22nd Annual Conference:
"Resiliency, Rebuilding and Risk-Taking"

February 20-22, 2019
Camp Aranzazu
Rockport, TX

Keynote Speaker: Dr. Carolyn Finney, writer, performer and cultural geographer

Dr. Carolyn Finney is deeply interested in issues related to identity, difference, creativity, and resilience. In particular, she explores how issues of difference impact participation in decision-making processes designed to address environmental issues. More broadly she likes to trouble our theoretical and methodological edges that shape knowledge production and determine whose knowledge counts. The aim of her work is to develop greater cultural competency within environmental organizations and institutions, challenge media outlets on their representation of difference, and increase awareness of how privilege shapes who gets to speak to environmental issues and determine policy and action. Along with public speaking, writing and consulting, she serves on the U.S. National Parks Advisory Board that is working to assist the National Park Service in engaging in relations of reciprocity with diverse communities. Her first book, *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors* was released in 2014 (UNC Press.)

Dr. Finney will be giving the 2019 ISEA Conference Keynote Address on Wednesday evening.

Featured Speaker: Betty Siegel, Director of VSA and Accessibility at the John F. Kennedy Center for Performing Arts

Betty Siegel is a driving force in accessible arts across America. Ms. Siegel has specialized in arts and disability issues for over 30 years starting at Arena Stage in Washington, D.C. and now as Director of VSA and Accessibility at the John F. Kennedy Center for the Performing Arts. She oversees national and international disability, arts and education programs including the VSA Network of organizations engaging in disability arts and education and the LEAD (Leadership Exchange in Arts and Disability) network of cultural arts administrators addressing access to cultural experiences. She is a respected expert and speaker on topics related to disability rights, compliance with disability laws and regulations, the arts and disability, and to accessibility to cultural programs and venues for individuals of all ages with disabilities.

Betty will be giving the Featured Presentation on Thursday morning before concurrent sessions.

Highlights from the 2018 Conference at the Fort Worth Botanical Gardens and the BRIT-- Hands-on activities, meet & mingle arm wrestling (featuring two board members!), and keynote speaker take-a-ways!

2019 Conference Schedule At-A-Glance

Start	End	Event	Location
WEDNESDAY, FEB 20			
9:00am	11:45am	ISEA Board Meeting lunch	Dining Hall
1:00pm	6:00pm	Registration & check-in	Dining Hall
1:00pm	5:00pm	Pre-conference Workshops Book Discussion Creating Stewards Port A Clean up Birding Goose Island	Sanctuary Art Center Nature Preserve, Port Aransas Goose Island State Park
5:30pm	6:00pm	Scholarship Meetup	TBA
5:30pm	8:30pm	Opening Reception & Keynote 5:30-7:00pm Ticket Bar 5:45-6:3pm Meet & Mingle UV Nature Overview 6:30-7:15pm Dinner 7:30-8:30pm Keynote Presentation	Dining Hall
8:45pm	10:00pm	Fire Pit & S'More Bar Stargazing UV Nature	Fire Pit by pond Archery Deck by pond Nature Hut
THURSDAY, FEB 21			
7:00am	7:30am	Yoga in Nature/ Nature Walk	Grass or Pavilion
7:30am	8:15am	Breakfast	Dining Hall
8:20am	8:50am	Welcome & Board Introductions Camp Aranzazu Introduction	Dining Hall
9:00am	10:00am	Keynote Presentation	Dining Hall
10:15am	11:15am	Concurrent Sessions	
11:30am	12:30pm	Concurrent Sessions	
12:30pm	1:30pm	Lunch	Dining Hall
1:00pm	2:30pm	Free time: Nature/Birding Walk Scavenger Hunt Star Wheel Activity Camp Store Open	Meet at Pavilion Guided and self-guided Activity: 1:45-2:15pm Sanctuary Store: 1:45-2:15pm
2:45pm	3:45pm	Concurrent Sessions	
4:00pm	5:00pm	Concurrent Sessions	
5:15pm	6:15pm	Poster Session with ticket bar Silent Auction Opens 5:30pm	Dining Hall
6:30pm	7:30pm	Dinner Silent Auction Closes 7:30pm	Dining Hall
8:00pm	8:30pm	Live Auction Ticket bar closes 8:30pm	Dining Hall
8:45pm	11:00pm	Karaoke & Board Games Stargazing Fire Pit	Dining Hall Archery Deck by pond Fire pit by pond
FRIDAY, FEB 22			
7:15am	7:45am	Yoga in Nature/ Nature Walk	Grass or Pavilion
7:30am	8:30am	Breakfast	Dining Hall
9:00am	11:00am	Concurrent Workshops	
11:30am	12:00pm	Closing Remarks ISEA Business Meeting Evaluation & Raffle Winners	Dining Hall

