

**22nd Annual**



**Friday, February 1, 2019**

**Oklahoma City Zoo**  
**Rosser Conservation Education Center**

Hosted by Oklahoma Association for Environmental Education

# 22nd Annual Oklahoma Environmental Education Expo

## Conference Agenda

8:30 a.m. Registration

8:45 a.m. OKC Zoo Ambassador Animal welcoming attendees in the auditorium

9 a.m. Welcome and Opening Announcements

9:15 a.m. Keynote Presentation – Megan Cannon  
Increasing Student Curiosity by Exploring Phenomena

9:45 a.m. Break and Exhibitors

10:05 a.m. Breakout Sessions I

OKC - CO2 = Cooler Future Greg Miller and Barry Fox Location: Auditorium	Unsung Pollinators, And Where to Find Them Joe Rackley and Sara Wallace Location: Canopy Room	Fibonacci on Your Pine Cones (and other Math/Plant Connections) Shelley Mitchell Location: Discovery Theater
Tree Detectives: Dendrochronology for Kids Ellie Marler Location: Tree House	Water You Think?! Why Citizen Drought Monitoring Matters Dr. Nicole Colston, Meghan Martin and Ayo Ibukun Location: Room 3	How Popcorn Pops! Cheri Long Location: Room 4

10:55 a.m. Visit with Exhibitors

11:10 a.m. Travel to Canopy Restaurant

11:15 a.m. Lunch in Canopy Restaurant



We will be utilizing Slack as a way to communicate before, during and after the 2019 OK EE Expo. You should receive an email invitation (at the email address you registered for the event) to join the Slack Workspace for the 2019 OK EE Expo. Slack is available for iPhone, Android and Windows phones. It is also available via the web if you don't wish to download the application.

# Conference Agenda (continued)

12:15 p.m.    Breakout Session 2

Glowing Coral Fluorescence and the Impact on STEM Learning  Ann Money  Location: Auditorium	The Mystery of the Missing Bees  Chloe Miller  Location: Canopy Room	Gale Force – the Windy Phenomenon  Kathy Jackson  Location: Discovery Theater
Wings, Stings, and Leggy Things: 5 Lessons from Summer Camp  Kristin Harry and Dr. Nicole Colston  Location: Tree House	Monarch Munching: Habitat for the Monarch Butterfly  Janet Horner  Location: Room 3	Fun in the Sun - Solar Printing  Tricia Virtue  Location: Room 4

1:05 p.m.    Break and Exhibitors

1:20 p.m.    General Session in Auditorium

1:45 p.m.    Grab a Snack/ Visit Exhibitors/Travel to Asia

2 p.m.    Zoo presentation at Asia Exhibit

Elephants are phenomenal...and so is their pool!

Join us for a presentation of elephant proportions! Discover how animal behavior can spark wonder and how Zoo experts use this information to ensure the optimal wellbeing of our herd. Then chat with our Curator of Horticulture to get the low down on the Zoo’s poo-cular method of composting.

3 p.m.    Dismiss – You are free to explore the Zoo



## Notes/Phenomena Observations:

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## Keynote Speaker

Megan Cannon is the Director of Science & Engineering at the Oklahoma State Department of Education. Prior to this position, she was an educator for Sapulpa Public Schools. Mrs. Cannon developed a passion for science early in her undergraduate program which led her to pursue a master's degree in science education. Her goal has always been to provide her students with experiences that help them develop a love for science and a curiosity for the world around them. She is excited that she now gets to provide teachers all over Oklahoma with those same experiences. Mrs. Cannon is the 2017 Oklahoma State Finalist for the Presidential Award for Excellence in Mathematics and Science Teaching and is awaiting results from the national level.



# Keynote Address

**Megan Cannon | Director, Science and Engineering  
Oklahoma State Department of Education | Oklahoma City**

The keynote will focus on increasing student curiosity by exploring phenomena. How do we prepare students to look at the world around them with a lens of wanting to know why or how something works the way it works? We do this by giving them opportunities in school to ask questions and make observations. Then we allow them to explore the answers while we guide them along the way.



