



**21st Annual Conference:
Seeds of Change**

February 21-23, 2018

Botanical Research Institute of Texas

Ft. Worth Botanic Garden

Ft. Worth, TX

Keynote Speaker: John Falk, Director Institute of Learning Innovation; Sea Grant Professor Emeritus Oregon State University



Dr. John H. Falk is internationally acknowledged as a leading expert on free-choice learning; the learning that occurs while visiting museums or parks, watching educational television or surfing the Internet for information. Dr. Falk has authored over two hundred scholarly articles and chapters in the areas of learning, biology and education and more than two dozen books. His most recent book is *Born to Choose: Evolution, Self & Well-Being* (Routledge, 2017). Falk has also helped to create several nationally important out-of-school educational curricula and has served on numerous national and international boards and commissions.

Before joining the faculty at Oregon State University, he founded the Institute for Learning Innovation (ILI) where for twenty years he oversaw more than 200 research and evaluation projects involving a wide range of free-choice learning institutions. In 2014 Falk and colleagues re-incorporated ILI where he once again serves as director. In 2006 Falk was recognized by the American Association of Museums as one of the 100 most influential museum professionals of the past 100 years. In 2010 he was further recognized by the American Association of Museum's Education Committee with its highest award, the John Cotton Dana Award for Leadership. In 2013 the Council of Science Society President's gave Falk their Educational Research Award for his outstanding achievement in research that improved children's learning and understanding. In 2016 NARST: A worldwide organization for improving science teaching and learning through research awarded Falk the Distinguished Career Award, its highest award.

Dr. Falk will be giving the 2018 ISEA Conference Keynote Address on Thursday starting at 8:45am at the Fort Worth Botanical Garden Auditorium.

Featured Speakers: Dr. Rob Rouse & Katie Krummeck, Southern Methodist University Maker Education Project



Rob Rouse is a Clinical Assistant Professor at SMU's Annette Caldwell Simmons School of Education & Human Development. Prior to pursuing his Ph.D. in Science and Mathematics Education at Vanderbilt University's Peabody College, Rob taught high school chemistry for four years at a performing arts high school in New York City as a member of the New York City Teaching Fellows. At SMU, Rob supervises first-year teachers; teaches graduate and undergraduate courses in STEM education; and chairs the STEM education committee. In his work with the Maker Education Project, Rob supports teachers implementing high-quality maker-based instruction by conducting professional development and consulting with educators from public and private schools in DFW.

Katie is Co-Director with Rob in SMU's Maker Education Project at the Lyle School of Engineering and an educator by training, a maker by trial and error, a learning experience designer and a steadfast believer in the power of empathy to bring compassionate solutions to the messiest of human problems. Before directing the Deason Innovation Gym, Katie was most recently working to bring design thinking to K12 education at the Hasso Plattner Institute for Design (d.school) at Stanford University. Katie brought the SparkTruck project to SMU to further her work in developing maker-based instructional strategies to support teachers authentically integrating maker-based learning experiences into their classrooms.

Katie and Rob are bringing the SMU Maker Education truck to ISEA 2018 - come visit the project during the Opening Night Reception on Wednesday from 7-8:15pm at the BRIT.

Featured Panelist: Koshi Dhingra, Founder and Director talkSTEM.org



Dr Koshi Dhingra is the Founder and Director of talkSTEM, a non-profit organization that designs unique Science, Technology, Engineering, Arts, and Mathematics (STEAM) educational experiences in all settings for all people, with a focus on pre-K-12 providers. She has over 25 years experience in the field of science education as teacher, researcher, teacher educator, and administrator in New York, New Jersey and Texas. She was previously Director at the Science and Engineering Education Center at University of Texas at Dallas, where she helped to launch Contact Science, a community outreach program delivered in partnership with public libraries and other free choice educational settings.

Dr. Dhingra has published research articles in the Journal of Research in Science Teaching, Studies in Science Education, Cultural Studies in Science Education, among others, She has taught teacher education courses at Teachers College, Columbia University, City University of New York, and University of North Texas and also has taught middle and high school science. She earned her Ed.D in Science Education from Teachers College, Columbia University in New York and her B.Sc from the National University of Singapore where she majored in biochemistry and microbiology. She lives in Dallas with her husband and three children.