Concurrent Sessions, Thursday, February 21 - 10:15am-11:15am

Assessing Stronger Academic Engagement seen in informal STEM programs for Underrepresented Minorities (Art Center)
Jo Dee Duncan, Ph. D, St. Philip's College Science Center
Dr. Carmen Nava-Fischer and Ravi Martinez, Southwest Research Institute (SwRI)

Students from St. Philip's College studied the impact of the Science and Math Summer Academy, in San Antonio, on academic engagement. Knowledge and understanding of STEM concepts and processes were statistically assessed for youth, ages 11 – 15, attending the 12-day informal science education program. Participants took pre and post examinations with questions taken from the Trend in Internal Math and Science Standards tests. A statistically significant increase in academic ability was seen. In addition, the youth and the parents completed post assessment surveys: questions with Likert scales and open response. The survey contained 12 questions which measured the impact on: knowledge, engagement, attitude, behavior and skills. Data is assessed using both Excel and SPSS statistical programs to determine success of the program based on gender, ethnicity and household income.

Tales of Texas Teen Science Cafés (Outdoor Pavilion)
Sarah Miller, Emily Clark, Sherry DeHay, Katie Dion, Westyn Garber, Courtney Jonescu, Mayborn Museum Complex

Teen Science Café is a meaningful way to engage teens with scientists in their communities. Speakers from Central Texas Teen Science Café, Dallas Zoo Teen Science Cafe, and Teen STEM Café from the Texas State Aquarium will cover the main points of: what the Teen Science Café network is, success and failures of our Cafés, how we engage teens with science, powerful partnerships, and examples of hands-on activities. Attendees will learn the basics of starting a Teen Science Café and all the resources that are available to members of the network, and how to lead teens and speakers in this program.
This session offers relevance through its target age group of teens and how to bring teens into museums or science institutions. Teen Science Café is a way to connect teenagers with real world scientists, career paths, leadership opportunities, and opportunities for personal and professional growth. The session will end with examples of hands-on activities designed for Cafés, and time for questions.

Pond or Paper: How to Test Water Quality - At The Pond Or In The Classroom! (Nature Hut)
Keira Quam, Texas Parks & Wildlife Department

Discover multiple ways to present learning aquatic macroinvertebrates in "wet" or "dry" classroom situations. Participants will gather and identify macro invertebrate specimens, learn methods of collection and carrying out a pond study, then participate in different challenges to see who can identify the species. Attendees will gain experience in leading a pond study, how to carry one out without going to the water and/or with no actual specimens and how to help students understand water pollution and how it can easily be tested using the water bodies inhabitants. Water quality and pollution levels are always important. However, it isn't always possible to take participants to the water. This session will give some alternative techniques and materials for how to conduct a pond study with no actual specimens for situations where water isn't available.

Capturing the Impact of Informals Using Science Capital (Dining Hall)
Dr. Brooke Miller and Emily Weerts, 4-H CAPITAL

Science Capital is a theory that can help us to understand why some folks grow up to pursue the sciences while others do not. This model explains how all science-related experiences, knowledge, and attitudes across the life span work together to point youth towards, or away, from science careers. Focusing beyond science literacy, this model takes into account how an individual thinks about science (their attitudes as dispositions), their prior experiences with science outside of the school day (in museums, afterschool centers, and afterschool programs), as well as who they know in science fields (cultural representation as well as familial buy-in). 4-H CAPITAL has used this conceptual tool to guide our programming, and will discuss how focusing on science-related social and cultural capital has led to increased engagement in our classes and among our staff.

