

Remember to visit our website:

www.starbaserobins.org

In
This
Issue...

- * 15 Year Celebration
- * FLL Robotics
- * STARBASE 2.0

STARBASE ROBINS

December 2011

2011 – 2012 School Year

Director's Corner by Wesley Fondal

As we begin our fifteenth year of service to the Middle Georgia area, STARBASE ROBINS continues to strive to be a STEM center of excellence. After our robotics and engineering summer academies, our summer ended with attending the 2011 Department of Defense STARBASE Program Conference in New Orleans, LA. I think the staff will agree with me in saying that a lot of good and useful best practices were shared among all STARBASE staff from across the country. We also had a key role in putting together and sharing our best practices for STARBASE 2.0

Afterschool STEM Mentoring Program. It was great to be back home and to share my beautiful New Orleans with the rest of the STARBASE family.

We stopped for a moment to recognize our 15th Year in service with a small celebration. We would like to thank all of those who participated in our celebration and especially

See Director, Pg 2

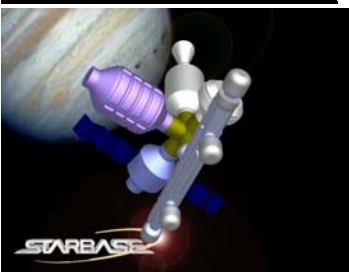


STARBASE ROBINS Director, Wesley Fondal assists Parkwood Elementary students with their rocket launch.



**Set the Date for
Georgia First Lego League Robotics
Central Georgia Super Regional Qualifier
January 7, 2012**

What is DOD STARBASE? Please visit www.dodstarbase.org to find out.



STARBASE 2.0 Club by Andrew Dennis

STARBASE ROBINS is a Department of Defense STEM (Science, Technology, Engineering and Math) educational program. We are located at the Museum of Aviation in Warner Robins, Georgia. STARBASE ROBINS is in its third year of implementation of our after-school mentoring component of our program called STARBASE 2.0. The program started in September 2011 and will end in March 2012. Each mentoring club meets approximately between the hours of 3:00 P.M. to 5:30 P.M. on Tuesdays at Huntington Middle School and Wednesdays at Northside Middle School. In January, we will implement STARBASE 2.0 with the Bibb County School System.

The STARBASE Mentoring club concept is built around a tri-fold navigation theme. The Mentoring Action Plans (or MAPs) component consists of the student establishing career goals, educational goals, long/short-term goals etc. Team Exploration is the second component of the journey which consists of the students participating in team building activities. STEM Navigation is the third component which consists of the students participating in semester long projects/competitions and hands on STEM related activities. This year the students will have an opportunity to build and launch rockets. They will also design, build, and program robots which will be used in a robotic competition among the students.

The mentoring model is very unique. It is a combination of a school based mentoring team approach in an after-school setting. The mentor model of STARBASE 2.0 consists of: a school teacher, a college student, and a STEM (Science, Technology, Engineering, and Math) professional per 12 students. We are currently recruiting college students and STEM professionals. College students can earn class credit hours and a \$400.00 stipend per semester. STEM professionals can possibly earn compensatory/volunteer hours. We are currently working with students from: Fort Valley State University, Macon State College, Georgia Military College, Middle Georgia Technical College, and Mercer University.

Volunteers are needed!

Director, cont'd

Lt. General Charles Stenner, AFRC Commander, Ernie Gonzales, Dept. of Defense Director of Youth Outreach, Capt. Belinda Baker, Chief, Innovative Readiness Training Branch and Dr. James Hines, Houston County Superintendent of Schools. It was a good time to share what we have done and our vision for the future. Thanks to all the students, teachers, administrators that have been a part of our success. Please see inside for further information about our celebration.



In September we took part in Lt. Governor Casey Cagle press conference announcing the Georgia's Real World Design Challenge an annual competition that provides high school students, grades 9-12, the opportunity to work on real world engineering challenges in a team environment. Our partnership with PTC, Inc. and the use of Pro Engineer 3D software allows for us to build that engineering pipeline from elementary school to high school that allows high school students to participate in such challenges and increase their opportunities for success in the STEM field.

We have many opportunities for you to participate in our efforts of getting students into this pipeline. We are always seeking volunteers for our Career Guide program, our STARBASE Afterschool STEM Mentoring program STARBASE 2.0, and participation in our annual robotics tournament. Please contact us or visit our website, www.starbaserobins.org, for further information on how to volunteer.