Dr. Dhingra will be moderating the 21st annual ISEA conference Closing Keynote Panel on Friday from 10:45am-noon at the FWBG Auditorium.

2018 Conference Schedule At-A-Glance

Start	End	Event	Location
WEDNESDAY, FEB 21			
12:00	7:00	Registration open	BRIT Atrium
1:00	5:00	Pre-conference Workshop	BRIT Classroom
5:30	6:00	Scholarship Meetup	BRIT Commons
6:00	9:00	Opening Reception 6-8: Food Service 6-9: Cash Bar 7-8:15: SMU Maker Ed Project 8:15-9: Networking Activities	BRIT
8:30	9:30	Shuttle service available	BRIT to Springhill Suites
9:30		Off-site networking	Ye Olde Bull & Bush (2300 Montgomery St.)
THURSDAY, FEB 22			
7:30	8:00	First Time Attendee Breakfast	Springhill Suites, host hotel
7:30	8:30	Shuttle service available	Springhill Suites
8:30	8:45	Welcome and Board Introductions	FWBG Auditorium
8:45	10:00	Keynote Address	FWBG Auditorium
10:15	11:15	Concurrent Sessions	FWBG Auditorium, FWBG Azalea BRIT Commons, BRIT Classroom
11:30	12:30	Concurrent Sessions	FWBG Auditorium, FWBG Azalea BRIT Commons, BRIT Classroom
12:30	1:30	Lunch	Commons
1:00	2:30	Free time (Tours TBD)	Library and Collection tours (pre-registration required)
2:45	3:45	Concurrent Sessions	FWBG Auditorium, FWBG Azalea BRIT Commons, BRIT Classroom
4:00	5:00	Concurrent Sessions	FWBG Auditorium, FWBG Azalea BRIT Commons, BRIT Classroom
5:15	6:15	Poster Session with cash bar	BRIT
6:30	8:00	Dinner Silent Auction Closes 7:30	BRIT
8:00	8:15	Live Auction: Rigor (PPT)	BRIT
8:00	8:30	Shuttle Service available	BRIT to Springhill Suites
8:30		Off-site Networking	World of Beer (3252 W 7th St)
FRIDAY, FEB 23			
7:30	8:30	Shuttle service available	
8:30	10:30	Concurrent Workshops	FWBG Auditorium, FWBG Azalea BRIT Commons, BRIT Classroom
10:45	12:00	Closing Keynote: Dr. Koshi Dhingra Panel	FWBG Auditorium
12:00	12:15	Closing remarks and Raffle Winners	FWBG Auditorium
12:15	12:45	Shuttle service available	BRIT to Springhill Suites
2:00	3:00	Post-Conference Field Trip: walkSTEM@NorthParkCenter	NorthPark Center

Concurrent Sessions, Thursday, February 22 - 10:15am-11:15am

Educators League: Fostering Interdisciplinary Learning in DFW and Beyond (FWBG Auditorium)

Erin Shields, Texas Discovery Gardens
Ani Simmons, The Sixth Floor Museum at Dealey Plaza

Learn about the benefits of informal regional partnerships and begin collaborating with your own regional partners. Learn the origin stories of how Informal Educators of Dallas County (IEDC) and Informal Educators of Tarrant County (IETC) were formed and what challenges and successes they've encountered on the way. Develop a list of who needs to be involved in forming an Informal Educators Group, and start making plans to bring the benefits of informal regional partnerships to your community.

How to have F.U.N. (Families United in Nature) (BRIT Classroom)

Anna Lewis and Stephanie Casalini, Dallas Zoo and Children's Aquarium at Fair Park

Natural environments to explore can be difficult for families to locate and access with ease. Presenters will discuss the development of family nature programs, including how the partnerships were formed, challenges, lessons learned, successes, and future plans. Attendees will gain knowledge to create or grow family nature programs at their institution along with gain insight from challenges and successes.

