amusement park ride with maximum thrill! This design challenge serves to launch the engineering program for the school year as well as orient students to the mindset of an engineer.

---

Session Code: **M-16**

Time: 11:10 - 12:00

Title: **Using technology to Enhance The Science Classroom**

Location: Central Bank Room (Level 2)

Presenter: Thom OBrien

School/ Institution: Explorelearning

Target Audience: Middle School 4-8

Content Area: General Science

As technology becomes more and more of a factor in the middle school classroom, how do we maximize our computer usage? Online simulations provide a perfect venue for allowing students to explore concepts, deepen their content knowledge while freeing up the teacher to take on the roll of classroom facilitator.

---

Session Code: **M-17**

Time: 11:10 - 12:00

Title: **NGS Storylines "Why do some things get colder when they react?"**

Location: Birmingham Room (Level 2)

Presenter: Kari Pate

Co-presenter(s): Laura Fewell

School/ Institution: Vestavia Hills High School

Target Audience: Secondary 9-12

Content Area: General Science

Overview of NGS Storylines that use phenomena, models, and hands-on experiences to teach chemical bonding. Then experience a lesson using magnets to model exothermic and endothermic reactions.

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Session Code: **M-18**

Time: 11:10 - 12:00

Title: **The Reefs of North Alabama**

Location: Smith Room (Level 2)

Presenter: David C. Kopaska-Merkel

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School/ Institution: Geological Survey of Alabama

Target Audience: Secondary 9-12

Content Area: Earth and Space Science

Fossil reefs can be found all over Alabama, but most of them are small. We will look at some examples, both in pictures and "real life." We will brainstorm about how to recognize them, and about what is required for a reef to grow.

---

Session Code: **M-19**

Time: 11:10 - 12:00

Title: **Using Data probes to investigate biogeochemical in the Peruvian Amazon & Alabama Forests**

Location: Wilson Room (Level 2)

Presenter: Janet Ort

School/ Institution: Hoover High School

Target Audience: Secondary 9-12

Content Area: Environmental Science

Dive into real data gathered in the Peruvian Amazon & Alabama forests with Vernier Data sensors & remote sensing devices to deepen and broaden your argument from data labs and models.

Session Code: **M-20**

Time: 11:10 - 12:00

Title: **Classroom Drones: A tool for inquiry, engineering design, and developing spatial intelligence**

Location: Bagby Room (Level 2)

Presenter: Tj Nguyen

Co-presenter(s): Frank Ware

School/ Institution: SCORE@Auburn University

Target Audience: General Audience

Content Area: General Science

This hands-on workshop will discuss how drones can be used in the classroom to lead inquiry activities, be the centerpiece of an engineering design activity, and why developing students' spatial intelligence is important for STEM careers.

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Session Code: **M-21**

Time: 11:10 - 12:00

Title: **ASIM Anatomy part 1**

Location: Lackey Room (Level 2)

Presenter: Lisa Clark  
specialist: ASU

Co-presenter(s): Sarah Lowman-ASIM biology

School/ Institution: University of Alabama-

Target Audience: Secondary 9-12

Content Area: Life Science

Time to Regulate! ASIM R10 Endocrine lab: Identify endocrine glands structure, location; correlate hormones • Read, annotate, and share scientific abstracts ideas • Construct visual explanations of endocrine pathways • Evaluate/incorporate others' visual models into written explanations • Hypothesize, analyze, and draw endocrine tissue inferences through histology microscopy • Evaluate case study-draw inferences about endocrine diagnoses

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Session Code: **M-22**

Time: 11:10 - 12:00

Title: **Use of the new book, Alabama Rivers, A Celebration and Challenge to promote STEAM in the Classroom**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: William Deutsch

School/ Institution: Alabama Water Watch

Target Audience: General Audience

Content Area: Environmental Science

A new book about Alabama Rivers blends natural history with human history to discuss the state's geology, hydrology, biodiversity, cultural geography, water policy, and citizen involvement in protecting and restoring our rivers. A Companion Guide will assist teachers in using many aspects of the book to promote STEAM in the classroom.

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**Program Note: Lunch in Sellars Auditorium 12:00 - 1:30**

**Session Note: Middle School Roundhouse from 1:40 - 2:30 in Sellars Auditorium**



Session Code: **M-25**

Time: 1:40 - 2:30 Session 3

Title: **Fun with Crayons - STEM Lessons to Inspire Creativity**

Location: Rast Room A (Level 1)

Presenter: Carol McGinnis

Co-presenter(s): Tara Hood

School/ Institution: AMSTI - Jacksonville State University

Target Audience: Early Elementary Pre-K - 3

Content Area: Physical Science

During this session, teachers will participate in STEM lessons using crayons, which provide a fun and familiar context to teach science and engineering! We will be referencing the book Picture Perfect STEM Lessons, K-2, Using Children's Books to Inspire STEM Learning by Emily Morgan and Karen Ansberry.

---

Session Code: **M-26**

Time: 1:40 - 2:30

Title: **DLCS: Working Smarter NOT Harder**

Location: Rast Room B (Level 1)

Presenter: Nicolette Nalu

Co-presenter(s): Ashley Tilley, Jennifer Towles

School/ Institution: AMSTI-University of Montevallo

Target Audience: Elementary 1-6

Content Area: General Science



Digital Literacy and Computer Science, Mathematics, Science, and Literacy Standards...what do they all have in common? Come investigate with us! This hands-on and engaging session will connect all 4 curricular areas to lessons you are already teaching in the classroom. Digital resources will be provided for this technology-friendly session.

---

Session Code: **M-27**

Time: 1:40 - 2:30

Title: **Authentic Engagement Strategies, More Than Just Fun!**

Location: Nichols Room (Level 1)

Presenter: Ellen Thompson

Co-presenter: Ann Lott, Mary Headrick & Shundra Morris, AMSTI -

UAH Science Specialists

School/ Institution: AMSTI - UAH

Target Audience: General Audience

Content Area: General Science

Are students authentically engaged? Participants explore a continuum of engagement strategies based on the research of Dr. Robert Marzano's book, The New Art and Science of Teaching to formatively assess 3-D Learning. Authentic engagement supports mastery of NGSS and ALCOS while developing 21st Century Skills.

Session Code: **M-28**

Time: 1:40 - 2:30

Title: **Taking Science Digital - Online Journals, Presentations, Data Collection, and Responses to Scientific Experiences**

Location: Central Bank Room (Level 2)

Presenter: Blaire Perry

Co-presenter(s): Heather Findley

School/ Institution: Paine Elementary -Trussville City Schools

Target Audience: Elementary 1-6

Content Area: General Science

See how a second grade and a fifth grade teacher integrate Google Classroom into science instruction to engage students, save time, and save resources using various ways of recording and responding to science experiences.

---

Session Code: **M-29**

Time: 1:40 - 2:30

Title: **High School Physics and Astronomy Opportunities at the University of Alabama**

Location: Birmingham Room (Level 2)

Presenter: Dawn Williams

Co-presenter(s): Preethi Nair, Igor Ostrovskiy

School/ Institution: University of Alabama

Target Audience: Secondary 9-12

Content Area: Physics

Describes opportunities for high school teachers and students in the University of Alabama Department of Physics and Astronomy, including a portable planetarium, the IceCube Masterclass where students learn about the largest neutrino telescope on Earth at the South Pole, and engaging students in citizen science analysis of the MoEDAL@LHC data.

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Session Code: **M-30**

Time: 1:40 - 2:30

Title: **Engaging Students in Problem Based Learning**

Location: Smith Room (Level 2)

Presenter: Haley Harville-York

Co-presenter(s): Dennis Sunal, Tommy Doung, Rylleigh Harstad, Chelsea Moon, Tony Morgan, Andrea Shull, Daniel Stanley, Lily Walker

School/ Institution: University of Alabama

Target Audience: Secondary 9-12

Content Area: General Science

Hands-on activities present Problem Based Learning (PBL) lessons teaching ACOS standards. The focus is on how to develop learning activities in daily lessons while effectively monitoring student progress using formative assessment. Hands-on activities include ACOS concepts in biology, chemistry, geology, and physics.

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Session Code: **M-31**

Time: 1:40 - 2:30

Title: **You are a STAR (well, technically stardust.....)-Chemistry of Stellar Evolution**

Location: Wilson Room (Level 2)

Presenter: Marla Hines

Co-presenter: Heather Sigman-Arias

School/ Institution: Vestavia Hills High School

Target Audience: Secondary 9-12

Content Area: Earth and Space Science

Activities used in a high school earth and space class that equip the student to understand how the chemistry of stellar evolution support the ideas of the Big Bang Theory and the formation of other elements. The focus on the chemistry of the events, take the focus off of the "hot topics" that students might otherwise focus on.

Session Code: **M-32**

Time: 1:40 - 2:30

Title: **STEM Literacy Strategies: Making Connections for Science Concepts**

Location: Bagby Room (Level 2)

Presenter: Suzan Morris

Co-presenter(s): Autumn Zellner

School/ Institution: STEMscopes

Target Audience: General Audience

Content Area: Life Science

Join us as we learn the power of using Close Reading strategies to engage students in reading, writing, and discussing the science text in collaborative groups, which will lead to student mastery and high achievement. This session will convince you that your students CAN read science, use complex vocabulary, and build the capacity for scientific literacy success in your STEM classroom.

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Session Code: **M-33**

Time: 1:40 - 2:30

Title: **ASIM Anatomy part 3**

Location: Lackey Room (Level 2)

Presenter: Lisa Clark  
specialist: ASU

Co-presenter(s): Sarah Lowman-ASIM biology

School/ Institution: University of Alabama-

Target Audience: Secondary 9-12

Content Area: Life Science

**Build a Muscle-ASIMR8 Lab:** Construct a skeletal muscle that includes myofibrils, sarcoplasmic reticulum, sarcolemma, multiple nuclei, mitochondria, muscle fiber, endomysium, perimysium, fascicle, epimysium, and tendons. • Construct models of actin and myosin fibers. • Construct an explanation of how chemical and structural organizations of muscle cells are specialized to produce muscle contractions.