Concurrent Sessions, Thursday, February 21 - 11:30am-12:30pm

It's a World of STEM: A walkSTEM® Network Panel Presentation (Dining Hall)
Mary Cary Peterson, Jonathan Edquid, talkSTEM
Members of the walkSTEM Network including Dustin Miller and Lori Delacruz, Dallas Arboretum and Botanical Gardens, Mountain View College (Dallas County Community College District)

The walkSTEM Network is a growing group of varied organizations who provide walkSTEM experiences to leverage their existing spaces by providing engaging STEM educational experiences for visitors. During this panel presentation, attendees will be inspired by educators who have been at the forefront of this varied and growing STEM network. Ask questions and consider joining the network by creating your own walkSTEM® experience! From after-school clubs to self-guided tours in varied settings from zoos to museums, any space is a great space to walkSTEM®.

Twitter in the Classroom: Using your Social Media Outlets as a resource for Classroom Educators (Art Center)
Alyce Todd, Texas State Aquarium

Social media quickly shares information, but how is it received? Are the posts read? Are we being followed? The answer: a resounding yes! The speed at which you can share information makes it an efficient way of communicating with guests. Its reach allows users like zoos and aquariums, to make an impact each time a post is made. Information shared is controlled by the facility and guided by best practices and standards. And, it is free. You can't beat that. The impact and reach goes beyond how many "likes" or "shares" a post receives. Twitter and other social media platforms can be an effective form of interpretation. Join Texas State Aquarium and hear how a small school in Kerrville, TX uses their Twitter feed to teach science and connect students to the world round them.

Sticks and Stones: Risk Management in Nature Play (Outdoor Pavilion)
Anna Lewis, Dallas Zoo and Children's Aquarium at Fair Park

As nature play is becoming a growing movement, there is always the question of how to play safely. Some risk is needed for children to learn and grow, so how, as an educator or parent, can we safely have the children accomplish those risks? We'll hear some risks and hazards that could be involved in or with nature play and how to overcome them. In this session, attendees will learn how the Dallas Zoo uses risk management in a variety of programs and settings to accomplish fun safe child led nature play. The attendees will look at variety of situations to determine possible risk or hazards. They will come away will knowledge of a risk verse a hazard and how and why some risk is needed in child play for child development, as well as a checklist and/or plan to take back to their own programs.

Engineering a Natural Disaster Proof House – Using STEM for Innovative Problem Solving (Nature Hut)
Samantha Doupnik, Perot Museum of Nature and Science

This will be a hands-on, interactive session where attendees will learn a framework of an effective STEM challenge and work in teams to design, engineer, and test a natural disaster proof house. This activity was designed by the Perot Museum of Nature and Science's Kosmos Energy STEM Teacher Institute. With an increase in media coverage and public interest of natural disasters across the globe, the STEM Institute saw a unique opportunity to inspire learners to connect these concepts to real world problem solving. The goal of this experience is to strengthen understanding of Earth Science standards by encouraging learners to apply concepts to the Engineering Design Process and produce an original piece of work.

Concurrent Sessions, Thursday, February 21 - 2:45pm-3:45pm

Funding Your Dream Program (Dining Hall)
Cappy Smith, Texas Parks & Wildlife Department

Funding is always an issue for informal science providers but the issue has intensified as funding cuts for education have occurred nationwide. Few organizations have the resources available to fund programs beyond the basics. The high cost of transportation is one of the main obstacles to schools participating in informal science programs. There is a huge demand for funding solutions and the CO-OP grant can provide a solution for some organizations. Learn about Texas Parks and Wildlife's Community Outdoor Outreach Program Grant which funds programs that engage underserved populations in the outdoors. In this session, we will cover eligible activities and expenses plus tips on writing a successful application.

Fires, Floods, and Zebra Mussels, Oh My! (Art Center)
Danielle Bradley and Sarah Nordlof, Texas Parks & Wildlife - State Parks

From flash floods to hurricanes to wildfires, Texas State Parks have seen their share of natural disasters. This session will focus on the resiliency of our sites and staff, how to involve the public during the rebuilding process, and how a little risk-taking can lead to increased opportunities for stewardship following natural disasters. A template for interpreting natural disasters was developed and will be shared with participants. Attendees will find out successful tactics for dealing with unexpected disasters at interpretive sites during the disaster as well as the rebuilding process. Each panelist will discuss the role of social media in communicating with the public, opportunities for stewardship following natural disasters, and lessons learned from the front lines. We'll focus on three parks affected by nature in three different ways: Goose Island and Hurricane Harvey; Lake Ray Roberts and zebra mussels; Bastrop and wildfire.

walkSTEM Network presents: How to Design your Own walkSTEM Experience (Outdoor Pavilion)
Mary Cary Peterson, Jonathan Edquid, talkSTEM

During this workshop session, participants will create a walkSTEM tour guided by walkSTEM Network leaders and members. This is a way to share the STEM stories of particular elements in your space. You will hear from a diverse group of educators who have created unique walkSTEM® experiences in varied settings, including indoor, urban, and outdoor nature. Any space is a great space to walkSTEM®!

