

# NSBE bridge

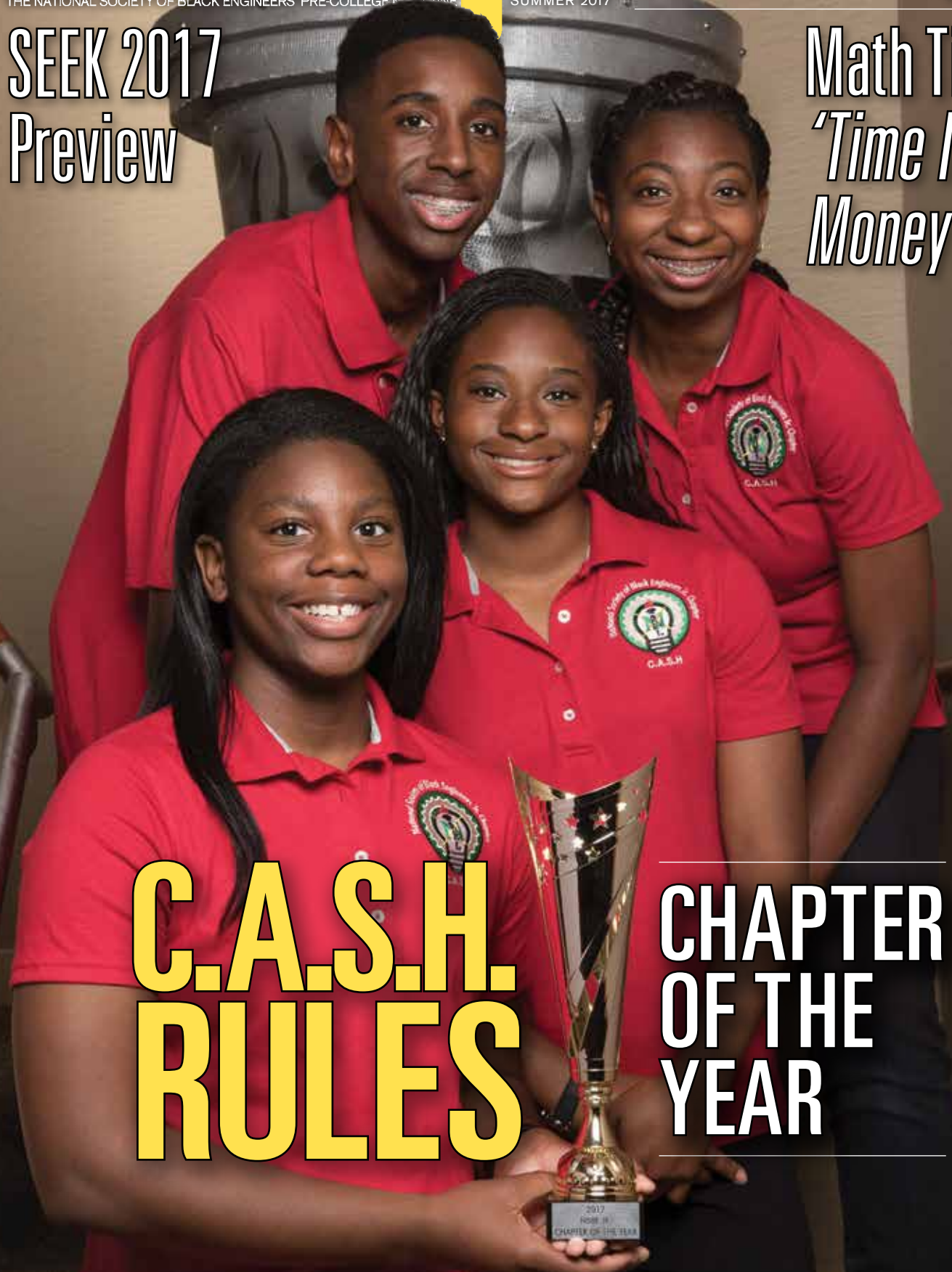
THE NATIONAL SOCIETY OF BLACK ENGINEERS' PRE-COLLEGE MAGAZINE

SUMMER 2017

## Annual Convention Replay

### SEEK 2017 Preview

### Math Tips *'Time Is Money!'*



# C.A.S.H. RULES

## CHAPTER OF THE YEAR

*On the Cover:* (clockwise from front) Samirah Brown, Dorien Minor, Jocelyn Berry and Taylor Jackson, officers of C.A.S.H. NSBE Jr.



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## ABOUT NSBE

The National Society of Black Engineers (NSBE), with nearly 16,000 members, is one of the largest student-governed organizations based in the U.S. NSBE's mission is to increase the number of culturally responsible Black Engineers who excel academically, succeed professionally and positively impact the community. NSBE comprises nearly 300 chapters on college and university campuses, more than 90 NSBE Professionals chapters and interest groups, and nearly 150 NSBE Jr. chapters, in North America, Africa and the Caribbean. The U.S. chapters are divided geographically into six regions. NSBE had its genesis in April 1975. In 1976, NSBE was incorporated as a nonprofit organization in the State of Texas and also became recognized as a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

The NSBE torch symbolizes our everlasting, burning desire to achieve success in this competitive society and to effect a positive change in the quality of life of all people. The lightning bolt represents the striking impact that will be felt by the Society and industry due to the contributions and accomplishments made by dedicated members of the National Society of Black Engineers.

For more information, visit [www.nsbe.org](http://www.nsbe.org).

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# NSBE43 RECAP

## Dreams Come True

1,500-Plus Attended  
NSBE's Pre-College  
Initiative Conference  
in Kansas City, Mo.



*The PCI Conference included a wide range of exciting, educational activities to help students engineer their foundations to achieve academic success and one day become engineers.*

The number 10,000 was at center stage at the National Society of Black Engineers' (NSBE's) 43rd Annual Convention, this past March 29–April 2 in Kansas City, Mo. First, there was NSBE's ambitious 10-year strategic goal, which is to lead the U.S. to graduate 10,000 Black Engineers each year, with bachelor's degrees, beginning in 2025. Also, there was NSBE's goal of bringing 10,000 attendees to the convention, a goal that was passed when 10,053 people registered for NSBE's largest annual event this year.

The two NSBE goals mentioned above

are connected. Graduating 10,000 ("10K") Black Engineers annually by 2025 means getting elementary school and middle school students ready for engineering now. The college students and young professionals who lead NSBE, including the members of the Convention Planning Committee, decided last year that the 43rd Annual Convention ("NSBE43") should be an event to discuss and demonstrate how NSBE was strengthening its organization and preparing African-American communities to make the dream of 10K a reality. So they chose the theme "Engineering





Celebrating African-American innovation: Carroll Lamb, cofounder (left), and Ladrian Brown hosted the exhibit of the Institute of Black Invention and Technology, near the PCI Conference's three-day Innovation Lab. The institute, founded in 2000, is a traveling museum created to expose people of all ages and races to the genius of black inventors.



## FIRST LEGO LEAGUE THE ROBOT GAME



Unique Page (above, second from left) is a seventh grader in the Friendship Public Charter School NSBE Jr. Chapter, in Washington, D.C. Her excitement about participating as a "builder" in "The Robot Game" competition at the PCI Conference was clear, as she explained how her team, the RoboKnights, built, tested and programmed an autonomous robot using LEGOs. Their goal was to solve problems presented during several assigned missions. The Robot Game is an activity offered by FIRST LEGO League, an international program for middle school and high school students. NSBE has partnered with FIRST LEGO to provide NSBE Jr. members with experience in robotics year-round. ■



Your Foundation" to focus NSBE on that task during the convention, including its Pre-College Initiative (PCI) Conference.

The PCI Conference included a wide range of exciting, educational activities to help elementary school, middle school and high school students *engineer their foundations* to achieve academic success and one day become engineers. More than 1,500 students, NSBE Jr. chapter advisors, parents and other convention chaperones engaged in the workshops, technology and science competitions, STEM demonstrations, information sessions, meal and entertainment events

and other activities the conference had to offer.

Kansas City Mayor Sylvester ("Sly") James; Kansas City Councilman, industrial engineer and former NSBE member Lee Barnes Jr., and Kansas City Public Schools Superintendent Mark Bedell, Ed.D., were among the convention guests who spoke at the event's press conference. Superintendent Bedell spoke about the work the city schools are doing to provide equal access to technology for Kansas City students in kindergarten through grade 12.

Most of the PCI Conference events



# NSBE43 RECAP



CONTINUED FROM PAGE 3

took place in the convention's main venue, the Kansas City Convention Center, but a number of high-impact activities happened off site, including a viewing of the film "Dream Big." The film, directed by MacGillivray Freeman, is the first giant-screen film that seeks to inspire kids from diverse backgrounds to get involved in STEM and become the innovators who will improve the lives of people across our entire planet. NSBE, the American Society of Civil Engineers (ASCE) and Bechtel Corporation teamed up to screen the movie at two locations.

