



# WPAFB Educational Outreach



INSPIRING STUDENTS IN STEM

## K-12 STEM ENQUIRER

August 2023

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### STARBASE Wright-Patt August Summer Camp

August summer camps were open to students in the area and there was a great turnout! Rising students from grades 1-8 represented schools all over the Miami Valley, including: Beavercreek, Bellbrook, Kettering, Dayton Public, and as far away as Springboro, to enjoy four days of STEM-filled activities!

Students entering 1<sup>st</sup>-3<sup>rd</sup> grade explored different modes of travel and were challenged to create their own version of land, water, air, and space vehicles.

Students entering 4<sup>th</sup> and 5<sup>th</sup> grade visited STARBASE Wright-Patt for an action-packed amusement park engineering camp. Each day students worked in groups on team challenges and mini-lessons to build their knowledge of ride design. Every group planned a roller coaster, small ride, and carnival game. Campers used motors, hydraulics, chemistry, and robotics to make a variety of rides including a carousel, Ferris wheel, boat ride, and an eruptive volcanic theme ride. These rides were showcased to other campers and parents at the end of the week. *(Continued next page.)*

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#### Join us next month...

- FTC Kickoff
- Fall Job Shadow Day





# STARBASE Wright-Patt August Summer Camp *cont'd.*

Students entering 6<sup>th</sup>-8<sup>th</sup> grade attended STARBASE Astronaut Training STEM Camp. They worked together to explore the principles of flight and rocketry while coming up with ways to overcome many of the challenges that astronauts face as they live and work in space. Some of the activities campers worked on included: building and testing powered paper airplanes, reverse engineering other team's models, using a computer simulation dock the Space X Dragon spacecraft with the International Space Station, using CAD (Computer Aided Design) to design, build and launch CO<sub>2</sub> powered rockets. There was even a virtual visit from NASA's Space Communications and Spectrum Management Office where students learned about the challenges of communicating in space!





STARBASE Wright-Patt August Summer Camp *cont'd.*



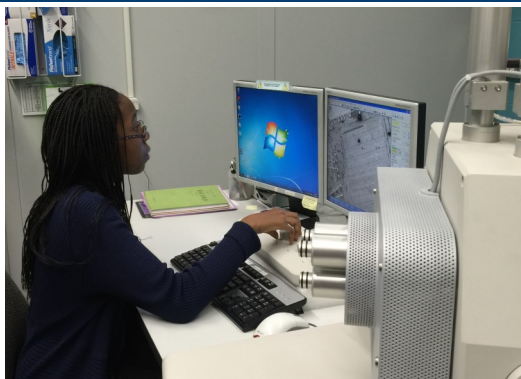
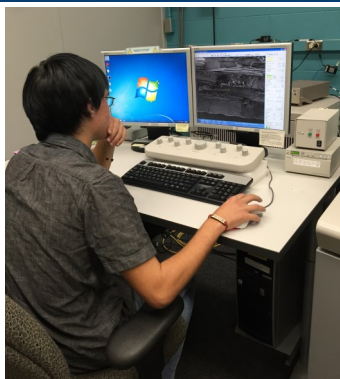


## SEMEDS is Back!

The EO Office is pleased to announce the SEMEDS program is back and will hold sessions beginning 5 October.

SEMEDS is a two-hour after school program for high school and middle school students. Each session can accommodate 18 students and up to two sessions are offered each month. SEMEDS brings local students and their teachers to Wright-Patterson Air Force Base (WPAFB) to operate state-of-the-art electron microscopes in a real-life laboratory setting.

To learn more about the SEMEDS Program, click [here](#).

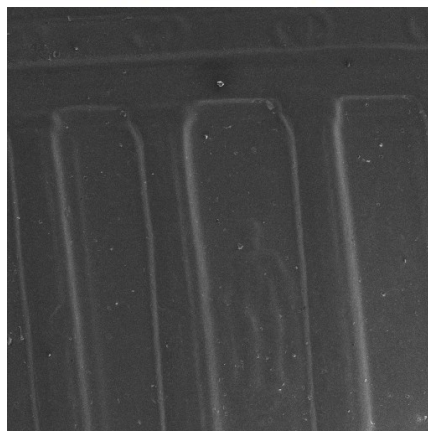


# SEMEDS

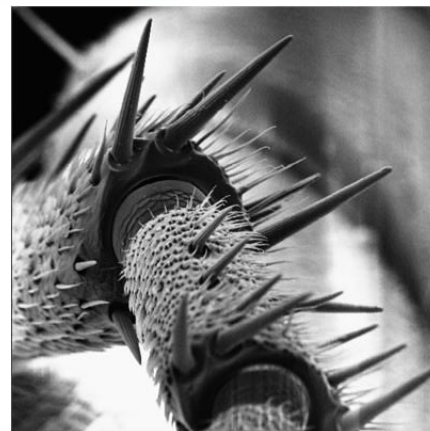
SCANNING ELECTRON MICROSCOPE EDUCATORS



Fly head



Penny



Ant leg

## FIRST LEGO League Kickoff

The FIRST LEGO League 2023-2024 MASTER PIECE season is in full swing! Teams and interested families joined us at a few venues around the state to kick off the Ohio season and learn about this year's robot game challenge, Innovation Project prompt, and to practice their teamwork skills. FIRST LEGO League teams from Ohio, across the US, and from over 110 countries are working hard to collaborate and compete in this season's game which challenges them to design, build, and program a LEGO robot to score as many points as possible in 2.5 minutes. Teams are also challenged this year to communicate using art and/or technology to inspire and engage others in activities they love. In addition to these core areas of the season challenge, the teams will use Coopertition and Gracious Professionalism as they learn together and with other teams in the program. We cannot wait to see everything these teams are able to accomplish when they compete this fall and winter! Watch our website for tournament locations!