### Notes/Phenomena Observations:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on its right side, suggesting it's resting on a surface.

# Concurrent Session 1 (10:05 – 10:55 a.m.)

## OKC - CO2 = Cooler Future

**Greg Miller | Director of Education and Training | Science Museum Oklahoma**

**Barry Fox | Gardens and Grounds Manager | Science Museum Oklahoma**

**Target Age-Group or Grade Level**

3rd – 8th

**Assigned Room**

Auditorium

What is Carbon Dioxide and how does it affect our earth? How do our behaviors play a role? Find answers to these questions and more through STEM based activities that will give you the knowledge to take action from right here in Oklahoma.

### Notes/Phenomena Observations:

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## Unsung Pollinators, And Where to Find Them

**Joe Rackley | State Survey Coordinator, Plant Protection Specialist**

**Oklahoma Department of Agriculture**

**Sara Wallace | Plant Protection Specialist | Oklahoma Department of Agriculture**

**Target Age-Group or Grade Level**

Pre-K – 12th

**Assigned Room**

Canopy Room

Pollinators are more than just Honey Bees, more than just insects, and abundant and easily observable in any setting. Pollinators include endangered bumble bees, solitary bees, other insects, reptiles, birds, mammals, and even hominids. But, they are threatened and many are in decline. You can learn to observe pollinators at work; learn to appreciate their diversity; and marvel at very specific adaptations that facilitate dynamic relationships with plants.

### Notes/Phenomena Observations:

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# Concurrent Session 1 (10:05 – 10:55 a.m.) Continued

## Fibonacci on Your Pine Cones (and other Math/Plant Connections)

Shelley Mitchell | Associate Extension Specialist, 4-H and Youth Programs  
Department of Horticulture & Landscape Architecture | Oklahoma State University

Target Age-Group or Grade Level  
Elementary and Middle

Assigned Room  
Discovery Theater

Use plant-based learning to teach math! Discover how measuring, fractions, statistics, graphing, geometry, even Fibonacci sequences can be taught using plants.

### Notes/Phenomena Observations:

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## Tree Detectives: Dendrochronology for Kids

Ellie Marler | Student | BlueSTEM AgriLearning Center

Target Age-Group or Grade Level  
Any

Assigned Room  
Tree House

Find out how our traveling Tree Ring kit will allow your students to discover what happened in the environment during the life cycle of a particular tree, and each student will get a tree cookie they can take home!

### Notes/Phenomena Observations:

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# Concurrent Session 1 (10:05 – 10:55 a.m.) Continued

## Water You Think?! Why Citizen Drought Monitoring Matters

**Dr. Nicole Colston | School of Teaching, Learning and Educational Sciences  
Research Faculty | Oklahoma State University**

**Meghan Martin | Graduate Research Assistant | Oklahoma State University**

**Ayo Ibukun | Graduate Research Assistant | Oklahoma State University**

Target Age-Group or Grade Level	Assigned Room
5th – 12th	Room 3

Weather is a very unpredictable phenomenon, even with constant advances in meteorology and climatology. Discover how your students can participate in a citizen science effort to monitor weather and drought conditions in the Great Plains and contribute data to help solve future weather puzzles in our region.

### Notes/Phenomena Observations:

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## How Popcorn Pops!

**Cheri Long | Professional Development Coordinator | Oklahoma Ag in the Classroom**

Target Age-Group or Grade Level	Assigned Room
3rd – 5th	Room 4

Participants will discover how popcorn is grown and explore the phenomenon of how popcorn pops.

### Notes/Phenomena Observations:

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# Concurrent Session 2 (12:15 – 1:05 p.m.)

## Glowing Coral Fluorescence and the Impact on STEM Learning

**Ann Money | Director of Education and Research | Oklahoma Aquarium**

Target Age-Group or Grade Level  
Pre-K – 12th

Assigned Room  
Auditorium

Presenting on the health of coral worldwide, and the research being done at the Oklahoma Aquarium to work toward improving the health of reef systems by studying fluorescence emissions.