Back at the Convention Center on Saturday, April 1, the Pre-Torch Awards gave PCI Conference attendees a moment in the spotlight, as the winners of the conference's technology competitions and special honors stepped to the platform to receive their awards. Creative and Striving Hard (C.A.S.H.) NSBE Jr. received the coveted NSBE Jr. Chapter of the Year honor.

Earlier that day, NSBE National Chair Matthew C. Nelson

spoke to an audience of all ages during the Saturday General Session. Nelson has a bachelor's degree in industrial and operations engineering from the University of Michigan – Ann Arbor and is a graduate student in design science at the university. His message about how he continued toward his academic goals in the face of big challenges was a good one for the PCI Conference attendees who are on their way to careers in engineering.

"People say, 'Matt, your story is really powerful. But I have a question for you. When you were in those really dark spots, how did you persevere?... What was that thing that you did to turn things around?'" Nelson said. "And the truth is, it's not just one (thing). There's no magic pill."

"...Once I (stopped being a victim) and got to the point where I knew what it was I wanted to do, I found I was having success," he said. "...You can be a victim, or you can be successful, but you can't be both." ■



## VEX ROBOTICS COMPETITION

VEX Robotics, another international program, is also a popular activity for NSBE Jr. members at the PCI Conference and with their local chapters at home. Jarmel Brown is a high school junior in Houston, Texas, and has participated in the program since his ninth grade year. His team, named Synergy, got off to a good start in the competition but met some pitfalls.

"We competed to the best of our abilities. Our robot, for two matches, we thought was going to win, but it started acting up," Brown said.

Brown and two of his teammates are former students of the all-boys Mickey Leland College Preparatory Academy, he reported. For past VEX Robotics competitions, their team paired with students from an all-girls school, Young Women's College Preparatory Academy (YWCPA). That combined team won NSBE's national VEX Robotics competitions in 2015 and 2016. This year, the young men had transferred to another high school, Energy Institute, but decided to team-up with the young women of YWCPA again.

Brown plans to continue with VEX Robotics next year and has his eyes set on a career in mechanical engineering.

"Most of my team wants to become mechanical engineers," he added, "and one teammate wants to become an aerospace engineer." ■

(left) Diana Hernandez and Jarmel Brown of the Synergy VEX Robotics team



## DIGITAL STORYTELLING



(Above)  
Members of the "Swiftness Division" Ten80 team, of South Houston NSBE Jr.



Five NSBE Jr. members from Regions II and V gazed intently at the screen of a computer monitor, during the PCI Conference's "Digistory" workshop on March 31. Their goal was to tell a story about a group going on a picnic, using stop-motion animation. The workshop was presented by digiSTORY KC, a nonprofit organization that promotes digital literacy for children from urban areas through hands-on learning activities, including digital storytelling.

"Right now we're inserting the voices," said Micah Taylor, a seventh grade member of the C.A.S.H. NSBE Jr. Chapter of Prince Frederick, Md. "...There's a whole script to do, and we have to go through the frames and insert the voices where it says they're supposed to be. ... I'm the multimedia animator, which means I work with the green screen, and I add special effects where they need to be."

Digital storytelling was a new experience for the team, which also included David Glover, a seventh grader in the Gateway NSBE Jr. Chapter in St. Louis; high school freshman Courtney Wallace, also of the Gateway chapter; Symphanie Collins, a seventh grader in the Martinsville-Henry County NSBE Jr. Chapter, in Virginia; and seventh grader Savannah Brown, also of the Martinsville-Henry County chapter.

All of the team members said they plan to become engineers. ■



Region II and V members teamed up for a Digistory workshop project. Micah Taylor of C.A.S.H. NSBE Jr. is at center.

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# NSBE43 CONTINUED FROM PAGE 5 RECAP



*Graduating 10,000 Black Engineers annually by 2025 means getting elementary school and middle school students engaged in engineering now.*



## Ten80 STUDENT RACING CHALLENGE



The “210 Nitro” Ten80 team, of the San Antonio City Wide NSBE Jr. Chapter, based in San Antonio, Texas

NSBE has partnered with the nonprofit organization Ten80 Education since 2012 to boost NSBE Jr. members’ interest and skills in STEM through the Ten80 Student Racing Challenge. The Student Racing Challenge is a yearlong, nationwide program in which teams of students engineer miniature race cars and, along the way, learn about a wide variety of topics such as mechanical engineering, electrical engineering, environmental engineering, computer programming, chemistry, animation, computer-aided design, and marketing. NSBE’s national Ten80 competition — including team presentations, a series of exciting races and other activities — takes place each year at the Annual Convention.

High school freshman Matthew Madrey was a member of the San Antonio City Wide NSBE Jr. Chapter’s “210 Nitro” team in the Ten80 finals, in Kansas City. He has participated in the Ten80 program for two years.

“My job was managing the pit, doing special projects and getting my mechanical certification. I drive in the competitions, and then when I’m not driving, I’m in the pit,” Matthew said. Asked what he liked about Ten80, he said, “It’s competitive.”

“It’s the excitement of driving the car as well,” added Michael Baker, one of the team’s assistant coaches. “They get the different experiences. They get to take (the car) and modify it. They learn different aspects of the car: mechanical, aerodynamic, suspension and the steering as well....

“Most of all, they have fun,” Baker added. “The kids spend a lot of time doing the paperwork, learning how the car works as well as functioning as a team. I think that’s beneficial.” ■



## National Competition Winners

**NSBE Jr. is full of technical and scientific talent! Congratulations to these students who rose to the top at this year's Pre-College Initiative (PCI) Conference.**

### FIRST LEGO LEAGUE

*Champion's Award:* NSBEneers (aSTEAM Village NSBE Jr. – Region V)

*Tournament Co-Champion:* Greater Albuquerque (Greater Albuquerque NSBE Jr. – Region VI)

*Robot Performance:* Greater Albuquerque (Greater Albuquerque NSBE Jr. – Region VI)

*Mechanical Design:* Mass PEP (MassPEP of Boston NSBE Jr. – Region I)

*Programming Award:* FIRE (Future Innovative Rising Engineers) NSBE Jr. – Region II

*Strategy and Innovation:* EV3 Wizards (San Antonio City Wide NSBE Jr. – Region V)

*Presentation:* Robotic Panthers (Five Girls R.O.C.K. @ YWCPA, a Links-NSBE Jr. Chapter – Region V)

*Innovative Solution:* Greater Albuquerque (Greater Albuquerque NSBE Jr. – Region VI)

*Research:* Memphis NSBE Jr. (Memphis NSBE Jr. – Region III)

*Teamwork:* B3AST (Chicago State University NSBE Jr. – Region IV)

*Gracious Professionalism:* Queen City NSBE Jr. (Queen City NSBE Jr. – Region II)

*Judge's Award:* RoboKnights (Friendship Public Charter School NSBE Jr. – Region II)

*Inspiration Award:* Snow Leopards (Faith Academy NSBE Jr. – Region V)

*Volunteer Award:* Nicole Adewale

### KIDWIND

*1st Place:* Red Tails (San Antonio City Wide NSBE Jr. – Region V)

*2nd Place:* Team Elite (Syracuse City Wide NSBE Jr. – Region I)

*3rd Place:* Aero Queens (Five Girls R.O.C.K. @ YWCPA, a Links-NSBE Jr. Chapter – Region V)

*Innovations Award:* Team Elite (Syracuse City Wide NSBE Jr. – Region I)

### MATHCOUNTS

*1st Place:* Xclimation Point: Zofia Graham, Curtis Lawrence III, Glori Newsome, Gavin Wiltshire (San Antonio City Wide NSBE Jr. – Region V)

*2nd Place:* Amya Harrison, Malaynie McCreary, Alexandria Westray, Julian Westray (FAME Academy NSBE Jr. – Region II)

*3rd Place:* Alysha Benjamin, Josiah Ketchun, Alex Rosas (YMWIC Foundation, Inc. NSBE Jr. – Region II)

*Highest-scoring Individual:* Zofia Graham, NSBE MATHCOUNTS National Tournament Champion (San Antonio City Wide NSBE Jr. – Region V)

### TEN80 STUDENT RACING CHALLENGE

#### Middle School Awards

#### Grand Champions

*1st Place:* Lone Star Motorsports (San Antonio City Wide NSBE Jr. – Region V)

*2nd Place:* Hurricane X (South Houston NSBE Jr. – Region V)

#### Points Race

*1st Place:* Lone Star Motorsports (San Antonio City Wide NSBE Jr. – Region V)

*2nd Place:* Queen City Royalty (Queen City NSBE Jr. – Region II)

#### Race Events

*1st Place:* The Lightning Bolts (FAME – Legacy STEM – Region II)