---

Session Code: **M-34**

Time: 1:40 - 2:30

Title: **The Nature of Science**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Patricia "Tricia" Hudson

Co-presenter(s): Lori Havard

School/ Institution: Fairhope High School

Target Audience: Secondary 9-12

Content Area: General Science

This session will explore different approaches to teaching students about the nature of science. Materials used include resources from hhmi.org.

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**Session Note: High School Roundhouse, 2:40 - 3:30 in Sellars Auditorium**

Session Code: **M-36**

**Time: 2:40 - 3:30 Session 4**

Title: **LEAP into Science and Language Arts Instruction Integration!**

Location: Rast Room A (Level 1)

Presenter: Frances Hamilton

School/ Institution: University of Alabama in Huntsville

Target Audience: Early Elementary Pre-K - 3

Content Area: Life Science

In this hands-on session, participants will explore integrating science and language arts instruction while investigating frogs. Participants will learn about different types of frogs, including where they live, what they sound like, and other interesting facts. Language Arts instruction includes onomatopoeia, writing, and much more. Jump in on the fun!

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Session Code: **M-37**

Time: 2:40 - 3:30

Title: **"Dash-ing" Through the Curriculum**

Location: Rast Room B (Level 1)

Presenter: Patty Maze

Co-presenter(s): Monica Ousley, AMSTI, ALSDE

School/ Institution: AMSTI/Athens State University

Target Audience: Elementary 1-6

Content Area: General Science

As Alabama adopts computer science standards, the challenge for teachers is to find ways to cover the mandated curriculum in the time given each day. Participants in this session will apply their knowledge of computer science to use robots to teach scientific concepts, while integrating ELA and Math standards.

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Session Code: **M-38**

Time: 2:40 - 3:30

Title: **INTEGRATION = The KEY to Conquering the NEW Alabama Digital Literacy and Computer Science Standards**

Location: Nichols Room (Level 1)

Presenter: Carla Marchant

Co-presenter(s): Amanda Cramer

School/ Institution: Shades Mountain Elementary

Target Audience: Elementary 1-6

Content Area: General Science

Through the use of Google Apps for Education, coding apps, literature and various tools (Dash & Dot, Sphero, Beebots), participants will gain ideas on how to seamlessly incorporate the newly adopted Alabama DLCS standards using authentic and meaningful contexts that empower students and engage them in the learning process.

---

Session Code: **M-39**

Time: 2:40 - 3:30

Title: **Classroom Misbehavior - What Takes the STEAM Out of a Collegial Classroom**

Location: Central Bank Room (Level 2)

Presenter: Peter Vajda

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School/ Institution: True North Partnering

Target Audience: Middle School 4-8

Content Area: Chemistry

Learn "8:00 Monday morning" research-based strategies of a fair and simple classroom management system that will eliminate unwanted behaviors by 70% or more. Learn the essential steps of teaching to expected behaviors and discover the benefits and the importance of positive interactions with your students.

Session Code: **M-40**

Time: 2:40 - 3:30

Title: **Keeping Up with the Joneses**

Location: Birmingham Room (Level 2)

Presenter: Shelley Roberts                      Co-presenter(s): AMSTI Middle School  
Science Specialists

School/ Institution: Jacksonville State University AMTI

Target Audience: Middle School 4-8



Content Area: General Science

Do you ever wonder what other teachers are doing in their classrooms? This is an invitation for Middle School Teachers to participate in a round table discussion about what is taking place within science classrooms across the state. Come ready to share in discussions about Engineering in the Classroom, best practices, assessments, 3 Dimensional Learning, classroom management strategies, student discourse, interactive notebooks, and more!

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Session Code: **M-41**

Time: 2:40 - 3:30

Title: **Science Teachers: Design your own Professional Development with a Fund for Teachers Fellowship!**

Location: Smith Room (Level 2)

Presenter: Shannon McClain                      Co-presenter(s): Autumn Zellner

School/ Institution: Bridgeport Middle School

Target Audience: General Audience

Content Area: Environmental Science

Do you want \$5,000 or even \$10,000 to design your own professional development? Fund for Teachers is your answer! Join us and learn about the application process, tips & tricks to make your application get attention, plus our ongoing project based learning experience that stemmed from this fellowship.

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Session Code: **M-42**

Time: 2:40 - 3:30

Title: **Alabama's NEW Digital Literacy and Computer Science Course of Study**

Location: Wilson Room (Level 2)

Presenter: Keith George                      Co-presenter(s): Monica Ousley, Jennifer McCrary

School/ Institution: Alabama Math, Science and Technology Initiative

Target Audience: General Audience

Content Area: General Science

Explore Alabama's NEW Digital Literacy & Computer Science Course of Study and how it can be integrated into the K-8 science classroom. Leave with resources & connections to expand your learning network.

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Session Code: **M-43**

Time: 2:40 - 3:30

Title: **Integrating Technology into Science-Based STEM with the 5E**

Location: Bagby Room (Level 2)

Presenter: Suzan Morris                      Co-presenter: Autumn Zellner

School/ Institution: STEMscopes

Target Audience: Middle School 4-8

Content Area: Earth and Space Science

More than just digital delivery - Technology is about designing authentic solutions in a blended environment. Balancing hands-on with digital investigations is the perfect mix for STEM-based science classroom! Technology can be an integral part of observing phenomenon, gathering evidence and justifying conclusions. Join us to see how this balancing act is possible and needed for student achievement gains.

Session Code: **M-44**

Time: 2:40 - 3:30

Title: **Make & Take with Ala Section of AAPT**

Location: Lackey Room (Level 2)

Presenter: Tommi Holsenbeck

School/ Institution: Science in Motion/Ala State University

Target Audience: General Audience



Content Area: Physics

Become a member(\$10) of the Alabama Section of the American Association of Physics teachers (K-12) and make demos for your classroom with the help of Section members. Concepts from Newton's Laws, electricity/magnetism, sound, etc will be assembled and also the concept fully explored for you to share with your classroom.

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Session Code: **M-45**

Time: 2:40 - 3:30

Title: **STEM/STEAM Connection to Scientific Explanation Framework**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Dr. Jacquelyn (Dr. Jay) Walton

School/ Institution: Pearson Inc.

Target Audience: General Audience



Content Area: General Science

Connecting claim, evidence and reasoning to STEM/STEAM Implementation. Participants will engage in STEM/STEAM activities that stress the importance of incorporating science literacy with the implementation of scientific explanation framework (CER- Claim, Evidence and Reasoning/Rebuttal).

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Session Code: **M-46**

Time: 3:40 - 4:30 Session 5

Title: **Amp Up Your Instructional Day with Robotics**

Location: Sellers Auditorium (Level 1)

Presenter: Seth House

School/ Institution: AMSTI

Target Audience: Early Elementary Pre-K - 3

Co-presenter(s): Kathy Colburn and Ann Iott

Content Area: General Science

This 3-Dimensional Learning session will feature how coding and robotics can be used to maximize teachers' instructional time and elevate student engagement. The participants will experience an integrated 5E lesson that connects Digital Literacy and Computer Science standards across multiple content areas.

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Session Code: **M-47**

Time: 3:40 - 4:30

Title: **Using 3D Printing Across the Curriculum**

Location: Rast Room A (Level 1)

Presenter: Jennifer M. Troncale

Co-presenter: Dr. Michael Alvidrez and Dr. Christi Trucks

School/ Institution: Jacksonville State University

Target Audience: Elementary 1-6

Content Area: General Science

Are you looking for ways to bring the maker movement to your elementary classroom? Join us and discover how a 3D printer can support your students in cross-curricular experiences. 3D Printing technologies serve as a tool to create concrete representations of abstract ideas in science, math, and language arts. Students can use 3D models to explain and justify their scientific understandings, demonstrate problem solving skills in math, and design and create settings from books. Participants will explore 3D printing as a vehicle for teaching young inventors the principles of design using 3D printing software such as TinkerCad and Thingiverse. Make your classroom into a makerspace without a lot of construction paper, cardboard tubes, tape, and modeling clay. It's time to reimagine classroom instruction with more detail and less mess! Participants need to bring a laptop.

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Session Code: **M-48**

Time: 3:40 - 4:30

Title: **Cross-curricular integration with Ozobots**

Location: Rast Room B (Level 1)

Presenter: Frank Ware

Co-presenter(s): Tj Nguyen

School/ Institution: S.C.O.R.E at Auburn University

Target Audience: Elementary 1-6



Content Area: General Science

Why should robots only be used in STEM subjects? Learn how to embed history, art, and other non-STEM subjects into your Ozobot activities. Participants will have a chance to try different activities and learn some tips on how to create their own.

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Session Code: **M-49**

Time: 3:40 - 4:30

Title: **Whatâ€™s a Course? A morsel of a course, of course!**

Location: Nichols Room (Level 1)

Presenter: Ashley P. Smith

Co-presenter(s): Martha Anne Allison, Monica

Ousley

School/ Institution: Alabama Forestry Association

Target Audience: Elementary 1-6

Content Area: Life Science

Preview Project Learning Treeâ€™s new online workshops for K-8 educators! Divided into â€œbite-sizedâ€ courses, each course provides online, self-paced, grade-band specific learning with step-by-step lesson plans plus a range of assessment tools. Lessons also offer connections to science, math, ELA, and social studies standards. Want a FREE access code? Join us!

Session Code: **M-50**

Time: 3:40 - 4:30

Title: **All Teachers Teach Writing: Advancing 3-D Learning and Writing within the Science Classroom**

Location: Central Bank Room (Level 2)

Presenter: Lise Falconer

Co-presenter(s): LeFrante Hutchinson

School/ Institution: AMSTI

Target Audience: Middle School 4-8

Content Area: General Science

You are a busy science teacher who utilizes hands-on methods and don't have time to attend to writing! Or do you? In this hands-on presentation, you will participate in identifying relevant places to assess both 3-dimensional learning and writing and practice determining next steps for instruction.

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Session Code: **M-51**

Time: 3:40 - 4:30

Title: **Motion Commotion**

Location: Birmingham Room (Level 2)

Presenter: Wendy Sammons

Co-presenter: None

School/ Institution: Coppinville Jr High School

Target Audience: Middle School 4-8

Content Area: General Science

Motion commotion will help you to take boring to engaging. You will have an opportunity to actively learn through hands on learning activities. You will leave with fun, realistic, usable learning activities for your science classroom.

