



WPAFB Educational Outreach



INSPIRING STUDENTS IN STEM

K-12 STEM ENQUIRER

March 2023

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FIRST® Competitions

The Ohio FIRST® community had several exciting weekends in March with multiple competitions hosted by the WPAFB Educational Outreach office at Hobart Arena in Troy, Ohio. This season’s robotics theme was Energy-Inspired! “From the machines that move us, to the food that sustains us, to the wireless technologies that connect us, energy plays an essential role in keeping our world running. During our 2022-2023 robotics season, FIRST® ENERGIZE presented by Qualcomm, teams [were challenged to] reimagine the future of sustainable energy and power their ideas forward.”

FLL Explore teams presented their projects to reviewers and shared what they learned this year while working together.

FLL Challenge and **FTC State Qualifier** teams competed on March 11th and 12th for an opportunity to advance to World Festival in April, which will be hosted in Houston, TX..

FRC teams competed across the state for an opportunity to also advance to World Festival in April.

Read on to learn more about the exciting things happening in these programs!

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Join us next month...

Summer of WOW! - Opportunities for teachers and volunteers

Job Shadow Day



FLL Explore Dayton Festival

(ages 6-10)

On Sunday, March 12th, 2023, 12 teams from across Ohio attended the FIRST® LEGO® League Explore Dayton Festival at Hobart Arena. Each season, FIRST® LEGO® League Explore teams, guided by FIRST's Core Values, work together to explore a real-world challenge. At the Festival, each team met with a pair of reviewers to share what they learned during this SUPER POWERED season, showcasing their creative LEGO® models and team posters.

While at the Festival, FIRST® LEGO® League Explore teams had the opportunity to interact with and learn from the FIRST® LEGO® League Challenge State Championship teams who were onsite competing for a chance to attend World Championship.

The accomplishments of all the FIRST® LEGO® League Explore teams was at the heart of this celebration and a great time was had by all!



FLL Challenge State Championship

(ages 9-14)

Ohio FIRST® LEGO® League Challenge teams from across Ohio have spent their SUPER POWERED season strategizing, building, programming, collaborating, researching, innovating, and so much more. Forty of the top performing Ohio teams gathered at Hobart Arena to compete at the Ohio Championship! These teams demonstrated excellence in the robot game, innovation, and teamwork. They showed up to meet with judges, compete on the robot competition field, and celebrate their season as Championship qualifying teams.

At the conclusion of the long weekend, teams set new season high robot scores, a Champion was named, awards were won, and a great deal of pride was on display at the accomplishments of so many young innovators. The top seven overall performing teams will advance to international competitions to represent Ohio.

The teams are entering their off-season now and they will spend time learning new skills, collaborating with other teams, promoting up to FIRST® Tech Challenge and FIRST® Robotics Challenge, honing their research skills, and preparing for next year’s game. Next season’s theme reveal will take place on April 22nd in conjunction with World Festival, the international Championship in Houston.

Below is a list of the highest ranking Ohio Championship teams that qualified for international competitions!

Team #	Team Name	Advancement to International Competition
2751	Lego Legion (Cincinnati region)	World Festival at FIRST® Championship
52148	Bionic Beasts (NE Ohio region)	Razorback Invitational at University of Arkansas
37575	Howl Bout It (Cincinnati region)	
47339	Aquabots (Columbus region)	
40110	AwesomeTechKnowLogics (Dayton region)	Western Edge Invitational in California
50927	Positive Protons (NE Ohio region)	
25313	CRE8 (Cincinnati region)	Worcester Polytechnic Institute Open

40110 AwesomeTechKnowLogics at the competition table (pictured below.)

Emcee Katie Cotelleso (FTC & FRC team member) talking with a young participant (pictured below).



FLL Challenge State Championship cont'd.

2751 Lego Legion at the competition table (pictured below).



50927 Positive Protons at the competition table (pictured below).



26611 Fort Laramie Robotics Club Thunderbots wins the WPAFB Educational Outreach Office Founder's Award (pictured below).