### Notes/Phenomena Observations:

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## The Mystery of the Missing Bees

**Chloe Miller | Student | BlueSTEM AgriLearning Center**

Target Age-Group or Grade Level  
Any

Assigned Room  
Canopy Room

The bee population is currently in decline and with Colony Collapse Disorder on the rise, we want to educate students on different types of bees and their impact on the environment and our daily lives. View our Bee Box, a traveling trunk available to teachers.

### Notes/Phenomena Observations:

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# Concurrent Session 2 (12:15 – 1:05 p.m.) Continued

## Gale Force – the Windy Phenomenon

**Kathy Jackson | Director | SpiritWind Kidz Ranch & KidWind**  
**Jason Heitman | Southern Region Operations Manager | Enel Green Power**  
**Shaun Strickland | Operations Manager | Enel Green Power**  
**Trish Williams | Oklahoma Field Coordinator | Enel Green Power**

Target Age-Group or Grade Level	Assigned Room
Any	Discovery Theater

KidWind is about exploration, curiosity, creativity, and learning using fun and interactive activities. Come learn what phenomena make turbine blades move.

### Notes/Phenomena Observations:

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## Wings, Stings, and Leggy Things: 5 Lessons from Summer Camp

**Kristin Harry | Graduate Research Assistant | Oklahoma State University**  
**Dr. Nicole Colston | School of Teaching, Learning and Educational Sciences**  
**Research Faculty | Oklahoma State University**

Target Age-Group or Grade Level	Assigned Room
1st – 6th	Tree House

Come learn five ways to build a strong STEM Tree Trunk for your outdoor adventures and learn how to find creative ways to view nature when you can't control the natural environment. We share lessons from a STEM-based outdoor summer camp.

### Notes/Phenomena Observations:

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# Concurrent Session 2 (12:15 – 1:05 p.m.) Continued

## Monarch Munching: Habitat for the Monarch Butterfly

Casey White | Teacher Intern | BlueSTEM AgriLearning Center

Target Age-Group or Grade Level  
Any

Assigned Room  
Room 3

Find out about a variety of different plants that pollinators are attracted to. Learn about the importance of pollination and the structure of different flowers. We'll have a hands-on traveling kit full of different pollinator activities for teachers.

### Notes/Phenomena Observations:

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## Fun in the Sun - Solar Printing

Tricia Virtue | BlueSTEM Teacher | BlueSTEM AgriLearning Center

Target Age-Group or Grade Level  
Any

Assigned Room  
Room 4

This is a STEAM lesson highlighting the relationship between science, nature, and art using solar printing. See the power of UV light as we examine textures and shapes found in nature.

### Notes/Phenomena Observations:

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***Our mission is to support Oklahoma educators and promote, in formal and non-formal settings, environmental literacy through communication, resource sharing, skill building, program sponsorship and recognition of excellence.***

The Oklahoma Association for Environmental Education was established in 1993 and is the state affiliate of the North American Association for Environmental Education (NAAEE). OKAEE brings together a variety of environmental educators who share a common goal – excellence in environmental education. OKAEE serves educators of all grade levels, natural resource professionals, students, university faculty, environmental clubs, non-profit educational programs, and corporate environmental interests. OKAEE unites these diverse interests in a forum designed to energize and inspire participants to greater levels of achievement.

OKAEE accomplishes many of its goals by hosting a one day conference, the Oklahoma Environmental Education Expo (EE Expo). The first EE Expo was held in February 1996, and 2019 marks the 22nd EE Expo.

The activities and day-to-day operations of OKAEE are organized and carried out by a Board of Directors. Board members are all volunteers. As in most not-for-profit organizations, OKAEE is constantly seeking new board members. We would love for you to join us.

For more information about OKAEE, please contact Laura Wilhelm at:  
lhwilhelm@okcu.edu or (405) 208-5456

## **OKAEE Board of Directors**

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Rachael Robinson, Oklahoma City Zoo, Education  
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