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Session Code: **M-52**

Time: 3:40 - 4:30

Title: **The Team in STEAM**

Location: Smith Room (Level 2)

Presenter: Susan Arnette

Co-presenter(s): Judy Duke

School/ Institution: Mobile Area Education Foundation

Target Audience: Middle School 4-8

Content Area: General Science

Team building is a core STEM/STEAM instructional practice. In this hands-on session participants learn how to effectively scaffold the various levels of team building activities, from simple icebreakers to understanding group dynamics to purposeful application when completing a project, which foster engineering habits of mind.

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Session Code: **M-53**

Time: 3:40 - 4:30

Title: **Using Inquiry Labs to Promote a Growth Mindset in the Chemistry Classroom**

Location: Wilson Room (Level 2)

Presenter: Jennifer Senter

School/ Institution: The Donoho School

Target Audience: Secondary 9-12

Content Area: Chemistry

A growth mindset is essential to science process and to the success of 21st century learners. In this interactive session, you will discover several inquiry labs for chemistry that reinforce content while encouraging students' growth and resilience.

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Session Code: **M-54**

Time: 3:40 - 4:30

Title: **AiMS cell respiration**

Location: Bagby Room (Level 2)

Presenter: Emily Smith

School/ Institution: Pisgah

Target Audience: Secondary 9-12

Content Area: Life Science

I will share what I have learned from attending the special workshop between the University of Alabama and the University of Georgia. This workshop will focus on modeling cellular respiration and development of resources for teachers.

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Session Code: **M-55**

Time: 3:40 - 4:30

Title: **ASIM Anatomy part 3**

Location: Lackey Room (Level 2)

Presenter: Lisa Clark

Co-presenter: Sarah Lowman-ASIM biology specialist: ASU

School/ Institution: University of Alabama-

Target Audience: Secondary 9-12

Content Area: Life Science

**ASIM R7 Bone Growth & Pathology:** Use models to observe, describe, and draw conclusions about developmental patterns • Gather/analyze data to draw age inferences • Analyze X-Rays to illustrate bone repair and remodeling evidence • Read/share scientific abstracts' ideas • Evaluate/incorporate others' ideas/conclusions • Create a product as evidence for understanding of systems' interactions with bone processes

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Session Code: **M-56**

Time: 3:40 - 4:30

Title: **Multi-Modal Teaching Methods**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Rachael Tawbush

School/ Institution: University of Alabama

Target Audience: General Audience

Content Area: General Science

This presentation provides a review and hands-on look of how to implement multi-modal teaching methods in the classroom. Come experience multi-modal learning from the student perspective

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## Concurrent Sessions

Tuesday, November 6, 2017

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Session Code: **T-62**

**Time: 8:30 - 9:20 Session 6**

Title: **From STEM to STREAM: Integrating Reading/Writing and the Arts to Increase Student Engagement and Learning**

Location: Sellers Auditorium (Level 1)

Presenter: Kathy Colburn

Co-presenter(s): Emily Burton

School/ Institution: AMSTI

Target Audience: Early Elementary Pre-K - 3

Content Area: General Science

Do you feel like you are swimming up "STREAM" as you attempt to teach all content areas in a day? Join in on lessons that promote 21st century skills through a multidisciplinary approach. Participants will design and create solutions to problems presented in children's literature.

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Session Code: **T-63**

Time: 8:30 - 9:20

Title: **PTRA: K-8 Science Connections with Literature**

Location: Rast Room A (Level 1)

Presenter: Tommi Holsenbeck

Co-presenter:

School/ Institution: Alabama Science in Motion/Ala State University

Target Audience: Elementary 1-6

Content Area: Physics

String and Sticky Tape Demos and Equipment from AAPT/PTRA (American Association of Physics Teachers and Physics Teacher Resource Agents) for K-8 teachers to use for Science/Language Arts connections. Have your students create, build, redesign equipment to model physics principles found in the world around them.

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Session Code: **T-64**

Time: 8:30 - 9:20

Title: **Learning in Motion**

Location: Rast Room B (Level 1)

Presenter: Dana Joyner

Co-presenter(s): Amanda Stone

School/ Institution: Trace Crossings Elementary/Hoover City Schools

Target Audience: Elementary 1-6

Content Area: General Science

Join us for an elementary Tech Ambassador Showcase of Learning. This session will showcase student technology projects in augmented reality, coding and movie making. Students will present their learning and application of curriculum developed during STEAM rotations, classroom learning and real world experiences.

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Session Code: **T-65**

Time: 8:30 - 9:20

Title: **To the Stratosphere and Beyond!**

Location: Nichols Room (Level 1)

Presenter: Diane McAliley

Co-presenter(s):

School/ Institution: Pizitz Middle School, Vestavia Hills City Schools

Target Audience: Middle School 4-8

Content Area: Earth and Space Science

Want to launch a weather balloon into the stratosphere? This session will include how to write a grant to fund the project, meteorology training for students, needed payload equipment and assembly, and retrieval planning.

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Session Code: **T-66**

Time: 8:30 - 9:20

Title: **Makerspace Carousel**

Location: Central Bank Room (Level 2)

Presenter: Donja Dryden

Co-presenter(s): Tara Hood

School/ Institution: Jacksonville State University

Target Audience: Elementary 1-6

Content Area: General Science

Hop on the Makerspace Carousel and get STEM going with a makerspace in your classroom. Participants will learn tips on how to get started with set up, storage, inexpensive materials, task cards and even a couple of take away mini-challenges!

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Session Code: **T-67**

Time: 8:30 - 9:20

Title: **Teaching Evolution in Alabama**

Location: Birmingham Room (Level 2)

Presenter: Lee Meadows

Co-presenter:

School/ Institution: UAB

Target Audience: Secondary 9-12

Content Area: Life Science

Teaching evolution in Alabama can be hard, but it's definitely not impossible. Come here an update on current national trends in evolution education and some exciting news about what's going on right here in Alabama! Leave with more confidence about teaching evolution well to your students.

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Session Code: **T-68**

Time: 8:30 - 9:20

Title: **HeLa: Thinking Back to What We Lack**

Location: Smith Room (Level 2)

Presenter: Komanci (Kay) Love

School/ Institution: The University of Alabama

Target Audience: Secondary 9-12

Content Area: Life Science

The story of Henrietta Lacks is used as a tool to support active science learning by integrating science content, science history, medical ethics and serving as a gateway to discuss race in the classroom.

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Session Code: **T-69**

Time: 8:30 - 9:20

Title: **Integrating Flipgrid in ANY Classroom**

Location: Wilson Room (Level 2)

Presenter: Lisa Acosta

Co-presenter(s):

School/ Institution: Stanhope Elmore High School (Elmore County Board of Education)

Target Audience: Secondary 9-12

Content Area:

Flipgrid allows students to become empowered in a discussion style "grid" that gives them a voice. Students have the opportunity to collaborate interactively locally or globally in a 90-second video.

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Session Code: **T-70**

Time: 8:30 - 9:20

Title: **Transforming Lab Instruction with ADI**

Location: Bagby Room (Level 2)

Presenter: Lincoln Clark

Co-presenter(s): Brooke Wingard, Katie Hardekopf, Ellie Pasqualini

School/ Institution: Berry Middle School

Target Audience: General Audience

Content Area: General Science

Argument Driven Inquiry is a lab instructional model that goes hand in hand with 3 dimensional learning. Come see how you can teach real science while simultaneously covering 2 dozen or more literacy standards. Students learn by designing investigations, analyzing data, and developing arguments based on evidence.

---

Session Code: **T-71**

Time: 8:30 - 9:20

Title: **Funkify your Life**

Location: Lackey Room (Level 2)

Presenter: Andrew J Shea

Co-presenter: Annaliese Danckers

School/ Institution: McDowell Farm School

Target Audience: General Audience

Content Area: Environmental Science

Get into the funky breakdown of America's waste stream with a hands on demonstration involving a host of decomposers- fungi, bacteria, worms, black-soldier flies. Turn your garbage into a thriving, organic, dynamic soil to feed the future.

---

Session Code: **T-72**

Time: 8:30 - 9:20

Title: **Bring on the 4C's with BreakoutEDU!**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Shannon McClain

Co-presenter(s): Gayla Moss

School/ Institution: Jackson County Schools

Target Audience: General Audience

Content Area: General Science

Provide your students an exciting opportunity to collaborate, create, communicate and think critically with BreakoutEDU games! In this session, you'll experience a BreakoutEDU game as a player and also learn the tips & tricks to successfully set up games for your science students!

---

Session Code: T-73

Time: 9:30 - 10:20 Session 7

Title: **Using Children's Literature to Inspire STEM Learning**

Location: Sellers Auditorium (Level 1)

Presenter: Stephanie LeGrone for Kim Stillwell

:

School/ Institution: National Science Teachers Association

Target Audience: Elementary 1-6

Content Area: General Science



Take my recess but please don't take my science time! Come learn about resources such as Picture-Perfect Science Lessons and Eureka! Science Activities and Stories that will have students eager to be at school by using children's picture books to engage students as you integrate ELA and Science standards. Leave with ideas you can implement in your classroom.

---

Session Code: T-74

Time: 9:30 - 10:20

Title: **Bugs, Slugs and Spiders, Oh My! Early Childhood STEAM in Nature**

Location: Rast Room A (Level 1)

Presenter: Madeleine Pearce

School/ Institution: Magnolia Nature Preschool at Camp McDowell

Target Audience: Early Elementary Pre-K - 3

Content Area: General Science



Fostering curiosity through children's connection to the natural world builds the foundation for 21st century skills. The outdoors is perfectly adapted for early childhood inquiry. Join me in a session to learn core routines that make it possible to take young children outside and explore STEAM in nature.

---

Session Code: T-75

Time: 9:30 - 10:20

Title: **Cleaning up the Connections between Science and Literacy: Integrating ELA and Science through Real-World Context**

Location: Rast Room B (Level 1)

Presenter: Kathryn (Katy) Hutchinson

School/ Institution: Museum of Science, Boston

Target Audience: Elementary 1-6

Content Area: Environmental Science

This engaging, hands-on session will model how both science and ELA instruction can be equally enhanced by integrating these core subjects through the use of Appendix M of the Next Generation Science Standards (NGSS) – Connections to the Common Core State Standards (CCSS) for Literacy in Science and Technical Subjects.