37575 Howl Bout It scores their match with referee Mike Fullington (pictured below).



FLL Challenge State Championship cont'd.



2023 OHIO CHAMPIONSHIP AWARDS

CHAMPION'S AWARD

Winner - 2751 Lego Legion
Finalist - 52148 Bionic Beasts
Finalist - 25313 CRE8

VOLUNTEERS OF THE YEAR FIRST FAMILY

Lisa Stevens & Jada Eley

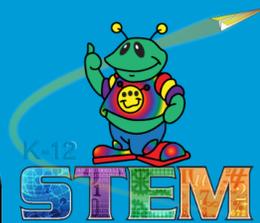
CORE VALUES AWARD

54930 Popular Potato Powers
26611 FLRC - Thunderbots
52493 LegoLegends

INNOVATION PROJECT AWARD

50927 Positive Protons
31944 Electric Ducks
40110 AwesomeTechKnowLogics

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ROBOT DESIGN AWARD

37575 Howl Bout It
47339 Aquabots
5736 TechnoBotz

ROBOT PERFORMANCE AWARD

1 - 2751 Lego Legion [370]
2 - 52756 Brain Gears [340 (310 tie breaker)]
3 - 16792 Waldos [340]

BREAKTHROUGH AWARD

56504 AdAstra

WPAFB EO FOUNDER'S AWARD

26611 FLRC - Thunderbots

ENGINEERING EXCELLENCE AWARD

38352 Belly Flopping Soda Cans



ADVANCING TEAMS

FIRST Championship: World Festival
2751 Lego Legion
Razorback Invitational
52148 Bionic Beasts, 37575 Howl Bout It & 47339 Aquabots
WPI Open
25313 CRE8
Western Edge Invitational
40110 AwesomeTechKnowLogics & 50927 Positive Protons



ROBOT GAME SCORES

<https://tinyurl.com/OhioFLL23>

RISING ALL STAR AWARD

10798 Brick Busters

MOTIVATE AWARD

39189 The Country Club

PEER AWARD

37348 Charged Up

FTC Ohio Championship

(ages 12-18)

The WPAFB Educational Outreach office hosted their first ever in-person FIRST® Tech Challenge Championship! Thirty-seven teams across the state qualified to compete at the championship held at Hobart Arena in Troy, Ohio on March 11, 2023. Teams qualified by competing and finishing as a top team at tournaments around the state.

Teams showed their team spirit and displayed their achievements in the "pits", the area where teams setup for the day. Mr. Robert B. Fookes Jr., Director of Engineering and Technical Management and Chief Engineer of the Air Force Material Command at WPAFB, kicked off the event with an inspiring talk about the importance of STEM and encouraged the students to continue their work.

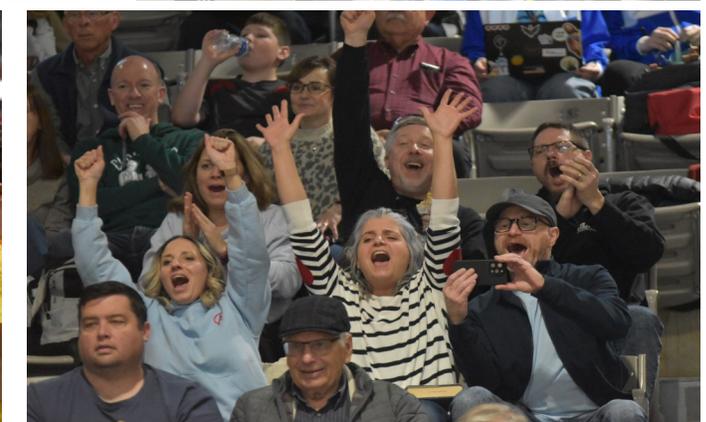
Teams competed in qualifier matches to start the day and ended with exciting elimination matches between the top robot-performing teams. The crowd and teams were on the edge of their seats! At the end of the competition two teams advanced to the FIRST® Championship in Houston, Texas where they will compete against 192 teams from all over the world.

Three Dean's List Finalists were also announced at closing ceremony. The Dean's List is a globally recognized award that celebrates the most outstanding students in the FIRST® community.

