



STARBASE ROBINS Newsletter

Fall/Winter 2017 Issue

About STARBASE ROBINS

STARBASE ROBINS offers a hands-on Science, Technology, Engineering, and Mathematics (S.T.E.M.) curriculum to students from local school systems as well as several area private schools. STARBASE ROBINS is a Department of Defense (DoD) educational program sponsored through a partnership with the Air Force Reserve Command (AFRC), the Museum of Aviation, and the Museum of Aviation Foundation, Inc. STARBASE ROBINS emphasizes the importance of goal-setting, teamwork, and communication in everyday life.

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The Director's Corner by Wesley Fondal, Jr., Executive Director



We are well into the new school year and it is starting out to be an exciting and fun-learning year thus far. I first want to welcome four new faces to our STARBASE ROBINS team, Katie Lockhart, Kelsey Cowan, Tim Pendleton, and Kenneth Williams. Ms. Katie Lockhart and Mr. Williams are both graduates of the STARBASE ROBINS Program. Ms. Lockhart will be assisting with administrative duties part-time. Ms. Cowan is a graduate of Fort Valley State University and joins the STARBASE team as the new *Afterschool Site Facilitator*. Mr. Pendleton is a graduate of Savannah State University and Fort Valley State University and joins the team as the new *STARBASE 2.0 Coordinator*. Mr. Pendleton is a budding author and loves math. He has already gotten his feet wet; well he is swimming now, with the STARBASE 2.0 Clubs and FIRST Lego League. Mr. Williams joins the team as the new *S.T.E.M. Programs Project Manager*. Mr. Williams is also a Savannah State University and Fort Valley State University graduate and he is currently working on his doctorate in Public Health. He has a passion for assisting others, training, pursuing education, as well as being an organized and detail-oriented person.

I would like to thank LaTondra Oliver and Benita Blackwell for their dedication to the STARBASE ROBINS Program and their fresh ideas they brought to the program. We wish them both great success as they return to the classroom as educators.

This past summer was a very busy one for us. We kicked off the summer with our two weeklong STARBASE ROBINS STEM-powered Girls Academy. These young ladies learned a measurable amount of information and had a lot of fun doing so. Young ladies came as far as Wilcox and Henry Counties to join us. Later in this issue, you will read more about this summer academy. We also hosted our STARBASE 2.0 Summer Academy, Robotics Summer Academy, and our Agriculture STEM Summer Academy. We had several students that spent the month of June with us through each of our academies. I want to thank some of our partners that helped in creating a very successful summer program. Thanks to Mercer University's Woodrow Wilson S.T.E.M. Teaching Fellows in delivering some of our curriculum to our STEM-powered Girls Academy with the assistance of Dr. Justin Ballenger. Additional gratitude is extended to Dr. Curtis Borne at Fort Valley State University's Agriculture Education Program on coordinating two wonderful field trips for our summer participants. In the future, we hope to continue and expand to both of these partnerships.

Our STARBASE 5th grade program and our STARBASE 2.0 Afterschool Program are off to a great start even with Hurricane Irma giving us a short early break. We are continuing our partnership this school year with Fort Valley State University's College of Education on our collaborative pre-service teacher observation and training with our fifth-grade program. STARBASE 2.0 kicked off the year with the mentor and teacher training. The mentors and teachers had a great time learning how to build and program robots and got a good feel of what the STARBASE 2.0 students experience is like this first semester.

We have an exciting school year planned. Each of our 12 STARBASE 2.0 STEM Clubs received an Air Force STEM Fund Grant to cover their FIRST Lego League registration fees. All of our STARBASE 2.0 Clubs will be participating in the Middle Georgia Regional FLL Tournament on Saturday, December 16, 2017. We will be hosting our 13th Annual Central Georgia Super Regional FLL Tournament on Saturday, January 20, 2018. We are also in the process of planning our first annual *STARBASE 2.0 S.T.E.M. Student Conference* to be held on Friday, February 2, 2018.

"Education is the passport to the future, for tomorrow belongs to those who prepare for it today."