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Session Code: **T-76**

Time: 9:30 - 10:20

Title: **Cross-Curriculum Collaboration: Full STEAM Ahead**

Location: Nichols Room (Level 1)

Presenter: Deana Elmore

Co-presenter(s): Sandra Trotter

School/ Institution: Goshen Elementary School

Target Audience: Elementary 1-6

Content Area: General Science

In this session, attendees will learn the benefits and steps to developing a cross-curricular guide for subject matter growth and connection through grade level partnerships. The creative guide will include an curriculum example that utilizes all aspects of the STEAM model.

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Session Code: **T-77**

Time: 9:30 - 10:20

Title: **STEM Challenge: Ongoing Engagement through Problem Solving**

Location: Central Bank Room (Level 2)

Presenter: Alexandra Wakely

School/ Institution: Army Educational Outreach Programs/NSTA

Target Audience: Middle School 4-8

Content Area: General

Science



In this interactive workshop, participants will:

-Solve puzzles that can be taken to the classroom to model problem-based learning

-Share how the online STEM competition, eCYBERMISSION gives students a chance to explore and solve problems using science and engineering and how teachers and students can participate at no cost

---

Session Code: **T-78**

Time: 9:30 - 10:20

Title: **Creating an Engaging Environment in Science Everyday**

Location: Birmingham Room (Level 2)

Presenter: Kevin Pughsley

Co-presenter(s): Ricardo Conte

School/ Institution: Berry Middle School

Target Audience: Middle School 4-8

Content Area: General Science

Tips and strategies to create a daily environment where teachers and students look forward to class everyday. Which establishes an engaging atmosphere that keeps the students wanting more and wondering what's next.

---

Session Code: **T-79**

Time: 9:30 - 10:20

Title: **NBCT Submission Tips**

Location: Smith Room (Level 2)

Presenter: Karla McInnis

Co-presenter:

School/ Institution: Mary G Montgomery High School

Target Audience: General Audience

Content Area: General Science

Come join an informal discussion regarding the NBCT process. I will do my best to answer the questions that I asked myself along my process. What does it entail? How much time does it take? Where do you start? How do I interpret those pages of directions?

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Session Code: **T-80**

Time: 9:30 - 10:20

Title: **Putting the T in STREAM**

Location: Wilson Room (Level 2)

Presenter: Rose Mary Henderson

School/ Institution: AMSTI

Target Audience: Middle School 4-8

Co-presenter(s): James Kacmarzyk

Content Area: Physical Science

STREAM session will allow participants to explore motion, velocity, and acceleration through hands-on investigation using technology. Participants will learn to use the data collected as evidence of learning.

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Session Code: **T-81**

Time: 9:30 - 10:20

Title: **Tips for Implementing 3-Dimensional Science Assessments**

Location: Bagby Room (Level 2)

Presenter: Cindy Willingham

School/ Institution: UAB

Target Audience: Secondary 9-12

Co-presenter(s): Becke Stripling

Content Area: General Science



In this session, participants will be introduced to resources to help in developing formative assessments using DCIs, CCCs, and SEPs. Participants will also have an opportunity to 3-Dimensionalize some existing assessment tasks.

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Session Code: **T-82**

Time: 9:30 - 10:20

Title: **So You're a Science Teacher...Now What?**

Location: Lackey Room (Level 2)

Presenter: Misty Lewis

School/ Institution: Northside High School

Target Audience: Secondary 9-12

Co-presenter(s): Christina Sciaroni

Content Area: General Science

How's your first year going? What's working great? What are you having trouble with? Do you need a pep talk or just need to spend time with others who are in the same boat as you? Want some tips and tricks to make your first year less stressful? Let's get together for an interactive discussion on the ups and downs of being a first year science teacher!

---

Session Code: **T-83**

Time: 9:30 - 10:20

Title: **Truth, Lies & Scientific Literacy**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Cynthia Thomas

School/ Institution: Hewitt Trussville High School

Target Audience: Secondary 9-12

Content Area: General Science

When society is bombarded with "fake news", conspiracy theories, pseudoscience and even hoax websites how do you distinguish truth from fiction? Learn how to use a breakout activity to teach your students how to analyze what you read and view online for accuracy, credibility, and bias.

**Program Note: 11:30 -12:30 General session 11:30 - 12:45 Lunch and Voting on Bylaws**

Session Code: **T-86**

Time: **12:50 - 1:40 Session 8**

Title: **"I'll Huff and I'll Puff and I'll Blow Your House Down" or Not!**

Location: Sellers Auditorium (Level 1)

Presenter: Angela Shorter

Co-presenter(s): Jennifer Scott and Marcia Segers

School/ Institution: Cahaba Elementary School

Target Audience: Early Elementary Pre-K - 3

Content Area: Earth and Space Science

Step into an early childhood setting where kids design, create, and test. In a collaborative lesson with the art teacher and high school engineering teachers, kindergarten students construct houses after studying "The Three Little Pigs" and the effects of severe weather. Can your house withstand a tornado? Let's test it!

---

Session Code: **T-87**

Time: 12:50 - 1:40

Title: **e2 CSI-elementary evidence of Content Science Investigations**

Location: Rast Room A (Level 1)

Presenter: April Mitchell

Co-presenter: Christie Orr, Lynn Reeves, Melody Ward

School/ Institution: AMSTI-UAB

Target Audience: Elementary 1-6

Content Area: General Science

K-5 Evidence of 3D learning strand. Participants will engage in 3D Science investigations. Participants will collect evidence of 3D learning as they navigate through investigative science stations. This session is interactive way to analyze and collect evidence of 3D learning. 75 minute session if possible

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Session Code: **T-88**

Time: 12:50 - 1:40

Title: **Genius Hour: Unlocking Your Student's Passions**

Location: Rast Room B (Level 1)

Presenter: Holley Burford

Co-presenter(s): Wendi Hall

School/ Institution: Stemley Road Elementary

Target Audience: Elementary 1-6

Content Area: General Science

Genius Hour is a great way to give students voice and choice with their learning. Students are able to unlock their creativity as they research a topic they are passionate about. Students are encouraged to use what they have learned about the Engineering Design Process to complete their projects.

---



Session Code: **T-89**

Time: 12:50 - 1:40

Title: **National Geographic's Geo-Inquiry Process in Action!**



Location: Nichols Room (Level 1)

Presenter: Carley Lovorn      Co-presenter(s): Bette Cobb

School/ Institution: National Geographic Society

Target Audience: Middle School 4-8

Content Area: General Science

Geo-Inquiry is an exciting new integrated, project-based process that connects real-world challenges and National Geographic explorers to the classroom. In this interactive session, science educators will learn new strategies to help students develop the critical thinking skills to ask geographic questions, collect information, use GIS to visualize, create a compelling story, and ultimately become advocates for change in their local community.

---

Session Code: **T-90**

Time: 12:50 - 1:40

Title: **3-2-1 Mission Impact!**

Location: Central Bank Room (Level 2)

Presenter: Roberta Ludwigsen-Hill      Co-presenter(s): Elizabeth Hammonds-Cook

School/ Institution: AMSTI-Montevallo

Target Audience: Middle School 4-8

Content Area: General Science

Explore a STEAM lesson through the construction of a Mars Lander and learn how to incorporate STEAM within your school or district. Participants will be blasted with tips, tools, and techniques to create out of this world STEAM experiences for their students.

---

Session Code: **T-91**

Time: 12:50 - 1:40

Title: **Promoting STEM Careers in Underrepresented Groups**

Location: Birmingham Room (Level 2)

Presenter: Lincoln Clark      Co-presenter: Brooke Wingard, Katie Hardekopf, Ellie Pasqualini

School/ Institution: Berry Middle School

Target Audience: Middle School 4-8

Content Area: General Science

Create a program in your school that helps get students more interested in STEM careers. Many students just don't know what's out there - within their grasp. Hear how we are creating a spark that may lead to course decisions, academy or magnet participation, and even decisions about which colleges are best for them (if at all).

---

Session Code: **T-92**

Time: 12:50 - 1:40

Title: **Teaching Physical Science in the 21st Century**

Location: Smith Room (Level 2)

Presenter: Dennis W. Sunal      Co-presenter(s): , Marilyn Stephens, Krystal

Flantroy, Rachel Tawbush, Cynthia Sunal, Barry Briggs; Jacob Curtis, Marvin Kyle Evans, Garrett Pinkerton

School/ Institution: University of Alabama

Target Audience: Secondary 9-12

Content Area: Physical Science

Hands-on activities present STEAM lessons teaching ACOS standards. The focus is on how to develop learning activities in daily lessons while effectively monitoring student progress using formative assessment. Activities address topics from chemistry and physics.

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Session Code: **T-93**

Time: 12:50 - 1:40

Title: **Uncovering the genetics of skin color.**

Location: Wilson Room (Level 2)

Presenter: Ryan Reardon

School/ Institution: HHMI Biointeractive

Target Audience: Secondary 9-12

Content Area: Life Science



Do you want to help your students understand the beautiful diversity they see in their classrooms, their hallways, and outside of school? We will use resources from HHMI Biointeractive to explore the interactions between genes and environment that help explain how various skin tones evolved.

---

Session Code: **T-94**

Time: 12:50 - 1:40

Title: **Particle Diagrams and Energy**

Location: Bagby Room (Level 2)

Presenter: Emily Menard

School/ Institution: Alabama Science in Motion- UAB

Target Audience: Secondary 9-12

Content Area: Chemistry



Come see how to examine energy transfers through particle diagrams using a toy (hand boiler or "love meter"). This activity is engaging for students and the equipment is very simple so that students can focus on the energy transfers. This is the new explore portion of the ASIM chemistry lab "Simple Distillation."

---

Session Code: **T-95**

Time: 12:50 - 1:40

Title: **Use of the new book, Alabama Rivers, A Celebration and Challenge to promote STEAM in the Classroom**

Location: Lackey Room (Level 2)

Presenter: William Deutsch

School/ Institution: Alabama Water Watch

Target Audience: General Audience

Content Area: Environmental Science



A new book about Alabama Rivers blends natural history with human history to discuss the state's geology, hydrology, biodiversity, cultural geography, water policy, and citizen involvement in protecting and restoring our rivers. A Companion Guide will assist teachers in using many aspects of the book to promote STEAM in the classroom.

