

## Greater Houston Area STEM Conference: YOU Belong in STEM

March 1, 2025



University of Houston Clear Lake

College of Education

## **University of Houston ∠** Clear Lake

## 9<sup>th</sup> Annual Greater Houston Area STEM Conference Program Session Schedule

Time	Breakout Sessions
8:30 am – 8:50 am	Welcome Remarks
9:00 am – 9:45 am	1st Session
9:45 am – 10:15 am	Coffee Break, Exhibits, & Door Prizes
10:20 am – 11:05 am	2 <sup>nd</sup> Session
11:15 am – 12:00 pm	3 <sup>rd</sup> Session
12:00 pm – 12:50 pm	Lunch/Exhibits
12:55 pm – 1:15 pm	Exhibit Hall Door Prizes
1:20 pm – 2:05 pm	4 <sup>th</sup> Session
2:15 pm – 3:00 pm	5 <sup>th</sup> Session
3:00 pm	Adjourn/Certificate Pick-Up

## **Conference Planning Guide**

<b>Breakout Session</b>	Sessions You Want to Attend
1 <sup>st</sup> Session	
2 <sup>nd</sup> Session	
3 <sup>rd</sup> Session	
4th Session	
5 <sup>th</sup> Session	

## **Conference Sponsors**

On behalf of the University of Houston-Clear Lake's College of Education, we want to thank our sponsors who supported this year's STEM Conference. Their donations help to keep registration fees and operating costs to a minimum!

## Platinum Level







## **Gold Level**

**RPA TREKs Science** 

Silver Level

**TinkRworks** 

**Bronze Level** 

**Limitless Space** 

Harris County Soil and Water Conservation District

#### **Conference Exhibitors**

**Armand Bayou Nature Center** 

**Artist Boat** 

**AstroMaker** 

**Ecologist School Houston** 

**EduSmart** 

**Energy Education Foundation** 

Environmental Institute of Houston - UHCL

ePlanetarium, Home of the Discovery Dome

**Expand Learning Consultants** 

**Galveston Bay Foundation** 

**Gearbox Labs** 

Girlstart

Gulf Coast Educators Federal Credit Union

Harris-Galveston Subsidence District

**JASON** Learning

KidsU - UHCL

Limitless Learning Solutions LLC

Lone Star Flight Museum

Johnson Space Center NASA

National Energy Education Development (NEED) Project

#### **Conference Exhibitors**

NASA Alumni League

**North Houston BEST** 

**Region 4 ESC** 

Rice University Office of STEM Engagement

**RPA TREKs Science** 

**STEMfinity** 

SystemsGo

Texas Center for Superconductivity - UH

Texas Girls Collaborative Project (TxGCP)

The Laboratory Safety Institute

The Texas Longhorn Project at Johnson Space Center

**TinkRworks** 

Westbrook WIRED Robotics

zSpace, Inc.

University of Houston-Clear Lake:

Alumni Association

**Pearland Campus** 

**EXCITE Grant** 

**Educational Management Program** 

Educational Doctorate in Curriculum & Instruction Program

## University of Houston **Clear** Lake

## Saturday, March 1, 2025

**Welcome Remarks** 

8:40 am - 8:50 am

Carol Waters, COE STEM Initiative Coordinator

**Breakout Session 1** 

9:00 am - 9:45 am

AI Leading the Design and Creation of Project-Based Learning Experiences

1134

Rolla Elsaiary, University of South Carolina

Moved to Room 1130

This interactive session explores how educators can integrate multiple AI platforms into Project-Based Learning (PBL). Participants will collaborate to design and create a dynamic, AIdriven project, fostering critical thinking, creativity, and real-world problem-solving in their classrooms.

#### Navigating Students' Pathways: Embracing AI/AR/VR's Role in Career **Exploration**

1211

Amanda Austin, zSpace, Inc.

Explore how Texas educators leverage AI, AR, and VR to engage students in STEM, Health Science, and more, fostering career exploration, post-secondary planning, and certifications. Learn about AR/VR's impact on education, funding opportunities, and evidence supporting improved learning outcomes.

#### **Engineering in a Bag**

1215

Chelsea Randolph and Shakayla Marshall, Girlstart

From launching snowballs across the room, to designing your own instrument, to engineering a device to accurately transport goods. Girlstart can show you how to keep learners engaged with fun and easy to do STEM activities using everyday materials. Join us as we make STEM fun, meaningful, and relevant for all learners and encourage you to be brave, creative, and curious!

