

INSPIRING STUDENTS IN STEM

K-12 STEM ENQUIRER

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EO Office Participates in Full Throttle

The Educational Outreach Office was invited to participate in the Air Force Research Laboratory’s (AFRL) Gaming Research Integration for Learning Laboratory® (GRILL®) Full Throttle STEM Days. Students and teachers had an opportunity to learn more about the EO resources available to them, including: job shadow opportunities, career speakers, STEM career fields on Base, and classroom resources in the WOW! program. Read on to learn more about the AFRLs GRILL® Full Throttle STEM Day!

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Join us next month...

LEGACY Hosts Junior Apprentices



GRILL® - Full Throttle STEM Day

Each year, on the second Tuesday and Thursday of May, the AFRL's GRILL® hosts area schools at Eldora Speedway and National Museum of the United States Air Force, for a day of education and fun. The goal is to spark student's interest in various STEM related career fields. Participating students and teachers have the opportunity to showcase their STEM related project created either individually or as a group to peers, teachers, and engineers. This provides a unique opportunity for students and teachers to see how others are engaging in STEM. The second portion of the event allowed students to partake in a Drone competition and R/C car race. Students work within their classes prior to the Full Throttle event to prepare.

The Drone competition allowed students to learn how to pilot drones and test their operating skills during friendly competition. Students were challenged to use the drone's air lift to push ping pong balls into a goal in a timed event against other students. The R/C car races included cars designed or modified by students, giving them an opportunity to understand robotics, electrical, and mechanical engineering. Drivers navigated an obstacle course and a drag race for the fastest time. Students also had an opportunity to learn programming by building an autonomous car that must be able to navigate the course on its own by competing distance reached within the time limit. In 2023, a total of thirteen schools and approximately two hundred students participated with positive feedback and observed an increase in students pursuing STEM careers.

For more information about outreach programs offered by the GRILL®, click [here](#) to connect!



GRILL® - Full Throttle STEM Day cont'd.

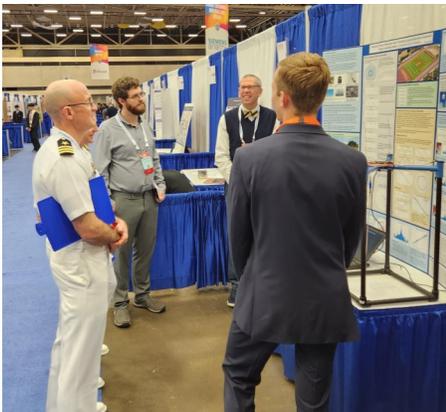


International Science and Engineering Fair

After a three year hiatus, the Air Force was back in-person to participate as a judge at the *Regeneron* International Science and Engineering Fair (ISEF). While the delegation was small (five judges), 22 awards were presented across 21 categories of projects that have direct Air Force application. Each winner received a glass trophy, medal, and \$750 check.

The competition has been around since 1950 and brings together students from across the globe to compete for more than 5 million dollars in prize money and scholarships. The Air Force has been involved since roughly the beginning, acting as a Special Award Organization.

A complete list of the Special Award Winners can be found [here!](#)



LEGACY in the News

Cadet 2/C Franklin “Miles” Smith-Custer joined the LEGACY program (Leadership Experience Growing Apprenticeships Committed to Youth) in the Summer of 2019. He worked in the Air Force Research Laboratory’s Aerospace Directorate where he learned about stress, fatigue, and strain and became more experienced with using digital image correlation and TEFF facility equipment and tools. Cadet Smith-Custer also assisted with the assembly of a novel robotic apparatus for rapid test set up method.

Cadet Smith-Custer was appointed to the Coast Guard Academy in 2020 and said, “For most of my life I have been interested in serving in the military and the Coast Guard’s mission resonated with me. I also have a passion for engineering, and the Coast Guard Academy is very focused on STEM.”

The LEGACY program granted him the opportunity to gain a lot of exposure to the engineering field. Cadet Smith-Custer says, “I found a lot of what I learned and experienced was applicable to a lot of my classes. I would encourage others to really take advantage of the opportunities the program offers. I believe having been a part of this program is what set me apart from many of the other applicants.”