---

Session Code: **T-96**

Time: 12:50 - 1:40

Title: **E2E: Empowering Teachers to Equip Learners for Academic Success**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Patrice Marbry

Co-presenter(s): Ty Lucy

School/ Institution: AMSTI-UM

Target Audience: General Audience

Content Area: General Science

In this session we will look at and use the "Tuning Protocol and Collaborative Assessment Conference" strategies. These tools are used to evaluate written student work and foster conversations about where a student is currently and how to move them academically. Educators will leave with the knowledge and ability to establish and incorporate effective PLCs to encourage student growth.

Session Code: **T-97**

**Time: 1:50 - 2:40 Session 9**

Title: **Science/Math Integration for a Sustainable Planet**

Location: Sellers Auditorium (Level 1)

Presenter: Jennifer Davis

School/ Institution: University of Montevallo

Target Audience: Elementary 1-6

Content Area: Environmental Science

Discover hands-on activities on real-world human ecology concepts (population growth, natural resource use and biodiversity) while building foundational math skills. In this STEM-focused workshop, engage in role-playing simulations, graphing, and mathematical modeling for the elementary classroom. Receive electronic lesson plans matched to the Alabama Course of Study.

---

Session Code: **T-98**

Time: 1:50 - 2:40

Title: **Think Outside: No Box Required**

Location: Rast Room A (Level 1)

Presenter: Amanda Spurling

School/ Institution: Fayetteville High School

Target Audience: Elementary 1-6

Co-presenter(s): Ashley Tilley

Content Area: Environmental Science

Take a day to celebrate the Earth! Participants will learn to organize a school-wide Earth Day celebration by taking learning outdoors. We will share ways to utilize stakeholders, teachers, and students to provide deep learning through standards-based opportunities. Learn how to utilize your campus and available resources to maximize learning.

---

Session Code: **T-99**

Time: 1:50 - 2:40

Title: **Integrating Robotics, Science and Math:**

Location: Rast Room B (Level 1)

Presenter: Chelsea Bailey

School/ Institution: AMSTI USA

Target Audience: Elementary 1-6

Co-presenter: Nicolette Nalu

Content Area: Physical Science



Effective teaching tools or just fun toys? In this session we will take a look at effective use of robotics and coding through the force and motion standards progressions and how DLCS is not meant to be one more set of standards to teach in isolation, but rather integrated into content standards.

---

Session Code: **T-100**

Time: 1:50 - 2:40

Title: **Eufaula City Schools STEAM Camp Success Story**

Location: Nichols Room (Level 1)

Presenter: Michele Eller

School/ Institution: Eufaula City Schools

Target Audience: Middle School 4-8

Co-presenter(s): Raven Ivey

Content Area: General Science

This session will show administrators and teachers how they can partner with business/industry and postsecondary to prepare the future workforce using STEAM. Eufaula City Schools has successfully implemented a STEAM Camp for students (grades 4-8) and their parents for the past two years. As a result, they have seen an

increase in students entering STEM-related courses and careers, an increase in business/industry partnerships with students and teachers, and an increase in parental involvement.

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Session Code: **T-101**

Time: 1:50 - 2:40

Title: **Differentiation with STEAM and 3D Science**

Location: Central Bank Room (Level 2)

Presenter: Kristy Leigh Taylor

Co-presenter(s): Mindy Hermezc Cooper

School/ Institution: Lincoln Elementary/Talladega County Schools/AMSTI-UM

Target Audience: Middle School 4-8

Content Area: General Science

Small group science for your scientists and engineers is easier than you think!

In this session, we'll model differentiation through stations that incorporate literature, vocabulary, hands-on science, engineering, technology, and robotics. Teachers work closely with groups on appropriate levels, while still giving students opportunities to work at an appropriate pace, have voice and choice, and use creativity!

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Session Code: **T-102**

Time: 1:50 - 2:40

Title: **Creating a Classroom Culture for the New Standards**

Location: Birmingham Room (Level 2)

Presenter: Angie Richardson

Co-presenter(s): Stacy Pugh

School/ Institution: Vestavia Hills High School

Target Audience: Secondary 9-12

Content Area: Life Science

Do your students just want the right answer? Are you always asked for a study guide? Share with us and discuss ways to create a classroom atmosphere that encourages inquiry learning.

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Session Code: **T-103**

Time: 1:50 - 2:40

Title: **Southern Research Summer Internship Program for STEM Educators (SIPSE)**

Location: Smith Room (Level 2)

Presenter: Kathryn Lanier

Co-presenter: Candyce Monroe , Jacqueline Thomas-Edwards, James

LeCroy, Janet Ort, Raisa Eady, Samantha Davis

School/ Institution: Southern Research

Target Audience: Secondary 9-12

Content Area: General Science

Southern Research Summer Internship Program for STEM Educators (SIPSE) is a professional development program for Alabama high school teachers. Teachers spend six weeks learning first-hand how scientists and engineers approach problems, design experiments, interpret data, communicate findings, and develop and implement workplace solutions. SIPSE offers real-world applications of STEM disciplines, resulting in increased content knowledge and practical examples for enriched instruction and teaching practices rooted in evidence-based experiences.

---

Session Code: **T-104**

Time: 1:50 - 2:40

Title: **Using Memes, Puns, Jokes, and Comics in the Science Classroom**

Location: Wilson Room (Level 2)

Presenter: Emily Doty

Co-presenter(s): Ashlee Kimpel

School/ Institution: Citronelle High School

Target Audience: Secondary 9-12

Content Area: General Science

Memes, puns, jokes, and comics are an excellent tool to use in the science classroom. We have used these tools before a lesson to assess prior knowledge, during a lesson to determine the grasp of students' knowledge of a concept, and at the conclusion of a lesson to verify the students' comprehension.

---

Session Code: **T-105**

Time: 1:50 - 2:40

Title: **Discovering Alabama: Science Made Locally Relevant**

Location: Bagby Room (Level 2)

Presenter: Doug Phillips

Co-presenter(s): Pam Sloan

School/ Institution: Discovering Alabama at UA Alabama Museum of Natural History

Target Audience: General Audience

Content Area: Environmental Science

Dr. Doug's Emmy award winning Discovering Alabama has been a resource for teachers to make learning locally relevant for students in all disciplines. Come along as he illustrates ways to enrich your classes using the latest bicentennial editions of Discovering Alabama. Take home free materials and activities from this session.

---

Session Code: **T-106**

Time: 1:50 - 2:40

Title: **So You Wanna Come to Space Camp...**

Location: Lackey Room (Level 2)

Presenter: Heather Roden

Co-presenter(s): April Adcock

School/ Institution: U.S. Space and Rocket Center

Target Audience: General Audience

Content Area: Earth and Space Science



Have you ever wanted to come to Space Camp, but didn't think you had the means? What about suggesting it to, or better yet, bringing your students? In this session, we will discuss the opportunities available to you as an Alabama educator. We will include resources, field trips, and even Space Camp adventures!

---

Session Code: **T-107**

Time: 1:50 - 2:40

Title: **From Electricity Basics to the Electric Body**

Location: Hotel Capstone - Fitzpatrick Room (Level 1)

Presenter: Michelle Reed

School/ Institution: Carolina Biological Supply

Target Audience: Middle School 4-8



Content Area: General Science

How does your body use electrical signals to detect and respond to its environment? The combination of Life Science and Physical Science Performance Expectations help middle school students develop models and explain phenomena related to the nervous system. Take home new 3-D lessons.

Session Code: **T-108**

Time: 2:50 - 3:40 Session 10

Title: **Planting the Seeds of STEAM: Designing Plant Packages with the Consumer in Mind**

Location: Sellers Auditorium (Level 1)

Presenter: Kathryn (Katy) Hutchinson

School/ Institution: Museum of Science, Boston

Target Audience: Elementary 1-6

Content Area: Life Science

We will explore how to balance the needs of consumers with the needs of products as we create packages for shipping and selling a plant. The ease of integrating the STEAM domains will become apparent through engagement in an engineering design challenge that authentically requires all five domains for success.

---

Session Code: **T-109**

Time: 2:50 - 3:40

Title: **Empowering Students to Lead STEAM Integration**

Location: Rast Room A (Level 1)

Presenter: Amanda Cramer

Co-presenter(s): Carla Marchant

School/ Institution: Shades Mountain Elementary School

Target Audience: Elementary 1-6

Content Area: General Science

Participants will learn how to empower students to facilitate STEAM through integration of coding, engineering, and digital tools across the curriculum. Fostering the development of critical skills of creativity, collaboration, critical thinking, and communication throughout the process.

---

Session Code: **T-110**

Time: 2:50 - 3:40

Title: **Beyond the Four Walls: Integrating Real World Experiences Into Everyday Curriculum**

Location: Rast Room B (Level 1)

Presenter: Chandra Mason

Co-presenter(s): Chandra Mason, Shelly Huver, Mary

Rasbury, Rachel Halper, Ashleigh Kruse

School/ Institution: Northridge Middle School (Former Rock Quarry Middle)

Target Audience: Middle School 4-8

Content Area: General Science

My fellow colleagues and I would like to propose a presentation on “Beyond the Four Walls: Integrating Real World Experiences Into Everyday Curriculum”. With this, we plan to present the idea of how to incorporate classroom instruction into a field trip, (ie, projects based on field experiences, collections of data, and collaboration with peers-both those who stay back from the trip and those who travel on the trip.) We plan to provide ideas to incorporate technology into these projects as well as examples on how to present findings to their peers upon completion of the field trip.

---

Session Code: **T-111**

Time: 2:50 - 3:40

Title: **Breakout and Assessment**

Location: Nichols Room (Level 1)

Presenter: Rose Henderson

School/ Institution: AMSTI\_USA

Target Audience: Middle School 4-8



Content Area: General Science

Learn how to use Breakout rooms as a way to allow groups of two or more participants to meet and collaborate. Teachers can assign one or more participants to breakout rooms to complete a self-paced exercise or assessment, or for team competitions. Used as a formative tool for the classroom, the breakout format is fun and engaging 3-D assessment.