**Radical Reptiles** 1218

Rebekah Gano, Heather Millar, Julie Brandt, Clare Hansen, Maria Batres, Chris Vazquez, Andrew Flores, Ethan Crocker, Armand Bayou Nature Center

Experience hands-on learning with Armand Bayou Nature Center's education department. View real reptile artifacts, get up close with a live reptile, and create crafts to help children remember reptile traits. Discover many ways to connect children with nature!

#### **Every Student Should Be a STEM Thinker!**

1219

Dodie Resendez, Region 4 Education Service Center

STEM is a way of thinking, and engaging in STEM skill-building activities helps students become resilient STEM thinkers. Experience STEM skill-building activities that can be done with students of any age in any classroom.

#### **Hands-on Energy in STEM**

1302

Nina Corley, National Energy Education Development (NEED) Project

Learn how to seamlessly incorporate energy education into STEM with fun, hands-on design challenges and lessons! Activities are intended for students to develop the skills necessary to problem-solve and design solutions to well-defined challenges, but that will only take a class period or two to complete.

## Leveraging STEAM Opportunities for Differentiation in the Gifted & Talented Classroom 1311

Stephanie Cote, STEAM Partnership Specialist Denise Dorris, GT Facilitator Katy ISD

Gifted and Talented students thrive in environments that challenge their creativity, critical thinking, and problem-solving skills. This session will explore how STEAM opportunities can provide meaningful differentiation for GT learners. Participants will discover strategies to integrate hands-on, inquiry-based STEAM learning that caters to meet the needs of diverse learners and promotes deeper engagement.

## Engaging Students in Academic Conversations with the Power of Structured Visuals.

Amber Gareri and Jami Crews, Pasadena ISD

In this interactive professional development session, educators will explore effective strategies for engaging students in meaningful academic conversations using structured visuals and conversation prompts. Participants will learn how to create and implement visual aids and prompts that facilitate student discussions, enhance comprehension, and promote critical thinking.

## EDCI Presents: Intermolecular Forces in the AI-Driven Classroom: A Hands-On Experience

Festus Fajuyigby, University of Houston Clear Lake

This presentation examines how Artificial Intelligence (AI) and Computational Thinking (CT) can be integrated into teaching intermolecular forces. Participants participate in hands-on activities like water droplet experiments, computational modeling, and AI-driven feedback. These activities show how these technologies change STEM education. The research insights reveal improved engagement as well as personalized learning. (Computer Lab)

#### EDCI Presents: Exploring Sound and Frequency Through Rubber Band Guitars: 1437 A Hands-on STEM Lesson for Elementary Students

Tracie Nair, Pasadena ISD & University of Houston-Clear Lake

This interdisciplinary STEM lesson engages fourth graders in building rubber band guitars to explore sound waves and frequency. Students measure and graph the frequency of sound produced by different rubber bands, fostering an understanding of sound science, technology, and mathematics in a hands-on learning experience.

## EDCI Presents: An Engineering Design Challenge: Design and build a weight-bearing bucket tower.

Maisa Meziou, ILM Academy & University of Houston-Clear Lake

Are you interested in a fun, engineering design STEM challenge that engages your students, integrates all the disciplines of STEM, and covers TEKS? This session is for you! Join us in meeting this challenge and take home ready-to-use deliverables.

#### **Breakout Session 2** 10:20 am – 11:05 am

#### Low Prep, High Engagement STEM

1130

1439

Annie Mitchell, Valley Oakes Elementary, Spring Branch ISD

Prepping for a science experiment getting you down? Explore in three to four low prep, high student engagement STEM activities that foster collaboration, critical thinking, and active participation without overwhelming the teacher. These hands-on activities immerse participants in interactive learning experiences.

## Breaking Down Barriers: Promoting Inclusivity for SPED, 504, and ESL Students 1133 in STEM Education

Sarah Husvar and Alexses Fitzgerald, Clear Creek ISD

This session provides actionable strategies for inclusive STEM education, focusing on how to engage SPED, 504, and ESL students in the intermediate science classroom. Participants will learn how to differentiate instruction, accommodate diverse learners, and create an inclusive classroom culture that promotes equity and participation.