Aqua Adventure- Part A (Nature Center)
Melissa Mullins, Baylor University
Bill Balboa & Paige Leadford, Texas Sea Grant, Lower Colorado River Authority

Get your feet wet in this investigation of coastal habitats and what lives in Copano Bay. How can we connect issues like water quality, the urban water cycle, and food supply to the audiences we work with? What role do oysters play in the bay and what type of habitat do they provide to other organisms? Two universities (Baylor and Texas A&M Corpus Christi) and Texas Sea Grant are partnering on a research project focused on examining how things we use in our everyday lives (such as pharmaceuticals, personal care products, and household chemicals) can end up in wastewater, and potential impacts to the aquaculture industry. Waders, seines and other equipment provided- just bring your sense of adventure!

Concurrent Sessions, Thursday, February 21 - 4:00pm-5:00pm

ISEA Dialogue: A Conversation and Listening Session (Dining Hall)
Charlie Walter, Mayborn Museum
Kristin Evans, UT Marine Science Institute

Whether this is your first time to the ISEA Conference or you are a long-time member, this session will provide a short overview of ISEA's history followed by time to dialogue with ISEA leaders and share your thoughts about informal science education in Texas. Facilitators will share information about ISEA's history, current mission, vision, and values, and seek input that can be folded into the Board's long-term plans. This session will provide a forum for conference delegates to voice their ideas, concerns, and suggestions about ISEA, including input on the development of new core value statements. This session will provide qualitative information that will enrich our understanding of what ISEA means to its members, and perhaps spark new opportunities for ISEA into the future.

Incorporating Research Data Into Student Programs (Art Center)
Sara Pelleteri, University of Texas Marine Science Institute

University of Texas Marine Science Institute researchers are engaged in numerous research projects that present opportunities for our educators to utilize real-world data in activities for K-12 students. Join us as we conduct an activity based on current research in the Mission-Aransas Estuary, located in South central Texas. We will use graphs and critical thinking skills to investigate what happens when large amounts of rainfall, either from spring storms or hurricanes, send large amounts of freshwater into nearby coastal waters. Participants will discuss challenges and opportunities in using research data, practice extracting information from research data and also discuss their own experiences in utilizing this type of information.

Field Science On a Shoestring Budget (Nature Hut)
Jennifer Chapman & Elizabeth McMahan, Austin Zoo

Get those kids outside…Do field research…Use science tools… We've all heard these directives; many times, we've given them to ourselves. Then we look at our lack of a budget and sigh. Well let's share our favorite low and no budget resources including Foldscopes the $1.75 paper microscopes that work! Through sharing ideas, stories, and resources conference participants will build resiliency through camaraderie and new strategies on how to maximize resources. The major points to be covered in this workshop include the benefits of Foldscopes and how to use leftover craft supplies to teach hands-on outdoor science. Workshop participants will walk away with experience doing at least 3 very inexpensive outdoor science activities.

Aqua Adventure- Part B (Nature Center)
Melissa Mullins, Baylor University
Bill Balboa & Paige Leadford, Texas Sea Grant, Lower Colorado River Authority

The investigation of coastal habitats and what lives in Copano Bay continues in Part B of this session. How can we connect issues like water quality, the urban water cycle, and food supply to the audiences we work with? What role do oysters play in the bay and what type of habitat do they provide to other organisms? Two universities (Baylor and Texas A&M Corpus Christi) and Texas Sea Grant are partnering on a research project focused on examining how things we use in our everyday lives (such as pharmaceuticals, personal care products, and household chemicals) can end up in wastewater, and potential impacts to the aquaculture industry. Waders, seines and other equipment provided- just bring your sense of adventure!

