

STEM Breakout Sessions – August 2, 2019
Oklahoma Career and Technology Education Summer Conference
Moore Norman Technology Center – Franklin Campus
4701 12th Avenue NW, Norman, OK 73069

Follow and participate in the STEM conference activities on Twitter using the hash tag #stem and the OkACTE conference activities using #okacte!

7:30 – 8:15 a.m. Check-in, Moore Norman Technology Center, Franklin Campus

8:30 – 9:20 a.m. Breakout Sessions 1 STEM D Building

Session: Industry Partnership

Presenter: *Xan Black, Tulsa Regional STEM Alliance*

Presenter Bio: Xan Black is the Executive Director of the Tulsa Regional STEM Alliance (TRSA). Xan's drive, passions, and leadership of the Alliance support all aspects of STEM education. She aligns the experience and wisdom of community partners with the need of educators and schools. She is responsible for project management, strategic planning, program implementation and more. Xan graduated with a Bachelor of Science degree in Petroleum Engineering from Texas Tech University in 1981. She worked for eight years in the energy industry in Oklahoma. In 2007, Xan earned a Master of Education degree with an emphasis in Middle and Secondary School from Southwestern Assemblies of God University. She taught secondary math and science for 11 years at Mingo Valley Christian School. Xan and her husband, Jeff, have five adult children and have lived in Tulsa since 1990.

Room: **STEM Building, D421** (20 seats)

Description:

Area: Recommended for all STEM Teachers

Session: Using OkCareerGuide.org

Presenter: *Micah Willeford, Career Guidance Counselor, Moore Public Schools*

Room: **STEM Building, D423** (20 seats)

Description: This session will cover how to use OkCareerGuide.org to help students with their Individual Career Academic Plan (ICAP). Specific topics will include access, exploring occupations, create plans of study, interest survey, résumés, storing documents, and how to request administrative access to the system.

Area: Recommended for all STEM Career Clusters

Session: FIRST Robotics

Presenter: *Roger Farris, Director of Instruction / Mentor FRC Team # 2341, Gordon Cooper Technology Center*

Presenter Bio: Worked in electronics industry. Electronics Instructor for 4 years. Industrial Coordinator for 13 years. Director of Instruction for 7 years. First Robotics Mentor Coach for 12 years.

Room: **STEM Building, D428** (18 seats)

Description: Benefits of after school robotics programs.

How to get started. High School Credit for work done.

Area: Engineering

Session: Rubik's Cube

Presenter: *Rhonda Hibbard, Math Specialist, East Central University/ The Institute for Math & Science Education*

Room: **STEM Building, D430** (18 seats)

Description: The Rubik's Cube is a hands-on learning tool that reinforces mathematical concepts such as percentages, estimation, fractions, geometric properties while creating art! Creating a Rubik's cube mosaic enables students to make that connection between math and other disciplines while promoting perseverance and teamwork!

Area: MS STEM

Session: Teaching STEM self-pace models

Presenter:

Room: STEM Building, D434 (18 seats)

Description:

Area:

Session: Coding and Engineering with Ground and Aerial Robots

Presenter: Ashley Bergerding STEM+C Implementation Specialist, KISS Institute for Practical Robotics

Presenter Bio: Ashley is a graduate of The University of Oklahoma with a Bachelor's in Computer Engineering and a minor in Computer Science. She led the Sooner Rover Team at OU and loves all things robotics. Her passions lie in STEM and education. She enjoys teaching, mentoring, and watching students discover their potentials!

Room: STEM Building, D432 (18 seats)

Description: Introductory workshop to provide information about our robotics educational programs

Cluster Area:

Session: FAA

Presenter:

Presenter Bio:

Room: STEM Building, D439 (18 seats)

Description:

Cluster Area:

Session: Tinker

Presenter:

Room: STEM Building, D444 (30 seats)

Description:

Cluster Area:

Session: Kid Wind-more than just STEM

Presenter: Kathy Jackson; KidWind Lead Instructor – Oklahoma; Trish Williams, Community Relations – Enel Green Power

Presenter Bio: Founder / Director of The SpiritWind Kidz Ranch, Inc.; Oklahoma educators for KidWind Project.

Room: STEM Building, D476 (24seats)

Description: We will display and discuss the various directions of STEM /STEAM in Renewable Energy. There will be a hands-on activity included. (all levels)

Cluster Area:

9:35 – 10:25 a.m. Breakout Sessions 2

Session: Industry Partnership

Presenter: Xan Black, Tulsa Regional STEM Alliance

Presenter Bio: Xan Black is the Executive Director of the Tulsa Regional STEM Alliance (TRSA). Xan's drive, passions, and leadership of the Alliance support all aspects of STEM education. She aligns the experience and wisdom of community partners with the need of educators and schools. She is responsible for project management, strategic planning, program implementation and more. Xan graduated with a Bachelor of Science degree in Petroleum Engineering from Texas Tech University in 1981. She worked for eight years in the energy industry in Oklahoma. In 2007, Xan earned a Master of Education degree with an emphasis in Middle and Secondary School from Southwestern Assemblies

of God University. She taught secondary math and science for 11 years at Mingo Valley Christian School. Xan and her husband, Jeff, have five adult children and have lived in Tulsa since 1990.