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Session Code: **T-112**

Time: 2:50 - 3:40

Title: **Get on the TechTrain**

Location: Central Bank Room (Level 2)

Presenter: Jada Burns

School/ Institution: Hewitt Trussville Middle School

Target Audience: Middle School 4-8

Content Area: General Science

Are you ready to learn how to incorporate technology into your class? This session will teach Google for Education, chromebook apps and extensions and other helpful hints and tips.

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Session Code: **T-113**

Time: 2:50 - 3:40

Title: **Graphical Data: Use and Misuse**

Location: Birmingham Room (Level 2)

Presenter: Jill Chambers

School/ Institution: ASIM UAB

Target Audience: Secondary 9-12

Co-presenter(s): Malysa Chandler



Content Area: General Science

The same graph can tell two very different stories. How can we trust what we see portrayed in graphs designed to sway our opinion. Learn how your students can analyze graphical data for validity while also considering the reliability of the data behind the graph.

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Session Code: **T-115**

Time: 2:50 - 3:40

Title: **The Anatomy of Great Lessons**

Location: Wilson Room (Level 2)

Presenter: Ryan Reardon

Co-presenter:

School/ Institution: Jefferson County International Baccalaureate

Target Audience: Secondary 9-12

Content Area: Life Science

Work with me to transform three didactic lessons into student-centered inquiries. Whether it's looking at hominid phylogeny, learning about survivorship curves, or understanding linear regression; the activity comes before content, and students collaborate to uncover patterns in data sets.

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Session Code: **T-116**

Time: 2:50 - 3:40

Title: **Humanizing Your Evolution Unit**

Location: Bagby Room (Level 2)

Presenter: Carolanne Grogan

School/ Institution: Saraland High School

Target Audience: General Audience

Content Area: Life Science

A common misconception about evolution of life is that humans have not and are not evolving. In this session, a variety of human evolution activities and resources will be introduced for developing a unit based that best suits your classroom and students including a sample 5E unit.

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Session Code: **T-117**

Time: 2:50 - 3:40

Title: **Become a National Geographic Certified Educator!**

Location: Lackey Room (Level 2)

Presenter: Carley Lovorn

Co-presenter(s): Bette Cobb

School/ Institution: National Geographic Society

Target Audience: General Audience

Content Area: Opportunity

Join us to learn about National Geographic's Educator Certification Program and Educator Community. You will complete Phase 1 of the certification process, diving into National Geographic's Learning Framework, which covers the attitudes, skills, and knowledge areas needed to transform students into explorers. This certification is a free professional development program that supports educators to become innovative leaders who teach students about the world, empowering them to succeed and to make it a better place.

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Session Code: **T-120**

Time: 2:50 - 3:40

Title: **Fly High with Math and Science**

Location: Rast Room A (Level 1)

Presenter: Keshia Williams

Co-presenter(s): Jenae Whitfield

School/ Institution: Robert E. Lee High School

Target Audience: Secondary 9-12

Content Area: General Science

Learn how to integrate math and science while taking a virtual trip as a pilot with flight simulator software! You will be able to apply STEAM concepts by exposing your students to real-life applications. Are you ready for take-off?

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Session Code: **T-121**

Time: 2:50 - 3:40

Title: **Tracking an Outbreak**

Location: Rast Room B (Level 1)

Presenter: Karla A. McInnis

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School/ Institution: Mary G Montgomery High School

Target Audience: Secondary 9-12

Content Area: Life Science

Come see how public health outbreaks can be used to incorporate topics like genetics, antibacterial resistance, and immunology. This unit will take you on a journey from the start of an outbreak to the final diagnosis and treatment. It will also introduce your students to numerous STEM concepts as well as Biomedical Careers. Laptops will be helpful but not necessary.

---

Session Code: **T-122**

Time: 2:50 - 3:40

Title: **Adapting Current Activities to Meet the COS Science Standards**

Location: Nichols Room (Level 1)

Presenter: Virginia Hall

School/ Institution: MGM HS / MCPSS

Target Audience: Secondary 9-12

Content Area: Earth and Space Science

This session will walk participants through the adaptation of a current activity to meet the new COS state standards in science. It will demonstrate how to break a new COS standard down to what it really means, pick out the main ideas, and adapt what is available to meet all or part of the new standard.

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Session Code: **T-123**

Time: 2:50 - 3:40

Title: **Mountains to the Gulf**

Location: Central Bank Room (Level 2)

Presenter: Maggie Johnston

Co-presenter: Dr. Bill Deutsch and David Matson

School/ Institution: McDowell Environmental Center and Farm School

Target Audience: General Audience

Content Area: General Science

Mountains to the Gulf Expedition. Legacy, Partners in Environmental Education sponsors this annual trip for educators to learn from the gurus of science about Alabama's wonders. Past participants say this is the best educational opportunity they have ever experienced! Come learn more!

Session Code: **T-124**

Time: 2:50 - 3:40

Title: **Rethinking Scientific Explanations**

Location: Birmingham Room (Level 2)

Presenter: William Payne

School/ Institution: Restoration Academy

Target Audience: General Audience

Content Area: General Science

Evolution is a theory based on an interpretation of select data, while contrary data is often misinterpreted or ignored. Last year the AL Legislature passed HJR 78, the "Academic Freedom Resolution," encouraging teachers to "...explore scientific questions, develop critical-thinking skills, analyze the scientific strengths and weaknesses of scientific explanations...." Scientific data challenging conventional paradigms, including evolution, chemical origins of life, Earth History, and global warming, will be presented.

---

Session Code: **T-125**

**Time: 3:50 - 4:40 Session 11**

Title: **Using Interactive Notebooks in Science**

Location: Smith Room (Level 2)

Presenter: Stephanie Wainwright

School/ Institution: Fairhope High School

Target Audience: General Audience

Content Area: General Science

This session teaches you how to use interactive notebooks in your class. Interactive notebooks help your students stay organized by keeping all their work in one place. This is for all class levels.

---

Session Code: **T-126**

Time: 3:50 - 4:40

Title: **Citizen Scientist Projects in the Classroom**

Location: Wilson Room (Level 2)

Presenter: Elizabeth Burttram

School/ Institution: Helena Middle School

Target Audience: Middle School 4-8

Co-presenter(s): Angela Edwards

Content Area: General Science

Take advantage of the citizen scientist movement! Learn how to use citizen scientist resources in your classroom to support technology, literacy, and science standards. Information will be given on differentiation, tech management, finding appropriate experiments, and student products of learning.

---

Session Code: **T-127**

Time: 3:50 - 4:40

Title: **Engineering Survival in the Zombie Apocalypse**

Location: Bagby Room (Level 2)

Presenter: Donja Dryden

School/ Institution: Jacksonville State University

Target Audience: Middle School 4-8

Co-presenter: Shelley Roberts

Content Area: General Science

Your group has taken refuge from the zombie herds, but they are not far behind. This challenge will require you and a partner to unleash some engineering in order to protect the group from the undead with your brains on their minds.

## Presenter List

<b>Last Name</b>	<b>First Name</b>	<b>Institution/ School</b>	<b>Co-Presenter(s)</b>	<b>Session Code(s)</b>
Acosta	Lisa	Stanhope Elmore High School		T-69
Arnette	Susan	Bagby Area Education Foundation	Judy Duke	M-52
Bailey	Chelsea	AMSTI USA	Nicolette Nalu	T-99
Bero	Beth	Horizon Elementary		M-4
Brownell	Lee	AMSTI UNA	Leah Torisky	M-14
Burford	Holley	Stemley Road Elementary	Wendi Hall	T-88
Burns	Jada	Hewitt Trussville Middle School		T-112
Burttram	Elizabeth	Helena Middle School	Angela Edwards	T-126
Chambers	Jill	ASIM UAB	Malysa Chandler	T-113
Clark	Lisa	University of Alabama	Sarah Lowman-ASIM biology specialist: ASU Brooke Wingard, Katie Hardekopf, Ellie Pasqualini	M-21,33,55
Clark	Lincoln	Berry Middle School		T-70,91
Colburn	Kathy	AMSTI Shades Mountain Elementary School	Emily Burton	T-62
Cramer	Amanda		Carla Marchant	T-109
Davis	Jennifer	University of Montevallo		T-97
Deutsch	William	Alabama Water Watch		M-22, T--95
Dindo	Charlene	Independent consultant	Dr. Kay Atchison-Warfield	M-10
Doty	Emily	Citronelle High School	Ashlee Kimpel Tara Hood, Shelley Roberts	T-104
Dryden	Donja	Jacksonville State University		T-66,127
Eller	Michele	Eufaula City Schools	Raven Ivey	T-100
Elmore	Deana	Goshen Elementary School	Sandra Trotter	T-76
Engle	Dennis	AMSTI--Athens State University		M-15
Evans	Geri	Bluff Park Elementary	Krista Fehler	M-11

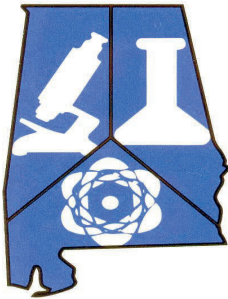
Falconer	Lise	AMSTI	LeFrante Hutchinson	M-50
Genareau	Kimberly	The University of Alabama Alabama Math, Science and Technology Initiative	Monica Ousley, Jennifer McCrary	M-9 M-42
George	Keith			
Grogan	Carolanne	Saraland High School National Science Teachers Association		T-116 T-73
Gutierrez	Jen			
Hall	Virginia	MGM HS / MCPSS University of Alabama in Huntsville		T-122 M-36
Hamilton	Frances			
Harville-York	Haley	University of Alabama	Sunal, DOUNG, Harstad, Moon, Morgan, Shull, Stanley, Walker	M-30
Henderson	Rose Mary	AMSTI	James Kacmarzyk	T-80
Henderson	Rose	AMSTI, USA		T-111
Hines	Marla	Vestavia Hills High School Science in Motion/Ala State University	Heather Sigman-Arias	M-31 M-44, T-63
Holsenbeck	Tommi			
House	Seth	AMSTI Baconton Community Charter School/The Teacher Institute for Evolutionary Science	Kathy Colburn , Ann Lott	M-46
Howell	Patti			M-6
Hudson	Patricia	Fairhope High School	Lori Havard	M-34
Hutchinson	Kathryn	Museum of Science, Boston McDowell Environmental Center and Farm School	Dr. Bill Deutsch and David Matson	T-75,108 T-123
Johnston	Maggie			
Jones	Debbie	Accelerate Learning/STEMscopes Trace Crossings		M-5
Joyner Kopaska -Merkel	Dana David C.	Elementary/Hoover City Schools Geological Survey of Alabama	Amanda Stone Monroe , Thomas-Edwards, LeCroy, Ort, Eady, Davis	T-64 M-18
Lanier	Kathryn	Southern Research		T-103
Lewis	Misty	Northside High School	Christina Sciaroni	T-82
Loftin	Madelene	HudsonAlpha Institute for	Jennifer Carden	M-8