## Enhancing STEM Education through Community Partnerships: Lessons from the 1135 Troy STEM Camp

Emilly Obuya, Russell Sage College New York

This session will share practical strategies for developing and delivering a successful STEM camp that engages students in hands-on learning, integrates environmental science, and fosters community partnerships. Attendees will learn about creating inclusive, project-based curricula and leveraging local resources to enhance STEM education for underserved youth.

#### **Artist Boat: Eco Art Watercolor Painting Workshop**

1211

Reyna Collura and Lauryn Fly, Artist Boat

Learn how to integrate art into your science classroom to reinforce learning and help students hone their observational and analytical skills. You will create a watercolor painting of a native species as naturalists have done throughout history, using basic materials and easy-to-follow instructions.

#### **No Kits Allowed! - Real Engineering in HS Classrooms**

1213

Rebekah Hyatt, Systems Go and Anahuac HS: Tina Ly, Tammy Ly, Beaux Richey, and Ryan Tu

How real engineering happens in high school classrooms using a curriculum that incorporates Project Based Learning, the RD&D Loop, Socratic questioning, ROCKETS, and a culminating launch event to teach STEM, critical/creative thinking, problem-solving, teamwork, leadership, and perseverance and to encourage careers in the engineering industries.

Design a Zoo 1217

Anne Smith and Michelle Brown, Expand Learning Consultants

Participants will experience a hands-on, student-centered engineering lesson. The task will be to build a prototype for a zoo. Participants will walk away with an engineering lesson plan including a student budget sheet for immediate classroom use.

# Nadia Bruner, RPA TREKs Science - Gold Donor - Please stop by our booth! Build student confid

Build student confidence and competence for 5th grade Science STAAR® with RPA's TREKs for STAAR® Readiness<sup>TM</sup>, a proven solution aligned to STAAR® Redesign and 100% of the new TEKS and ELPS. Scores in RPA classrooms improve by an average of 10 points! Over 60 activities framed in our Recall-Practice-Apply model to activate prior knowledge, strengthen science and engineering practices, emphasize science literacy and connect learning to realworld applications. Free samples and resources provided to support planning and implementation of TREKs.

#### 1302 STEM Starters: Quick, Energizing & Fun TEKS-Aligned Hands-on Activities *Tricia Berry, Texas Girls Collaborative Project (TxGCP)*

Experience energizing and fun hands-on STEM Starter activities that can scale in complexity from kindergarten to adult learners. These quick, no-cost STEM activities can be completed in five or fewer minutes or expanded to longer, TEKS-aligned lessons.

#### To Infinity and Beyond: Leveraging AI and Digital Innovation to Empower 1313 **Future-Ready Learners**

Katie Alaniz, Houston Christian University

Through leveraging digital innovations such as AI, we can lead learners in building skills that will prepare them for future success. This session will provide applicable strategies for empowering learners to be innovators and game-changers in academic and professional spheres - into infinity and beyond!

#### **Ignite Innovation with Makey Makey**

1437

Amber Hudson, 1st Maker Space

This presentation highlights Makey Makey, an invention kit for transforming objects into interactive tools, fostering creativity in STEM and art. Educators will explore its use in coding, music, and art projects, gaining insights into conductivity and human-computer interaction. USB-compatible devices required.

#### EDCI Presents: Children's Literature that Supports STEM

1439

Theresa Rodriguez, University of Houston-Clear Lake

Come discover children's books that support STEM learning. Hear about picture books connected to mathematics, the engineering design process, and biographies about inventors and scientists. Learn about the Best STEM Book List and walk away with a list of books to share with your students.

#### **Breakout Session 3** 11:15 am – 12:00 pm

#### **Engaging All Types of Learners in Birding**

1134

Jennifer Fetter-Matthys, Ecologist School Houston

Moved to Room 1130

This will be a hands-on workshop and demonstration of materials that I use to introduce birding to a variety of types of learners in my classroom. We will then move outside for a short birding session if time allows!

#### **Artist Boat: Inspiration and Education Through Unique Coastal Experiences**

1211

Reyna Collura and Lauryn Fly, Artist Boat

Learn about our National Academy of Science-backed program that leans into middle-schoolers' inquiry-based nature, including 12 hours of workshops focusing on locally-relevant climate science and art, an investigative kayaking field adventure, the creation and execution of student-designed environmental action projects, and 30 hours paid PD.