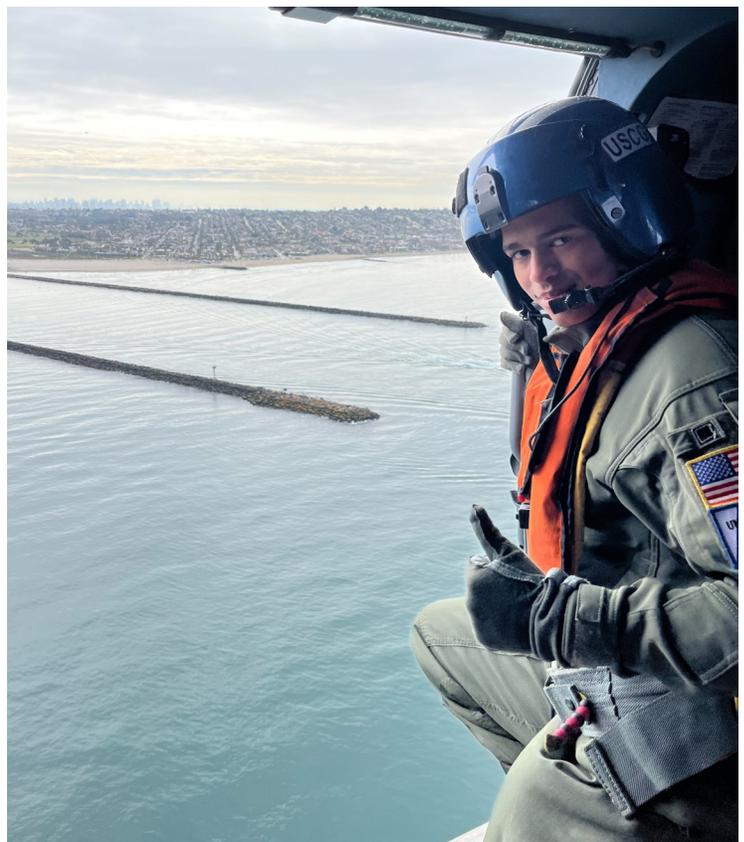
When asked about his time in the Coast Guard, Cadet Smith-Custer added, “My time at the academy has been very challenging but also very rewarding. I would encourage anyone if they are interested to apply.”

After graduation, Cadet Smith-Custer plans to become a pilot and fly for the Coast Guard. He aspires to earn his master’s degree in mechanical engineering or another engineering discipline.



Cadet Smith-Custer receiving his appointment to the Coast Guard Academy with Rear Admiral William G. Kelly, Superintendent of the U.S. Coast Guard Academy.

LEGACY in the News cont'd.



Summer of WOW!

WOW! is partnering with SOITA and CET this summer! All events will be held at SOITA - 1205 E. Fifth St, Dayton.



For questions or additional information, email [Angel Callahan](mailto:Angel.Callahan@wpafr.org) or call 937-938-4868.



- ★ **Teacher Workshops** - learn about the WOW! Program and experience lessons geared toward your students, while enjoying hands-on experiences!
 - 5th-8th Grade Teacher Workshop July 12-13 | 9:00AM - 3:00PM
 - K-4th Grade Teacher Workshop July 17-18 | 9:00AM - 3:00PM

Registration required, visit <https://bit.ly/soitawow23> to reserve your spot!
- ★ **Teacher Open House** - an unstructured day for you to have your WOW! questions answered and explore the resources available to you!
 - July 14 | 9:00 AM - 3:00 PM
- ★ **Teacher Open Lab Day** - an unstructured day for you to gain more experience with the WOW! Tech Devices
 - July 27 | 9:00 AM - 3:00 PM

Employee Spotlight

Name: Brenda Ronnebaum (contractor)
Title: Ohio FIRST® Robotics Team Lead
Program(s): FIRST LEGO® League and FIRST Tech Challenge
Years with the EO office: 9 exciting years!

What do you enjoy most about your role in the EO office? *I love our team! At the EO, each of us is responsible for our own programs, but we jump in and support each other with projects. The annual FIRST LEGO League and FIRST Tech Challenge Championship is my biggest event of the year and it just wouldn't be possible without the support of my team here at the EO and I'm happy to support my colleagues for their big events and projects, too.*

What accomplishment are you most proud of in the EO office? *In my role, I get to witness a lot of "Aha" moments. STEM is often mistake-based learning and I'm in a role where I help the parents and coaches embrace this concept. Watching the kids work through the learning, watching them get close to solving a problem or create the solution...it's just amazing. I feel very lucky to get to see this first-hand as often as I do.*

What's one fun fact people would be surprised to learn about you? *I'm really proud of the way I was able to pivot and support teams and volunteers in 2020 when the pandemic hit. At first, it was hard to imagine having virtual FIRST LEGO League tournaments, but we found a way. I was able to support and train our volunteer judges and referees to provide an excellent experience for the teams. Receiving thank you letters and emails from coaches and parents that season, thanking us for making FIRST happen that year, made me feel very proud.*

If you had one superpower, what would it be and why? *This question seems easy to answer, but it's actually quite difficult! After a great deal of thought, I have settled on being able to understand and communicate in any language or dialect. I pride myself on relational capacity and helping others, and being able to understand what any person is trying to tell me would be truly incredible.*