*2nd Place:* Lone Star Motorsports (San Antonio City Wide NSBE Jr. – Region V)

#### Data-driven Design

*1st Place:* Hurricane X (South Houston NSBE Jr. – Region V)

*2nd Place:* The Lightning Bolts (FAME – Legacy STEM – Region II)

#### Team Presentation

*1st Place:* Queen City Royalty (Queen City NSBE Jr. – Region II)

*2nd Place:* Hurricane X (South Houston NSBE Jr. – Region V)

#### Graphic Design

*1st Place:* Queen City Royalty (Queen City NSBE Jr. – Region II)

*2nd Place:* Hurricane X (South Houston NSBE Jr. – Region V)

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# NSBE43 RECAP

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## High School Awards

### Grand Champions

- 1st Place:* B3AST (Chicago State University NSBE Jr. – Region IV)  
*2nd Place:* 210 Nitro (San Antonio City Wide NSBE Jr. – Region V)

### Points Race

- 1st Place:* Points Race Winners: B3AST (Chicago State University NSBE Jr. – Region IV)  
*2nd Place:* 210 Nitro (San Antonio City Wide NSBE Jr. – Region V)

### Race Events

- 1st Place:* Blue Nitro (Bridgeport ACCESS NSBE Jr. – Region I)  
*2nd Place:* CHF Jaguars (Charles H. Flowers High, Gapbusters NSBE Jr. – Region II)

### Data-driven Design

- 1st Place:* B3AST (Chicago State University NSBE Jr. – Region IV)  
*2nd Place:* Flawless Female Engineers (Young Women's College Preparatory Academy NSBE Jr. – Region V)

### Team Presentation

- 1st Place:* Sci Math Racing (North Carolina School of Science and Mathematics NSBE Jr. – Region II)  
*2nd Place:* Calvert Cruisers (C.A.S.H. NSBE Jr./LEAP Forward Inc. – Region II)

### Graphic Design

- 1st Place:* CHF Jaguars (Charles H. Flowers High, Gapbusters NSBE Jr. – Region II)  
*2nd Place:* Nike of Argentum (Beechcroft High School NSBE Jr. – Region IV)

## TRY-MATH-A-LON

### Lower Division

- 1st Place:* FIRE 1010 (Future Innovative Rising Engineers NSBE Jr. – Region II)  
*2nd Place:* Southfield Galactica (Southfield City Wide NSBE Jr. – Region IV)  
*3rd Place:* Southfield Motor City (Southfield City Wide NSBE Jr. – Region IV)

### Upper Division

- 1st Place:* Chamblee (Chamblee High School NSBE Jr. – Region III)  
*2nd Place:* North Carolina Team B (North Carolina School of Science and Mathematics NSBE Jr. – Region II)  
*3rd Place:* North Carolina Team A (North Carolina School of Science and Mathematics NSBE Jr. – Region II)

## VEX ROBOTICS COMPETITION

### Excellence Award:

Orangeneers (Orangeburg High School NSBE Jr. – Region II)

### Tournament Champions:

Tucker High Robotigers (At Large NSBE Jr. – Region III)  
Clarkston High School (At Large NSBE Jr. – Region III)  
Beechcroft STEM (Beechcroft High School – Region IV)

### Design Award:

Tucker High Robotigers (At Large NSBE Jr. – Region III)

### Judges Award:

Synergy Robotics (Energy Explorers NSBE Jr. – Region V)

### Sportsmanship Award:

Team Robo-tussin (Legacy STEM Project NSBE Jr. – Region II)

## NSBE JR. EXPLORER: TECHNICAL INNOVATIONS COMPETITION

### Middle School Awards

- 1st Place:* Jeremiah Smith (Future Innovative Rising Engineers NSBE Jr. – Region II)  
*2nd Place:* Zimmie Phillips (Chicago State University NSBE Jr. – Region IV)  
*1st Place Team:* Tracy Clark and Cameron Davis (At-Large NSBE Jr. – Region IV)  
*2nd Place Team:* Donovan Lewis, Brandon Williams, Jorden Johnson (ESTEM NSBE Jr. – Region IV)  
*Abstract and Technical Paper:* Jeremiah Smith (Future Innovative Rising Engineers NSBE Jr. – Region II)  
*Oral Multimedia Presentation:* Zimmie Phillips (Chicago State University NSBE Jr. – Region IV)  
*Poster and Display:* Jeremiah Smith (Future Innovative Rising Engineers NSBE Jr. – Region II)

### High School Awards

- 1st Place:* Nick Ragoovski – (Brooklyn Technical High School NSBE Jr. – Region I)  
*2nd Place:* Alison Collard de Beaufort (Brooklyn Technical High School NSBE Jr. – Region I)  
*3rd Place:* Jayla Smith (Young Women's College Preparatory Academy NSBE Jr. – Region V)  
*1st Place Team:* Alexis Williams, Haley Cao, Jada Martin-Webb (Chicago State University NSBE Jr. – Region IV)  
*2nd Place Team:* Anayah Adams, Eyeruse Wonders (Syracuse City Wide NSBE Jr. – Region I)  
*3rd Place Team:* Kennedy Higginbottom and Jonet Coleman (Chicago State University NSBE Jr. – Region IV)  
*Abstract and Technical Paper:* Tafui Leggard (North Carolina School of Science and Mathematics NSBE Jr. – Region II)  
*Oral Multimedia Presentation:* Morgan Owens (Town Lake – a Links-NSBE Jr. Chapter – Region V)  
*Poster and Display:* Ramon White (Alexandria-Fairfax NSBE Jr. – Region II) ■





# Finding Success **Through SEEK**

## NSBE's **S**ummer **E**ngineering **E**xperience for **K**ids



By Donna M. Owens

**D**arien Killebrew has always looked up to his three older brothers, young African-American men who've blazed a trail of academic success.

"They've all graduated from college," says Killebrew, a 16-year-old junior at The Potomac School in Maryland. "Now they're out of the house with their own careers."

The youngest Killebrew also wants to attend college, and engineering is one of the fields he finds intriguing. So he's excited to once again participate in a groundbreaking program launched by the National Society of Black Engineers (NSBE) in 2007. The Summer Engineering Experience for Kids — also known by its acronym, SEEK — is entering its 11th season this year.

The free, three-week summer day program is designed to provide children of color with exposure to science, technology, engineering and mathematics (STEM) through fun, interactive activities.

"My brothers attended the SEEK camp, and I started in the third grade," says Killebrew. "Last summer, I was a junior mentor in D.C., and I've already applied again this year. It's a great experience being able to connect with the children, and I'm looking forward to the opportunity."



### DECADE OF GROWTH

Just as Killebrew and his older siblings have grown up with SEEK, the program itself continues to grow, evolve and thrive. Over the past decade, NSBE officials report that some 18,000 youngsters have participated in SEEK programs in Atlanta, Chicago, Los Angeles, Washington, D.C. and a host of other cities across the country. This year, SEEK will present programs at 16 sites in 15 cities, including new locales such as Pittsburgh, Pa., Sacramento, Calif., and Sorrento, La. Chevron has funded the return of SEEK to Oakland, Calif.

And last year, a project sponsored by NSBE, Purdue University and Virginia Tech was awarded three grants totaling nearly \$2 million from the National Science Foundation (NSF), to expand and enhance the SEEK program. *CONTINUED ON PAGE 10*



## FINDING SUCCESS THROUGH SEEK



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The three-year grants — including \$1.08 million to NSBE, the largest federal grant in the Society’s history — are from NSF’s Innovative Technology Experiences for Students and Teachers (ITEST) program. The goal is to “build understandings of best practice factors, contexts and processes contributing to K–12 students’ motivation and participation in science, technology, engineering and mathematics (STEM).”

“I’m so excited about the 2017 SEEK season,” says Gregory Meeropol, senior director of Programs at NSBE. “This is the 10-year anniversary of the SEEK program, and we have so much to celebrate. The program continues to grow, and we are improving the overall quality.”

“We have also developed and expanded our curriculum,” he adds. “Students will be offered coding at four locations this year, and we are introducing new and exciting lessons like building remote-controlled machines.”

SEEK is open to elementary and middle school students. The experience offers hands-on, team-based engineering design projects led by collegiate mentor-instructors, many of whom are NSBE members or alumni.

### CODING CURRICULUM

Woodrow Prevard came to SEEK via the NSBE pipeline. He’s been active in the Society since his undergraduate days at The College of New Jersey, where he earned a degree in mathematics.

“My professional aspirations are around STEM education,” he says.

Prevard joined the SEEK team as a camp mentor in 2008 and was later promoted to site leader. This year, the 30-year-old is a seasonal site coordinator who will oversee programs in New Orleans, Detroit and Pittsburgh.

He also spoke enthusiastically about the new coding curriculum.

