



AmericaSpace
For a nation that explores

STEM Conference and Expo Held in Baltimore

By Kerri Phillips



Middle school students participate in wing ring glider design. Photo Credit: Kerri Phillips

The second annual STEM (science, technology, engineering and math) Conference and Expo (STEMcx) was held at the New Psalmist Baptist Church in Baltimore, Maryland on March 3rd. Over 400 middle and high school students from around the area attended this event, which featured former NASA Astronaut, Robert Curbeam, as the keynote speaker. Students participated in workshops that were designed to show them the fun behind math, science, and engineering.

The Sankofa Community Development Corporation sponsored the STEMcx event. According to the STEMcx Chair, Sandy Adams, the STEMcx event was an offshoot of a three-year science and education program for students grades 5 through 10 sponsored by the National Science Foundation (NSF) in conjunction with Living Classrooms. The program *The Voyage of Exploration* was presented in three different venues: after-school programs, Saturday morning sessions, and a Summer Learning Expedition.

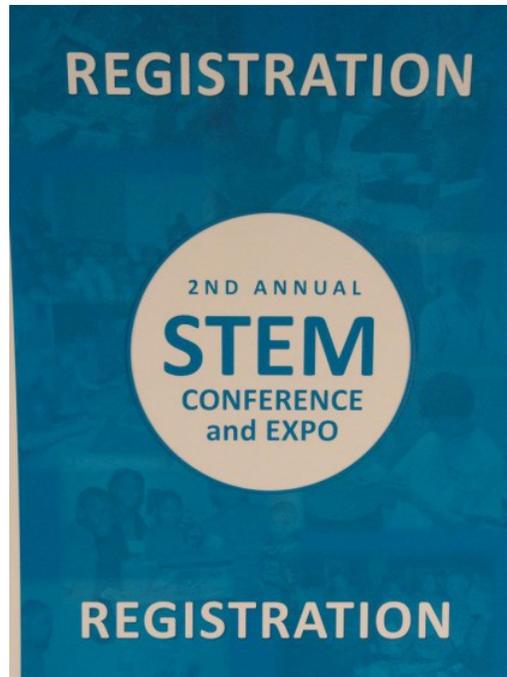


Photo Credit: Zach Merceruio

The STEMcx event was planned and executed by volunteers and drew several community sponsors including TRowe Price, Northrop Grumman, Baltimore Gas and Electric, and the Johns Hopkins Center for Talented Youth. The primary goal of the event was to help young students learn about STEM fields, explore new possibilities within these fields, and to provide them with activities to see how exciting these fields can be. Several student workshops were planned that brought in presenters from local hospitals, colleges, and NASA Goddard Space Flight Center to engage the kids in hands-on activities. These volunteers presented for an hour and a half to student groups twice during the course of the day, and were greatly appreciated by those organizing the event. "These presenters volunteered their time and resources, and their actions demonstrate the community's commitment to addressing the problem (of encouraging students to pursue STEM careers)," said Adams. The middle school student workshops included: Rocket Scientist and Flight, The Big Dig, The Bridge to Nowhere, The Science of Superheroes, Slam Dunk – the Physics of Basketball, Architecture 101, Shark Week, and Mission Impossible. The high school student workshops included: The Physics of Football, Exploring the Universe Beyond Our Eyes, Kinect with Microsoft – Xbox 360 Exposed, The Chemistry of Cover Girl, Trauma 101, Science Internships, CSI Baltimore, and Alternate Energy and Cars. A simultaneous Parent Seminar was held where parents learned the importance of encouraging their kids to pursue challenging fields and pushing them to perform their best. Additionally, a representative from the College Savings Plan of Maryland discussed financing for higher education.