~Malcom X~

STARBASE Participating Schools



The STARBASE ROBINS 5th Grade program is a five-week program housed at the Museum of Aviation. This program presently serves 23 elementary schools within the following four Middle Georgia counties: Bibb, Dooley, Houston, and Twiggs.

Bibb County

Alexander II Elementary School, Bernd Elementary School, Brookdale Elementary School, Bruce Elementary School, Hartley Elementary School, Heard Elementary School, Pearl Stephens Elementary School, Porter Elementary School, Springdale Elementary School, Union Elementary School, and Vineville Elementary School

Dooley County

Dooley County Elementary School

Houston County

Bonaire Elementary School, Eagle Springs Elementary School, Lake Joy Elementary School, Lindsey Elementary School, Miller Elementary School, Northside Elementary School, Russell Elementary School, Sacred Heart Catholic School, Westfield Elementary School, and Westside Elementary School

Twiggs County

Jeffersonville Elementary School



The STARBASE 2.0 After-School program is held one day a week for 13-14 weeks each academic semester. The STARBASE 2.0 program is currently held at 12 middle schools in the following five Middle Georgia counties: Baldwin/Putnam, Bibb, Houston, Peach, and Twiggs.

Baldwin and Putnam Counties

Georgia College Early College

Bibb County

Appling Middle School and Weaver Middle School

Houston County

Feagin Mill Middle School, Huntington Middle School, Northside Middle School, Perry Middle School, Thomson Middle School, and Warner ROBINS Middle School

Peach County

Byron Middle School and Fort Valley Middle School

Twiggs County

Twiggs County Middle School



And Here We Go...by Audra Hubbard



The STARBASE ROBINS' fifth grade program is well underway for the 2017-2018 school year. Each year the instructors work hard to make our program the best we can for all involved and this year is no exception. Not only do we have the job of educating the children, but we also demonstrate to teachers and principals that our program is relevant, important, and a benefit to their students' educational experience. In an effort to show classroom teachers that our program is relevant to what they are required to teach, STARBASE ROBINS gives each participating teacher a Curriculum Correlation Guide. In the Curriculum Correlation Guide we have taken STARBASE lessons taught at STARBASE ROBINS and merged them with Georgia Standards of Excellence. For the 2017-2018 year, we added a curriculum web to the Curriculum Correlation Guide to show how our lessons reach all areas of the public school curriculum. Our hope is that we can get the teachers to value STARBASE regardless of what subject they teach.

In addition to smoothing out schedules, each new school year begins with a few obstacles. But this year had a few unique challenges. Our first day of classes began Monday, August 21, 2017; it coincided with the solar eclipse. The Middle Georgia area was in the path of partial eclipse with a peak predicted around 2:40 pm. School systems chose to delay school dismissal and not allow school travel in efforts to protect students and parents during the time of the eclipse. As a result, our students needed to leave earlier than normal, and we had to cut an hour of instruction. Everything ran smoothly, but this was not a normal first day.

We thought that was the end of the unusual interruptions, but nature proved us wrong. A few weeks later, Hurricane Irma visited the Middle Georgia area. As a precaution, all nonessential services during the predicted time of impact was shut-down. Although we are not located near the coast, Middle Georgia was impacted. Effects included, widespread power outages, damage to trees and powerlines, and schools were closed for the week of September 11-15. Our first session classes ended up missing Day 4 of our schedule, but everyone was safe and that is all that matters. We look forward to a calmer continuation to our school year as we focus on educating tomorrow's leaders.

