DoD STARBASE
A Department of Defense Youth Program

CIRCUIT

JUNE 2024

News from the field of the premiere DoD Youth STEAM education program.

A Tale of Two Generations: Father and Daughter Launch Rockets at STARBASE Kelly, 20 Years Apart

When Angelo Arranda learned that his daughter Hailey would be participating in the same STEM program he attended as a 5th grader back in 2003, a rush of nostalgia swept over him. He vividly remembered the excitement of building and launching his own model rocket and visiting the C5 Cargo Aircraft at STARBASE Kelly, an experience that left an indelible mark on his young mind. An experience that, in fact, helped guide him to eventually serving his country in the US Army. He eagerly dug through the boxes of trophies and awards that his grandfather kept for him and found the yellowed and aging STARBASE model rocket and showed it to Hailey.

When 5th grade teacher Ms. Isabell Solis at Indian Creek Elementary mentioned to STARBASE Kelly Program Instructor Belinda Montoya about the second generation STEM enthusiasts, she got right to work! Ms. Montoya played a pivotal role in

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"When Science is being inspired, Technology makes the impossible as possible, Engineering creates something from non existence, Art is creativity of imagination, and Math is felt in heart, we call it STEAM Education." -- Amna Basheer Kuruniyan

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orchestrating a special day for father and daughter. With unwavering determination, she reached out to Mr. Arranda, and invited him to bring his rocket for a special father-daughter launch sparking a chain of events that would culminate in a truly unforgettable moment!

On a crisp March morning, against the backdrop of a clear Texas sky, Arranda and his daughter stood side by side, each clutching a model rocket in their hands. Anticipation crackled in the air as they prepared to launch their rockets, bridging the gap between past and present, father and daughter. As the countdown commenced, Arranda couldn't help but feel a surge of emotion. Memories of his own childhood flooded back, intermingling with the excitement of sharing this moment with his daughter. With a whoosh and a roar, the rockets soared into the sky, leaving behind a trail of smoke and wild cheering from the crowd.

After the successful launch and perfect landings, Arranda and his daughter shared a quiet moment of reflection. In the span of a single morning, they had forged a connection that transcended time and space, bound by the shared experience of launching rockets at STARBASE Kelly! As they walked hand in hand, Arranda couldn't help but marvel at the serendipity of it all. Two generations, separated by more than two decades, brought together by a love for science and a simple model rocket. In that moment, STARBASE Kelly had not only inspired the next generation of STEM enthusiasts, but had facilitated a core memory for the Arranda family!

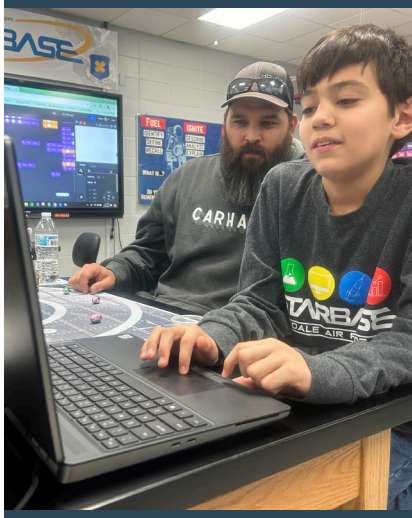
It is our hope here at STARBASE Kelly, that Hailey will also keep her rocket, and we can facilitate another special launch right around the year 2044!

Miss a Brown Bag or a Training?

Have you missed a training or Brown Bags over the last year that you were hoping to see? We have published several from the last year on STARBASE U! The guide below can tell you where you can find them!

TRAINING OPPORTUNITY	COURSE LOCATION ON STARBASE-U
Inquiry Based Learning Summer Workshop 2023	STARBASE Approved Curriculum
Advanced Programming Introductory Training	STARBASE Advanced Programming Resources
Supplemental Programming	SB Directors Resources
Community Outreach	SB Directors Resources
LEGO Conversation with Lauren Russell	*Coming soon to STARBASE News*

A Night for STEM



The halls of the STARBASE Louisiana echoed with joyful shouts of "Whoa!" and "Cool!" as Barksdale parents and children took part in the inaugural Family Science, Technology, Engineering, and Math Night. The event allowed Barksdale families to learn STEM principles together using learning scenarios created by STARBASE Louisiana educators.

"It's our way of giving back to Barksdale," said Laurie Ilgenfritz, STARBASE Louisiana Executive Director. "We've always been able to reach the community at large during airshow years, but in a non-airshow year, we wanted to do something exclusively for our Barksdale families." The Barksdale Air Show is a biannual event at which STARBASE Louisiana hosts the STARBASE STEM Zone, the largest community STEM event in North Louisiana.

