



# 2023 STEAM Leadership Conference at Georgia Tech

## Friday, March 10, 2023

### Presentation Schedule

#### STEM Certification

Camille Rivers	STEM/STEAM Certification: Why it Matters	During this session, attendees will be introduced to the GaDOE certification process. We will discuss the differences between the Elementary, Middle, and High School continuum. Attendees will also learn how developing partnerships can assist with their certification journey and provide valuable opportunities for students to engage in STEM/STEAM curricula in innovative ways.	11:00 - 11:40 a.m.
Amanda Basket and Tanya Cobb	Making Senior Year Relevant with STEAM: College Advisement, Research, Internship, Leadership, & Specialized Electives	Does an outbreak of Senioritis always seem on the horizon? This session will share strategies for making senior year more relevant that have been successfully implemented at Rockdale Magnet School for Science and Technology over the past 10 years. Student capacity in STEAM has been expanded through purposeful development of advisement, capstone, leadership, and curriculum programs. Participants will leave the session with a framework for senior engagement and an initial plan for applying strategies to their own school setting.	11:45 a.m. - 12:25 p.m.
Matthew Tyson, Pritul Patel, and Katie Clements	TIPS: Tapestry Inclusive Practices for STEAM	Tapestry Public Charter School serves a unique population, where half of the students have special needs and half are neurotypical. We have created a STEAM-focused academic program that allows all students to participate and thrive, regardless of their unique learning differences. Students with special needs are underrepresented in STEAM programs, and we feel that they can truly flourish in a STEAM program with the proper supports. This presentation will highlight some of the ways that we strive to make our STEAM program more accessible, from large-scale elements such as curricular design to small-scale elements such as classroom routines and structures.	12:45 - 1:30 p.m.
Stephanie Ruffner	STEAM up your PBLs	STEAM up your PBL session will present a comprehensive PBL planning process and outline to help teachers and schools develop interdisciplinary PBL projects connected to all content standards and meet the needs of State and Cognia STEM certifications. This session will also present a digital vertical alignment format to support year-long planning.	1:35 - 2:10 p.m.
Antonio Ellis and Jason Raines	Unconventional Applications of STEAM: Exploring Innovative Ways to Drive Progress	Discover the unexpected ways STEAM is shaping our world at the Michelle Obama STEM Elementary Academy. From using immersive social video games to revolutionize engagement to exploring the intersection of aquaponics and artificial intelligence (AI), we will showcase the innovative ways STEAM is driving progress in industries, communities, and our school. Join us for a dynamic event that will challenge your perceptions and inspire new ideas for utilizing STEAM in your own educational journey.	2: 15 - 3:00 p.m.
Sophia Saxon	Across The Board Initiatives: Connecting Science, Technology, Engineering, (Art), & Math (STE(A)M) To Content & Curriculum	This session will show how science, technology, engineering, and math can connect with core content areas in ELA, science, social studies, math, and art with a standard project-based activity. During this session you will be guided on how to connect core content and Connections/Specials using Georgia Performance of Excellence standards and applying that practice within a STEM environment is not so difficult.	3: 15 - 4:00 p.m.



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#### Beyond Traditional 1

James Morris	This 3D printer is neat, but what's next?! What to expect after starting your 3D journey.	In this session, we will work with the Cura slicer program to learn about setting up efficient and beautiful 3D prints; in addition, we will discuss the long term cost of having a 3D printing lab and the challenges that come with maintaining equipment.	11:00 - 11:40 a.m.
Edward Freeman	Creating Opportunity for STEAM Education/ Exposure in Rural Communities	The objective of this session is to provide awareness to strategies that could bring exposure to STEAM for rural education systems as well as how to create an inclusive environment for students with diversified interests in STEAM.	11:45 a.m. - 12:25 p.m.
		EMPTY	12:45 - 1:30 p.m.
David Kurt and Joshay Simmons	Using Tech to Present Voice and Choice within Traditional Painting	New technology can be integrated into low tech art in unexpected ways. Using one of our PBL projects as an example, we will investigate strategies that can make traditional painting more interactive and collaborative. We will introduce some possibilities integrating tech such as visual recognition software for linking and presenting background information.	1:35 - 2:10 p.m.
Lya Snell, Michael Wiernicki, and Kenneth Golden	The Importance of Mathematical Modeling in STEM/STEAM	This session will provide participants with instructional strategies for implementing mathematical modeling to explain real-life phenomena. This concept is important because it helps teachers and leaders bring the "M" in STEM and STEAM to life. The session facilitators are mathematics content experts from the Georgia Department of Education and they will show direct connections with the newly adopted standards, Georgia's K-12 Mathematics Standards.	2: 15 - 3:00 p.m.
Laure Mauel	Equitable STEAM Pathways	Equitable STEAM pathways are hard to create, mainly due to the various perception differences in different groups of people. Gender, race, socioeconomic status, and other factors create challenges for students to enter STEAM careers later in life. This presentation will provide leaders with ideas on integrating STEAM and literacy to provide high-quality experiences for all students, including special education and English Language Learners.	3: 15 - 4:00 p.m.