STARBASE Spotlight: Will Acosta by Dawn Pannell



When I first saw the name, Will Acosta, on my class roster, I responded with a smile and a loud voice, "It says Will Acosta; there can only be one Will Acosta! I must teach his class." The memories of this little boy began to flood my mind. Young Will used to play after school with my youngest daughter, Anna. Will and Anna were two of a few students that patiently waited on their mothers to complete their workdays at Parkwood Elementary. Some days, these students got along well with one another and on other days, they needed to be separated from each other. Thoughts of Will's mother, Judy, increased my excitement. Judy has always been a teacher that students, parents, fellow teachers, and administrators remembered. Judy loved her students and made teaching an art. When Will arrived at Museum of Aviation with his class from Bibb County, he was no longer the young man that I remembered. He stood there, taller, with a welcoming smile, and with his arms out stretched to hug me. Since he is a STARBASE ROBINS' graduate, he was really excited for his students to participate in the STARBASE Program. During his weeks here, Will and I were able to chat about his decision to become a teacher. Will is currently a fifth-grade teacher at Bernd Elementary (Macon, GA). He is working through the Georgia Alternative Preparation Program (GTAPP) to become a Georgia certified teacher.



Will graduated from Warner ROBINS High School, in Houston County, Georgia. He completed his undergraduate degree in News Media and Communication at Middle Georgia State University (Macon, GA). He traveled to Lynchburg, Virginia to complete a Master's Degree in Sports Management. His current aspirations are to become a certified teacher and add coaching to his list of responsibilities. Prior to becoming a fifth-grade teacher, Will was employed as a Box Office Assistant at Mercer University (Macon, GA). Will's eagerness to learn was evident as he sat through our STARBASE classes. Just like his students, he sat with a pencil in hand taking notes and took part in various activities and experiments.

Will gave the following response when asked; What/who inspired him to become a teacher? "God and my mother were my greatest inspirations to become a teacher. I believe we are to love God and love people. Being a teacher allows me to do just that as I serve and make an impact and an investment in the lives of students, which hopefully will last a lifetime. My mother taught for 37 years; I saw daily how much joy and fulfillment that education brought her, as she made a lasting impact in the lives of her students. This created a desire within me to do the same."



It is not surprising to hear that Will spends a great deal of his time serving, teaching, and participating in various activities within the school system and for Tabernacle Baptist Church, his local place of worship. In his free time, Will mentioned that he enjoys watching and playing sports and hanging out with his family and friends. Will is a "die-hard" fan of several Georgia sports teams, including the Atlanta Hawks, the Atlanta Falcons, the Atlanta United FC, the Atlanta Braves, and University of Georgia Bulldogs.

It is hard to express the joy that I feel to know that individuals like Will are deciding to teach. I see Will continuing in his mothers' legacy and making quite an impact on the lives of the students he teaches. God bless you Will.

Ag. S.T.E.M.: It's About Growth by Brandon Jones

This year's STARBASE ROBINS Ag. STEM Academy was successful. During the Ag. STEM Academy students learned about *phototropism*, the orientation of a plant or other organism in response to light, either toward the source of light (positive phototropism) or away from light (negative phototropism). Also, with the help of the educational game, *Journey 2050*, students learned about potential problems Earth and its agriculture could face. One lesson that was taught involved the 3RC concept, which refers to *Reduce, Reuse, Recycle, and Compost*. To learn an effective way to germinate seeds, students made flower pots out of recycled paper; in these flower pots students planted various fruits and vegetables. Students made newspaper and studied about ways plants absorb water. The upcoming Ag. STEM Academy will focus on plants and *aquaponics*, which combines *aquaculture*, raising aquatic animals with *hydroponics*, the process of cultivating plants in water. If you are interested in learning more about the STARBASE ROBINS Ag. STEM Summer Academy feel free to attend S.T.E.M. Saturday session as well as sign-up for future participation.



Reduce + Reuse + Recycle + Compost



STEMpowered Girls Academy... Rolling Full STEAM Ahead! by Demetria Smith



STARBASE ROBINS ventured out into uncharted waters this past summer with the STEMpowered Girls Academy by extending it into two weeks of adventure. This experience allowed young girls the opportunity to delve deeper into several different activities and experiments for more understanding. Some of the young girls expressed that they gained a higher level of confidence in the areas related to STEM after attending the academy. The STEMpowered Girls Academy attendees participated in experiments ranging from burning money to coding with a Raspberry Pi. The girls came from near and far to experience what STARBASE ROBINS offered; according to surveys and video testimonials, we did not disappoint!