Congratulations to all of the award winners and thank you to everyone who contributed to making this fantastic event happen!



FTC Ohio Championship cont'd.



FTC Ohio Championship cont'd.



OHIO CHAMPIONSHIP AWARD WINNERS



ADVANCING TEAMS

Team 16449 – Juniper Robotics
Team 7324 – OxyMorons

INSPIRE AWARD

1st place: Team 16449 Juniper Robotics
2nd place: Team 17978 Robo Kai (Fenwick)
3rd place: Team 18275 SubZero

WINNING ALLIANCE

Captain: Team 7324 OxyMorons
1st team selected: Team 8642 8 to Automate FTC
2nd team selected: Team 16657 We Did Start the Fire

FINALIST ALLIANCE

Captain: Team 16449 Juniper Robotics
1st team selected: Team 5040 Nuts & Bolts
2nd team selected: Team 17978 Robo Kai (Fenwick)

THINK AWARD

1st place: Team 8719 Quantum Leap
2nd place: Team 14365 Summit Knights
3rd place: Team 10464 The Bionic Tigers

CONNECT AWARD

1st place: Team 17978 Robo Kai (Fenwick)
2nd place: Team 16657 We Did Start the Fire
3rd place: Team 4537 DRSS Enterprise

INNOVATE AWARD SPONSORED BY RAYTHEON TECHNOLOGIES

1st place: Team 8642 8 to Automate FTC
2nd place: Team 6418 NDCL Robotics
3rd place: Team 22523 CLOVERLEAF ROBOTICS

CONTROL AWARD SPONSORED BY ARM, INC.

1st place: Team 5040 Nuts & Bolts
2nd place: Team 10084 Team Calamari
3rd place: Team 4969 Robot-X

MOTIVATE AWARD

1st place: Team 18386 Parallax Robotics
2nd place: Team 14279 FLRC – Circuit Breakers
3rd place: Team 19778 Wire Monkeys

DESIGN AWARD

1st place: Team 18275 SubZero
2nd place: Team 20744 24 Karat
3rd place: Team 21865 Fe2O3

PROMOTE AWARD

1st place: Team 10084 Team Calamari
2nd place: Team 19778 Wire Monkeys
3rd place: Team 8642 8 to Automate FTC

COMPASS AWARD

1st place: Team 18275, Coach Deepak
2nd place: Team 5040, Eric Spitzley
3rd place: Team 10464, Rick McKenzie

DEAN'S LIST FINALISTS

Vindhya Ganti
Shriya Parthasarathi
Malcom Masri

VOLUNTEERS OF THE YEAR AWARD

Nathan Sterrett
Keith Grinstead

FIRST® Robotics Competition

(ages 14-18)

FIRST® Robotics Competition (FRC) teams across the globe have been building robots that can win points by picking up cones and cubes, placing them at or on a target, and then balance on a swinging platform alongside ally robots. This game is highly strategic and the teams operate much like small businesses, with sub-teams of students dedicated to various areas like programming, CAD design, building, outreach, marketing, business planning, and more. Teams compete for awards, recognition, and the opportunity to qualify for FIRST® Championship, an international championship that will take place in Houston in April.

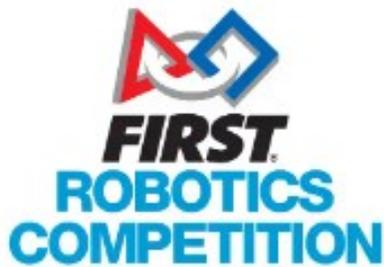
Two DoD STEM supported Ohio FRC teams have qualified for FIRST® Championship 2023! 7460 Avi and Friends, a community team based out of the Sylvania STEM Center, qualified at the Midwest Regional at Credit Union 1 Arena in Chicago, Illinois. They were part of the Winning Robot Alliance, which means that their 3 team alliance was the top performing alliance in the playoffs, winning against the field of 46 teams! 1038 Lakota Robotics, a community team comprised of Lakota High School and area students, qualified at the Miami Valley Regional held at Xavier University in Cincinnati. They won the FIRST® Impact Award, the most prestigious award in FIRST®, which recognizes a team that represents a model for other teams to emulate and best embodies the mission of FIRST®, a team who works deliberately to inspire others in the fields of science and technology and encourages youth to do STEM.

