

WPAFB EDUCATIONAL OUTREACH

"Inspiring student interest in all fields of STEM to build our nation's future scientific and technical workforce."

SEPTEMBER 2024

ISSUE #31

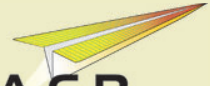


Wright-Patterson AFB
Educational Outreach

K-12

WPAFBSTEM.com

STEM



THE E.O. MISISON:

Attract, inspire, and develop student awareness and excitement in all fields of STEM, aviation, and aerospace in order to develop our nation's future scientific and technical workforce to meet future defense technological challenges.

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ON THIS MONTH'S ISSUE:

1. FLL Explore & FLL Challenge Webinars
2. FIRST Tech Challenge: Season Kick Off
3. SEMEDS: 34th Year Begins
4. LEGACY: Good News Story
5. Volunteer Spotlight: Lt. Jung

LOOKING AHEAD:

1. FTC League meets
2. WOW!
3. Job Shadow Day
4. SEMEDS
5. Volunteer Spotlight



AIR & SPACE
STEM Outreach

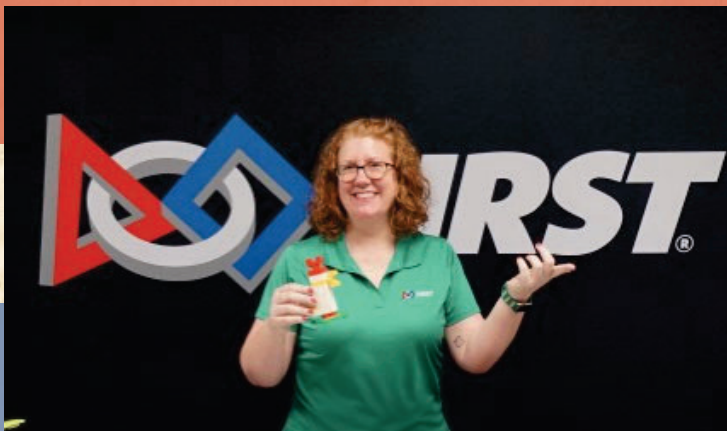
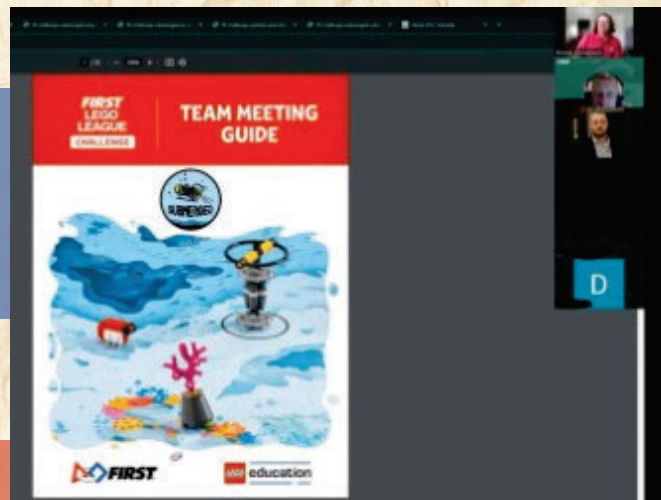


FIRST LEGO LEAGUE EXPLORE WEBINAR:

Ohio FIRST LEGO League (FLL) Explore Program Delivery Partner (PDP), Tara Doré and Ohio FIRST Senior Mentor, Rori Leath hosted a Zoom webinar on September 25, 2024. All Ohio FLL Explore coaches and mentors were invited to attend to discuss the following topics: SUBMERGED season timeline with FLL Explore Festival information, season resources, social media sites, and any other questions.



CHALLENGE



FIRST LEGO LEAGUE CHALLENGE WEBINAR:

The FIRST LEGO League Challenge SUBMERGED season kicked off with a bang in August and teams all around the state are working hard to meet the challenges of the season. This year, teams are challenged to identify and solve a real-world problem associated with exploring oceans while also designing, building, strategizing, and programming a robot to score points on a competition field. To help new coaches get started, we hosted a series of coach calls addressing these topics: Introduction to FIRST LEGO League, Robot Game Missions with our state Head Referee, All About the Innovation Project, and What to Expect at a Tournament. Coaches from around the state joined for the presentations and were able to make connections with other coaches from around the state. We are really excited to see these teams compete in November and December!



FIRST TECH CHALLENGE 2024-2025 SEASON KICKOFF:

The Ohio FIRST Tech Challenge season had an exciting launch on September 7, 2024. About 500 students from around the state gathered to celebrate the start of the season and witness the reveal of the FTC season game, INTO THE DEEP presented by RTX. Some of the features of the game this year include collecting deep sea "samples", delivering "specimens" to the submersible, and ascend from the depths before time runs out. The game centers on exploration, innovation, and collaboration.