Room: **STEM Building, D421** (20 seats)

Description:

Cluster Area: Recommended for all STEM Teachers

Session: **Using OkCareerGuide.org**

Presenter: **Micah Willeford**, *Career Guidance Counselor, Moore Public Schools*

Room: **STEM Building, D423** (20 seats)

Description: This session will cover how to use OkCareerGuide.org to help students with their Individual Career Academic Plan (ICAP). Specific topics will include access, exploring occupations, create plans of study, interest survey, résumés, storing documents, and how to request administrative access to the system.

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Presenter: **Roger Farris**, *Director of Instruction / Mentor FRC Team # 2341, Gordon Cooper Technology Center*

Presenter Bio: Worked in electronics industry. Electronics Instructor for 4 years. Industrial Coordinator for 13 years. Director of Instruction for 7 years. First Robotics Mentor Coach for 12 years.

Room: **STEM Building, D428** (18 seats)

Description: Benefits of after school robotics programs.

How to get started. High School Credit for work done.

Area:

Session: **Now what do I do?**

Presenter: **Rhonda Hibbard**, *Math Specialist, East Central University / The Institute for Math & Science Education*

Presenter Bio: High School/Middle School math instructor for 16 years. Presently the Math Specialist for The Institute for Math & Science Education at East Central University. Our mission is to assist and provide support to classroom teachers and pre-service teachers who desire to incorporate STEM activities into their curriculum

Room: **STEM Building, D430** (18seats)

Description: Providing Middle School students with opportunities to reason, play, and build logically derived answers that they can justify!

Area:

Session: **Teaching STEM with self-pace models**

Presenter:

Presenter Bio:

Room: **STEM Building, D432** (18 seats)

Description:

Area:

Session: **Coding and Engineering with Ground and Aerial Robots**

Presenter: **Ashley Borgerding** *STEM+C Implementation Specialist, KISS Institute for Practical Robotics*

Presenter Bio: Ashley is a graduate of The University of Oklahoma with a Bachelor's in Computer Engineering and a minor in Computer Science. She led the Sooner Rover Team at OU and loves all things robotics. Her passions lie in STEM and education. She enjoys teaching, mentoring, and watching students discover their potentials!

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Description: Introductory workshop to provide information about our robotics educational programs

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Session: FAA
Presenter:
Presenter Bio:
Room: STEM Building, D439 (25 seats)
Description:
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Session: Tinker
Presenter:
Room: STEM Building, D444 (30 seats)
Description:
Area:

Session: Kid Wind-more than just STEM
Presenter: Kathy Jackson; KidWind Lead Instructor – Oklahoma; Trish Williams, Community Relations – Enel Green Power
Presenter Bio: Founder / Director of The SpiritWind Kidz Ranch, Inc.; Oklahoma educators for KidWind Project.
Room: STEM Building, D476 (24seats)
Description: We will display and discuss the various directions of STEM /STEAM in Renewable Energy. There will be a hands-on activity included. (all levels)
Area:

10:40 – 11:30 a.m. Breakout Sessions 3

Session: Tulsa STEM Regional Alliance
Presenter: *Xan Black, Tulsa Regional STEM Alliance, Executive Director*

Presenter Bio: Xan Black is the Executive Director of the Tulsa Regional STEM Alliance (TRSA). Xan's drive, passions, and leadership of the Alliance support all aspects of STEM education. She aligns the experience and wisdom of community partners with the need of educators and schools. She is responsible for project management, strategic planning, program implementation and more. Xan graduated with a Bachelor of Science degree in Petroleum Engineering from Texas Tech University in 1981. She worked for eight years in the energy industry in Oklahoma. In 2007, Xan earned a Master of Education degree with an emphasis in Middle and Secondary School from Southwestern Assemblies of God University. She taught secondary math and science for 11 years at Mingo Valley Christian School. Xan and her husband, Jeff, have five adult children and have lived in Tulsa since 1990.

Room: STEM Building, D421 (20 seats)
Description: Come and learn how to get your students involved in Tulsa STEM alliance. Learn about our goals, professional development, events, and mentorship programs.
Area:

Session: Using OkCareerGuide.org
Presenter: *AJ Crowell, Career and Guidance Program Specialist, ODCTE*
Room: STEM Building, D423 (20 seats)
Description: This session will cover how to use OkCareerGuide.org to help students with their Individual Career Academic Plan (ICAP). Specific topics will include access, exploring occupations, create plans of study, interest survey, résumés, storing documents, and how to request administrative access to the system.

