



The STEM Innovation Forum: Activating Collaborations to Advance an Inclusive STEM Workforce

Learning Session Agenda:

Day 1: October 19, 2023

Breakout Session 1 | 11:00 AM - 11:50 AM

<u>Room</u>	<u>Session</u>	<u>Speakers</u>	<u>Session Description</u>
Willow Creek	Sponsored by the Gill Foundation: From Pilot to Scale: How Rural Colorado Communities are Creating Regional Educonomies	<ul style="list-style-type: none"> Denise Whinnen, Director of Colorado Programs, Gill Foundation Madison Knapp, Director of Strategic Partnerships, Colorado Succeeds Katherine Novinski, Director of Implementation and Partnership, Colorado Education Initiative 	An overview of how eight rural school districts designed and implemented career-connected learning experiences, built sustainable cross-sector partnerships, and created a new vision for what's possible in rural communities through the Homegrown Talent Initiative, which has now expanded into a network of regional collaboratives across the state working together to build equitable pathways aligned to high-value credentials, in-demand jobs, and economic mobility. In this interactive session, participants will learn about the core tenants of the systems-change model, what the implementation partners have learned, and strategies for sustainability.
Cottonwood Creek	Crafting the Future: A Roadmap to K-12 Workforce Development	<ul style="list-style-type: none"> Brandi Stroecker, Director, Tennessee STEM Innovation Network Becky Ashe, Director of 	The Tennessee STEM Innovation Network has partnered with organizations like Workbay to design solutions, scale best practices, influence policy and action, and invest in education to workforce space innovations. We aim to create

		<p>Innovation and Professional Learning, Tennessee STEM Innovation Network</p> <ul style="list-style-type: none"> • Mary Hayes, CEO, Workbay 	<p>learner-centered opportunities that strengthen education and career navigation. Are you passionate about shaping the workforce of tomorrow and ensuring that our K-12 education system prepares students for success in a rapidly evolving job market?</p> <p>Join this session to learn more about our state-level partnership that provides education to career support while showcasing local job openings to learners in the state of Tennessee.</p>
Spring Creek	<p>Sponsored by Verizon: Bridging Barriers in STEM: A Strategic Partnership to Expand STEM Opportunities</p>	<ul style="list-style-type: none"> • Alejandro Lozano, Consultant, Corporate Social Responsibility, Verizon • Kathy Perkins, Director, PhET Interactive Simulations, University of Colorado Boulder 	<p>Join us for a discussion around expanding learning pathways in STEM via the PhET for Schools Access Program, a strategic partnership between Verizon and PhET Interactives Simulation at the University of Colorado Boulder. We will discuss a program designed with equity in mind and that equips under-resourced schools across the country with a powerful STEM resource and professional learning opportunities. Come learn about the importance of collaboration between industry and educational institutions to grow the STEM workforce of tomorrow.</p>
Bear Creek	<p>Priming the Pump for High Demand STEM Careers</p>	<ul style="list-style-type: none"> • Sheila Boyington, P.E., Founder, Learning Blade and Ready for Industry • Dr. Dane Boyington, Founder, Learning Blade and Ready for Industry • Joshua Sneideman, VP, Learning Blade 	<p>Preparing the future workforce for the high-demand STEM careers that industries/businesses in our country need. Come and explore two innovative platforms that revolutionize STEM, Computer Science and career education. Learning Blade (for grades 5-9) and Ready for Industry (grades 9 to post-secondary – community colleges/job centers) are highly effective online learning resources that bridge the gap between</p>