We are incredibly proud of these two amazing teams and can't wait to see what they accomplish at the FIRST® Championship in Houston!

7460 Avi and Friends, Sylvania STEM Center (pictured below).



1038 Lakota Robotics (pictured below).



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LEGACY in the News

Spotlight on Air Force Academy
in Colorado Springs, CO

LEGACY Jr. Apprentice (Leadership Experience Growing Apprenticeships Committed to Youth), Isabelle, is a member of the Bearbotics Alpha FTC Robotics Team located in Colorado. She competed in the 2021-2022 season Freight Frenzy and the 2022-2023 season Powerplay. The team name Bearbotics was selected because of starting at Palmer Ridge High School where their mascot is the Bears.

This season, Bearbotics finished 5th place at their qualifier event and also won the 3rd place in the control award. The team also made it to State finishing in 4th place and won 3rd place for the design award. When asked about her team, she stated, “My favorite thing about my robotics team was the energy throughout the year, we always had fun together. I also enjoyed how much I learned from coaches and other team members.” To add to the energy of Bearbotics competing at the qualifying match, her birthday happened to be on the same day!

This year, she worked on designing a manipulator for the robot. “I started out with little experience CADing robotic parts, so my ideas were complicated. My coach helped me design something that was simpler and would get the job done. My final solution was the manipulator we used at State that could grab the cones from the outside. It had gears on the inside that helped both tongs move at the same time, making it easier to grab cones, and easier from the programming side to code,” said Isabelle.

In addition to robotics, Isabelle works at a karate studio where she is a second-degree brown belt, with plans to earn her black belt next year. She plays clarinet for the symphonic band at her high school and is first chair. Isabelle also made the Colorado State University, Fort Collins honor band as 9th chair. She has done three solos this year.

Isabelle is a Jr. Apprentice at the United States Air Force Academy, in her junior year of high school. She enjoys many different STEM interests such as engineering, architecture, chemistry, and geology. After graduation, she plans to attend either the University of Colorado, Colorado Springs or Colorado School of Mines. After college, Isabelle wants to get out into the workforce to do what she loves as soon as possible.



The Big Hoopla STEM Challenge



STARBASE Wright-Patt and the WPAFB Educational Outreach office were proud participants in Chaminade-Julienne’s The Big Hoopla STEM Challenge! Every March, just prior to the First Four NCAA basketball games at UD, students and their families are invited to the Dayton Convention Center for a day of free activities, where the third floor is teeming with March Madness. Hundreds of students and their families competed in basketball and STEM education to earn points and win a lot of great prizes. This year’s event had a fantastic turnout as students poured in to shoot baskets with our 3D printed propellers, make paper helicopters, and race cars on our Newton’s Laws tracks.

Employee Spotlight

Name: *Austin Kochs (contractor)*

Title: *Audio Visual Specialist*

Department: *WPAFB Educational Outreach Office*

Years with the EO office: *1 month*

What do you enjoy most about your role in the EO office? *I enjoy working with all of the different programs that the office supports to help share the love of STEM education with students in Ohio, as well as the whole United States!*

What is your favorite aspect of working with students in STEM? *The look on a student’s face when they make some new discovery or connection about our world. That’s what I enjoy the most.*

What would you like to accomplish in your first year with the EO office? *I would like to make content that more directly connects with students and teachers to help promote the office’s mission and the programs it supports.*

What is one of your hidden talents? *Noticing things that are in plain sight. Rarely is there a hallway that I walk down that I don’t take notice of the little details most people overlook.*

If you had one superpower, what would it be and why? *I want the power to shapeshift into different animals. I’ve always loved animals and nature, and being able to swim with dolphins or fly with the eagles and see and feel the world through their eyes would be a dream come true!*