“We had a developer work with our team to develop what we’ll deliver to students,” Prevard says, noting that SEEK will offer coding in Sacramento, Los Angeles and Pittsburgh. “This is one more way to engage the kids and open up their perspective to engineering. We’re expecting 2,000 students, and some (sites) already have a waiting list.”

### GENEROUS GIVING

A number of corporations and private foundations have made the SEEK program possible with their sponsorships this year.

“At this time, we are just shy of the \$2-million

### SEEK 2017 Locations

	Start Date	End Date
Atlanta, Ga. (All-Female)	June 12	June 30
Birmingham, Ala.	June 12	June 30
Chicago, Ill.	July 17	August 4
Detroit, Mich.	July 24	August 11
Houston, Texas	June 12	June 30
Jackson, Miss. (All-Female)	June 26	July 14
Kansas City, Mo.	June 5	June 23
Los Angeles, Calif.	June 26	July 14
New Orleans, La.	June 12	June 30
Oakland, Calif.	June 19	July 7
Pittsburgh, Pa.	July 3	July 21
Sacramento, Calif. (Twin Rivers)	June 19	July 7
Sacramento, Calif. (Sac City)	July 17	August 4
Saginaw, Mich.	July 24	August 11
Sorrento, La.	July 10	July 28
Washington, D.C.	July 24	August 11





mark,” says Kia Croom, who has been a professional member of NSBE and now serves as the Society’s director of Program Fund Development. “Some of our sponsors are new, while others have been with us for many years,” she adds.

Croom praised the generosity of sponsors, which will help the pre-college participants and junior mentors such as Killebrew have a positive experience.

“Last summer was enjoyable,” Killebrew says. “I developed great friendships with the other mentors.”

Moreover, the teen earned a stipend for his work.

“I used that money towards my education and bought a computer to help me at school,” Killebrew says.

Last but not least, Killebrew was gratified to have built nurturing relationships with the younger SEEK participants.

“Because the junior mentors are a little closer to their age, we are able to connect with the children a little more,” he says. “It’s like having dozens of little brothers and sisters.” ■

*Donna M. Owens is a freelance writer based in Baltimore, Md.*

## THANK YOU, SPONSORS!

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Arconic  
PPG Industries

**SEEK Sacramento**  
Sacramento Municipal Utility District  
Twin Rivers School District

**SEEK Saginaw**  
The Dow Chemical Company

**SEEK Sorrento**  
Shell Oil Company

*\*The cities listed here are new to the SEEK program.*





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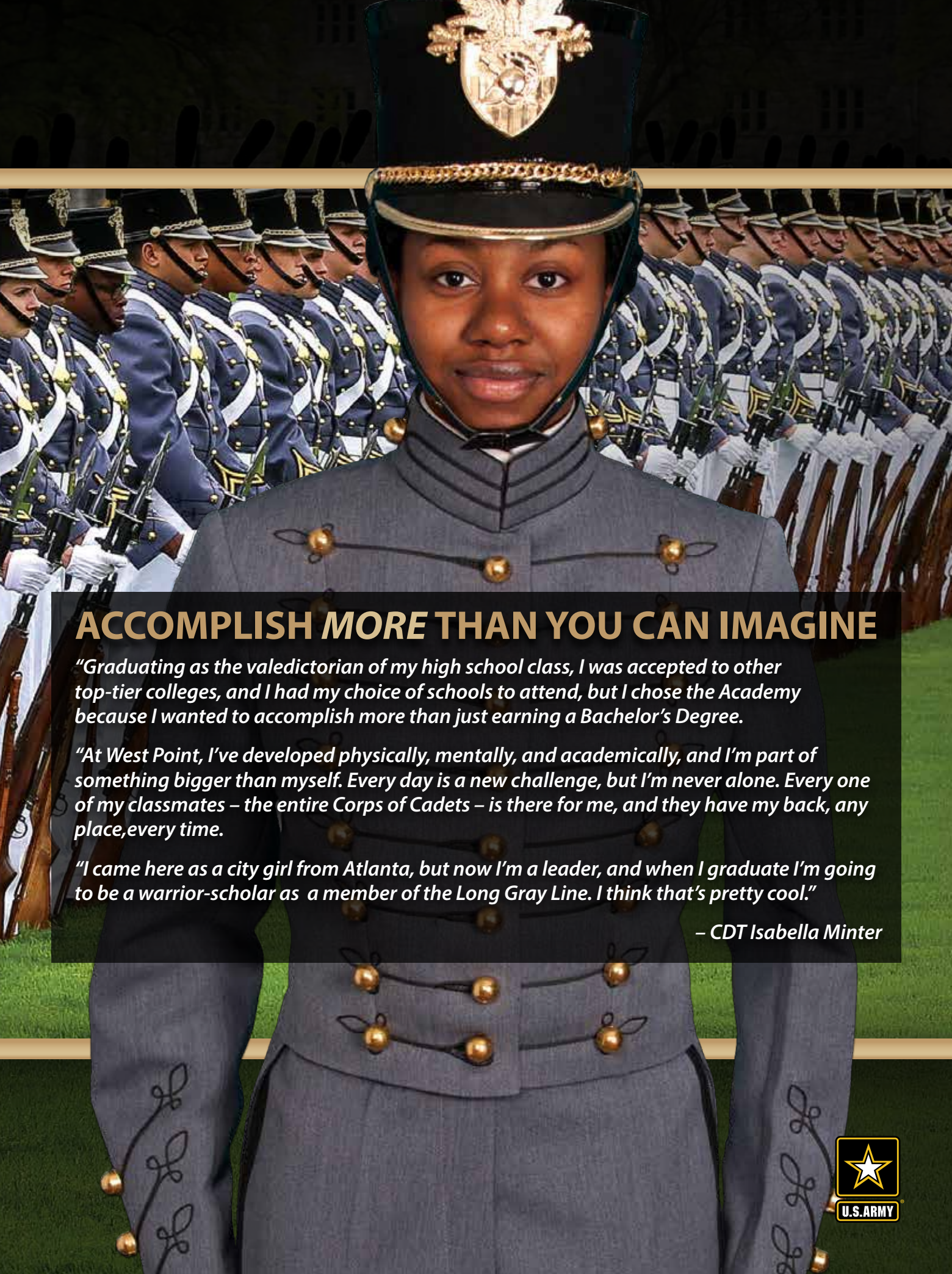
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## ACCOMPLISH MORE THAN YOU CAN IMAGINE

*"Graduating as the valedictorian of my high school class, I was accepted to other top-tier colleges, and I had my choice of schools to attend, but I chose the Academy because I wanted to accomplish more than just earning a Bachelor's Degree.*

*"At West Point, I've developed physically, mentally, and academically, and I'm part of something bigger than myself. Every day is a new challenge, but I'm never alone. Every one of my classmates – the entire Corps of Cadets – is there for me, and they have my back, any place, every time.*

*"I came here as a city girl from Atlanta, but now I'm a leader, and when I graduate I'm going to be a warrior-scholar as a member of the Long Gray Line. I think that's pretty cool."*

*– CDT Isabella Minter*





# C.A.S.H.ing In!

By Cindy Atoji



Calvert County isn't widely known outside of Maryland. But recently, this exurban neighbor of Washington, D.C., had a claim to fame: it was where one of the three African-American women featured in the film "Hidden Figures" started her mathematics career. Mary Winston Jackson worked at NASA, the U.S. space agency, from 1951 to 1985, and before that, she once taught math at the only black high school in Calvert County. This was in the days of "Jim Crow" racial segregation laws, and blacks and whites were educated in separate schools. The school facilities and resources for black students were poor, and very few graduated. Most quit school and became farmers, and others went into the military service or found careers in one of the few other occupations that were open to blacks.

Today, Jim Crow laws are history, high school graduation rates among African Americans are rising, and there are other signs of progress, such as the growth of the Creative and Striving Hard (C.A.S.H.) NSBE Jr. Chapter, of Prince Frederick, Md., the county seat of Calvert County.

The chapter started four years ago with 13 members and has grown from 39 members to 63 members in the past year alone. On this past April 1, at NSBE's 43rd Annual



# Creative and Striving Hard NSBE Jr., Chapter of the Year



Convention in Kansas City, Mo., C.A.S.H. NSBE Jr. was named NSBE Jr. Chapter of the Year, because of the way it exemplified NSBE's mission. C.A.S.H. also received Chapter of the Year honors for Region II.

Chapter Advisor Rhonda Thomas, who founded C.A.S.H., and Advisor Tonya Wilkerson, who directs the chapter's operations, say the word "busy" defines the group. Activities range from science, technology, engineering and math (STEM) sessions to academic and career support workshops, team-building exercises, hands-on activities, community service, conference attendance and cultural events. Chapter member Jay Tyler, who serves as vice president of programs for C.A.S.H., says, "C.A.S.H. NSBE Jr. has helped me prepare for the next steps in life and has equipped me for the future. The group sparked (my) interest in engineering and careers in STEM."