Conference Poster Sessions, Thursday, February 21 - 5:15pm-6:15pm
Dining Hall

Lions and Tigers and Teens: Investigating Volunteer Experiences in Informal Science Education
Leah Cuddeback & Dr. Kristy Daniel, Texas State University

Anyone that has worked with teenagers knows that their energy can't be beat! In this case study of the Saint Louis Zoo's teen volunteer program, we attempted to quantify just what brings teenagers in, what they gain from teaching informal science, and where they pursue future careers. The case study provided should leave the audience with a better idea of how to engage an adolescent audience. Giving teens a place to build speaking and professional skills can help not only the individual but also the organization they represent. This topic is particularly relevant, as adolescents have taken a center-stage in recent national protest. The effective mobilization of teen volunteer groups can also prove a versatile resource in informal science education.

A Case Study Examining the Field Teaching Practices of Three Expert Birders
Sarah Jenevein, University of Texas at Austin

This poster presents original research examining the informal teaching practices of expert birders, accomplished hobbyists who engage in "birding," or purposefully searching for and identifying birds (distinguished from the passive activity of "birdwatching"). It applies the lens of constructivist theories of learning (Vygotsky, 1978) to examine how expert birders act as "knowledgeable social others" to guide novices' development of knowledge, skills, and attitudes. The findings of this work may be applied to other informal, outdoor learning contexts to help informal science educators and volunteers develop their field teaching practices.

Where are your climate facts? Understanding Climate change through local impact and debate
Puneet Gill, Texas A&M International University

After the Fourth National Climate Assessment Report was released, more attention has been paid to difficult discussions like the interconnected impacts that are difficult to understand- infrastructure, land-use changes and population growth, for example (U.S. Global Change Research Program, 2018). Educators and students alike should continually re-visit new key reports on climate change and integrate findings into critically informed activities in the classroom. One method of debate, its connection to informal science in Texas and its replication in a k-12 setting will be discussed in this poster. This poster presentation will feature climate facts on "fact or opinion climate cards" and discuss what occurs when students are asked to distinguish between fact, opinion, credible sources and to argue one side and then switch sides.

Working Collectively to Improve ACCEYSS to Informal STEM Programming
Shetay N. Ashford-Hanserd, Kristy L. Daniel & Dana M. Garcia, Texas State University

A multitude of barriers force historically underrepresented and underserved minorities to become resilient if they desire to pursue a STEM career. We identified reported barriers to success and factors perceived as contributing to students' success in STEM programs. To increase the number of youth who overcome identified barriers, the Association of Collaborative Communities Equipping Youth for STEM Success (ACCEYSS) developed a research-driven, STEM intervention model for developing a network of community and faith-based partners with the purpose of making informal science programming more easily available to underserved children prior to seeking a formal STEM education. This ACCEYSS model is based on the role Black and Hispanic faith-based organizations have historically played in motivating and galvanizing their congregations to drive action. It builds upon these structures by developing researcher-practitioner partnerships in communities of color.

Conference Poster Sessions Continued

Assessing public perceptions of arachnids and identifying trends through citizen science

Bria Marty, Kristy L. Daniel, Texas State University

Public perceptions of arthropods are historically negative. Arachnid arthropods are important for balancing insect populations in their native ecosystems, however gaining insight on this understudied group is challenged by lack of support. We explored impacts of citizen science on public perceptions of arachnids by creating a unique activity appropriate for anyone aged 10 to adults. Open Air Laboratories (OPAL) is a successful citizen science program in the UK that uses hands-on activities to get the public involved with nature. The goal of this project was to design an engaging indoor arachnid community survey based on OPAL formatting in central Texas. We measured rate of return for completed surveys, analyzed perceptions from pre- and post-survey questions, and measured environmental mindfulness and awareness. We will present any trends detected in the data. In the future, public perceptions of arthropods may shift positively through activities that encourage connections to nature.

LCRA Parks-Matagorda Bay: Utilizing Recreational Activities as a way to Educate Today's Youth

Paige Leadford, Rachael Puryear, Lower Colorado River Authority-Matagorda Bay Nature Park

Informal education is getting harder every year to sustain, especially in parks departments. Participation levels continue to decline and many parks are needing more ways to generate revenue. Youth are harder to engage in nature with all the "excitement" and instant gratification of today's modern world. This poster will highlight the history of LCRA Parks and how Matagorda has specifically adapted to the challenges of our isolated location, challenging weather patterns, and most of all, our increased difficulties in engaging youth and adults alike to participate in educational programming. Diverse programming and activities offered through recreational and educational opportunities, a dedicated and passionate staff, and collaboration with other organizations to reach more diverse populations, is key to sustainability. My adaptations to this growing problem of convincing today's youth to engage in nature can be applied to informal science educators in any field or organization.