STARBASE Louisiana's Barksdale Family STEM Night targeted three age levels: 1st through 3rd grade, 4th through 5th grade, and middle school through high school. Each family participated in a 50-minute, hands-on STEM scenario. This was not a drop-off event just for kids. Parents and students worked together to solve a STEM problem. The 1st through 3rd graders had to solve a light-hearted criminal investigation using chromatography, a process used to separate substances in a chemical mixture. The 4th and 5th grade group coded robotic arms, while middle and high school students created tops using Onshape CAD software. After each top was created on a 3-D printer over the next few days, participants came back and competed to see which one could spin the longest.

The event, however, was popular even before the first family entered the building. STARBASE Louisiana filled all available seats for the program within 24 hours after registration opened. "That showed us there is a real desire for things like this in the Barksdale community," Ilgenfritz said. "It's really encouraging and something we want to continue to do, so watch for more Family STEM Nights in the future!"

STARBASE Porterville's Launchpad for STEAM

Amidst the bustle of an open house event, curious on lookers recently ventured into the realm of STARBASE, a STEAM-based program that aims to shine a guiding star on local students.

On April 19, community members and public officials caught a glimpse of the STARBASE facility at Porterville Military Academy during an open house event. After the opening ceremony, STARBASE instructors gave guided tours of the facilities, where teachers and students alike demonstrated and explained lessons to attendees.

"Programs like STARBASE are so critically important to making sure…(there are) learning opportunities for young people where they can be exposed to the fundamental magic that is science, technology, engineering, the arts, architecture," Major General Matthew P. Beevers said at the ceremony.

STARBASE Porterville officially kicked off in January, and teaches kids through "hands-on, minds-on" activities that delve deep into the realms of Science, Technology, Engineering, Art/Design and Math (STEAM). Guided by military personnel, students learn firsthand the practical applications of STEAM concepts in the world around them.

The program offers students experiments and exercises in chemistry, robotics, physics, design and aviation. The curriculum does this by having students interact with these topics through lessons like designing their own Mars Base, flight simulators, making rockets as well as making boats and testing their buoyancy.

"The team that comprises STARBASE Porterville has done the work to birth this program into existence," Martin said. "The raising of STARBASE into the future relies on how well we collaborate as a community and create our steam pipeline."

STARBASE is designed to reach people who might traditionally find themselves on the edge of STEAM opportunities. Porterville is only one of the program's 86 locations as it continues to extend its reach to students from inner cities, rural areas and those facing socio-economic challenges.

For young minds, DoD STARBASE offers more than just a curriculum—it is a catalyst for change, inspiring them to dream big, set goals and overcome obstacles on their path to success, according to the program. It is sponsored by the U.S. Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs.

Article taken from (https://thesungazette.com/article/education/2024/04/23/starbase-portervilles-launchpad-for-steam-exploration/)

Open House with Pelican State STARBASE

Louisiana (LA) Military Department employees, LA Guardsmen, and state employees were honored guests at an Open House event for Pelican State STARBASE's new location at the historic Esler Field.

Esler Airfield is an airstrip that dates to 1940 and World War II, for the US Army Air Corps. The airfield was named after Lt. Wilmer Esler, a pilot who became the first casualty of the airfield when his plane crashed on April 11, 1941. The current structure was completed in 1969 and served as the primary commercial airport for the Central Louisiana Area. As commercial air traffic increased and the need for a larger facility was provided in an alternate location, the Louisiana National Guard took control in the 1990's to expand its training area.

Pelican State STARBASE has been serving Central Louisiana since 2005; prior to this move, the program averaged 743 participants annually with a single classroom located on the main post of Training Center-Pineville, formerly known as Camp Beauregard. "This relocation now enables the program to reach nearly twice as many students in our surrounding area," Mrs. Nancy Brinkerhoff-Force, Director of Pelican State STARBASE, said. Previously serving the Grant and Rapides parishes, the recent move has supported the addition of Avoyelles and LaSalle parishes to their participating roster.

The transfer to Esler Regional Airport required support from numerous personnel within the state. "The Open House event provided us an opportunity to show our appreciation and allowed our supporters to see the finished product of their cooperative efforts," she said. The team hosted a tour of the space and set up stations and a slideshow in each classroom. "This event enabled our supporters in the Louisiana Military Department to better understand STARBASE operations, and it gave us an opportunity to recruit STEM professionals as guest speakers and/or STEM coaches," she elaborated.