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#### Beyond Traditional 2

Irene Soteres	The Sound of Music	Learning and teaching language has always been seen as a structured and rigid process. This teaching style has often discouraged learners of all ages. Often, these styles relied on grammatical structures and unrealistic scenarios. Using a STEAM based approach has made teaching language exciting and learning language an unexpectedly unforgettable experience.	11:00 - 11:40 a.m.
Katie Boice, Justina Jackson, PhD; Talia Capozzoli, MPP; and Meltem Alemdar, PhD	Helping students feel rightfully present in STEAM classrooms	STEAM shows up in our everyday lives all the time, sometimes unexpectedly. But what happens when students' everyday lives show up in STEAM classrooms? In this session, we'll present a framework for helping teachers affirm students' diverse identities and experiences, helping all students understand that they have a right to be present in STEAM spaces. After describing this framework, the Rightful Presence framework, we'll share recent research on the implementation of this framework by K-12 STEAM teachers.	11:45 a.m. - 12:25 p.m.
Monique Brooks and Dr. Demetria Haddock	Tech Tutors: Students leading students in 3D modeling, animation, digital game design, and video production	Join us as we expand your view of an elementary tech club. We all know that clubs give students an opportunity to strengthening the 6Cs (character, citizenship, creativity, communication, collaboration, and critical thinking). However, we wanted to create a club that gave students an opportunity to lead and provide access to all students. In this session we will explore the benefits of creating a tech club for student mentors to lead and student proteges to be guided. We will provide specific steps in creating and implementing a technology club lead by students.	12:45 - 1:30 p.m.
Allen Hyde, Philip Omunga, Yanni Loukissasis, Michelle Reckner, Timothy Cone, Meltem Alemdar, and Mustafa Shabazz	Youth Advocacy for Resilience to Disasters (YARDs): An Overview of a Middle School Program Pilot	Youth Advocacy for Resilience to Disasters (YARDs) is a Middle School Program funded by the National Science Foundations Civic Innovation Challenge. In 2022, Georgia Tech, Savannah State University, Savannah-Chatham County Public School System, and the City of Savannah partnered to develop and pilot a summer camp and after-school program to foster youth advocacy and engagement around climate change and disaster resilience. In this session, we first provide an overview of the program and then will do a panel discussion about some of the challenges and success in the curriculum design and pilot implementation.	1:35 - 2:10 p.m.
Shanta Smith	STEAM Challenge Symposium: Making Student Learning Visible in K-8	we explore practical ways to engage your families and students with a STEAM Challenge Symposium designed for students of all ages. Students will engage in heutagogical practices that will Tools will be provided to support school leaders and specialists with ideas to include structures and systems that will help them to organize and plan the grand event and the small events leading up to the big day that embrace the students funds of knowledge, unique needs and interests and who they are as people and learners.allow them to select a problem that they are interested in and explore it as their STEAM challenge	2: 15 - 3:00 p.m.
<b>EMPTY</b>			3: 15 - 4:00 p.m.



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### Did You know?