#### Three-Dimensional Learning and Anchoring Phenomena

1215

Sandra Metoyer, Environmental Institute of Houston at the University of Houston-Clear Lake

This interactive workshop will demonstrate how to apply evidence-based data to real-world scenarios and model three-dimensional learning centered around anchoring phenomena. Participants will engage with teaching strategies utilizing real-world monitoring data collected by the Environmental Institute of Houston, aligned with the new Texas science standards.

#### Mission Planning with NASA Aerospace Scholars

1218

Madeline Monaco, Heather Green, and Angela Clayton, NASA Office of STEM Engagement

Learn about the NASA Scholar opportunities, including Texas High School Aerospace Scholars (HAS), while planning a space exploration mission to Mars. Participants will learn about the mission planning process, NASA expeditionary skills, and the integration of STEM concepts with NASA resources.

#### Leveraging AI to Support Emergent Bilingual Students

1219

Lindsey Curiel, Region 4 Education Service Center

Are you ready to dive into the world of artificial intelligence (AI) in your science classroom, but don't know where to start? We will examine how artificial intelligence technologies can be leveraged to support Emergent Bilingual Students as they develop, understand, and practice social and academic language. Join us as we explore and discuss how AI can help you differentiate instruction for your students.

#### 3D Lesson Example- Engaging with Phenomena

1311

Holly Yoes, Pasadena ISD

Come and experience a phenomenon aligned to middle school force and motion standards! Learn how this phenomenon can launch students into a 3D (inquiry-based) lesson.

## EDCI Presents: From Sandbox to STEM: Embedding Computational Thinking in Early Learning

Remi Willoughby, University of Houston-Clear Lake

What is Computational Thinking? How is it connected to STEM, and how do I implement it in my early childhood classroom? In this 45-minute session, you will engage in a fun, age-appropriate, hands-on STEM activity and learn how to implement CT in your classroom.

## EDCI Presents: STEMming Together: Collaborative Innovations in Libraries Lupe Palacios, Pasadena ISD & University of Houston-Clear Lake

Join Pasadena ISD librarian Ms. Lupe Palacios to explore innovative community partnerships in STEM education. Discover strategies for securing resources and learn how libraries are evolving as dynamic hubs for STEM innovation and community growth.

#### **Roundtable Discussions - Forest Room**

#### EDCI Presents: Tackling Math Anxiety Head-On

1430

1439

Anderson Vaca, Lone Star College and University of Houston-Clear Lake

Mathematics anxiety (MA) is a widespread disorder affecting individuals globally. MA disrupts working memory, impacting numeracy, academic performance, and confidence, especially in grades 9-12. Effective strategies to overcome this anxiety include the 7M Pyramid, a proven method to reduce MA and improve mathematics instruction and performance.

#### After the Bell: STEM Solutions for Every Neighborhood

1430

Sruti Ramaswamy, Consultant - YMCA and Girls Inc.

Join us for an engaging and impactful roundtable discussion on bringing STEM programs to underrepresented communities. We'll share real stories from afterschool programs, tackle challenges faced, and highlight proven strategies. Let's uncover actionable ways to inspire every student with STEM.

## **Safer Science: Building Foundations for a Culture of Safety in STEM Classrooms** *Elizabeth Braun, The Laboratory Safety Institute*

Explore the Safer Science Program's practical tools and strategies for improving STEM lab safety. In this interactive roundtable, K-16 educators will discuss best practices for creating safer, more sustainable science learning environments and share experiences on fostering a proactive safety culture in classrooms and labs.

#### EDCI Presents: Building Hands-on Field Experience for STEM Students Through 1430 **Ecological Partnerships**

Mindy Murray, San Jacinto College and University of Houston-Clear Lake

This presentation will examine a strong and growing partnership between San Jacinto College and Armond Bayou Nature Center where students get hands-on field experience with ecology, water-quality, volunteer and internship opportunities, and receive an immersive understanding of the importance of our local natural ecosystems.

#### 1:20 pm – 2:05 pm **Breakout Session 4**

#### **Teach Math the Singapore Way!**

1130

Deyanira Salazar, Math Rocks!

Come learn how to set up and solve word problems using the Singapore Math Model Method. Don't let that long word scare you! If you are struggling to teach your students how to set up and solve word problems, this session is for you!

GIFT Internship Program: A Project-based Approach to Career Development 1134 Christie Taylor, Texas A&M AgrilLife Extension Service Moved to Room 1211

The GIFT (Green Infrastructure for Texas) High School Internship program involves 9-12 graders who complete a 60-hour course that includes field trips, hands-on field-based activities, presentations, and a group or individual project. Green infrastructure professionals present the program through our local office.