NASA Goddard Space Flight Center representative Trena Ferrell presents rocket science to the students. Photo Credit: Kerri Phillips

Congressman Elijah E. Cummings addressed the students before Robert Curbeam took the stage for the keynote speech. Cummings thanked the volunteers and the New Psalmist Baptist Church for their contributions to the event before speaking encouragingly to the students. "To the young people here, this is a very important event for you...It is so very important that you reach for the stars...We want you to be the best you can be." Cummings also encouraged the students to set goals for themselves and follow in the footsteps of role models such as Curbeam. "It is not enough to dream big dreams. He (Curbeam) was disciplined. He had to make sure he did the right things and stayed out of trouble." A representative for Baltimore City Mayor also spoke to the students and delivered this message encouraging the students to pursue and demand an education: "You will only become what you are prepared to be. The preparation begins today."



STEMcx Keynote Speaker and former NASA Astronaut, Robert Curbeam.

Photo Credit: Kerri Phillips

Curbeam, former astronaut and current Vice President of Mission Assurance for Raytheon's Integrated Defense Systems, began his speech by encouraging the students to strive to be successful. Curbeam, a Baltimore native and graduate of Woodlawn High School, spoke to the students about "the three things you need to be successful: education, hard work and perseverance". Curbeam said, "I cannot stress how important getting an education is...you have to want to learn and continue to learn throughout your life. Education is never time wasted, and every class is important." Next, Curbeam addressed hard work. He explained that when he applied for the astronaut program, there were 2,997 applicants for 18 available spots, and that all of those applicants were working hard to get where they were. Curbeam continued, "Trust me, if you want it somebody else wants it just as much as you do...You have to work harder than them to get it."

Students were intrigued with Curbeam's experience as an astronaut, so as he discussed the path he took to get there, he also addressed failures. "It's not about whether you fail – it is about how you react to it and what you learned from that failure. If you give up the first time you fail, you will never be successful...I had friends who applied to be an astronaut six or seven times before they got in. Remember, perseverance (is a key to success)."



High school students in the trauma workshop learning about the human spine.

Photo Credit: Zach Merceruio

The students found Curbeam's address relatable and inspiring and expressed their excitement in the conference. Three students spoke with AmericaSpace and were enthusiastic about the opportunity to participate in STEMcx. Carmen, a 17 year-old senior, said that her favorite subjects were biology, mathematics, and music theory. Carmen said that her mom, her pastor's daughter, and her acting coach all served as excellent role models and supported her as he pushed to be the best she could be. She plans to become a marine biologist and has already been accepted to Coastal Carolina University in that field. Shada, a 16 year-old junior, expressed her interest in graphic design and mathematics. She said that her aunt, a managing consultant, was a significant role model in her life that pushed her to keep her grades up and focus on her education. She found Robert Curbeam's speech inspirational and said that she plans to follow his advice as she pursues an internship with the National Security Agency (NSA). Ryan, a 17 year-old senior, enjoys the chorus and TV production courses at his high school. He expressed how important he believed STEMcx was for the community in encouraging students to pursue higher education. Ryan said that a key role model in his life is his pastor, Jason Nelson, who is also a gospel recording artist. Ryan believes that in addition to being incredibly talented and inspirational Nelson is, above all, humble. This is an attribute Ryan plans to embody as he pursues a degree in recording arts from Full Sail University.



High school students learn about equipment used in surgery.

Photo Credit: Kerri Phillips/Zach Merceruio

Students like Carmen, Shada, and Ryan are why the STEMcx volunteers dedicate countless hours to host this event. Adams said that her daughter is an inspiration to her to volunteer because of her interest in science. Adams noted that there are very low numbers of African-Americans in STEM fields. She also mentioned the small number of African-American students pursuing higher education in the STEM fields with only one percent of degrees received in science technologies and four percent of degrees received in math and statistics going to African-American students. Adams said, "Our keynote speaker last year, Dr. Freeman Hrabowski, is trying to tackle the under-representation problem and talks about the need to engage students early. STEMcx is doing just that. The workshop and exposition is a labor of love for me and the entire STEMcx committee." Adams hopes that the students realize that STEM fields can be fun and events such as STEMcx encourage them to become "our future chemists, mathematicians and engineers". "I hope they start believing that they are perfectly equipped to take on this subject matter with a little initiative and hard work. It's not too hard or too nerdy!"