Utilizing Gardens for Science: Let's Be Practical (BRIT Commons)

Lauren Zappone Maples, Partners for Education, Agriculture and Sustainability (PEAS)
Joe Phillips, Farmessori at Near North Montessori
Kim Aman, Moss Haven Farms

Establishing and running school garden and kitchen classroom programs requires community collaboration and a willingness to take healthy risks while encouraging students to do the same. Speakers will discuss ways garden teams can participate in a shared approach to problem solving while fostering student engagement in hands-on and applied science. In addition to sharing models of true Farm-to-Table program design that involve students of all ages, in every stage of the food cycle, they will share problem solving strategies, lesson ideas, and resources that are applicable across sites.



Highlights from the 2017 Conference at T Bar M - Hands-on activities, late night karaoke, and informal keynotes.

Concurrent Sessions, Thursday, February 22 - 11:30am-12:30pm

Is this real life or fantasy: Make STEM relevant to the real-life issues of underserved populations (FWBG Auditorium)

Mercadi Crawford, TXPOST

The numbers of degrees attained for underrepresented groups within Science, Technology, Engineering, and Math fields are alarmingly low. When asked why, Adrienne Stephenson, Asst. Dean/Director the Graduate School, Florida State University, stated that "Lack of awareness and connection. When something seems out of reach, it's not as exciting and attractive to them. Introduce Science at an early age. What does Science look, feel and sound like? Make it meaningful, practical and applicable!" Attendees will learn the importance of connecting STEM to everyday life by creating or seeking new innovative curriculum. Crawford will use her personal testimony as a student from an underserved community and experience working to get girls and minorities interested in STEM to make the connection.

Beyond the Bus: Engaging Students Outside of the Traditional Museum Field Trip (FWBG Azalea)

Jessica Liken, Jessie Crowley, and Chris Strganac, Perot Museum of Nature and Science

Thousands of students visit the Perot Museum on field trips each year. However, many children and families in North Texas do not have this opportunity because of transportation costs, timing constraints, or other factors. The Perot Museum's School Programs Team uses a variety of programming models to solve these problems and engage with communities beyond traditional school field trips. This session will explore outreach programs, school partnerships, Family Science Nights, and Jr. Master Naturalists. Attendees will explore program models and tools to engage more deeply with their students and communities outside of the confines of the traditional museum field trip.

walkSTEM: Touring the World with a STEM Lens (BRIT Classroom)

Christine Dietz, Dallas Arboretum and Botanical Garden
Mary Cary Peterson, Mount Auburn STEAM Academy, Dallas ISD

The goal of walkSTEM is to help tour participants see and appreciate the STEM concepts that are part of their everyday lives and especially to make real world connections to the math and science students are learning in school. By asking tour-goers to observe familiar – maybe mundane – environments using a STEM lens, they discover that STEM is not an abstract, difficult "thing" confined to textbooks and classrooms, but dynamic part of their lives. In this session, participants will be introduced to the walkSTEM experience, how walkSTEM tours are developed, and guided through the beginning stages of developing a walkSTEM "tour stop." Educators will have an idea of how walkSTEM experiences can be adapted to their specific settings and how anyone can come to view themselves as STEM practitioners.

Engage Learners with Physics Challenges: Explore the Engineering Process with buoyancy, density, & volume (BRIT Commons)

Alan Small, Castleberry ISD and Worth Learning, Inc.

This hands-on presentation gives participants 3 different engaging labs to use both in informal settings, and to support content and standards in formal settings. The presentation provides direct experience in each of the 3 labs, along with the background and planning information needed to implement them in different formats. Two of the labs are variations of classic physics labs (Flinker Engineering and Foil Boats), and the third (Magnet Diver Rescue) is a joint project between the presenter and his Twitter PLN. These labs have been honed by several thousand students, so participants will be able to easily think through materials, set up, lab management, and clean up for both small format and large format groups.