		Biotechnology		
Love	Komanci (Kay)	The University of Alabama		T-68
Lovorn	Carley	National Geographic Society	Bette Cobb	T-89,117
Ludwigsen- Hill	Roberta	AMSTI-Montevallo	Elizabeth Hammonds-Cook	T-90
Marbry	Patrice	AMSTI-UM	Ty Lucy	T-96
Marchant	Carla	Shades Mountain Elementary	Amanda Cramer	M-38
Mason	Chandra	Northridge Middle School (Former Rock Quarry Middle)	Mason, Huver, Rasbury, Halper, Kruse	T-110
Maze	Patty	AMSTI/Athens State University	Monica Ousley	M-37
McAliley	Diane	Pizitz Middle School, Vestavia Hills City Schools		T-65
McCall	Megan	Bayside Academy		M-13
McClain	Shannon	Bridgeport Middle School	Autumn Zellner, Gayla Moss	M-41 T-72
McGinnis	Carol	AMSTI - Jacksonville State University	Tara Hood	M-25
McInnis	Karla	Mary G Montgomery High School		T-79,121
Meadows	Lee	UAB		T-67
Menard	Emily	Alabama Science in Motion- UAB		T-94
Miller-Way	Tina	Dauphin Island Sea Lab		M-7
Mitchell	April	AMSTI-UAB	Christie Orr, Lynn Reeves, Melody Ward	T-87
Morris	Suzan	STEMscopes	Autumn Zellner Ashley Tilley, Jennifer Towles	M-32,43
Nalu	Nicolette	AMSTI-University of Montevallo		M-26
Nelson	Lori	Roger B. Chaffee Elementary School		M-3
Nguyen	Tj	SCORE@Auburn University	Frank Ware	M-20
OBrien	Thom	Explorelearning		M-16
Ort	Janet	Hoover High School		M-19
Pate	Kari	Vestavia Hills High School	Laura Fewell	M-17
Payne	William	Restoration Academy		T-124

Pearce	Madeleine	Magnolia Nature Pre-school at Camp McDowell		T-74
Perry	Blaire	Paine Elementary -Trussville City Schools	Heather Findley	M-28
Phillips	Doug	Discovering Alabama at UA Alabama Museum of Natural History	Pam Sloan	T-105
Pistorius	Carolyn	Carolina Biological Supply		M-2
Pughsley	Kevin	Berry Middle School	Ricardo Conte	T-78
Reardon	Ryan	HHMI Biointeractive, JCIB		T-93,115
Reed	Michelle	Carolina Biological Supply		T-107
Richardson	Angie	Vestavia Hills High School	Stacy Pugh AMSTI Middle School	T-102
Roberts	Shelley	Jacksonville State University AMTI	Science Specialists	M-40
Roden	Heather	U.S. Space and Rocket Center	April Adcock	T-106
Sammons	Wendy	Coppinville Jr High School		M-51
Senter	Jennifer	The Donoho School		M-53
Shea	Andrew J	McDowell Farm School	Annaliese Danckers Jennifer Scott and Marcia Segers	T-71
Shorter	Angela	Cahaba Elementary School	Martha Anne Allison, Monica Ousley	T-86
Smith	Ashley P.	Alabama Forestry Association		M-49
Smith	Emily	Pisgah		M-54
Spurling	Amanda	Fayetteville High School	Ashley Tilley Stephens, Flantroy, Tawbush,Sunal, Briggs, Curtis, Evans,Pinkerton	T-98
Sunal	Dennis W.	University of Alabama		T-92
Tawbush	Rachael	University of Alabama Lincoln Elementary/Talladega County Schools/AMSTI-UM		M-56
Taylor	Kristy Leigh		Mindy Hermezc Cooper	T-101
Thomas	Cynthia	Hewitt Trussville High School		T-83
Thompson	Ellen	AMSTI - UAH	Ann Lott, Mary Headrick & Shundra Morris	M-27
Troncale	Jennifer M.	Jacksonville State University	Dr. Michael Alvidrez and Dr. Christi Trucks	M-47

Upchurch	Shandra	Riverton Elementary School		M-48
Vajda	Peter	True North Partnering		M-39
Wainwright	Stephanie	Fairhope High School Army Educational Outreach Programs/NSTA		T-125
Wakely	Alexandra	Programs/NSTA		T-77
Walton	Dr. Jacquelyn	Pearson Inc.		M-45
Ware	Frank	S.C.O.R.E, Auburn	Tj Nguyen	M-48
Whitt	Daniel	Madison City Schools		M-1
Williams	Dawn	University of Alabama	Preethi Nair, Igor Ostrovskiy	M-29
Williams	Keshia	Robert E. Lee High School	Jenae Whitfield	T-120
Willingham	Cindy	UAB	Becke Stripling	T-81

**Appendix A:**



# Proposed 2018 Bylaw Amendments

## Alabama Science Teachers Association

Policies and Procedures

Prepared May, 2013

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## **Proposed Amendments to the Alabama Science Teachers Association Policies and Procedures manual dated May 2013 which includes Bylaws dated March, 2000.**

Unless otherwise noted these amendments will go into effect as of the first day of the 2020 Annual Conference.

These suggested amendments are to be voted on by the Membership on November 6th 2018, at the Annual Conference.

These amendments/changes are designed to clarify certain points and streamline deadlines and what is expected to take place at the conference. Several changes are to update outdated practices to more modern digital methods of communication.

### **Proposed General Amendment #1**

It is proposed to split the document into two documents. One document would contain only the bylaws. The second document would contain the Operating Procedures and all needed appendices.

The Rationale for this Amendment it will allow the board to amend operating procedures as a regular board action without having to amend the entire document and conducting a vote of the entire membership. Bylaw changes will continue to follow the process for Amendments as outlined in Article XV of the bylaws.

### **Proposed General Amendment #2**

In several places in the document the words conference and convention are used interchangeably to describe what is currently commonly referred to as the Conference. To avoid confusion it is proposed to amend all references to the “Annual Convention” and replace the word “convention” with the word “conference.”

The rationale for this amendment is that use of consistent language will avoid any misunderstanding.

### **Proposed General Amendment #3**

Throughout the document there are several references to submitting documents via mail. This proposed Amendment is that digital communication such as email be added as the primary method of communication when submitting reports, documents, applications and in all places within the bylaws where mail is required.

The rationale for this amendment is that while mail is still an acceptable method of communication, digital communication is faster, less expensive, and generally considered an equally acceptable form of communication. And in most cases, it is the preferred method of communication.

#### **Proposed General Amendment #4**

Throughout the document there are several references indicating that elected and appointed terms begin and conclude with the fiscal year. It is Proposed that all of these term references be amended to coincide with the Annual Conference.

The rationale for this amendment is that the fiscal year does not typically match up with the Conference Schedule.

#### **Proposed Amendments #5 a & b to Article IV Officers**

**5a** Section 1: The elected officers of the organization shall be President, a President-Elect or Retiring President, a Secretary, a Treasurer, and Division Directors.

Proposed Amendment to remove the Treasurer from the list of elected positions. this section should read," The elected officers of the organization shall be President, a President-Elect or Retiring President, Secretary and Division Directors. Appointed Officers include a Parliamentarian, a Treasurer and an Executive Secretary.

The rationale for this amendment is to insure a level of procedural continuity in a dynamic organization.

**5b** Section 3: There shall be an Executive Committee composed of the President; the President-Elect and Retiring President; the Secretary; and the Treasurer; the Division Directors; one District Director Liaison; Standing Committee Chairs and the Executive Secretary are non-voting members of the Executive Committee.

4b Section 3: There shall be an Executive Committee composed of the President, the President-Elect, the Retiring President, the Secretary, Executive Secretary and the Treasurer. The Executive Committee is empowered to take executive actions when it is impossible to convene the Board for a vote. The Board is made up of voting members: the President, the President-Elect, the Retiring President, the Division Directors and one District Director Liaison and non-voting members: the Secretary, the Treasurer, the Parliamentarian, Standing Committee Chairs and the Executive Secretary. The non-voting members of the Board serve to advise the voting members of the Board.

The rationale for this amendment is to clarify the composition of the Executive Committee and the composition of Board and to identify voting and non-voting positions.

**Proposed Amendment #6a-d to Article V Powers and Duties of the Officers**

**6a** Section 1: Executive Board

**A.** The Executive Board shall:

- (6) Hold an Annual Business Meeting in November of each year. This meeting shall be open to all Association members.

Proposed change to remove specific time frame and move the Annual Business Meeting to occur in conjunction with the Annual Conference.

The rationale for this amendment is to make it easier for membership to attend the Annual Business Meeting.

**6b** B. The Executive Committee may:

- (2) Take action at the Annual Business Meeting, or at any special meeting, or, if action is imperative before the next Executive Committee meeting, vote by mail ballot, electronic mail ballot, or telephone ballot confirmed within five days by mail ballot.

Proposed amendment this section should read

- (2) Take action at the Annual Business Meeting, or at any special meeting, or, if action is imperative before the next Executive Committee meeting, vote by electronic mail ballot “

The rationale for this amendment is by removing the outdated vote by “mail ballot”, and “telephone ballot” options and the “confirmed within five days” portion is not relevant as electronic mail or electronic survey will create documentation to negate the need for verification.