Finally I, would like to take this opportunity to welcome and introduce two new additions to our STARBASE ROBINS family, Audra Hubbard and Aida Brown. We are glad to have them on board and ready to get them started in the STARBASE way. See the Spotlight section to learn more about our new additions.

STARBASE ROBINS Celebrates Its 15th Year at the Museum of Aviation: My Perspective by Dawn Pannell

The STARBASE Robins program at the Museum of Aviation has been operating now for fifteen years. On September 2nd, we held a ceremony to mark this special occasion with our staff and special guests.

I decided to write about the event from my perspective. As a staff member, I have to admit that sometimes an event like this just means extra work and planning added to our normal workload, and so it has its hassles. And it did!

BUT...when all was said and done I was so glad that we had the ceremony and really enjoyed the time shared with friends of STARBASE.

I sat with two people who I have grown to admire: Mr. Albert Rogers, who was a former Director for the STARBASE Robins program, and Mrs. Rosa Holmes, who was a former instructor. We hugged and were able to "catch up" on each other's news.

Albert has always been an encourager to me, so it is always good to see him. We pick at each other as if we were siblings, and that is fun! He is supposed to be retired, but he continues to be involved with children through Stone Academy in Macon. This new work was the reason he had to leave right after the ceremony ended.

Rosa has been a great educator, not only to students, but to anyone who gets the opportunity to meet her. Rosa has always taught more than just content knowledge. She teaches character through her example. She exudes kindness and compassion. Even when she has to correct someone, she does it with complete care. Like the time she corrected me on how to build the engine mounts for our Starcruiser Rockets. I learned to do it right, but I also learned from her how to make a correction in the most gentle way.

From where I sat, I could see the students who had come to our ceremony from Centerville Elementary School. (This is the first year for Centerville to attend the STARBASE Robins' program.) These students impressed me so much throughout that event and as they attended our academy. They were so attentive and yet their eyes were roaming all around taking in the sights and views around them. Some of them dressed up for the event to show a respect for what they had come to be a part of. It was so refreshing to see them. Our "future" are these students and watching them renewed my belief that America's future is bright. Now isn't that why we run the STARBASE Department of Defense program?

For the actual ceremony, Wesley Fondal, Jr., who has been the Director at STARBASE Robins for the past twelve years and my boss for the past eight years, welcomed those in attendance. We were led by Jamya Ragin, Nicholas Ramirez, Celina Kessler and Kyla Johnson (all fifth grade students from Centerville Elementary) in saying the Pledge of Allegiance.



Students from Centerville Elementary attend the 15 year celebration See 15 Year, Pg 4



Dawn, Rosa Holmes & Albert Rogers



Wesley and Capt Baker, Program Manager for the AFRC STARBASE Program



Lt. Gen. Stenner talks to the crowd and students from Centerville Elementary

15 Year, Cont'd

SMSGt Gerald Bynum moved me to tears with his rendition of the National Anthem. As a way of introduction, the Department of Defense STARBASE program video was played. I have to say I was impressed and it made me glad to be a part of such a program.

We were truly honored that day to have DOD supporters as well as community supporters. School representatives from both Houston County and Bibb County came. James R. Hines, Jr., the Superintendent of Houston County gave STARBASE Robins a great endorsement as a program that comes alongside the county to enhance students' academic growth and expressed the hope of continuing such collaborations.



Robin Hines, Superintendent of Houston County Schools addresses the crowd

STARBASE Robins is sponsored by the Air Force Reserve Command. We were privileged to have the Commander of the Air Force Reserve Command come that day. Lt. General Charles E. Stenner, Jr. was our main speaker. The General stood at ground level with the audience, relating most of his address towards the students who were present. As an educator, I felt he did an outstanding job of sharing his personal experience as a fighter pilot to the young crowd. He helped them to understand the importance of being prepared for their futures, sharing tales of his service from his "offices" of the F-4, A-10, and F-16 cockpits.



Ernie Gonzales receives star from Wesley

Our own Captain Belinda Baker, Program Manager for the AFRC STARBASE Programs was one of those who attended. She has been taking on this role since I started STARBASE ROBINS.

It was extremely impressive to me that Ernie Gonzales, Director of Youth Programs for DOD (our main answer-to guy) came and spoke, and to be a part of our celebration. Not only did he address the crowd, but received and handed out presentations. Ernie appeared to be the proud dad at the event.