Concurrent Sessions, Thursday, February 22 - 2:45pm-3:45pm

STEMprov: Improv for Science Educators (FWBG Auditorium)

Nichole Bennett, STEMprov

STEMprov: Improv for Science Educators is a beginner-friendly improv workshop focused on using improvisational acting skills in the context of science education. Improv requires you to understand group dynamics, tell stories, and say yes in the face of the unknown. In many ways, improv draws upon the very same skills we cultivate as science educators. In this session, attendees will use the tools of this trade to help to practice becoming a better collaborator, increase your storytelling skills, and become more relaxed with all of the unknowns that come with a career in science education.

1 Baggie, 4 Activities (FWBG Azalea)

Jessica Skelton, Girlstart

Girlstart's 1 baggie, 4 activities workshop introduces STEM topics and concepts in a fun and engaging way. At the same time it also shapes a learning environment where inquiry-based, collaborative, and process driven learning becomes the norm. We will share our facilitation expertise, tips for implementation, and best case practices for engaging all learners. Attendees will receive best practice information for engaging all learners, making their program meaningful and relevant for girls, as well as walk away with four standards-aligned STEM activities and materials.

Junk Science and Fake News: Fighting Back with Science and Media Literacy (BRIT Classroom)

Sarah Morris, Nucleus Learning Network

Fake news and misinformation are getting a lot of attention lately. One type of misinformation that keeps stubbornly reappearing is misinformation surrounding science, from spurious nutrition advice, to misrepresented studies, to climate change denial. The session will include a mix of discussion, presentation, and time for attendees to explore lessons and shared resources. Attendees will leave with a better understanding of what misinformation is, both at a broad level and as it relates to science, and with an action plan for ways to use and adapt the shared lessons and resources in their respective programs.

Nature Play for Early Childhood Students (BRIT Commons)

Sara Ramirez and Mark Broughton, Dallas ISD Environmental Education Center

Learn about providing early childhood students with nature play experiences that help them develop socially and emotionally, promote creativity, and ultimately set them on a path of lifelong concern for nature. If young students aren't provided opportunities to play in natural settings, they are more likely to become indifferent towards nature and conservation efforts as teens and later as adults. This session will discuss the current research surrounding the benefits of nature play for early childhood students. Attendees will be able to apply this research, use examples of nature play experiences our center has successfully implemented, and leave with new logistical insights on how they can provide simple, fun, researched-based nature play experiences for the early childhood students they serve.



Keep up with your ISEA crew all year long!

Join the Facebook Group:

www.facebook.com/groups/texasinformalscience/

Visit www.texasinformalscience.org

@iseaxt on twitter - Tag your posts with #iseatx2018

Concurrent Sessions, Thursday, February 22 - 4:00pm-5:00pm

Planting the Seed of Stewardship: Education and Interpretation (FWBG Auditorium)

Danielle Bradley and Rick Torres, Texas Parks and Wildlife Department

Learn how to expand your educational messaging through interpretation. Danielle and Rick will help educators develop methods of presenting information to reinforce the relevancy of content to their site and their visitor. This presentation will cover an introduction to interpretation and demonstrate the significance of using this process to enhance the information we are sharing about the natural world. After attending this session, participants will transform their environmental information into interpretation and foster a stronger connection between their visitors and their resources. By exposing more people to the art of interpretation, we can create a culture of stewardship-minded visitors.

Utilizing Project-Based Learning to Engage Learners (FWBG Azalea)

Dillon Chevalier, Education Consultant

Join this hands-on activity based session to learn the answer to the following questions: What is Project-Based Learning? How do you implement PBL? How is it different from other methods? How do I design my own PBL? Participants will learn how utilize PBL to address the challenge of engaging students and adults during a time when many distractions take attention away from learning. They will also learn how to utilize PBL to create authentic learning experiences, make connections between schools and informal science providers, and utilize best teaching practices. PBL resources and examples will be shared that cover content areas such as physics, ecology, biology, chemistry, meteorology, and geology.