Due to the large volume of students we were opening the academy to decisions were made to split the participants into two groups to ease matriculations. The split groups allowed a smaller teacher to student ratio to optimize time and learning for every attendee involved. Each facilitator was responsible for teaching their lesson twice to accommodate for each group of students. During these two weeks, STARBASE ROBINS partnered with Dr. Ballenger and Mercer University's Woodrow Wilson Fellows (WWF). Each Fellow was responsible for teaching a lesson to these students. The Fellows were evaluated by a STARBASE ROBINS Instructor for a class grade.

These two-weeks were full of lessons, activities, and experiments for the participants. The girls learned to code using a Raspberry Pi, how to dress an astronaut for a spacewalk, how to make tie-dye t-shirts, what their DNA traits were by making a bracelet, surface tension with hydro-dipping Frisbees, robotics, 3D snap circuits, using computer aided design software as well as bottle rocketry and even some Ag STEM! The previous listed activities barely scratch the surface of the multitude of lessons they accomplished in the two weeks they spent here at STARBASE ROBINS. As STARBASE ROBINS Instructors, we collectively witnessed an enormous amount of determination, teamwork, and even some frustration especially at the beginning of projects. However, pride of accomplishment shone brightly by the completion of the STEMpowered Girls' Academy experience. We are very excited about the STEMpowered Girls Academy and all that is in store for its future!



Putting an "A" in S.T.E.A.M. by Janae Holbeck



This summer our STEMpowered Girls Academy practiced their artistic skills combined with their love of STEM to create beautiful works of art. These creative pieces were made using science and art. The girls had a tremendous amount of fun making something to show their families.

Surface tension is the tension of the surface film of a liquid caused by the attraction of the particles in the surface layer by the bulk of the liquid, which tends to minimize surface area. When you combine this phenomenon with spray paint you get a very unique effect. The spray paint sits gently on the surface of the water (that film layer) because of its lower density in comparison with the water. If you use multiple colors, and gently mix the paint on the surface, while being careful not to force it down below the surface level, you can create unique mosaic designs on the water. But it only gets better. If you use an object made of wood or plastic and gently dip it at an angle into the water until it is completely submerged, then twist it, and pull it back up, you will notice something amazing has happened. You will see that the mosaic paint design that was on the water has now transferred perfectly to your object. This process is called hydro-dipping.

Our girls experienced this fun project during the 2-weeks they were with us this summer. The girls hydro-dipped small plastic Frisbees and were also able to choose the three colors they wanted to spray paint with. We used a large bucket filled with water and each girl we sprayed the surface of the water with paint and dipped her Frisbee. These took a few days to dry, but once they were dried, the girls had beautiful mosaic Frisbees. Several of our girls loved this project so much they were ready to give it a shot at home. I am not sure if the girls' parents were as thrilled; after all, water and spray paint can get really messy!

If you would like to try this at home, I recommend using spray paint of bright colors, not pastels which are hard to see. Also, be sure to WEAR RUBBER GLOVES! I learned the hard way that when you dip without rubber gloves, that beautiful mosaic look applies perfectly to skin, and seems to take forever to come off. A large storage bin would be the best for dipping, especially if you want to dip larger objects. We tested quite a few objects made of different materials. Ceramic, wood, and plastic dipped the best, and glass was ok, though mirrors did not work well at all. I have seen metals work, but we did not test it here at STARBASE.

If you dip, HAVE FUN. Remember to study the reason behind why this works so well, after all the A in STEAM, is only one part of the STEM picture.



Partnering with Fort Valley State University by Kenneth Williams, Jr.



As part of a partnership between the College of Education at Fort Valley State University (FVSU) and STARBASE ROBINS, four undergraduate university students had the opportunity to participate in a seven-week practicum experience at STARBASE ROBINS for the Fall 2017 academic semester. The duration of this practicum experience was from August to October 2017. This year's Teacher Candidates were Demonta Prather, Danielle Green-Murray, London Pritchett, and Hope Russell. As part of this experience, each university student or *Teacher Candidate* (TC) observed practical hands-on S.T.E.M., lessons delivered to Middle Georgia 5th grade students at the Museum of Aviation. Each *Teacher Candidate* modified various lesson plans and taught one of the lessons observed.