Museum staff members came to lend their support. Like always, they jumped in to help us when we starting serving the cake and punch. I was so glad that the celebration had come off without a hitch.

. Later after all the cake and punch was served, Ernie joined our team for a late lunch. It was a fun gathering and all of us were refreshed.

My memory will be of the people who have had a large or small part in making STARBASE Robins a successful educational program.



STARBASE Staff

Straw Rockets with Rice Elementary from Bibb Co.



The Curriculum Changeover by Dawn Pannell

STARBASE ROBINS went through a curriculum changeover this past school year. Operating totally from the aspect of the STEM content areas, our days are full of more hands-on learning experiments that delight our students. It has been a learning experience for all the instructors as well as we have had to familiarize ourselves with all the new material.

Some of the content has remained the same. We still cover Physics in our Science area, highlighting Sir Isaac Newton's Three Laws of Motion and Bernoulli's Principle. The changes have been in the activities we do with students to allow them to understand these concepts.

In the area of Chemistry, we still teach the atmospheric properties, with a few activity changes. New in Chemistry has been the addition of teaching molecular structure. Students actually build elements and compounds with kits we provide. It is amazing to me that students are being exposed to the Periodic Table in fifth grade, much less to have so much fun in the process. My favorite addition to the curriculum (Is it okay for a teacher to have a favorite?) is teaching Physical and Chemical changes. I love to see the students' faces light up when I demonstrate the chemical change of "flash" paper, although I have burned myself a few times. Students do an experiment at their tables, with one side pouring Calcium Chloride and the other side pouring Alka-Seltzer into beakers with water. Temperature measurements are recorded every 30 seconds for 2 minutes. Students note that Calcium Chloride makes the water heat up (exothermic reaction) and Alka-Seltzer makes the water cool down (endothermic reaction). Students on either side of the table touch the water beakers to feel the changes. Students discuss the practical uses of having chemicals that make exothermic and endothermic reactions, such as de-icing roads or having instant ice packs or hot packs for sports injuries. We discuss the fact that someone with this knowledge of chemistry came up with the ideas of creating products to help people and to make money. This shows students the practical application of learning Chemistry. To follow up on this activity, we complete a line graph showing the temperature changes of the Calcium Chloride and the Alka-Seltzer in our experiment.

We have added in our curriculum the innovations being made in our modern day culture by Nanotechnology. After a brief introduction of what "nano" means, the students experiment with sand, fabric and wire which have had physical properties changed at the molecular level. When they see sand that stays dry after being put into water, they are really surprised. It has opened their minds up to a whole new field of study.

The Engineering Design Process is new this year. Students go over the steps as they create a restraint device for a moving object, "Eggbert". It's a great way to allow them to see the process in action and to see how well their design works. Along with Eggbert, we continue to use the ProEngineering software in our computer labs to create Computer Aided Designs (CAD). Some students truly excel in using this software program.

Mathematics has been integrated across the curriculum more to show how important math concepts are to all areas of Science, technology and engineering. Whether it was learning the size of a nanometer, taking measurements using the metric system, or using a coordinate grid to play Battleship, students were engaged in activities that hopefully broadened their understanding of how mathematics relates to every day life.

For those schools who came at the beginning of the year, you were our trial-and-error audiences. Thank you for being our learning curve. This curriculum changeover has not been easy. Our staff has embraced the changes, but realize we have a long way to go in making the transition totally smooth.



Spotlight by Dawn Pannell

STARBASE Robins has recently gained two new instructors, **Audra Hubbard** and **Aida Brown**. With our program expanding with the after-school addition of STARBASE 2.0 and hosting events for FIRST Robotics, our staff has been stretched. It will be nice to have two more helping hands to further enhance our work here at STARBASE Robins. We extend to them a warm welcome as they join our team.

Audra Hubbard

Audra comes to us from Anderson, AL where she was born and raised with one younger brother. After graduating from Lexington High School, she completed her undergraduate work at the University of Alabama, receiving a Bachelor of Science degree in Multiple Abilities. She was recruited by the Bibb County school system right out of college, and taught Kindergarten in the public schools for several years. During her first few years working, she obtained her Master's Degree of Science in Early Childhood Education from Fort Valley State University. For the past six or so years, she was the Daycare Director for Wesleyan Drive Baptist Church WEE Center in Macon.