Area: Recommended for all STEM Career Clusters

Session: NASA Hunch

Presenter:

Room: STEM Building, D428 (18 seats)

Description:

Area:

Session: Rubik's Cube

Presenter: Rhonda Hibbard, Math Specialist, East Central University / The Institute for Math & Science Education

Presenter Bio: High School/Middle School math instructor for 16 years. Presently the Math Specialist for The Institute for Math & Science Education at East Central University. Our mission is to assist and provide support to classroom teachers and pre-service teachers who desire to incorporate STEM activities into their curriculum

Room: STEM Building, D430 (18 seats)

Description: The Rubik's Cube is a hands-on learning tool that reinforces mathematical concepts such as percentages, estimation, fractions, geometric properties while creating art! Creating a Rubik's cube mosaic enables students to make that connection between math and other disciplines while promoting perseverance and teamwork!

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Session: Teaching STEM with self-pace models

Presenter:

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Presenter Bio:

Room: STEM Building, D439 (25 seats)

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Session: Tinker

Presenter:

Room: STEM Building, D444 (30 seats)

Description:

Area:

Session: Kid Wind-more than just STEM

Presenter: **Kathy Jackson**; *KidWind Lead Instructor – Oklahoma*; **Trish Williams**, *Community Relations – Enel Green Power*
Presenter Bio: Founder / Director of The SpiritWind Kidz Ranch, Inc.; Oklahoma educators for KidWind Project.
Room: **STEM Building, D476** (24seats)
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Area:

11:30 a.m. – 1:00 p.m. Lunch on Your Own

1:00 – 1:50 p.m. Breakout Sessions 4

Session: **Tulsa STEM Regional Alliance**

Presenter: **Xan Black**, *Tulsa Regional STEM Alliance, Executive Director*

Presenter Bio: Xan Black is the Executive Director of the Tulsa Regional STEM Alliance (TRSA). Xan’s drive, passions, and leadership of the Alliance support all aspects of STEM education. She aligns the experience and wisdom of community partners with the need of educators and schools. She is responsible for project management, strategic planning, program implementation and more. Xan graduated with a Bachelor of Science degree in Petroleum Engineering from Texas Tech University in 1981. She worked for eight years in the energy industry in Oklahoma. In 2007, Xan earned a Master of Education degree with an emphasis in Middle and Secondary School from Southwestern Assemblies of God University. She taught secondary math and science for 11 years at Mingo Valley Christian School. Xan and her husband, Jeff, have five adult children and have lived in Tulsa since 1990.

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Session: **Using OkCareerGuide.org**

Presenter: **AJ Crowell**, *Career and Guidance Program Specialist, ODCTE*

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Area: Recommended for all STEM Career Clusters

Session: **NASA Hunch**

Presenter:

Presenter Bio:

Room: **STEM Building, D428** (18 seats)

Description:

Area:

Session: **Now what do I do?**

Presenter: *Rhonda Hibbard, Math Specialist, East Central University / The Institute for Math & Science Education*

Presenter Bio: High School/Middle School math instructor for 16 years. Presently the Math Specialist for The Institute for Math & Science Education at East Central University. Our mission is to assist and provide support to classroom teachers and pre-service teachers who desire to incorporate STEM activities into their curriculum

Room: **STEM Building, D430** (18seats)

Description: Providing Middle School students with opportunities to reason, play, and build logically derived answers that they can justify!

Area:

Session: **StellarXplorer**

Presenter: *Charles Koutahi Engineering Academy Instructor, Francis Tuttle Technology Center*

Room: **STEM Building, D432** (18 seats)

Description: What is StellarXplorers and how to incorporate StellarXplorers into your PLTW's Aerospace Engineering class.

This presentation will cover:

The benefits of including StellarXplorers into your PLTW – AE curriculum.

How to make rearrange the AE lessons to make a smoother transition

The resources available through www.stellarxplorers.org and <https://ctyou.org/> along with the registration process for StellarXplorers, fees, textbook, quizzes, and the AGI Systems Tool Kit (STK) software.

Pre-session

Instructions: Recommend - bring laptop, download STK 11, visit www.stellarxplorers.org

Area:

Session: **Flight & Space Museum**

Presenter:

Presenter Bio:

Room: **STEM Building, D434** (18 seats)

Description:

Area:

Session: **Computing Aspirations**

Presenter:

Presenter Bio:

Room: **STEM Building, D439** (seats)

Description:

Area:

Session: **Drones**

Presenter: *Brad*

Presenter Bio:

Room: **STEM Building, D444** (30 seats)

Description:

Area:

Session: **Kid Wind-more than just STEM**

Presenter: *Kathy Jackson; KidWind Lead Instructor – Oklahoma; Trish Williams, Community Relations – Enel Green Power*

Presenter Bio: Founder / Director of The SpiritWind Kidz Ranch, Inc.; Oklahoma educators for KidWind Project.

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Area:

2:05 – 2:55 p.m. Breakout Sessions 5

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Session: NASA Hunch

Presenter:

Presenter Bio:

Room: **STEM Building, D428** (18 seats)

Description:

Area:

Session: Rubik's Cube

Presenter: *Rhonda Hibbard, Math Specialist, East Central University/ The Institute for Math & Science Education*

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Session: Flight and Space Museum

Presenter:

Room: STEM Building, D434 (18 seats)

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Session: Computing Aspirations

Presenter:

Presenter Bio:

Room: STEM Building, D439 (25seats)

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3:10-4:00 p.m. Wrap Up-Checkout