Let's Talk 2.0 by Brandon Jones & Tim Pendleton



STARBASE 2.0 is an exciting and educational after-school organization with free membership. STARBASE 2.0 focuses on hands-on S.T.E.M. activities, goal setting, and team-building activities. This club is designed to enhance student engagement in S.T.E.M. subjects and provide the opportunity for students to explore enrichment activities in a safe environment. Selected students in 6th, 7th, and 8th grades are provided enrichment through hands activities centered around real world content, career connections and exploratory understanding. Additionally, through their participation, students obtain and/or enhance their critical thinking, social and communication skills. Students are paired with professional and college/university mentors to support their learning of S.T.E.M. concepts over the course of their participation in the afterschool S.T.E.M. club.

STARBASE 2.0 began a new and exciting 2017-2018 academic year, in September 2017. As part of the Fall semester curriculum, students are learning S.T.E.M.-related concepts through robotics. During afterschool sessions, students learn Core Values during construction and programming of their Lego EV3 robots. Students will have the opportunity to showcase their knowledge during the annual *Middle Georgia Super Regional First Lego League (FLL) Tournament* and the *13th Annual Central Georgia Regional FLL Tournament*. "Hydrodynamics," is the theme for this year's FLL competitions. 12 teams, specifically, a team of 10 students from each afterschool have been selected to compete in this year's competition. These teams are utilizing their building, programming, and research skills, in efforts to utilized Lego EV3 technology to succeed in challenges that benefit societies.

Upcoming STARBASE Events



Middle Georgia Regional Tournament

The *Middle Georgia Regional First Lego League (FLL) Tournament* will be held Saturday, December 16, 2017 and will take place at Byron Middle School located in Byron, GA. This event is hosted by Georgia Technical Institute (GA Tech).

Super Regional Tournament

The *13th Annual Central Georgia Super Regional FLL Tournament* will be held and hosted by the Museum of Aviation on Saturday, January 20, 2018.

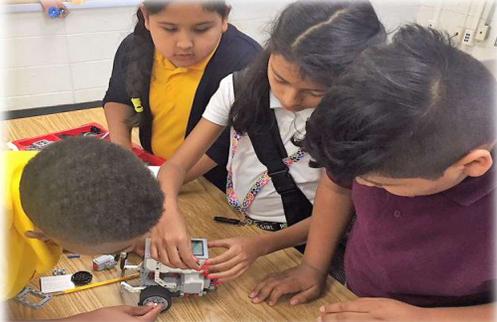
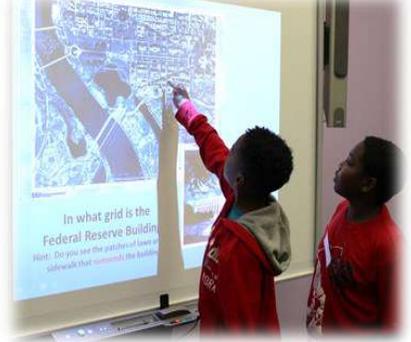


First Annual STARBASE 2.0 S.T.E.M. Student Conference

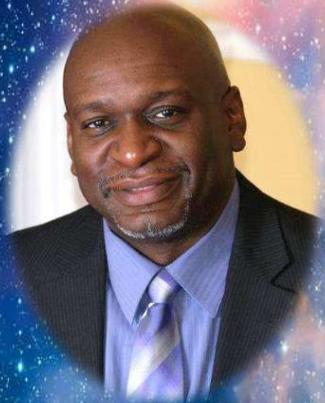
STARBASE ROBINS will host its first annual *STARBASE 2.0 S.T.E.M. Student Conference* on Friday, February 2, 2018 at the Museum of Aviation. This conference will celebrate and recognize the academic semester progress and accomplishments of our after-school student participants, Teacher Sponsors, mentors, and staff.



STARBASE ROBINS Photographs



Meet Our Stars: The STARBASE ROBINS Team



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