## TRANSFORMATION

Thomas was inspired to start the NSBE Jr. group while attending NSBE's 2012 Annual Convention. There, she heard grim facts about minority groups underrepresented in engineering and poor academic performance of African Americans in math and science. Thomas was moved by the speech, and along with another engineer, Shanell Nero, she decided to start a NSBE Jr. chapter. The group's first meeting was held at a local pizza restaurant.

That first year, three members went to Indianapolis for NSBE's 2013 Annual Convention. Last year, 30 members of C.A.S.H. went to the convention, in Boston.

"We have come a long way from the beginning to where we are now, and I believe we can go much further," says C.A.S.H. member Jocelyn Berry, who is the chapter secretary and the webmaster for the chapter's Ten80 Student Racing Challenge team, the Calvert Cruisers.

C.A.S.H. — Creative and Striving Hard to Succeed — is a name chosen by chapter members. Thomas admits that all were a little concerned at first because of the implications revolving around money. But they agreed that, after all, "cash" is important for scholarships and also highlights the potential for higher salaries in the STEM fields. Already, the chapter's 2012–13 president is an engineering student at Hampton University, the 2013–14 and 2015–16 presidents are engineering students at North Carolina A&T State University, and the 2014–15 president is studying information systems at Coastal Carolina University. Other examples of success by C.A.S.H. alumni abound.

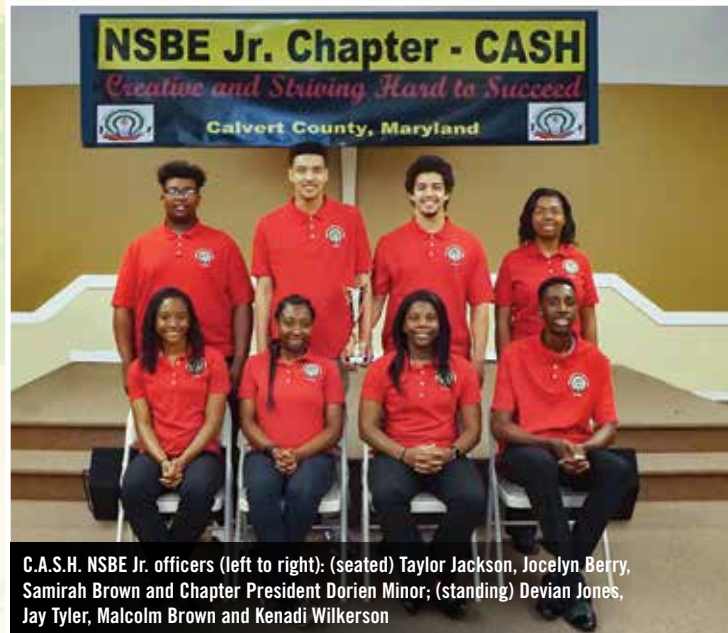
We talked earlier about "busy." But there is another word that describes this exuberant and ambitious chapter.

"That one word is 'transformational,' because members say they have witnessed several students who join unwillingly or are extremely reserved and non-communicative," says Thomas. "The transformation occurs when they realize the value of the opportunity they have been given and they start to blossom and seek leadership roles and join competition teams and then become excited about being a part of NSBE Jr."

What's ahead for the Chapter of the Year?

"We just have to keep pushing our chapter to greater heights," says Berry.

There's no doubt that C.A.S.H. will cash in. ■



C.A.S.H. NSBE Jr. officers (left to right): (seated) Taylor Jackson, Jocelyn Berry, Samirah Brown and Chapter President Dorien Minor; (standing) Devian Jones, Jay Tyler, Malcolm Brown and Kenadi Wilkerson



***"We have come a long way from the beginning to where we are now, and I believe we can go much further."***

— Jocelyn Berry, C.A.S.H.  
NSBE Jr.

*Cindy Atoji is a Boston-based blogger and editor who specializes in diversity issues and technology writing.*

# Interest and Percentages

By Michael D. Alston, Ph.D.

Have you heard the expression, “Time is money.”? There is a lot of truth to that statement. When you have a bank account, each day you are either earning or paying money. The amount of extra money earned or paid is called interest. Interest is stated as a percentage. Let’s learn how we can use arithmetic to calculate interest using money and time.

## WHAT DOES “PERCENT” MEAN?

This symbol, %, is read “per cent” or “percent” and means “per 100” or “of 100 equal parts.” 1% is read “1 percent” and can be thought of as “1 per 100” or “1 of 100 equal parts.”

One way to calculate percentages is to convert percent to a decimal and multiply.

### Example 1. Finding the Percentage Using Decimals

Question: What is 5% of 300?

Step 1. Convert 5% to the decimal form: 0.05

Step 2. Multiply 300 by 0.05

Step 3. Use a calculator OR a pencil to find that:  $300 \times 0.05 = 15$

Answer: 15

Another way to calculate percentages is to convert percent to a fraction and multiply.

### Example 2. Finding the Percentage Using Fractions

Question: What is 5% of 300?

Step 1. Convert 5% to the fraction:  $5/100$

Step 2. To simplify, divide the numerator and denominator by 5, resulting in  $1/20$

Step 3. Multiply 300 by  $1/20$  to find that:  $300/20 = 30/2 = 15$

Answer: 15

## HOW DO I EARN INTEREST?

When you *deposit* money in a credit union or bank account, you *earn* “interest.” In other words, when you save money in your account over a period of time, the bank will pay you additional money. The more money you keep in your account, the more interest you will earn. Also, the longer you keep money in your account, the more interest you will earn.

### Example 3. Earning Interest

Suppose you open an account in a credit union that pays 0.2% annual interest and you deposit \$300. “Annual” means “for one year.” If you leave the money in the account for 12 months (one year) without taking the money out or putting more money in, then \$0.60 in interest will be added to your account at the end of the year. Let’s look at how to perform this calculation.

Here is how the new balance would be calculated for your account:

$$\$300 + (\$300 \times 0.002) = \$300 + \$0.60 = \$300.60$$

Another way to perform this same calculation is:

$$\$300 \times (1.00 + 0.002) = \$300 \times (1.002) = \$300.60$$

## WHEN DO I PAY INTEREST?

Suppose you take a loan from a credit union, maybe to purchase or lease a snow cone machine you’ll use to make money during the summer. When you repay the money later, you will





have to pay MORE than you originally borrowed. That's why banks that issue credit cards *want* you to buy products and services with *their* credit cards. When it's time to pay the money back to the lender, the extra money you pay is called "interest."

**Example 4. Paying Interest**

Suppose you borrow \$200 by "taking an advance" on a credit card that charges a 3% fee plus 10% annual interest.

Let's see how much you would have to repay:

If you repaid in 3 months:

$$\begin{aligned} & \$200 + (\$200 \times 0.03) + (\$200 \times 0.10 \times 3/12) = \\ & \$200 + \$6 + \$5 = \mathbf{\$211} \end{aligned}$$

If you repaid in 9 months:

$$\begin{aligned} & \$200 + (\$200 \times 0.03) + (\$200 \times 0.10 \times 9/12) = \\ & \$200 + \$6 + \$15 = \mathbf{\$221} \end{aligned}$$

**LOW-INTEREST LOANS VS. HIGH-INTEREST LOANS**

When you *borrow* money from a credit union or bank, you *pay* interest. In other words, when you use a credit card to make purchases, you are borrowing to spend money you don't have. You will pay for that privilege. If a bank thinks a borrower can easily repay a loan, that borrower is charged a lower interest rate than borrowers the bank thinks may have a harder time repaying. In other words, borrowers considered to be a "low risk" are charged a lower interest rate than borrowers considered to be a "high risk."

**WORD TO THE WISE**

Here are two important things to remember and learn more about:

- When you *save* money with a financial institution (bank or credit union) the interest you earn is quite *low* (0.01% to 0.30%).
- When you *borrow* money from a financial institution (credit card, bank, or credit union) the interest you pay is much *higher* (3% to 21%).

This difference in interest rates is the reason banks and credit unions make a profit. When you get older and get your first job or start a business of your own, banks will invite you to use their credit cards. But it will be best for you to save most of the money you earn, and when you do spend your hard-earned money, do it wisely.

If you do start using a credit card, the smartest way to use it is to always pay the balance owed every month, so you never have to pay interest. It is wise for you to plan your financial future so you can be more of a saver than a borrower. ■

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*Michael D. Alston, Ph.D.* is a senior staff engineer at Qualcomm Technologies, Inc.