This move allows Pelican State to now function as a two-classroom program meeting the 60-academy requirement with room for more supplemental and outreach events. Mrs. Brinkerhoff-Force additionally noted that the extra space provides more flexibility in experiments and activities; they have also had the opportunity to partner with new organizations to provide STEM enrichment that requires an expanded application area not afforded in their previous location.

While visiting STARBASE, students learn a little history of the existing space and community, as well as watch the rotary aircraft, Blackhawk and Lakota units, take off and land. "This space is not only beautiful but opens up more opportunities to engage students in STEM careers in and out of the military," Mrs. Brinkerhoff-Force said. The Pelican State Team looks forward to reaching and encouraging more students in STEM!

A Call for Participation

Throughout the year, this newsletter will continue to spotlight the achievements, partnerships, and tips of the participants of the DoD STARBASE program. Please share your achievements, success stories, and helpful tips with us at email@dodstarbase.org.

SAVE THE DATE

2024 Regional Conferences

This year, STARBASE will have regional workshops during the summer of 2024! More information to follow. Please protect these dates in your calendars:

Eastern Time Zone Sites & Puerto Rico:

31 July & 1 Aug @

STARBASE Peach State, GA

Central Time Zone Sites:

7-8 Aug @

STARBASE Kansas City, KS

Mountain, Pacific, Hawaii, & Guam Time Zone Sites:

25-26 June @

STARBASE High Sierra, NV

Celebrating Our Alumni

The goal at DoD STARBASE is to expose students to a wide variety of STE(A)M opportunities with the hope that something we plant might take root in the lives of the students we serve and grow as they continue their educational journeys. Our hope is these students will pay it forward as they share what they learn with others. These young alumni are a few examples of the thousands of students nationwide who are doing just that. Two DoD STARBASE programs have some awesome alumni connections to share!

Kevin Gaughan from STARBASE Kansas City

Kevin attended DoD STARBASE Kansas City with St. Agnes Catholic School as a fifth grader. When visiting with him, he remembers the activities that had to do with the properties of air and physics. However, the most impactful to him was forces of flight, in conjunction with flight simulators. According to Kevin, "I could never sit still and could never focus on much as a kid, but … doing the flight simulator showed me something that requires full focus that is a fun challenge. It helped me grow the idea in my head that being a pilot would be my dream job. When it came time to decide where I wanted to go to college, I couldn't shake that thought and knew I was going to have to pursue it as a career."

Kevin attended the University of Central Missouri, getting his B.S. in Professional Pilot. He did all his flight training in this program and became a certified flight instructor. During his undergraduate studies, he worked from a Cadet with Republic Airways to First Officer once he fulfilled the FAA requirements for a Restricted Airline Transport Pilot Certification (R-ATP). He recently took a position as a pilot with Southwest Airlines.

Though still young, Kevin has already acquired some precious insight for students who are attending STARBASE in 2024 and might be considering flight as a career:

- "I have failed plenty before and I will do it again…a large part of flight training is about how you respond when in an unplanned situation….What is important is that you keep your focus and think logically and act quickly."
- "We constantly monitor all the different types of systems in the airplane and all of that comes from a base of STEM knowledge."
- "Not everyone thinks science is cool, so if you do then consider yourself lucky. Work hard and pay attention to detail because that's what counts. When it starts getting dry and not so exciting anymore, remember what it was that first got you excited and hold onto that."

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Joel Quarnstrom from STARBASE Kansas City

Joel's parents took advantage of DoD STARBASE Kansas City's summer programs during his 4th -6th grade years. According to Joel's mother, whom we have to thank for reconnecting with Joel, he attended meetings with several of his friends each summer, and they had a great time learning about everything from robotics to forensics to engineering.

Joel completed his undergraduate studies at Oklahoma State University. He earned B.S. degrees in both Mechanical Engineering and Applied Physics. He is currently finishing his second year working towards a Ph.D. in Mechanical Engineering. His goal is to "commercialize" his research. He participates in OSU's business school's entrepreneurship presentation events to do so.

When asked about his memory of his time at STARBASE, he recalled "agonizing" over programming the robots, along with industry visits to show STEM used in the real world. "I don't think that STARBASE consciously affected my later education choices, but I think the STEM activities I was exposed to contributed to a subconscious foundation of interest in STEM that has guided me in higher education," Joel reflected. In high school, he participated in several Project Lead the Way (PLTW) classes including Engineering Design, Engineering Design and Development, and Digital Electronics. All 6 years at OSU, Joel has participated in their robotics collegiate competitions.