Ask Me Anything!: A Panel Discussion on Careers, Leadership, and Longevity in the Field (BRIT Classroom)

Mercadi Crawford, Texas Partnership for Out of School Time; Brenda Lopez, Thinkery; Johnnie Smith, Texas Parks and Wildlife; Christina Soontornvat, STEM Education Consultant

How do you build a robust and vibrant career in the ISE field? What *really* makes a difference in creating an inclusive institution? What are directors looking for when they're hiring? What should *you* look for when hiring others? Our trio of ISE leaders will answer these questions and take plenty of your own during this lively, interactive panel. ISE professionals from various levels of leadership (manager, director, executive) from both private and public institutions will briefly discuss their career paths and what they believe has led to their success. The panel moderator will ask a few selected career-related questions (What is the skill they think every person should have? Should I get a Master's degree? What is the secret to acing an interview? How can I network effectively?) as well as questions about leadership (What is the key to cultivating a diverse staff? What have you seen as effective and ineffective in reaching diverse audiences? What are the key issues you see affecting our field in the future?). At least half the session time will be left for audience questions. This will be fun and lighthearted as well as meaty and meaningful!

We Are Citizen Astronomers: How Anyone Can Make Real Science Contributions in NASA Research (BRIT Commons)

Dr. Keely Finkelstein and Marc Wetzell, University of Texas, McDonald Observatory

People learn about discoveries in the universe after the professional astronomers have made them. We are not part of the exploration process, only the announcement. None of us expect to sift through real science data that leads to real discoveries. Until now! Today, CosmoQuest citizen science projects in astronomy bring together real observational data and the general public to create a force of research and education, perfect for the informal environment. Session participants will make real-time contributions to NASA mapping projects of Earth and Mercury by identifying surface features of real images taken by astronomers and ISS astronauts. Participants will also complete a fun, hands-on Solar System activity about how astronomers explore planets from earth and space, perfect for a museum family night! Our objective is to demonstrate how informal science centers can make real science data available to the public and make the science process relevant to all informal learners.

Conference Poster Sessions, Thursday, February 22 - 5:15pm-6:15pm

Designing Lab Experiences for Museum Guests: Method and Results

Callan Kaut, Perot Museum of Nature and Science

Cultural institutions across the U.S. contain areas where guests can independently complete a lab experiment, such as looking at their own cheek cells or dissecting a fruit fly larva. The Perot Museum chose to design new experiments that fit in with exhibit hall learning objectives, and tested these experiences during a guest-centered, volunteer evaluated testing period. Learn about the current state of informal education lab experiences across the U.S., the experimental design and beta testing protocol that the Perot Museum utilized, and the experiments we selected.

Learning Opportunities at Earth Day Texas

Alison Alvarez, EARTHx

Over 100,000 visitors and 1,000 exhibitors representing many companies, non-profits, NGO's, K-12 schools, colleges and universities, as well as politicians, filmmakers, and celebrities - all come together for this amazing event to celebrate our planet and collaborate on how we can protect our future for generations to come. Get a broad overview of the Earth Day event, why it exists and everything that is offered. Receive information on how to apply to be an exhibitor, bring a group of students to the event for a field trip, as well as all the benefits of attending as a student or an educator.

Connecting for a Stronger Community: how collaboration can increase your educational outreach

Audrey Sizemore and Amanda Byrom, Keep Midland Beautiful

Keep Midland Beautiful will share its collaboration experience with the Midland County Public Libraries to bring a traveling exhibit to the community. The partnership presented "green" practices to so many in our rural community that would have otherwise been impossible to reach. In this session, we will dive into what it takes to form a great collaborative project, what that great partnership can provide for your organization, and how this collaborative project changed KMB.

Connecting Families to Nature through Technology

Tonya McDaniel, Dallas Zoo

One of the challenges we face in connecting families to nature is having them disconnect from technology. Instead of removing technology altogether from nature exploration, how can we incorporate it into the outdoor learning experience? With the ease of the smartphone app and web-based tool iNaturalist, learn how the Dallas Zoo redesigned a nature learning program to fit in the 21st century standards to connect families to their local environment, build a citizen science identity, and connect with other citizen scientists around the world.