#### **Empowering STEM Education: Energizing Communities Through Strategic** (\*CANCELLED\* **Partnerships**

Fernando Hinojosa, Energy Education Foundation

Discover how the Energy Education Foundation fosters impactful community partnerships to advance STEM education. This session explores strategies for collaborating with schools, industry, and nonprofits to create engaging programs, inspire K-12 students, and build a stronger pipeline of future STEM leaders.

### Why Sense of Belonging Matters (And How to Increase It)

1213

Summer Robinson, University of Houston

Why don't girls feel like they belong in computer science settings? Our lab studies when/why gender gaps in belonging emerge with ideas to help teachers address them. Join this interactive session to engage with our findings and brainstorm how educators can close gender gaps.

Unleashing Creativity and Soft Skills with Robotics: For K-12 students.

Lena Allison, AstroMaker – Please stop by their exhibit booth instead!

\*CANCELLED\*) 1217

Discover how hands-on, project-based robotics lessons can transform your classroom into a hub of creativity, critical thinking, and collaborative learning. YES! We use soft skills in our lessons. This session explores innovative approaches to integrating robotics into K-12 education, providing students with real-world problem-solving experiences that ignite their curiosity and passion for STEM. Attendees will use sample lessons and design and implement robotics activities that engage diverse learners, foster teamwork, and enhance understanding of core academic concepts through interactive, technology-driven projects.

**Survival Science** 1218

Lisa Felske Deslaurier, EduSmart - Platinum Donor

In this hands-on session, we will explore how structures help organisms survive. Through experiments, we will examine how stimuli influence behavior and uncover cause-and-effect relationships. Using these observations, you will apply engineering design skills to create a model habitat.

#### 3D Science Lesson- Started with a Phenomenon- Now What?

1311

Holly Yoes, Pasadena ISD

Experience a 3D science lesson for force and motion concepts. Once students observe a phenomenon to notice patterns and ask questions, what happens next? How can a teacher facilitate student-led inquiry but also ensure that learning aligns with the standard(s)?

#### Incorporating STEM into Culture Awareness in the Classroom and Beyond

1313

Sandy Curtis and Dr. Anita Lewis, Clear Creek ISD

In this interactive and informative session participants will explore strategies to promote STEM connections and cultural relevance through engaging and rigorous activities that will have the whole campus reflect on the importance of cultural awareness and STEM.

#### **Integrating Engineering, Electronics, and Coding in STEM with Microcontrollers** 1326 Peter Haydock and Isael Mendiola, Gearbox Labs

Attendees will build a project to detect soil moisture using an Arduino UNO. We will explore integrating engineering, electronics, and coding concepts into different domains including science and CTE. Attendees will get a copy of the presenter's book as well as the project materials. (Computer Lab, Limit 20 participants).

**Bay 2 Schools** 1435

Cindy Wilems and Emily Billin, Galveston Bay Foundation

Join the Galveston Bay Foundation to learn how we can bring the local estuary to your K-12 classroom through hands-on STEM education that is aligned with your classroom TEKS. Engage with sample classroom activities and receive information on how to sign up for this FREE program!

## EDCI Presents: Professional Capacity Building Through the Education Doctorate in Curriculum and Instruction with STEM Emphasis Program

Omah Williams-Duncan, EDCI Program Director University of Houston-Clear Lake and EDCI Alumni: Dr. Carolyn Harnsberry, Dr. Natandra Gradney, Dr. Andrew Lowry, Dr. Kacie Cooper, and Asrar Maaliki-Maye

Are you contemplating a doctorate? Hear how Education Doctorate in Curriculum and Instruction (EDCI) alumni leveraged their degrees for career enhancement. Panelists will share a summary of their dissertation topic, summarize their learned skills, and highlight how the UHCL EDCI program had a positive impact.

#### Breakout Session 5 2:15 pm – 3:00 pm

The "M in STEM"

Alyssa Vogel, Pasadena ISD

Moved to Room 1130

As educators, we understand the value of time in instruction! Join us for an engaging session where participants will dive into the thrilling world of integrating science and mathematics through dynamic stations. Experience hands-on activities from my STEM Lab that will ignite student learning and enthusiasm!