**MORE  
ON THIS  
TOPIC**

To learn more about percentages and interest, use an online search engine such as Google or Bing to search for: *percentage interest "Khan academy" videos*

Here are some of the videos to view from your search results:

- "Introduction to Interest" – Khan Academy
- "Annual Percentage Rate" – Khan Academy
- "Payday Loans – Interest and Debt" – Khan Academy
- "Mortgage Interest Rates" – Khan Academy

# NSBE's 'Greek' Partnership Bears Fruit

| By Kevin M. Briscoe



Participants in Kappa Alpha Psi Fraternity, Inc.'s "Guide Right," a national service program for the educational and occupational guidance of youth

Last year, NSBE signed a three-year agreement with Kappa Alpha Psi Fraternity, Inc. The agreement, a memorandum of understanding (MOU), is part of NSBE's 10-year strategic plan to increase the annual number of African Americans getting bachelor's degrees in engineering to 10,000 by 2025. Today, the fraternity's action plan — "activate, connect and engage" — is guiding the organization as it works with NSBE to build a foundation to reach this goal.

"Our pledge is to promote and facilitate STEM (science, technology, engineering and math) education and career readiness for underrepresented pre-college students," says Marlon Ridley, a member of Kappa Alpha Psi's Alexandria-Fairfax (Va.) Alumni chapter and national coordinator for the NSBE-Kappa partnership. "We are doing this by leveraging each organization's youth program — NSBE Jr. and our own Guide Right program — to establish six regional Guide Right NSBE Jr. chapters for students in grades three through 12."

Since the signing of the MOU, the NSBE-Kappa partnership has identified interested students, worked with Kappa Guide Right coordinators to incorporate STEM activities into existing Guide Right programming and drawn up a list of events and activities that are now part of the national Guide Right/Kappa League calendar. Traditional NSBE STEM competitions, such as MATHCOUNTS, Try-Math-A-Lon, FIRST LEGO League

and the Ten80 Student Racing Challenge, are now open to a whole new generation of aspiring engineers. In addition, Kappa alumni chapter members from Alexandria-Fairfax, Chicago, Dallas-Fort Worth, Detroit, Houston and Richmond have lent their expertise at NSBE Fall Regional Conferences in their areas. They also attended NSBE's 43rd Annual Convention in Kansas City, Mo., this past March.

"Getting students involved with STEM through these national competitions and our college readiness workshops is the best of both worlds," Ridley says. "The students that are associated with both (NSBE and Kappa Alpha Psi) have ample opportunity to achieve their educational goals."

## RICH HISTORY, BRIGHT FUTURE

A shining result of the NSBE-Kappa partnership is the story of Ramon White. White's dad, Ramon White Sr., wrote a thank you letter to the Alexandria-Fairfax chapter for sponsoring his son's attendance at the NSBE Annual Convention this year.

"I don't know who enjoyed it more, probably me...", he said. "We spent at least 10 of the 12 hours daily at the convention all (four) days trying to catch it all..."

Yet the younger Mr. White still found time to win a poster display competition. His project involved nearly four months of research and testing of a new refrigeration application that



offers efficient cooling to store medicines and vaccines in remote areas that have little or no access to electricity.

Ridley is no stranger to NSBE's mission, having served as a NSBE Jr. chapter advisor since 2003 for chapters in Memphis, Tenn., and the Washington, D.C., metropolitan areas. The young engineers under his guidance won a number of state, regional and national accolades for NSBE activities, including regional engineering design competitions, the National Try-Math-A-Lon and the VEX Robotics competition.

A NSBE member himself, Ridley holds a bachelor's degree in electrical engineering and a master's degree in physics, both from the University of Memphis, where he was a Ronald E. McNair scholar as an undergraduate. His professional background includes experimental physics, biomedical device development and system modeling. He now works as a cloud hosting project manager for Knight Point Systems, Inc., an information technology consulting and services company based in Reston, Va.

His dual passion for both NSBE and Kappa Alpha Psi shines every day through his actions and words.

"Our country is experiencing a paradigm shift in economic opportunity and social mobility," says Ridley. "Organizations

like NSBE and Kappa Alpha Psi Fraternity have a rich history of uplifting the African-American community, and this partnership will give students the tools to excel in this digital economy and (will expand) the nation's workforce of scientists and engineers."

"Be 1 of 10,000" is the campaign associated with NSBE's goal for 2025. Campaign organizers say the U.S. needs more Black Engineers to continue the nation's progress through STEM. To help solve this problem, NSBE is calling on middle school students across the country to buckle down academically, set their sights on college and commit to graduating with an engineering degree in 2025.

"We thank Kappa Alpha Psi Fraternity for standing with NSBE in supporting our campaign and moving us toward our main strategic goal," says NSBE National Chair Matthew C. Nelson. "Greek fraternities have provided vital services to African-American communities for more than 100 years. It's essential that we form these types of partnerships to address the issues black communities are facing in the 21st century." ■

*Kevin M. Briscoe is a writer based in Atlanta, Ga., and a former editor of NSBE Bridge.*

***"Organizations like NSBE and Kappa Alpha Psi Fraternity have a rich history of uplifting the African-American community, and this partnership will give students the tools to excel in this digital economy...."***

*– Marlon Ridley, Kappa Alpha Psi Fraternity and NSBE*



(photo at top, center) Kappa Alpha Psi Grand Polemarch Thomas L. Battles Jr. (left) and NSBE National Chair Matthew C. Nelson signed a partnership agreement at NSBE World Headquarters in September 2016.

(photo at left) Kappa Alpha Psi Fraternity and NSBE member Marlon Ridley (center) with family members (left to right) Jaelon, Na'ilah and Stesnie, at NSBE's 2015 Annual Convention in Anaheim, Calif.

# NSBE Is Family at Brooklyn Tech

By Cindy Atoji



**B**rooklyn Tech, in Brooklyn, N.Y., is not your typical high school. For one thing, many of the students who attend there are brainiacs who received a top score on an admissions test. Brooklyn Tech, whose sports team name is Engineers, specializes in STEM fields — science, technology, engineering and mathematics — and even has majors such as robotics and electrical engineering. It is known for its challenging academics.

So why would such an engineering-focused school need a NSBE Jr. chapter? Because African Americans make up only about 8 percent of the 5,000 students in this public high school, and it's easy to get lost in the sea of faces.

"The role of NSBE at Brooklyn Tech is that we are family," says Kecia O'Neal, advisor of the NSBE Jr. chapter at the school. "This is a very competitive environment, and there's a lot of pressure to succeed. It's easy to get overwhelmed, and having a community like NSBE that you can depend on is important."

NSBE isn't the only STEM organization on the Brooklyn Tech campus: SWE (the Society of Women Engineers) and ASCE (the American Society of Civil Engineers) also have active chapters. All of these clubs come together for an annual Engineers Week event, which is led by NSBE. The week kicks off with an egg drop contest, in which teams compete to design and build devices that prevent an egg from breaking when dropped from a certain height. Other workshops and activities are organized by NSBE student leaders, such as the pine car derby, during which students apply physics knowledge to engineer a car made of wood, and an engineering panel that discusses what it's like to be a female in the male-dominated engineering profession. But the highlight of Engineers Week,



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*“NSBE has not only given me a second family to be a part of but also (an) advantage in the school and workplace.”*

*— Aaron Loftman, President, Brooklyn Tech NSBE Jr.*

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says O’Neal, is the Boat Regatta Competition: the building of cardboard canoes that are tested in the school’s swimming pool. This is when the creativity of Brooklyn Tech’s future engineers really emerges, with boats of all shapes and sizes, from dragons to unicorns, some of which capsize almost immediately.

Aaron Loftman, president of Brooklyn Tech NSBE and a junior at the prestigious school, says Engineers Week is definitely a highlight for him, as is another annual event, Professionalism Week. This weeklong seminar is dedicated to helping students get ready for the working world, with activities such as a resume boot camp, mock interviews and elevator pitch workshops. To wrap up the week, there’s a tie tying/outfit contest with presentations on do’s and don’ts to dress for success.

But Brooklyn Tech NSBE Jr. isn’t only about events and workshops. The school has 19 majors — aerospace, architecture, bioscience, industrial design, software engineering and more



— which determine the courses students take during the last two years at Tech. To get into the more popular majors, students must achieve a high Power Index score, a number determined by a student’s current grade point average plus the average in certain academic areas. This is where NSBE comes in, with academic support from study sessions and tutoring by students from local colleges,

including nearby NYU Tandon School of Engineering and New York Technical College. For Loftman, who is aiming for a bachelor’s degree in architectural engineering and a master’s in construction management, this means he always knows where to turn if he needs scholastic encouragement or mentoring.