Changing How we Play: Incorporating role play into conservation learning

Jenn Idema, Texas State University

Research has shown that learning through play can be an impactful tool for teaching children. This poster aims to illustrate how a role play activity influenced the conservation messages children learned and what they remembered from attending an outreach event hosted by a National Marine Sanctuary. Learn about Space Invaders, and engaging activity that meets multiple NGSS and TEKS standards. Concepts learned from the Space Invaders activity are easily transferable across topics and disciplines.

Small to Large: Using 3-D printing to model microscopic life

Allison Silveus, Shelly Wu, Cassandra Cartmill, & Yohanis de la Fuente, Texas Christian University

Latina women are underrepresented in STEM disciplines. Learn an activity for STEM camp that embeds an outdoor learning experience with digital technology, including 3D printing. Students often encounter microscopic life and have difficulty understanding their morphology and function. This activity will focus on enabling students to use 3D printing to conceptualize microscopic life on a larger scale. This activity can be applied to other informal contexts to integrate technology and inquiry, bridging the knowledge gap between two and three-dimensional life.

STEM's Impact on Elementary School Science: Implications for Informal Science Educators

Joanne K. Olson, Texas A&M University

Given the decline of elementary science, particularly in TX, and that over 60% of scientists became interested in science before age 11 (Maltese & Tai, 2010), informal science education may be our strongest strategy to ensure science is part of children's education. We need to not only examine and sharpen our focus on teaching science, but approach maker spaces and engineering with caution in "Science" Centers. We need to distinguish between science and engineering/tech, so visitors don't wrongly conflate them into STEM, where science disappears. Learn about my particular study looking at how science teaching was impacting when engineering was added to the experience.

Poster Sessions, Continued

Documenting Diatoms on Turtles: A Research Experience for High School Students

Katherine Faulkner, Paschal High School, Fort Worth ISD; Taha Sharaf, Paschal High School, Fort Worth ISD; Shelly Wu, Andrews Institute of Mathematics and Science Education, Texas Christian University; Victoria Chraibi, Department of Biological Sciences, Tarleton State University; Andrew Brinker, Paschal High School, Fort Worth ISD; and Brook Salazar, Paschal High School, Fort Worth ISD

Our poster will present high school students' research on diatom diversity on turtles. The project emerged from a collaboration of educators and scientists on the Trinity River Turtle Survey. This could be a model for educators to foster authentic, science experiences for K-12 students.

Engaging High School Students in Future Water Quality Challenges

Melissa L. Mullins, Baylor University, Center for Reservoir and Aquatic Systems Research

Join Baylor University and Texas A&M- Corpus Christi in investigating global water sustainability issues and aquaculture as part of a current research project. Help us answer the question: How can we engage high school students around this issue?

AmeriCorps VISTAs- Sparking a Positive Change Through Environmental Education One State Park at a Time

Kenneth Saintonge, Carli Herz, Denise Ma, Alexis Deleon, & Brandi Heasley, Texas Parks and Wildlife Department

Together Texas Parks and Wildlife and their new AmeriCorps VISTAs are sowing the seeds of change by bringing environmental education to those in underserved communities in hopes to ignite a change towards environmental stewardship, as well as empowering and strengthening the communities they are serving. VISTAs are just ordinary people doing extraordinary things. It is a powerful movement with a few people in different corners of Texas working on separate projects with similar goals.

Cattail Creations: Using Native Plants to Teach STEAM

Sara Salisbury, Texas State University

Cattails are the supermarket of the swamp. They are also unique and effective education tools. Come join the conversation as I explore the historical, cultural, and ecological value of this plant, and discuss how to integrate cattail-based activities into your science programming!

Mapping for Change: Creating Visual Narratives for Outreach and Education Projects

Colin Findley and Cristina Gonzalez, Texas Parks and Wildlife Department

The challenge of matching available resources with underserved communities can be made less difficult when using relevant data and digital tools to both measure and visual outreach. The presenters will introduce resources that have allowed them to share the scope of current projects and identify areas for developing resources. Attendees will learn strategies for accessing mapping tools, sourcing data, sharing their findings, and advocating for changes to or the expansion of their educational programs.