Lavita Williams and Bryan Cox	From Technology Integration to Computing Integration	This session will break down the difference between technology integration vs computing integration and look at two integration models (TPACK & SAMR). By incorporating computing integration examples, participants will leave with an action plan on how to find STEAM in unexpected environments along with moving toward computing integration opportunities.	11:00 - 11:40 a.m.
Hallie Angelella and Jenna Morris	Discovering STEAM Through Music, Movement, and Drama in the Early Childhood Classroom	Early childhood classrooms are full of music, movement, and play. In this participatory workshop, participants will learn how to tap into their early learner's innate love of music, movement, and story time to make meaningful connections to STEM. Utilizing a variety of age-appropriate research-based arts integration strategies, participants will learn developmentally appropriate tools to introduce STEM concepts and assess their student's skills and knowledge through movement, music, and drama.	11:45 a.m. - 12:25 p.m.
Lauren McCall and Sabrina Grossman	EarSketch: Make Beats, Learn Code, Tell Your Story	Are your students ready to remix their code? Students learn the connections between computer science and music through beats and bytes as they code a song in EarSketch, a free and accessible code-to-compose program. This session will use samples from top recording artists to demonstrate how students code on EarSketch to tell their stories through music. We will highlight examples of curriculum experiences that use the EarSketch tool and explore students' passions at the intersection of the technological and creative worlds. Students will make authentic career connections, learning about the role of code in the modern recording studio and how they can develop their entrepreneurial path in STEM. Integrated within the lessons are unique discussions of equity and social justice in technology to support the creation of a computationally literate workforce capable of recognizing and eliminating algorithmic discrimination.	12:45 - 1:30 p.m.
Mikkel Thomas and Leslie O'Neill	Your Daily Dose of Nanotechnology	Nanotechnology empowers our daily lives and is an inescapable part of modern everyday life. Learn what makes the nanoscale special, how harnessing it has led to improvements in products you use every day, and about current and future applications you can only imagine. We will also look at the different careers that involve nanotechnology and the opportunities it can provide our students, as they pursue an academic path in STEM.	1:35 - 2:10 p.m.
Tracey Wiley	Phenomenal Social Sciences: Building STEAM Skills by Exploring the Captivating and Messy History of Innovation	Join GPB Education on this interdisciplinary journey into the intrinsically messy reality of historical innovation and learn how making mistakes, failing forward, and using STEAM in Unexpected Ways can help us all continue working together towards an ever-advancing society.	2: 15 - 3:00 p.m.
Aaron Artrip	Visualizing Ratios with Art	Using an online spirograph generator, this presentation is an introduction to using mathematics and engineering to create artistic imagery. Using a brief introduction to gears alongside equivalent fractions, this presentation will show teachers how to integrate a basic engineering concept into the creation of custom art works. These art works will provide the opportunity to visualize equivalent fractions and how this knowledge affects image generation.	3: 15 - 4:00 p.m.



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All The Above

		<b>EMPTY</b>	11:00 - 11:40 a.m.
Nisa Floyd	The Art of Distractions	Kanekalon is a synthetic hair that is manufactured with chemicals. These chemicals can cause extreme skin irritation and be distracting to a student wearing synthetic hair in their braided hair styles. Ciara Imani May, Co-founder of Re-bundle, created a plant based braiding hair that is better for the environment and does not have the negative impact of its counterpart. If this classroom “distraction” and others like it were presented as a student opportunities what other innovations would be created? How would reframing these “distractions” positively impact students? There are so many artists whose former classroom distractions became influential lifestyles. After all, writing on your arm may not be a part of the classroom assignment but painless self-administered tattoos that serve as medical alerts or help track animals has to start somewhere.	11:45 a.m. - 12:25 p.m.
Jennifer Morrison and Jeff Mather	Cultivating Healthy Risk Taking in STEAM & Maker Ed	Even STEAM educators and Maker Space educators can be risk averse. Yet innovative STEAM leadership embraces the Unexpected. This session, facilitated by Jennifer Morrison, Manager of Youth Programming & Outreach at Decatur Makers and Jeff Mather, STEAM Artist-in-Residence at Drew Charter School, will explore the value of unpredictability when leading STEAM Maker Space projects and units. We can design experiences for students and STEAM ed colleagues that cultivate innovation if we take Social Emotional Learning strategies into account and refrain from being overly prescriptive.	12:45 - 1:30 p.m.
Ana Garcia and Benjamin Franco	Building a Classroom of Possibilities	Creating a classroom where possibilities can thrive, especially in STEAM, is part of building opportunities for all students. "Building a Classroom of Possibilities" is a workshop that seeks to advocate and help develop inclusion in STEAM curricula and nurture each student's educational experience. "Building a Classroom of Possibilities" is about empowering educators to see the potential and uniqueness of each student by creating a welcoming environment where all students can thrive. Through this session, you will learn how to incorporate essential tools that contribute to a curriculum that caters to the student's needs. Presenters will share their experiences within the <i>Remezcla</i> program, where their curriculum implementation focuses on a culturally responsive teaching method. <i>Remezcla</i> is a CEISMC afterschool activity and summer camp focusing on coding and songwriting with Latin-influenced beats using Georgia Tech's EarSketch online software.	1:35 - 2:10 p.m.
Jeff Eller and Jon Schoening	Mavericks, Facing the Future with the Goal of Changing the World	In our iterative journey to become an innovative, PBL, classically grounded public school of choice, we have encountered many realities that have limited our progress. We are obligated, as all public schools, to provide many necessary interventions and accommodations to our students. All federal and state measures of student growth and school progress, though necessary, may not be aligned with the core mission of our school. We believe our most important qualities as human beings cannot not be quantified. We want to focus on measuring success through a STEM perspective and illustrate the qualitative measures of success when our students thrive with both purpose and passion.	2: 15 - 3:00 p.m.
<b>EMPTY</b>			3: 15 - 4:00 p.m.