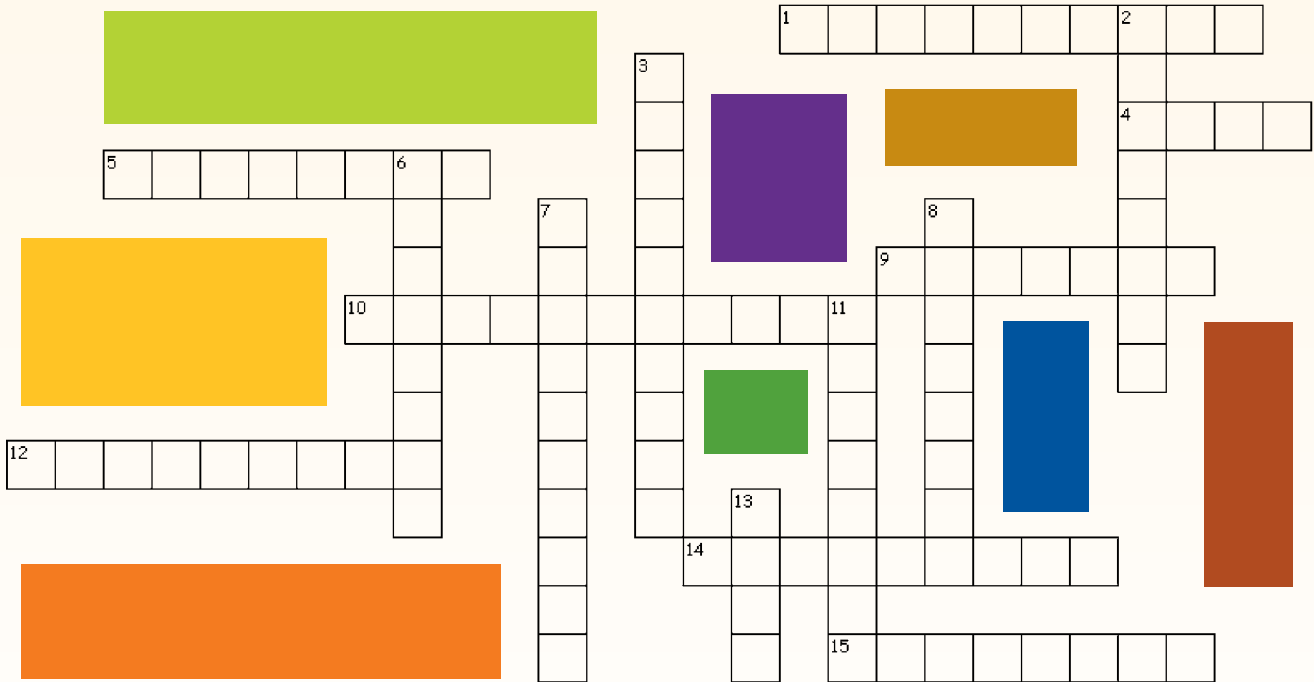
“NSBE has not only given me a second family to be a part of,” he says, “but also (an) advantage in the school and workplace.”

O’Neal is proud of her school and its NSBE members.

“We have a magnificent blue and white chapter,” she says, referring to the school colors. “Go Engineers!” ■



# STRIVING IN STEM



**ACROSS**

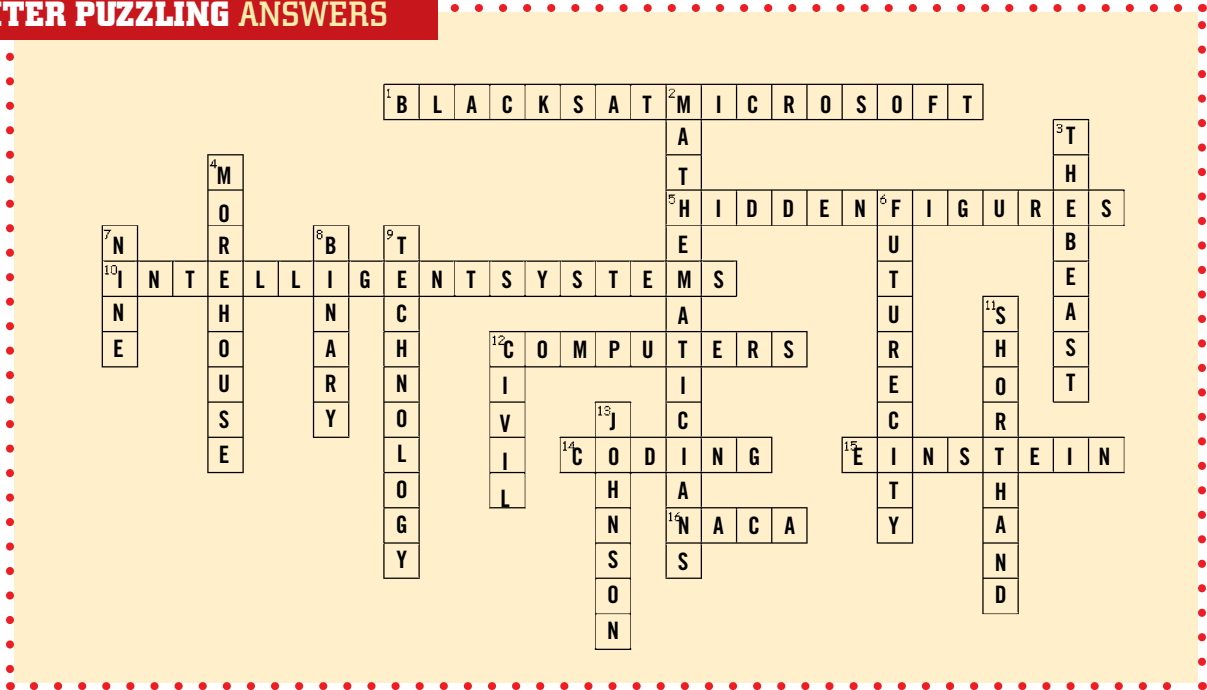
1. Site of NSBE's 44th Annual Convention
4. Chapter of the Year!
5. A big film about STEM
9. A PCI Conference workshop taught this type of storytelling
10. This Kansas City councilman was once a NSBE engineer
12. Brooklyn Tech's sports team name
14. This region had the most competition winners at this year's PCI Conference (Hint: Spell it out.)
15. The "S" in "C.A.S.H."

**DOWN**

2. Ten80 teams engineer these
3. Interest is stated as a \_\_\_\_\_
6. Extra money paid to or from financial institutions
7. NSBE partner Kappa Alpha Psi \_\_\_\_\_
8. NSBE's national chair is a student at this university
11. VEX and FIRST LEGO League teach skills in this subject
13. Summer Engineering Experience for Kids

*Tip: You can find the answers by reading this issue! The answers will be published in the next issue of NSBE Bridge.*

**WINTER PUZZLING ANSWERS**





# OUR SAY

## The Power of You!

By Latonya Beverly, *NSBE National Pre-College Initiative Chair*

**G**reetings, NSBE family! When I think of all that the Pre-College Initiative (PCI) Program plans to accomplish this year, I see the difference we can make in our communities, our classrooms and our future. However, I recognize that none of this will be possible unless we all understand our own importance in making this vision a reality. Last year, when I served as a NSBE regional officer, I had a conversation with a NSBE Jr. student that reminded me how important it is that we each know our own power.

As I sat bewildered over the results of the last U.S. presidential election, this student said, “I don’t understand why you’re so upset. It *doesn’t matter* who the president is. Nothing is going to change.” Reflecting on that statement, I realized that many of our students don’t know how much they really matter and can truly change our world.

As we begin our program year, I believe we all should remember the beauty and purpose of NSBE’s mission statement, which is:

“*To increase the number...*” In the U.S., black graduates are only 4.1 percent of the total number of graduates in engineering. We need you to increase that number by becoming an engineer. You can, and it is more likely that you will stick with it if you are a member of NSBE’s family and have like-minded friends.

“*...of culturally responsible Black Engineers...*” “Culturally responsible”

means understanding the challenges of our community and being a voice for the change that needs to come. It means encouraging our brothers and sisters to take education seriously. It means voting when you are old enough to do so, and it means knowing that YOU matter to me, to NSBE and to the future of our nation.

“*...who excel academically...*” The time is now for you to do amazing work in school. Ask questions, do your homework,



example for their peers and be respectful, honest and trustworthy. This year, we plan to create more opportunities to grow your leadership skills. However, it all starts with your decision to be great and exceed the standards set for you.

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***“...Many of our students don’t know how much they really matter and can truly change our world.”***

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and prepare for tests. College is expensive, and you cannot rely on the government to provide the money to pay for it, nor do you want to go into serious debt. Your grades will speak for you, and when your grades are good, you will have the best opportunity to be accepted into more schools and receive better scholarships. This year, apply for a NSBE Jr. scholarship. We are here to support YOU.

“*...succeed professionally...*” As a NSBE Jr. student, professionalism for you begins with leadership. Every student can set an

“*...and positively impact the community*”

When is the last time you volunteered to serve your community or helped a friend with homework? I know that if not for the people who helped me, I would not be where I am today. I encourage you to always leave a positive impact on your community!