			<p>classroom learning and high-demand STEM careers by providing industry-aligned online lessons, hands-on and interactive activities.</p> <p>This session will showcase how these platforms inspire students/learners to pursue STEM/CTE/CS careers, preparing them for the demands of the real world. Learn how to leverage these tools, empowering individuals to be prepared and successful in great careers. With over 15 statewide efforts for these resources where they are FREE to all, come and learn how you can engage with them!</p>
Power Talks: Solutions to Pressing Challenges in Education			
<p>Confluence Theater / Main Auditorium (1) 11:00 AM</p>	<p>Strategies for Evaluating STEM Education Investments</p>	<ul style="list-style-type: none"> • Dr. Carla Johnson, President, STEM Innovations • Dr. Toni May, Quantitative Evaluation Lead, STEM Innovations 	<p>In this session, participants will learn about best practice and key aspects to consider when developing a plan to evaluate STEM education investments, including K-12 in-and-out of school programs, post-secondary opportunities, regional partnerships, networks, and workforce development activities.</p>
<p>Confluence Theater / Main Auditorium (2) 11:25 AM</p>	<p>Ending the STEM Teacher Shortage: One State's Approach</p>	<ul style="list-style-type: none"> • Kimberly Hughes, Director, UTeach Institute • Dr. Lee Meadows, Executive Director, Alabama STEM Council 	<p>Alabama is working to improve the state's STEM workforce by prioritizing STEM teacher development and building regional STEM Ecosystems. In 2022, the legislature funded UTeach Alabama, a partnership between the Alabama STEM Council, the UTeach Institute, and K-12 and higher education institutions to develop innovative STEM teacher preparation programs across the state. Presenters will share their experiences with this effort, from conception to</p>

			implementation, and discuss how to engage stakeholders and build partnerships to address the STEM teacher shortage through a systemic, statewide approach that leverages proven programs and builds long-term capacity across educational institutions.
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Breakout Session 2 | 1:20 PM - 2:10 PM

Room	Session	Speakers	Session Description
Willow Creek	REMAKING Education	<ul style="list-style-type: none"> • Drew Glassford, Chief Executive Officer, Boys & Girls Clubs Dundee Township • Tami Goetz, Executive Director, Utah STEM Action Center • Cara Lesser, Founder & Executive Director, KID Museum 	There's never been a more urgent moment to press the reset button on teaching and learning. Innovative practitioners across the country have developed robust approaches to make learning to foster STEM skills and prepare the next generation for the future of work. With a focus on equity and inclusion, these promising practices have demonstrated results on student outcomes and are now scaling to realize their potential for impact. This workshop will feature leaders and practitioners who have taken different approaches to integrate maker learning into their respective communities, in collaboration with industry, school systems, and key stakeholders.
Cottonwood Creek	Mentor Me! Mentor You! STEM Peer Mentoring for Equity and Inclusivity	<ul style="list-style-type: none"> • Dr. Jillian Wendt, Associate Professor of Science Education, University of the District of Columbia • Dr. Vivian Jones 	In this session, an overview of the eSTEM peer mentoring program--which includes online peer mentor training, online peer mentoring training, and participation in STEM mentoring communities--will be provided. As part of two NSF grant awards and implementation across three historically black

		Assistant Dean, Bethune-Cookman University	institutions, the findings derived from formal research study as well as informal 'lessons learned' will be shared with participants. The presenters will also lead a discussion on scaling and broadening implementation of the program to enable access and support across a larger variety of historically black institutions and other minority serving institutions. Attendees will leave the session with a more robust understanding of the peer mentoring literature within the STEM context, an understanding of and access to the eSTEM peer mentor and peer mentee training modules, access to eSTEM program materials, and recommendations for considering peer mentoring programs at their own institutions.
Power Talks: Toolkits to leverage out-of-school time programs to build the STEM workforce			
Spring Creek (1) 1:20 PM	Linking Industry and Education through Work-Based Learning	<ul style="list-style-type: none"> • Nikki Stancampiano, Workforce Development Coordinator, PAST Foundation • Jocelyn Browning, STEM Coordinator, PAST Foundation 	The purpose of this session is to provide participants with a roadmap for delivering work-based learning experiences in STEM career fields and for building an ecosystem of support for students within their community. Quality Work-Based Learning helps build systems that connect youth to the real world of work and encourages youth to develop academic, technical and workplace/professional skills in career-focused education and training programs. Participants will engage in discussions around improving opportunity for youth by integrating school, community and industry, and will be equipped with ways to deliver relevant training and internship opportunities with the purpose of empowering youth to pursue high-demand STEM