Pollinator Gardens as Interpretive Exhibits: Tips for Success and Sustainability

Kay V. Jenkins, TPWD AmeriCorps VISTA Program

Recent scientific studies reveal that populations of pollinator species are declining sharply, driving the need for adults and children to learn about the ecology of pollinators and their value in sustaining native plant communities and human and livestock food crops. People can help the recovery of pollinator species populations by planting native plant species that provide food for both adults and larvae and roosting habitat for the pollinators that live in their area. Join our presentation to gain useful information about creating successful and sustainable interpretive pollinator exhibits from examples of pollinator gardens that have been created in various public settings in Texas.

The UNT Dallas-Perot Museum Partnership: Looking back, lessons learned

Dr. Ratna Narayan, University of North Texas-Dallas

Our poster presentation will look back at our five year old partnership and discuss factors that have impacted it positively and negatively. Presenters will discuss data regarding factors impacting the partnerships and how these issues were addressed and how the partnership has evolved over the five year period, as well as the impact the partnership has had on their self-efficacy.. The presentation will offer timely and relevant insights in how to achieve a successful partnership between a university and an informal science site where the needs of both parties are met.

Workshops, Friday, February 23 - 8:30am-10:30am

Mapping How People Learn (FWBG Auditorium)

Kristin Evans, University of Texas Marine Science Institute/Mission-Aransas NERR

As professionals, our ability to reflect upon our own ideas, beliefs and understanding about learning is essential to our success as an informal science educators. One strategy of reflective practice is to make our private thinking “public” by getting ideas outside of our head- onto paper or into dialog- for others, and ourselves, to further examine and develop. Concept mapping is one way to visually and collectively examine, organize and structure one’s knowledge and understanding of a subject or concept. The goal of the session is to “plant a seed of habit” by engaging participants in a replicable reflective exercise that explores a fundamental question of our practice, “How do people learn?” Session includes, participants exploring their own ideas and thinking, as well as those of others; a “rapid-fire” mapping exercise representing shared understanding and knowledge; a group discussion of map results; and sharing of a few “ah-has,” hiccups and next steps from exercise.



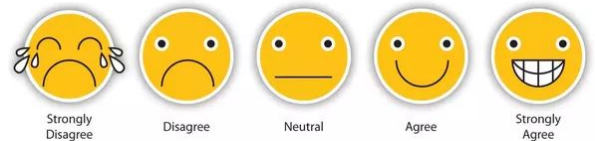
Evaluation Research in Informal STEM Education (FWBG Azalea Room)

Dr. Chris Mosely, UTSA

Melissa Paschke, Dogwood Canyon Audubon Center

Johnnie Smith, Texas Parks & Wildlife Department

Haily Summerford, Friends of the Fort Worth Nature Center



This session will explore collaboration and evaluation in Informal STEM education across the State. Research methods being used in an on-going collaborative research study between Dogwood Canyon Audubon Center, Cedar Hill ISD, and the University of Texas at San Antonio will be shared as an example. The qualitative and quantitative methods used as tools to evaluate the impact of student participation in academic achievement, beliefs, and connections to nature include interviews, observations, academic standardized tests (STAAR data), and pre/post surveys. In this workshop, informal educators will be provided program evaluation resources, share examples of research methods being used in informal education, review and provide feedback on a proposed collaborative research model, identify the variety and diversity of successful collaborations, and identify 4-6 ISEA member organizations to participate in research studies.



Maker Programming Is for Everyone (Yes, Even You!) (BRIT Classroom)

Katie Kizziar, Jesse Mesa and Karen Wylie, Thinkery

Emily Clark, Mayborn Museum

Jacie Hood, Fort Worth Museum of Science and History

Explore how to harness the engagement & excitement of maker programming in a way that complements your setting! Choose your own (character-making) adventure: create with cardboard and brads, or complexify with servo motors. Then, brainstorm ways to incorporate making activities at your institution.