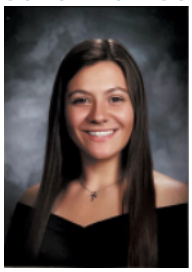
What advice does this alum have to share?

» "Failure is the name of the game when it comes to engineering projects. It's not a question of 'if', but 'when' and 'how often.' I have been rejected from 2 conference papers, 3 national fellowships, and lost 2 out of 2 robotics competitions. (I also have had 4 conference and 5 journal papers accepted so I am not a total loser). The key is taking stock of and taking pride in what you learn along the way and processing the things that went well and the things that didn't to come up with better strategies for the next project."

» "Redefine personal success to be that you did the best you could with the skills you have, the time you were given, and the resources at your disposal."

» While in middle or high school "and you think that you want to pursue a specific field or type of job, don't wait until you graduate to become exposed to that field or industry. Try to meet people who do those things now and see if you can get a taste of it."

Savannah Sanchez from STARBASE Maxwell



Savannah Sanchez attended STARBASE Maxwell with her 5th grade class from Eclectic Middle School during the 2015-2016 school year. Savannah was featured during the STARBASE 20th Anniversary Open House and spoke to our visitors from a firsthand experience!

Savannah graduated from Eclectic High School in May of 2023 and is a freshman in college. She is currently attending Southern Union State Community College with plans to further her education at Auburn

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Curriculum Schedules will be due August 15th this year.

You will need to upload your completed schedule for the 2024-2025 school year to your site's (Shared with TSG) folder on your google drive.

Resources to help you are available in the *STARBASE Approved Curriculum* course on STARBASE-U in the "General Curriculum Information" section.

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University. Savannah is majoring in science with goals of becoming an Astrophysicist and credits STARBASE Maxwell for determining the path of her future. She hopes to teach at a university level some day and have the opportunity to "teach people the very things that STARBASE introduced to me in 5th grade."

"I went on a field trip to STARBASE at Maxwell with Mrs. Floyd's 5th grade class back in 2015. STARBASE is what really got me interested in science, especially Physics. The way they were able to teach STEM was so unique and so exciting. They were able to take very complex ideas and convey them simply enough that a 5th grader could understand it yet keep it intriguing enough to keep our attention. I remember learning Newton's Laws of Motion while playing with tennis balls. We studied the types of matter, Bernoulli's Principle, and robotics as we built a rover and programmed it to navigate a moon like surface, and so much more during my time there... and it was so much fun! Thanks to STARBASE, I plan on getting my PhD in Astrophysics."

Kayleigh Shepard from STARBASE Maxwell

Kayleigh Shepard attending STARBASE at Maxwell Air Force Base in 2008 while in Ms. West's fifth grade class. During her time there, she states she "learned so many interesting concepts that really dove into various STEM topics." From making and testing rockets and learning about Newton's Laws of Motion to getting to experience hands-on activities demonstrations, she credits STARBASE as a huge factor in her decision to pursue a Bachelor of Arts in Mathematics as well as piqued her interest in aviation.

In 2023, Kaleigh enlisted in the US Air Force and is currently stationed at Fort Mead in Maryland and is serving as an Intelligence Analyst. To this day, she always notices and points out signs for STARBASE and is reminded of the memories she made and the opportunities she experienced that impacted her life today!

A Gift to Remember

Crystal Proulx came to STARBASE Hill from Lincoln Elementary filled with the excitement of the upcoming STEM adventures. Surrounded by the enthusiasm of fun-loving educators like Peppermint Patty, Indy and Vision, she quickly recognized the upcoming five days at STARBASE Hill would be some of the best in her educational journey. During Day 1 and moving from lab to lab, she met a young, enthusiastic teacher known as Nike. As her mind filled with STEM concepts galore throughout the day, she continued to revisit her interaction with Nike. Why? Nike fervently presents her craft driven by a passion to help students better understand the phenomena they encounter daily. Is this the reason? For other students, absolutely, but through Crystal's eyes, there was another reason.

You see, Nike is in the third trimester of pregnancy with her first child. Crystal saw this as an opportunity to serve and give back to those who gave to her. With the help of her aunt, Crystal began crocheting a blanket for Nike and her soon-to-be bouncing baby boy. By Day 4, Crystal beamed through the front doors with her surprise for Nike. Through grateful tears, Nike hugged Crystal for the most thoughtful gift. As educators, some of the best days occur when your students show kindness to another because they truly care. If you happen to be the recipient of such kindness, those days become etched into our hearts forever.