Talking conservation: Exploring the influence of zoo educators on visitor conversations

Jenn Idema & Kristy Daniel, Texas State University & Patricia Patrick, Columbus State University

Globally, zoos have grown from places to see animals to centers for conservation and preservation. Striving to enhance visitor experiences, zoos are placing greater importance on experiences that promote conservation learning. Since families are one of the major groups that visit zoos, understanding how they interact amongst themselves and with zoo educators (ZE) can provide implications for the development and delivery of conservation messages. In this study, we examined conversations that occurred within families and between families and ZE at a zoo exhibit. From these conversations, we identified patterns in conservation topics among participants. Our findings show when families engaged in conversations with ZE there were high rates in mentions of specific conservation issues. However, mentions decreased for the remainder of the visit after families ended their interaction with the ZE. This is important for practitioners as it illustrates how ZE interactions can further engage visitors.

Free-Choice Learning within Science Education Graduate Coursework

Kathryn Kunz & Joanne K. Olson, Texas A&M University

Graduate programs in science education are often focused on K-12 formal school settings. We have changed coursework at our university to incorporate an explicit focus on informal science education so that graduates: 1) better utilize informal settings with their students; 2) consider employment in informal science education settings; 3) advocate for informal science education. We'll present ways that we address informal and free-choice science education issues within traditional science education graduate-level coursework. We will address what we perceive to be important readings, assignments, and in-class experiences. We seek input from those in informal and free-choice science education settings on our efforts. We hope to foster important dialogue so that those in informal science education settings have well-prepared future colleagues and future visitors, and so that we can best meet the needs of those in informal science education environments.

Workshops, Friday, February 22 – 9:00am-11:00am

Building Resilient Partnerships with Public Schools (Dining Hall)
Natalie K. James, Brenham ISD Outdoor Education

In the face of tighter constraints on resources, nonprofits and school districts can work together to broaden kids' exposure to science - if everyone approaches the venture in a mutually beneficial way. The session will discuss the history of Brenham ISD Outdoors, including how the program was intentionally built to be resilient and survive changing times, struggles we've faced, and how our informal science nonprofits have worked with us to keep the program thriving. Attendees will gain an understanding of what it takes from all stakeholders to keep an educational partnership with a school district moving forward, including an overview of current academic testing expectations.

Redesigning Museum Curriculum Materials to Support Student Agency, Interest, and Interaction (Art Center)
Sarah Jenevein, University of Texas at Austin
Pamela Owen, Texas Memorial Museum

In fall 2014, Texas Memorial Museum (TMM), a small natural history museum on the campus of The University of Texas at Austin, experienced massive budget cuts and a dramatic reduction of nearly all education staff. Despite these challenges, TMM completed a major revision of its K-12 curriculum the following year, which was designed to increase student agency, interest, and interaction at the museum. This workshop will examine the lessons learned by those involved in the curriculum revision at TMM and introduce participants to the principles of student-centered museum worksheet design. Workshop participants will collaborate to analyze and revise real curriculum materials sampled from various museums. At the end of the session, participants will be able to apply what they have learned about best practices in curriculum design to revising curriculum from other informal science learning spaces.

Nature Journaling for Beginners: An Interdisciplinary Tool for Fostering Environmental Literacy (Sanctuary)
Misty Bowie, Texas Project Learning Tree

A journal is a powerful tool. It unlocks creativity, hone observation skills, provides a window into the past, and is the data collection backbone of the scientific process. At the same time, it enforces important record-keeping skills such as reading, writing, and drawing. Notable scientists, naturalists, and philosophers such as Charles Darwin, Aldo Leopold, Rachel Carson, and John Muir were all known for keeping journals of their observations and discoveries. Many of their famous literary works and groundbreaking observations were published from their journals. This session will explore nature journaling as an interdisciplinary approach to deepening appreciation for nature, and the many ways that nature journals can be incorporated into informal science programming to foster environmental literacy.