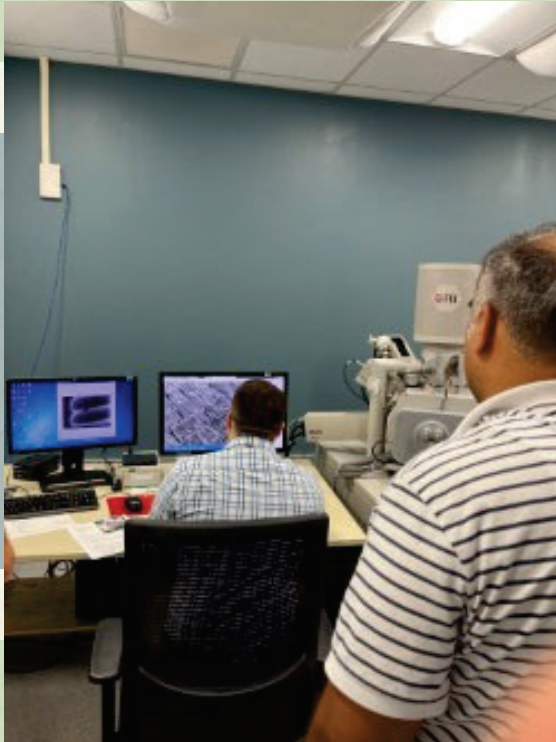
Kickoff events occurred in Loveland, Dayton, Newark, and Kirtland. Teams gathered to hear presentations hosted by veteran teams, collaborate and strategize for the upcoming season, and get up close and personal with the game field.

Ohio FIRST Tech Challenge tournament events will take place in December 2024-February 2025. Teams are prepping their robots and gearing up for an exciting season! Thank you to all of our event hosts for providing an opportunity for teams to come together and celebrate the upcoming season, INTO THE DEEP presented by RTX!



SEMEDS

SCANNING ELECTRON MICROSCOPE EDUCATORS



The SEMEDS Program is ready for its 34th year. We have 16 new volunteers and all 18 sessions have been scheduled. There were 2 Volunteer Training Sessions in September. Our first session will be Thursday, 10 October.

If you would like more information on volunteering, please contact, Kim Stultz.

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GOOD NEWS STORY: KATIE & SAM



Leadership Experience
Growing Apprenticeships
Committed to Youth



This summer, rising apprentice Katie, and Jr. apprentice, Sam, participated in the Cardboard Boat Regatta. In their boat named Duimbar (meaning water fate) Katie and Sam crossed the finish line despite sinking as they crossed, and got 3rd place in the speed category.

Before building their boat, they researched cardboard boat designs. Some of the design ideas from the research included a W bottomed boat, the use of internal reinforcements, and double sealing the bottom to make sure water could not seep in. You can't forget about the paddles! They used tennis rackets due to their efficient shape. The tennis rackets were double layered with plastic bags and duct taped to a cardboard tube to make the handles longer. They finished off the paddles by creating handles so that they could achieve the greatest amount of leverage possible.

Speaking with Katie about her design she had this to say: "We started with one really large piece of cardboard for the body of the boat, then created a bow and stern. We also knew that getting into the boat would be our greatest risk of sinking because we could tip over or put a knee through the cardboard. To make sure this did not happen we reinforced the bottom and sides of the boat."

Already planning for next year:

Sam said, "After the race we analyzed why our boat sank as it crossed the finish line, and I realized it was more so a weight then structural issue that sank the boat. Not what I expected, but I have already drawn conclusions on how to improve it for next year." Katie added, "Our goal was to cross the finish line, and we successfully did that! We had hoped that our boat would have stayed afloat after completing the race, but its sinkage helped us evaluate the failure points and we learned what we could do better next year."

GOOD NEWS STORY CONTINUED: KATIE & SAM



A little more about Katie and Sam:

Katie just completed her second year as a Jr. Apprentice. This summer. She worked in the Metallography Lab in the Air Force Research Laboratory’s (AFRL) Materials and Manufacturing Directorate. In her free time, Katie loves to ballroom dance, mountain biking, building FIRST Tech Challenge robots, and thinking about random hypothetical questions.

Sam just completed his first year as a Jr. Apprentice. Sam worked on an advanced research project within the AFRL Sensors Directorate. He worked in the area of ground vehicle identification within synthetic aperture radar (SAR) imagery, using a machine/deep learning-based object recognition algorithm, or automatic target recognition (ATR) algorithm. In his free time, Sam enjoys playing games with friends and family, running, building a FIRST Tech Challenge robot, or reading Tolkien.





E.O. VOLUNTEER SPOTLIGHT: LT. JUNG

SEPTEMBER 2024



Lt. Jung

WE APPRECIATE YOU!

Tell us a little bit about you!

I was born in Tennessee but lived primarily in Philadelphia, PA. My mom immigrated from South Korea and works in the chemical engineering field with my stepdad in Delaware. I have been in the Air Force for over a year, and WPAFB was my first assignment. I am currently a graduate aeronautical engineering student at AFIT. I am heading to Sheppard AFB to begin pilot training. I played hockey growing up through college, and still play occasionally, but now I enjoy flying, golf, and playing music!

What inspired you to start volunteering in STEM education?

Freshman year of high school we had a "Branch Out Day", where every student would volunteer in one of the community outreach programs. I was assigned to a local elementary school, and that experience inspired me to continue volunteering no matter where I was.

How do you envision the future of STEM education, and what role do volunteers play in that vision?

Technology has provided new and intuitive ways for young learners to understand STEM concepts. The applications of STEM are much more prevalent today, which provides the means to inspire future engineers and scientists. In terms of volunteering, I think organizations like the EO and WOW! provide these schools with accessible means to show STEM in the classroom, while keeping it interesting and fun for the students.

What do you find most rewarding about volunteering in STEM education?

The moment when a student understands a concept is extra special to me. It is like seeing a lightbulb light up in their head, and it makes me feel like I provided something worthwhile to their education. Every lesson I have done leaves me with a sense of accomplishment, especially the idea that I have (hopefully) given a positive and lasting impression of the military and STEM to the next generation.