			career fields and develop real-world problem-solving skills needed to be successful in an ever-changing workforce.
Spring Creek (2) 1:45 PM	MBRT Way: SUMMER OF STEM	<ul style="list-style-type: none"> • Carrie Pannone, State Program Manager, Maryland Business Roundtable for Education (MBRT) • Nona Carroll, Interim CEO, MBRT 	Discover strategies, programs, and solutions to host a Summer of STEM program to help students learn career path awareness while understanding the needs of the local workforce. Learn effective ways to work with students to determine STEM career interests, make connections to career pathways with local STEM professionals, and hands-on learning experiences to better prepare students to make important decision for their future in STEM. Follow the "7E" (Educate, Empower, Engage, Explore, Execute, Elevate and Enrich) mapped approach, developed by Maryland Business Roundtable, to share STEM career awareness programs at appropriate levels, from grade 7 through 12+.
Bear Creek	Fostering Undergraduate Engagement through Experiential Learning	<ul style="list-style-type: none"> • Dr. Diana Elrod, Founding Director, Center for Student Research, Texas Woman's University • Dr. Jason Treadway, Director - STEM Institute, Dallas College 	<p>During this learning session, Texas Woman's University (TWU), the largest public university primarily for women in the United States (89% female) and Dallas College, will highlight their most recent project FUE2LxTWU. This project will involve 100 students from the three community colleges of which ten will be selected to participate in faculty-mentored micro-internships.</p> <p>Session attendees will learn about the mechanics of the project, including robust tracking of participants (retention, graduation, and workforce entry) and scholarship support participants of the project will receive.</p>

			Goals of the project include increasing retention and graduation rates while engaging key partners who will promote research activities and career awareness, as well as provide mentorship opportunities to diverse students.
Confluence Theater / Main Auditorium	Federal Opportunities to Support STEM Education and the Role of Out of School Time Learning	<ul style="list-style-type: none"> • Dr. Holly Miller, Senior Advisor, STEM Next Opportunity Fund • Patti Curtis, Senior STEM Advisor, US Dept of Education 	Attendees will learn how to leverage the US Department of Education's funding, initiatives, and research to promote STEM education. This presentation will demonstrate how after school and summer learning opportunities can be used to promote equity, fill the achievement gap, and re engage students in their love of STEM learning.

Day 2: October 20, 2023

Breakout Session 3 | 11:15 AM - 12:05 PM

<u>Room</u>	<u>Session</u>	<u>Speakers</u>	<u>Session Description</u>
Willow Creek	STEM Workforce Readiness for Teen Girls: "If She Can See It, She Can Be It"	<ul style="list-style-type: none"> • Teresa Drew, Deputy Director, Million Girls Moonshot • Courtenay Carr Heuer, Executive Director, Scientific Adventures for Girls • Jenifer Johnson, Manager of Social Impact STEM Programs, Lockheed Martin 	<p>Piloted in 2022 and now scaled nationally, the Flight Crew are a cadre of exceptional teen girls who love STEM and are committed to inspiring peers on their own STEM journeys. Part of a larger strategy around STEM role models and mentors, the Flight Crew program combines leading research on what works, effective messaging around STEM careers, and leverages the power of near-peer mentorship.</p> <p>Youth STEM programming is integral to</p>

			<p>educating, inspiring and creating urgency around a more diverse, inclusive STEM future. While girls need to see successful women in STEM careers, they also need to see people who mirror themselves right now. For teens, research demonstrates that relating to near peer role models may not only be easier, but more impactful on personal motivation. Near peer role models that share similar age and gender are the most effective. Because "If she can do it, why can't I?"</p>
<p>Power Talks: Out-of-school programs to foster belonging and interest in STEM</p>			
<p>Cottonwood Creek (1) 11:15 AM</p>	<p>High Skilled and High Wage Career Development Pathways with Robotics</p>	<ul style="list-style-type: none"> Lori Birch, Senior Specialist - Education and Workforce Development, First Robotics 	<p>How can a simulated work environment in robotics help students achieve relevancy, engagement, and career awareness? In this session, you will learn about how robotics can provide a variety of learning pathways beyond just engineering and technology, which can allow students to develop stackable credentials to help them in a variety of careers. FIRST utilizes industry partnerships to bring standards-based instruction, career development, industry credentials, work-based learning through an intracurricular approach. Students learn skills for industry credentials through classroom instruction and then further develop those skills with industry mentor support. This provides a valuable work-based learning opportunity for students to understand the relevancy of their learning and increase engagement.</p>