#### How to Teach Aviation Without Saying You Teach Aviation

1211

Miguel Rangel and Ann Hobing, Lone Star Flight Museum

There is a global pilot shortage, and demand in the aviation industry continues to grow. Students who connect STEM concepts with flight fundamentals are more likely to consider a future in aviation. Teaching aviation through standard STEM lessons and hands-on making is just plane fun!

#### **Inquiry-based Pedagogy for the Early Learning Classroom (K-2)**

1215

Stephanie Cote, STEAM Partnership Specialist Matthew Cushing, Rice University Office of STEM Engagement

In this session, we will explore the importance and impact of early introduction to meaningful STEAM opportunities and inquiry-based pedagogy. You will gain practical insights into integrating STEM concepts through engaging, inquiry-driven activities in your K-2 classroom. In this session you will also have the opportunity to put your knowledge to the test with a hands-on activity!

#### STEMulate Your Mind with STEMfinity Hands-on Resources

1218

Jennifer Sancedio-Boatman, STEMfinity

Join STEMfinity in our hands-on workshop, where we'll show you how to infuse STEAM into your classroom or program. Dive into activities designed to engage young minds and foster creativity. Bring your problem-solving skills as we explore various STEAM projects and strategies for creating a blended learning environment that includes AI, augmented reality, and gamification. Don't miss this exciting opportunity to enhance your afterschool and summer programs with immersive STEM experiences!"

## STEMming the Biosphere: Connecting Threads Between Earth's Systems and Innovation

1219

Deb Hill, JASON Learning

Jennifer Wellman, Region 4 Education Service Center

Educators will examine Earth's geosphere, atmosphere, and hydrosphere, focusing on their interactions and impact on the biosphere's quality of life. Using this Earth system model, educators will identify ways to create innovative STEM activities that deepen students' science and STEM knowledge and skills.

## Breaking Down Barriers: Project-Based STEM Education Through Community Partnerships 1302

Jeremy and Tiffany Unruh, Limitless Learning Solutions LLC

Discover how to design project-based STEM experiences that actively engage community partners to break down barriers in education. Learn practical tips to connect with local organizations, foster equity in STEM, and integrate arts and core subjects into real-world, student-driven learning initiatives.

#### **Achieving Your Goals: Pyramid to Success**

1313

Debbie Trainor, NASA Alumni League and Author of Tortillas to Astronauts

Debbie has led many groups and projects during her NASA career. Debbie shares her personal story and her theory of how going back to the basics in life can help you achieve success.

## EDCI Presents: STEM+X: A Transdisciplinary Approach to STEM Education 1435 Arianna Moody, University of Houston-Clear Lake and NSTA Shell Classroom Award Winner!

Explore a Transdisciplinary STEM+X approach, fostering real-world problem-solving, critical thinking, comprehension, and engagement. Participants will learn STEM+X lesson design principles and experience a STEM+X activity. Emphasizing teacher support and agency for effective implementation to promote student agency, collaboration, and engagement.

#### **AEIOU I Make STEM Easy for You**

1437

*Lj Henderson, Little STEM Academy* 

Join us on a whimsical adventure in our "Journey Through Oz" STEM training, where you will explore the magical world of science, technology, engineering, and mathematics through engaging activities inspired by The Wizard of Oz. We will use the beloved story as a framework to explore projects which are standards aligned and will expose your students to to STEM careers.

## EDCI Presents: Plan to Excel Beyond your Master's Degree with a UHCL Education Doctorate in Curriculum & Instruction (STEM Emphasis)

Omah Williams-Duncan, Amy Cabness, and Anna Sturton, University of Houston Clear Lake

Participants will learn how to map their doctoral degree journey beyond (or including) their master's degree. Facilitators will guide participants in developing a personal plan of action that includes an application timeline, program payment plan or scholarship option plan, UHCL courses, and graduation. Specializations and potential career implications will also be shared.