Rigor says "Keep up with your ISEA crew all year long by joining our social media feeds!"

Join the Facebook Group:
www.facebook.com/groups/texasinformalscience/

Visit www. Texasinformalscience.org

@iseatx on Twitter-
Tag your posts with #iseatx2019

Workshops Continued

I Asked My 6th Graders what Resilience Meant to Them, and the Room Fell Utterly Silent... (Pavilion)
Leslie Peart, Texas State Aquarium
Sheryl Roehl, Larijai Francis, Joelle Francoise, and 5-10 Coastal Bend Teachers, ESC Region 3, City of Corpus Christi, AECOM Engineering, and Coastal Bend Schools

Just before Hurricane Harvey, Texas State Aquarium was notified that NOAA would fund its "Coastal Bend Watershed Resilience Education (CBWRE)" Bay-Watershed Education and Training program. In 2016, AECOM Engineering and the City of Corpus Christi approached the Aquarium with the notion of co-developing activities for teachers and students focused on issues of local watershed resilience. From boil-water notices, to salt-water intrusion and water shortages, these issues are not unique to the Coastal Bend, and any means of increasing the community's knowledge of human-caused and natural changes in the watershed would likely improve resilience for all. At its heart, CBWRE relies on the General Land Office's Texas Coastal Resiliency Master Plan in the context of NOAA's Meaningful Watershed Education Experiences. The program has resulted in a model that can be replicated in any coastal community.

Texas Aquatic Science and Informal Science Education (Nature Hut)
Melissa Alderson & Danielle Knapp-Smith, Texas Parks and Wildlife Department

Explore the components of Texas Aquatic Science (TAS) and discover how to use this free curriculum to enhance your aquatic science offerings. TAS is full of compelling content and hands-on learning rich with field experiences. The curriculum consists of a comprehensive 14-chapter teacher guide and online student portal consisting of video introductions, emphasis on water and aquatic science careers, short stories about water and the environment, and online video lessons. The TAS Certified Field Site designation will let schools know they can partner with your site for Aquatic Science content, tools, and techniques. Moreover, it provides an opportunity to further realize the mission of ISEA: To support partnerships among formal and informal science educators to improve science education in Texas.

Some of the 2018 ISEA Board working hard-- hosting, planning and learning!
Interesting in joining the Board? Let us know at texasinformalscience@gmail.com

ISEA Recommendations:
"What to do in the Coastal Bend before & after the conference?!"

Visit Downtown Corpus Christi and other nearby sites and ISE institutions-

- Visitors Bureau of Corpus Christi (for more fun ideas) - http://www.visitcorpuschristitx.org
- Walk along the marina in downtown
- Mirador de la Flor (Selena statue)
- Art Museum of South Texas - http://www.artmuseumofsouthtexas.org/
- Corpus Christi Museum of Science and History - https://www.ccmuseum.com/
- Art Center of Corpus Christi - https://www.artcentercc.org/
- Texas State Aquarium - https://www.texasstateaquarium.org/
- South Texas Botanical Gardens - http://www.stxbot.org/
- USS Lexington - https://usslexington.com

- Visit Rockport-Fulton
  - Texas Maritime Museum - https://www.texasmaritimemuseum.org/
  - Downtown/Old Rockport
  - Rockport Art Center - http://www.rockportartcenter.com/main/
- Visit local State and National Parks
  - Goose Island State Park - https://tpwd.texas.gov/state-parks/goose-island
  - Mustang Island State Park - https://tpwd.texas.gov/state-parks/mustang-island
  - Padre Island National Seashore - https://www.nps.gov/pais/index.htm
  - Aransas National Wildlife Refuge -mhttps://www.fws.gov/refuge/aransas/
- Enjoy the Whooping Crane Festival (Rockport & Port Aransas) - https://www.whoopingcranefestival.org/
- Enjoy a brew at a local Craft Brewery
  - Rebel Toad - http://www.rebeltoadbrewing.com/
  - Lorelei - https://lorelei-brewing-co.myshopify.com/
  - Lazy Beach - http://lazybeachbrewing.com/
  - Railroad - https://www.railroadseafoodstation.com/
- Wander Camp Aranzazu
- Go birding in "America's birdiest city"