<p>Cottonwood Creek (2) 11:40 AM</p>	<p>Creating Meaningful Workforce Connections with Students</p>	<ul style="list-style-type: none"> • Clint Coleman, Program Administrator, LASTEM, Louisiana Board of Regents 	<p>In this session, we will explore how the LASTEM network utilizes our collaborators in the workforce sector to create meaningful connections with our students. Our marquee event, LASTEM NASA Astro Camps, have connected thousands of students throughout the world to career opportunities at NASA and their partners. In 2023, the camps included the first ever Louisiana downlink with the International Space Station. How did we make this happen?</p>
<p>Power Talks: Cultivating interest in science careers</p>			
<p>Spring Creek (1) 11:15 AM</p>	<p>BRIDGES: Preparing a National Bioenergy Workforce through Authentic Case Studies</p>	<ul style="list-style-type: none"> • Cait McGraw, K-12 STEM Education and Outreach Specialist, Idaho National Laboratory 	<p>BRIDGES is a free resource for educators to introduce bioenergy topics in high schools, community/technical colleges, and universities. The bioenergy-themed case studies are based upon foundational bioenergy research at DOE national laboratories and can be used as part of a biology, environmental science, or chemistry course in a high school, community/technical college, or university setting.</p> <p>As a workforce development tool, the BRIDGES case studies help educate the U.S. bioenergy workforce through equitable and authentic learning—where students explore bioenergy research that solves urgent and relevant societal challenges in energy and the environment. Students take on a career role and use real data and authentic resources. They apply professional skills to propose solutions to the challenge. Learning experiences include career exploration of science, technology, engineering, and</p>

			mathematics (STEM) and STEM-adjacent careers in bioenergy.
Spring Creek (2) 11:40 AM	Xplorlabs: The Science and Practice of Safety STEM	<ul style="list-style-type: none"> • Dr. Kelly Keena, Sr. Director, Office of Research Experiences and Education, UL Research Institutes • Dr. Bethany King Wilkes, Program Manager of Office of Research Experiences and Education, UL Research Institutes 	The Office of Research Experiences and Education is part of UL Research Institutes and has a science of our own - pedagogy. This session will explore the journey of creating a resource for educators, by educators, and how we use the approach of "trust the teacher" to build successful programs. During this session, attendees will participate in an exploration of safety science through a free, open-access virtual platform that creates a conduit from UL Research Institutes to secondary/post-secondary classrooms and communities. Then, we will explore the importance of standards development, and understand why there is a need for a standards literate workforce.
Bear Creek	A Regional Partnership for Student, Teacher and Workforce Success: Arlington Independent School District, Bell Textron and Workforce Solutions for Tarrant County	<ul style="list-style-type: none"> • Susan Patterson, Director, Career & Technical Education, Arlington Independent School District • Cara Lundquist, Director, Total Rewards, Workforce Planning, Strategy, & Development, Bell Textron • Renee Parker, Industry Services Unit Director, Workforce Solutions for Tarrant County 	Arlington ISD relies on partnerships across the city, regions state and nation-wide. We joined with Bell Textron and Workforce Solution of Tarrant County to develop a strong program that works to support students through experiences outside the classroom, work-based learning opportunities, CTE competition organizations, and supports teacher growth through summer externships. This vital partnership provides our students with connections that help them succeed in life.

<p>Confluence Theater / Main Auditorium</p>	<p>DoD STEM: Developing a STEM Workforce to Support the National Security Mission</p>	<ul style="list-style-type: none">• Louie Lopez, Director, DoD STEM• Kathleen Miranda, Program Officer, Naval STEM• Elyse Lohrbach, Director, Air & Space STEM Outreach• Brian Leftridge, Program Manager, AEOP	
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