Gender Inclusive Programming with NASA! (BRIT Commons)

Kate Woodward Young, Texas Girls Collaborative Project

Join a NASA Network of States trainer as she shares NASA resources and activities from a gender inclusive perspective. We will work together to connect your programs to NASA resources and Girl Scout badges and journeys. This workshop will give you the tools to adapt classroom activities for an informal setting, to effectively create a gender inclusive program, to market to the parents, and to inspire, be relevant and make a difference. Utilizing proven techniques and best practices, Kate will ensure you leave the workshop with practical, Monday morning implementation skills.



ISEA Partners Offering Free or Discounted Admission

Free General Admission*

MUST show conference badge

Dallas Arboretum and Botanical Garden

Address: 8525 Garland Rd, Dallas TX 75218

Web: www.dallasarboretum.org

Hours: Daily, 9am-5pm

Dallas Heritage Village

Address: 1515 S. Harwood St, Dallas TX 75215

Web: www.dallasheritagevillage.blueervay.com

Hours: Tuesday-Saturday, 10am-4pm

Dallas Zoo

Address: 650 South R L Thornton Freeway, Dallas TX 75203

Web: www.dallaszoo.com

Hours: Daily, 9am-4pm

Fort Worth Museum of Science and History

Address: 1600 Gendy Street, Fort Worth TX 76107 (you can walk there from the conference!)

Web: www.fwmuseum.org

Hours: Monday-Friday, 10am-4pm; Saturday 10am-5pm; Sunday: noon-5pm

Perot Museum of Nature and Science

Address: 2201 North Field Street, Dallas TX 75201

Web: www.perotmuseum.org

Hours: Monday-Saturday 10am-5pm; Sunday 11am-5pm

Texas Discovery Gardens

Address: 3601 Martin Luther King Jr. Blvd, Dallas TX 75210 (located within Fair Park)

Web: www.txdg.org

Hours: daily 10am-5pm

Trinity River Audubon Center

Address: 6500 Great Trinity Forest Way, Dallas TX 75217

Web: www.audubon.trinityriver.org

Hours: Monday-Friday 9am-4pm; Saturday 7am-3pm; Sunday 11am-5pm

** General Admission is to main exhibits or space, special exhibitions or additional paid experiences (e.g. films, rides) will remain at regular costs.*

*Admission & Discounts Valid February 21-23,
2018*

Discounted Admission for ISEA Attendees

MUST show conference badge to receive, AND leave business card

Sixth Floor Museum (*Offering Educator Admission Rate of \$10, a \$6 discount*)

Address: 411 Elm St, Dallas TX 75202

Web: www.jfk.org

Hours: Monday, 12pm-6pm; Tuesday-Sunday 10am-6pm

Generally Offering Free Admission to All Public for Main Exhibits

(Special Exhibits may have additional costs)

Amon Carter Museum of American Art

Address: 3501 Camp Bowie Blvd, Fort Worth TX 76017

(within walking distance of the conference!)

Web: www.cartermuseum.org

Hours: Tuesday-Friday and Saturday, 10am-5pm; Thursdays, 10am-8pm; Sunday, noon-5pm

Crow Collection of Asian Art

Address: 2010 Flora St, Dallas TX 75201 (The Dallas Museum of Art and the Crow Collection of Asian Art are within walking distance of each other)

Web: www.crowcollection.org

Hours: Tuesday-Sunday 10am-5pm

Dallas Museum of Art

Address: 1717 N Harwood St, Dallas TX 75201

Web: www.dma.org

Hours: Tuesday, Wednesday, Friday-Sunday 11am-5pm; Thursday 11am-9pm

(Lucy recommendation – Check out C3, an interactive art space within the museum)

Dogwood Canyon Audubon Center

Address: 1206 W. FM 1382 75104

Web: www.dogwoodcanyon.audubon.org

Hours: Tuesday-Saturday, 9am-5pm

Kimbell Museum

Address: 3333 Camp Bowie Blvd, Fort Worth TX 76017 (within walking distance of the conference)

Web: www.kimbellart.org

Hours: Tuesday-Thursday, Saturday 10am-5pm; Friday noon-8pm; Sunday noon-5pm

(Lucy recommendation – the Kimbell Buffet is legendary)