Audra married her college sweetheart, Kevin. They both are actively involved at their home church, Wesleyan Drive Baptist, where they participate in the choir and hand-bell choir, help with the youth program, and have gone on a mission trip to Honduras. In her spare time, she likes to decorate cakes and sell Pampered Chef products. She is an avid "couponer" as well.

Audra states "I always wanted to be a teacher. I enjoy showing anyone how to do something new." She has already shown me something new. She has helped me connect my laptop to my printer, something I had been working on for awhile. We are happy that Audra also has a way with computers and will be able to help us with some of our technology issues.



Aida Brown

Aida is a recent Honors graduate from Fort Valley State University with a degree in Middle Grades Education, concentrating in Science and Language Arts. While there, she participated as a member of the Kappa Delta Epsilon for educators. We were fortunate to have her become a mentor for our STARBASE 2.0 after-school initiative last year, so that now we have her on board with our STARBASE Robins' staff. She plans to continue her education by obtaining her Master's degree in Education by the time she reaches her 26th birthday.

Aida was born in Brooklyn, NY to Win-some and Peter Brown of Jamaican heritage. She learned at an early age about teamwork since she grew up with two brothers and three sisters. Much of her elementary schooling took place in Jamaica. Around eighth grade, her family moved to Conyers, GA where she graduated from Salem High School with the HOPE scholarship.

Aida's inspiration to teach came during her high school years. She comments: "I noticed the big impact teachers can have on their students. I wanted to influence young minds on a daily basis and what better way to do that than being a teacher. I think a great way to impact a child's life is to be a positive role model and teaching a great way to do that." I expect that Aida will be a wonderful role model for her students.



Pro Engineering Academy by Casey Dent

This past summer students attended STARBASE ROBINS Pro Engineer Academy. The Pro Engineer (Pro-E) Academy was a five day summer camp for 5th through 8th graders. Pro Engineer is computer aided design software. This software allows students to turn a 2D object into a three 3D object. It teaches different principles in engineering. Students can download the software for free online.

First, they have to register through the Parametric Technology Cooperation website. Members can download software pictures and posters. Students were given the opportunity to do hands on activities along with computer aide design tutorials on Pro-E software.

This past Pro-E academy theme was "Going Green." Scientist have to find means of better houses, transportation, entrepreneurship, water, energy, reducing waste, and saving endangered species. Students worked in two-manned teams or pairs to find a solution to the problems. The teams designed a minimal of two innovative inventions relating to the project. All teams were given the opportunity to design a minimal of two designs using the Pro-E CAD program. Some examples for designs are devices, transportation, man-made features, buildings, material etc. Students had to develop a company name, a product name, and a slogan, a presentation of their design project and tell about its feature and purpose. Last, the students had to incorporate the Engineering Design Process (EDP) in their project. Two key themes of the EDP are teamwork and design. Build a prototype or prototypes. Does it work? Talk about what works, what doesn't and what could make it better? Draw new designs. These are some of the questions students were taught during the EDP. The teams will presented their final design inventions to the entire class and staff alongside judges. The team winners of the "GO Green" competition were given an opportunity to print out one of their designs on the 3D printer for each team member.

In the end, the use of K-12 engineering curricula inspires youngsters to see math and science as valuable tools needed to solve real-world problems, create things for the benefit of humanity and our planet, and thrive in our modern world. Use of such curricula can positively introduce young students to relevant and fulfilling STEM careers, including, but not limited to engineering. Engineering is all around us. It defines our world and impacts every person. Engineering is the real-world application of science and mathematics. Engaging students in the everyday application of STEM in our world improves their interest in and understanding of fundamental and often theoretical concepts. In all the Pro-E Academy was a huge success. It gave students a chance to learn the Pro-E software, hands on activities, and the EDP. We will strive to make next years Pro-E Academy as exciting and innovative as this past summer.

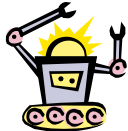


Summer Program participants with their design.



STARBASE ROBINS
WR-ALC/MU
1942 Heritage Blvd
Robins AFB, GA 31098-2442
OFFICIAL BUSINESS

RETURN SERVICE REQUESTED



G.R.I.T.S



October 15, 2011

For the 3rd year, STARBASE ROBINS will host the Georgia FIRST Robotics Invitational Tournament and Showcase "Robotics Southern Style" at the Museum of Aviation