To learn more about the MASTER PIECE challenge, click [here](#).



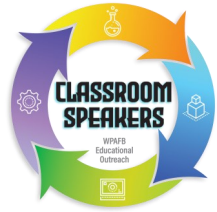


FIRST LEGO League Kickoff *cont'd.*



## Educator Resources

Multiple resources are available to educators and their students throughout the year. Please visit the links below to connect with the Program Managers or feel free to call the EO Office for more information at 937-938-4860.



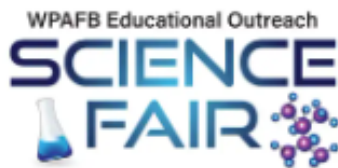
[Career Speakers](#) share how they use core subjects such as math and science in their career fields. *Interactive activities provided when possible.* Common requests for speakers include career days and classroom discussions. *In-person speakers typically limited to a 35 mile radius of WPAFB, virtual arrangements will be made for all other requests.*



[Mentors](#) assist students with various STEM assignments including Science Fair projects, Science Olympiad, NASA Hunch, Independent Immersion projects, etc. *Sessions take place with the teacher present at schools within a 35 mile radius of WPAFB. Virtual arrangements can also be made.*



[Tutors](#) are ready to step in and provide assistance to students in a variety of subjects to stay on track with their coursework. *Sessions take place with the teacher present at schools within a 35 mile radius of WPAFB.*



[Judges](#) from a variety of professional backgrounds are ready to participate in local science fairs. Requesting volunteers at WPAFB is a wonderful way to help grow the technical workforce needed for the future and to let students network with professionals who work in the career fields they may be interested in pursuing! *Requests for judges are typically limited to a 35 mile radius of WPAFB,*



[Volunteers](#) meet high school and middle school students on Base in a world-class SEM lab for a two-hour after school program. Students will meet the elite researchers who work there, learn what a Scanning Electron Microscope is, the scientific concepts of how it works and use the \$500k equipment themselves! *Space is limited—first come first served.*



[Mentors](#) sponsor high school juniors and seniors for a day every fall and spring. Students come on Base to shadow professionals and learn first-hand about some of the many exciting careers available at WPAFB. *Student space is limited—first come first served. Fall 2023 date scheduled for Friday, 27 October 2023!*



[WOW!](#) resources are available for use by educators in the classroom. Visit our website to learn about the many ways these ODE Standard guided lessons, hands-on-activities, and state of the art materials can be used to enrich students' learning experiences!



# WOW! Welcomes New Volunteers!

WOW! was very excited to host an Open House this month to add new volunteers to the WOW! in the Classroom flight of our WOW! program. Wright-Patterson AFB volunteers love visiting area classrooms to present our STEM lessons. Our lessons are full of hands-on activities, meet ODE standards, and include all necessary materials.

For more information about WOW! in the Classroom, WOW! on Wheels, WOW! TV for Teachers, WOW! DIY, and the rest of our flights, click [here](#) or contact the Program Manager, [Angel](#).





## Best Wishes, Megan!

With sadness and pride, we say farewell to one of our colleagues! Megan Carroll has been a valued part of our Education Outreach team, supporting the FIRST programs and leading FIRST LEGO League Explore across the state of Ohio. She joined us during the pandemic and has excelled in pivoting directions to best support young students in Ohio - from remote tournaments and festivals and back to in-person events and celebrations, she has been integral to our team. She has accepted a role with FIRST, the international organization with which we are affiliated. This is great news for us! As she will be supporting teams like ours around the world, she will also continue to be a resource for our FIRST staff and programs. We appreciate all of Megan's contributions and wish her all the best in her new and exciting role with FIRST!



Pictured above: Megan Carroll, Brenda Ronnebaum and Bre Holt.

## Employee Spotlight

**Name:** *Jessie Loeffelholz (civilian)*

**Title:** *LEGACY Program Manager*

**Program:** *LEGACY*

**Years with the EO office:** *5 years*



**What do you enjoy most about your role in the EO office?** *I love being part of an amazing team that is so focused and passionate about getting students excited about STEM.*

**What is your favorite aspect of working with students in STEM?** *I love that I can see our youngest Craftsman students get excited and interested in STEM and watch that carry over as they go into high school and college. I also love being involved with our college students when that “aha” moment happens and they determine their career path based on their experiences with the LEGACY program.*

**What accomplishment are you most proud of in the EO office?** *I am most proud of helping the LEGACY program grow. In my first summer with the LEGACY program, I assisted as a part-time teacher. I then became full-time with the LEGACY program and have watched the program expand to five locations. I am also proud of our students who have transitioned into an Air Force career.*

**If you had one superpower, what would it be and why?** *Flying—I want to explore the world and what better way than to be able to fly myself there!*