**6c** C. The Congress:

Section 3: The President shall preside at all business sessions and all meetings of the Executive Committee. The President shall appoint standing committee chairpersons, an Executive Secretary, and representatives for each district, all of whom shall serve for two years subject to ratification of the Executive Committee. The President shall submit an annual budget to the Financial

Committee at the annual Executive Committee meeting mandated by Article VI, Section 3 of these bylaws. The President shall serve as a contact person for the National Science Teachers Association and maintain communication with national and regional leaders in science education on behalf of the organization. Appointments by the President of standing committee chairpersons must be ratified by a majority of the elected officers. The President will be bonded by the organization. The President shall serve as Co-Convention Chair as the operations chair for state convention.

Proposed amendment to remove the two year term for “representatives for each district, all of whom shall serve for two years subject to ratification of the Executive committee.” and replace with “ representatives for each district, all of whom shall serve for one year and may be reappointed in subsequent years subject to ratification of the Executive committee.”

Rationale: This will allow for presidential involvement and allow the position to develop and cultivate lasting community relationships within the district.

**6d** Section 7: The Executive Secretary shall provide general guidance and continuity to the association. The Executive Secretary shall act in an advisory capacity to the Executive Board. The Executive Secretary shall organize and store legal or organizational documents for archival records. The Executive Secretary shall compile a scrapbook of events for the year. The Executive Secretary may serve as parliamentarian for executive board meetings. The Executive Secretary shall attend quarterly board meetings and special sessions as requested. The Executive Secretary shall review any proposed amendments of the bylaws and shall implement a procedure by which the amendments shall be brought before the Executive Committee and the General Membership.

Proposed amendment to delete the scrapbook from the list of duties..

The rationale for this amendment is this practice is antiquated with social media, website access and newsletters the membership has wider access to the events than a traditional scrapbook provides.

Proposed Amendments #7 a-c to: **Article VI Committees**

**7a** Section 1: The Standing Committees shall be: Membership, Nominations, Publicity, Finance, Convention, Awards, Grants, Outreach, Specialty Sales, and Corporate Liaison. The list of specific duties as identified in Appendix B.

Proposed Amendment for the immediate creation and addition of a Workforce Development Standing Committee to the list of committees.

The rationale for this is as we are all focusing on STEM education we should be following the concept beyond the classroom to more significantly connect the Scientific, Engineering and Technology industries in Alabama to the Science Educators of Alabama. As a Standing Committee long lasting partnerships can be formed. The specific duties will be determined and added to Appendix B by then end of this administration and be appointed within 3 months of adoption and not wait until the 2020 Conference.

**7b Section 5:** It shall be the duty of the Publicity Committee to publish and mail a newsletter to ASTA members informing them of the organization's activities. The Committee shall publish a newsletter each quarter, maintain the ASTA websites and to promote public visibility and interest in the Association.

Proposed amendment to remove the mandate to mail the newsletter. The word “mail” should be replaced with the word “distribute”

The rationale for this amendment is to allow for appropriate distribution method to be selected by the board and it will insure we continue to save money on postage and comply with our current delivery method.

**7c Section 7:** It shall be the duty of the Convention Chairperson to oversee various committees related to operations, program and executive functions of the annual convention. (See Appendix A) The Convention Chairperson(s) will, in cooperation with the Finance Committee, oversee the convention budget and make regular reports to the President on the progress of convention preparations.

Proposed Amendment to reword this section as follows:

It shall be the duty of the President to oversee all aspects of the Annual Conference which should the need arise may include appointing a Conference Chairperson to oversee various committees related to operations, program and executive functions of the annual convention. (See Appendix A) If said appointment is made, the Convention Chairperson(s) will, in cooperation with the Finance Committee, oversee the convention budget and make regular reports to the President on the progress of convention preparations.

The rationale for this amendment is simply to clarify this section as the President traditionally assumes the role of Conference Chairperson this makes a provision continuity under unexpected or extenuating circumstances.

Proposed changes #8 a to d: **Article VII Nominations and Elections**

**8a** Section 1: Every year, the Nominations Committee shall prepare and present a slate of appropriate candidates to the Executive Committee prior to the election that shall be held during the annual statewide meeting. Nominations will be solicited through the organization's newsletter at least two quarters before the election. Candidates receiving a simple majority shall be elected. These officers shall be installed at the Annual Business Meeting following State Convention.

Proposed Amendment:” Every year, the Nominations Committee shall prepare and present a slate of appropriate candidates to the Executive Committee prior to the election that shall be held during the annual conference. Nominations will be solicited through the organization's website and or newsletter and post for the membership at least 30 days before the election to be held at the Annual Conference. Candidates receiving a simple majority shall be elected. These officers shall be installed at the first board meeting immediately following the conference”.

The rationale for this amendment is to clarify that the election will take place at the Annual Conference and modernize the process.

**8b** Section 2: The following offices will be held for election every year: President-elect and Secretary. The Secretary, and Treasurer, appointed, shall hold office for two years. The President-Elect will serve one year in that capacity, one year in the capacity of President, and one year in the capacity of Retiring President.

Proposed Amendment this section should read :

“The following offices will be held for election every year: President-elect and Division Directors whose terms are expiring that year. The Secretary shall be elected every two years. The Treasurer, Executive Secretary and Parliamentarian shall be appointed and shall hold office for one year. The President-Elect will serve one year in that capacity, one year in the capacity of President, and one year in the capacity of Retiring President”.

Rationale for this amendment is to clarify the election cycle for each position.

**8c** Section 3: With the exception of the Treasurer, an interval of two years shall elapse before a member is again eligible for reelection to the same office

Proposed Amendment.this section should read as follows:

“With the exception of the Secretary, an interval of two years shall elapse before a member is again eligible for reelection to the same office. All regularly appointed

Board positions to include Treasurer, Executive Secretary, Parliamentarian and Standing Committee Chairpersons all of whom shall serve for one year and may be reappointed in subsequent years subject to ratification of the Executive Committee.”

The Rationale for this amendment is clarification of procedure and this will allow for presidential involvement and to ensure the smooth transitions and effective operation of the organization.

**8d** Section 11: The election procedure shall be defined in the statement of operating policies. Each newly elected Division Director shall take office at the Annual Business Meeting of the fiscal year in which they are elected and serve until the last day of the third fiscal year after the Division Director's election. Division Directors for Early Childhood, Elementary, Middle, High School, Supervisory and Professional Development Divisions will serve three years on the Executive Board beginning with the year 1998. The Division Directors for Informal, Multicultural, Post-Secondary, Retired Service, Professional Development, and Pre-Service will serve two years on the board on a rotating basis beginning with the year 1998. Division Directors may not serve two consecutive terms on the Executive Board in the same capacity.

Proposed Amendment to replace with the following:

Section 11: “The election procedure shall be defined in the statement of operating policies. Each newly elected Division Director shall take office at the first Board Meeting following the election at the Annual Conference. and concluding with the Conference at the end of their term following the Division Director's election rotation. Division Directors for Early Childhood, Elementary, Middle, High School, and Supervisory Divisions will serve three years on the Executive Board. The Division Directors for Informal, Multicultural, Post-Secondary, Retired Service, Professional Development, and Pre-Service will serve two years. Division Directors may not serve two consecutive terms on the Executive Board in the same capacity.”

The Rationale for this Amendment is that it clarifies the length of terms for elected positions.

### **Proposed Changes # 9 to: Article XV Amendments**

**9a** Section 3: A proposed amendment to these Bylaws shall be submitted for a vote at an Annual Convention Meeting. Notice of the Annual Convention Meeting and the proposed amendment, shall be given by mail or through publication in

Association newsletter at least sixty (60) days prior to the meeting. The proposed amendment shall be adopted upon receiving the affirmative vote of at least two-thirds of the votes cast by members present.

Proposed Amendment to apply to these Amendments if adopted and all subsequent amendments effective immediately. Change to “ A proposed amendment to these Bylaws shall be submitted for a vote at an Annual Conference. Notice of the proposed amendment(s), shall be Posted on the website and/or in Conference advertisements at least thirty (30) days prior to the meeting. The proposed amendment shall be adopted upon receiving the affirmative vote of at least two-thirds of the votes cast by members present.”

The Rationale for this Amendment is that with the removal of regular mail as the primary delivery option much less time is needed to distribute and review the material.



**Elections will be held early in 2019**

**If you are interested in serving on the Board**

**in either an elected or appointed position**

**feel free to contact us at**

**Alabama Science Teachers Association  
732 Montgomery Highway, Box 265  
Birmingham, AL 35216**

**[asta30.wildapricot.org](http://asta30.wildapricot.org)**

**Teresa Gregory @ [tgreg4alsci.ed@gmail.com](mailto:tgreg4alsci.ed@gmail.com)**

**or**

**Bill Shelton @ [bshelton.asta@gmail.com](mailto:bshelton.asta@gmail.com)**

**Thanks for joining us for the 2018 “Full STEAM Ahead!” Conference.**

**See you in 2019.**



## 2018 ASTA Overall Conference Critique Form

Please fill in the information requested regarding your overall conference experience. When you are done, please also complete the Session Evaluation on the reverse of this form. You will receive your Certificate of Participation upon turning in the form (both sides completed) at the registration desk on Level 3 before you leave for the day.

You may also elect to return your forms after the conference by scanning both sides of the form and emailing them to If you elect to return your forms via either method, you MUST provide your email address at the bottom of the form. Certificates will be sent as a PDF to the email address you provide.

Ratings:      5 (excellent)    4 (good)      3 (average)    2 (weak)      1 (poor)

Category	Rating (Circle one.)	Comments
<b>Publicity and Information</b>	5 4 3 2 1	
<b>Registration Procedures</b>	5 4 3 2 1	
<b>Information Desks</b>	5 4 3 2 1	
<b>Selection of Topics</b>	5 4 3 2 1	
<b>Exhibit Variety</b>	5 4 3 2 1	
<b>Exhibit Quality</b>	5 4 3 2 1	
<b>Exhibitor Product Knowledge</b>	5 4 3 2 1	
<b>Food and Beverage Service</b>	5 4 3 2 1	
<b>Site and Facility</b>	5 4 3 2 1	
<b>Hotel Accommodations</b>	5 4 3 2 1	

Attendee email address:

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