## Session-at-a-Glance

#### Saturday, March 1, 2025

#### 8:40 am - 8:50 am**Welcome Remarks** Carol Waters, COE STEM Initiative Coordinator **Breakout Session 1** 9:00 am - 9:45 amAI Leading the Design and Creation of Project-Based Learning Experiences 1134 Rolla Elsaiary, University of South Carolina Moved to Room 1130 Navigating Students' Pathways: Embracing AI/AR/VR's Role in Career 1211 **Exploration** Amanda Austin, zSpace, Inc. **Engineering in a Bag** 1215 Chelsea Randolph and Shakayla Marshall, Girlstart 1218 **Radical Reptiles** Rebekah Gano, Heather Millar, Julie Brandt, Clare Hansen, Maria Batres, Chris Vazquez, Andrew Flores, Ethan Crocker, Armand Bayou Nature Center **Every Student Should Be a STEM Thinker!** 1219 Dodie Resendez, Region 4 Education Service Center **Hands-on Energy in STEM** 1302 Nina Corley, National Energy Education Development (NEED) Project Leveraging STEAM Opportunities for Differentiation in the Gifted & Talented 1311 Classroom Stephanie Cote, STEAM Partnership Specialist Denise Dorris, GT Facilitator Katy ISD **Engaging Students in Academic Conversations with the Power of Structured** 1313 Visuals. Amber Gareri and Jami Crews, Pasadena ISD EDCI Presents: Intermolecular Forces in the AI-Driven Classroom: A Hands-On 1326 **Experience** Festus Fajuyigby, University of Houston Clear Lake **EDCI Presents:** Exploring Sound and Frequency Through Rubber Band Guitars: 1437 A Hands-on STEM Lesson for Elementary Students Tracie Nair, Pasadena ISD & University of Houston-Clear Lake EDCI Presents: An Engineering Design Challenge: Design and build a weight-1439 bearing bucket tower.

Maisa Meziou, ILM Academy & University of Houston-Clear Lake

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GIFT Internship Program: A Project-based Approach to Career Development Christie Taylor, Texas A&M AgrilLife Extension Service Moved to Room  Empowering STEM Education: Energizing Communities Through Strategic Partnerships Fernando Hinojosa, Energy Education Foundation  Why Sense of Belonging Matters (And How to Increase It) Summer Robinson, University of Houston  Unleashing Creativity and Soft Skills with Robotics: For K-12 students. Lena Allison, AstroMaker – Please stop by the exhibit booth instead!	1134 1211 1135 1213		

Integrating Engineering, Electronics, and Coding in STEM with Microcontrollers Peter Haydock and Isael Mendiola, Gearbox Labs	1326
Bay 2 Schools Cindy Wilems and Emily Billin, Galveston Bay Foundation	1435
EDCI Presents: Professional Capacity Building Through the Education Doctorate in Curriculum and Instruction with STEM Emphasis Program  Omah Williams-Duncan, EDCI Program Director University of Houston-Clear Lake and EDCI Alumni: Dr. Carolyn Harnsberry, Dr. Natandra Gradney, Dr. Andrew Lowry, Dr. Kac Cooper, and Asrar Maaliki-Maye	<b>1439</b> ie
Breakout Session 5 2:15 pm – 3:00 pm	
The "M in STEM"  Alyssa Vogel, Pasadena ISD  Moved to Room  Moved to Room	1134 1130
How to Teach Aviation Without Saying You Teach Aviation Miguel Rangel and Ann Hobing, Lone Star Flight Museum	1211
Inquiry-based Pedagogy for the Early Learning Classroom (K-2) Stephanie Cote, STEAM Partnership Specialist Matthew Cushing, Rice University Office of STEM Engagement	1215
STEMulate Your Mind with STEMfinity Hands-on Resources Jennifer Sancedio-Boatman, STEMfinity	1218
STEMming the Biosphere: Connecting Threads Between Earth's Systems and Innovation  Deb Hill, JASON Learning  Jennifer Wellman, Region 4 Education Service Center	1219
Breaking Down Barriers: Project-Based STEM Education Through Community Partnerships  Jeremy and Tiffany Unruh, Limitless Learning Solutions LLC	1302
Achieving Your Goals: Pyramid to Success Debbie Trainor, NASA Alumni League and Author of Tortillas to Astronauts	1313
EDCI Presents: STEM+X: A Transdisciplinary Approach to STEM Education Arianna Moody, University of Houston-Clear Lake and NSTA Shell Classroom Award Wi	<b>1435</b> inner!
AEIOU I Make STEM Easy for You Lj Henderson, Little STEM Academy	1437
EDCI Presents: Plan to Excel Beyond your Master's Degree with a UHCL Education Doctorate in Curriculum & Instruction (STEM Emphasis)  Omah Williams-Duncan, Amy Cabness, and Anna Sturton, University of Houston Clear L	<b>1439</b> .ake

**Incorporating STEM into Culture Awareness in the Classroom and Beyond** 

Sandy Curtis and Dr. Anita Lewis, Clear Creek ISD

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