I am confident that with NSBE Jr. students, parents, advisors and friends who adhere to our mission this year, we will achieve every goal and overcome every challenge. ■

# NSBE Jr. Chapters

If your chapter is not listed, please contact the NSBE Membership Department at [membership@nsbe.org](mailto:membership@nsbe.org) to ensure your information is correct in our account management system, **NSBECONNECT**.



## ALABAMA

RAMSAY HIGH SCHOOL - BIRMINGHAM  
C.F. VIGOR HIGH SCHOOL - MOBILE  
CENTRAL ALABAMA - MONTGOMERY  
SELMA HIGH SCHOOL MECHANICAL MINDS - SELMA  
UNIVERSITY OF ALABAMA-TUSCALOOSA - TUSCALOOSA

## ARKANSAS

NORTHWEST ARKANSAS - BENTONVILLE

## CALIFORNIA

BERKELEY HIGH SCHOOL - BERKELEY  
CALIFORNIA ACADEMY OF MATH AND SCIENCE - CARSON  
TOMORROW AERONAUTICAL MUSEUM (TAM) - COMPTON  
EASTSIDE COLLEGE PREPARATORY ACADEMY - EAST PALO ALTO  
KORNBLUM SCHOOL - HAWTHORNE  
SOUTHERN CALIFORNIA - INGLEWOOD  
FAIRFAX LIONS - LOS ANGELES  
LEADERS INNOVATORS FORWARD THINKERS OF TOMORROW (LIFFT-NSBE JR.) - OAKLAND  
EAST BAY - PITTSBURG  
GREENE SCHOLARS - SANTA CLARA

## COLORADO

SOCIT: STUDENTS OF COLOR IN TECHNOLOGY - DENVER

## CONNECTICUT

ACCESS BRIDGEPORT/NEW HAVEN - BRIDGEPORT

## DISTRICT OF COLUMBIA

METRO WARRIORS STEM - NATIONAL COLLEGIATE PREP  
FRIENDSHIP COLLEGIATE ACADEMY  
FRIENDSHIP SCHOOLS - CHAMBERLAIN CAMPUS

## FLORIDA

EASTSIDE HIGH SCHOOL - GAINESVILLE  
MENTORING FAMILIES AND KIDS - JACKSONVILLE

CLUB ESTEEM - MELBOURNE  
GREATER MIAMI LINKS-NSBE JR. - MIAMI  
MIAMI KAPPA LEAGUE - MIAMI  
NEWBERRY HIGH SCHOOL - NEWBERRY  
FLORIDA EAST COAST - PALM BAY  
FLORIDA EAST COAST - PALM BEACH GARDENS  
MIDDLETON HIGH - TAMPA  
STRIVE - POLK COUNTY FL - WESLEY CHAPEL

## GEORGIA

CHARLES R. DREW SENIOR ACADEMY - ATLANTA  
CSRA AUGUSTA - AUGUSTA  
CHAMBLEE HIGH SCHOOL - CHAMBLEE  
TRI-CITIES HIGH SCHOOL - EAST POINT  
ARABIA MOUNTAIN HIGH SCHOOL - LITHONIA

## ILLINOIS

CHICAGO - WEST SUBURBS - AURORA  
CHICAGOLAND - CHICAGO  
CHICAGO STATE PCI - CHICAGO  
EARLE STEM ACADEMY ELEMENTARY - CHICAGO  
MILES DAVIS MAGNET ACADEMY - CHICAGO  
NICHOLSON STEM ACADEMY - CHICAGO  
BARACK OBAMA SCHOOL OF LEADERSHIP AND STEM - CHICAGO HEIGHTS  
EVANSTON TOWNSHIP HIGH SCHOOL - EVANSTON  
FAMILY FOCUS - EVANSTON  
RICH TOWNSHIP JR. NSBE - MATTESON  
CENTRAL IL - PEORIA

## INDIANA

NSBE AT PIKE HIGH SCHOOL - INDIANAPOLIS

## LOUISIANA

MCKINNEY BYRD ACADEMY - SHREVEPORT  
YOUNG TECHNICAL PROFESSIONALS - SHREVEPORT

## MARYLAND

BALTIMORE LINKS - BALTIMORE  
BALTIMORE POLYTECHNIC INSTITUTE - BALTIMORE  
VBM BALTIMORE - BALTIMORE  
WOODLAWN HIGH SCHOOL - BALTIMORE  
YOUNG ENGINEERS OF THE FUTURE - NSBE - CLARKSBURG  
METRO WARRIORS STEM - FORT WASHINGTON  
METRO WARRIORS STEM - NATIONAL CHRISTIAN ACADEMY - FORT WASHINGTON  
ELEANOR ROOSEVELT HIGH SCHOOL - GREENBELT  
SOUTHERN MARYLAND - LEXINGTON PARK  
C.A.S.H. (CREATIVE AND STRIVING HARD) - PRINCE FREDERICK  
GAPBUSTERS LIT - RIVERDALE  
PATRIOTS TECHNOLOGY CENTER - SEAT PLEASANT  
C.H. FLOWERS HIGH SCHOOL JAGUARS - SPRINGDALE  
TAKOMA ACADEMY TIGERS - TAKOMA PARK  
FIRE (FUTURE INNOVATIVE RISING ENGINEERS) - UPPER MARLBORO  
CHARLES COUNTY - WALDORF  
MILFORD MILL ACADEMY - WINDSOR MILL

## MASSACHUSETTS

BOSTON LATIN SCHOOL - BOSTON  
BROCKTON SCIENTIFIC - BROCKTON  
JEREMIAH E. BURKE HIGH SCHOOL - DORCHESTER  
MYSTIC VALLEY ENGINEERING STUDENT SOCIETY - MALDEN  
MASSPEP OF BOSTON - WEST NEWTON

## MICHIGAN

UNIVERSITY PREP SCIENCE AND MATH - DETROIT  
SOUTHFIELD CITY-WIDE: UNIVERSITY HIGH SCHOOL ACADEMY - LATHRUP VILLAGE  
SOUTHFIELD CITY-WIDE: BRACE-LEDERLE K8 - SOUTHFIELD  
SOUTHFIELD CITY-WIDE: MACARTHUR K8 UNIVERSITY ACADEMY - SOUTHFIELD





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## MINNESOTA

TWIN CITIES – PURSUIT OF EXCELLENCE – SOUTH SAINT PAUL

## MISSISSIPPI

JACKSON STATE UNIVERSITY – JACKSON  
DE&I (DELTA ENGINEERS & INNOVATORS) – NESBIT  
VBM MISSISSIPPI – VICKSBURG

## MISSOURI

ST. LOUIS METRO GATEWAY – HAZELWOOD  
ASTEAM VILLAGE KANSAS CITY – KANSAS CITY  
BENJAMIN BANNEKER CHARTER ACADEMY OF TECHNOLOGY –  
KANSAS CITY  
FAITH ACADEMY – KANSAS CITY  
UNIVERSITY OF MISSOURI – KANSAS CITY – KANSAS CITY

## NEBRASKA

OMAHA NORTH HIGH MAGNET CENTER – OMAHA

## NEW JERSEY

AFTTEAMS – ATLANTIC FUTURE TECHNOLOGISTS... – ATLANTIC  
CITY  
BURLINGTON CITY HIGH SCHOOL – MOORESTOWN  
PLEASANTVILLE HIGH SCHOOL – PLEASANTVILLE  
SCYPE (SALEM COUNTY YOUNG PROMISING ENGINEERS) –  
WOODSTOWN

## NEW MEXICO

GREATER ALBUQUERQUE – ALBUQUERQUE  
SATURDAY SCIENCE AND MATH ACADEMY – ALBUQUERQUE

## NEW YORK

ASHANTI – BROOKLYN  
BROOKLYN TECHNICAL HIGH SCHOOL – BROOKLYN  
SUNY BUFFALO STEP-PCI – BUFFALO  
CORNELL – ITHACA – ITHACA  
HARLEM NSBE PCI – NEW YORK CITY  
SYRACUSE CITY SCHOOL DISTRICT PCI – SYRACUSE

## NORTH CAROLINA

CROWN JEWELS LINKS – PHILLIP O. BERRY ACADEMY OF  
TECHNOLOGY – CHARLOTTE  
MALLARD CREEK HIGH SCHOOL – CHARLOTTE  
QUEEN CITY – CHARLOTTE  
NORTH CAROLINA SCHOOL OF SCIENCE AND MATHEMATICS –  
DURHAM  
NINE DIME (910) ONSLOW COUNTY – JACKSONVILLE

## OHIO

CINCINNATI STEMULATES CITY-WIDE – CINCINNATI  
GREATER CLEVELAND – CLEVELAND  
BEECHCROFT HIGH SCHOOL – COLUMBUS  
COLUMBUS TECH CORPS – COLUMBUS  
ESTEM – COLUMBUS  
NORTHLAND HIGH SCHOOL – COLUMBUS

## PENNSYLVANIA

STRIVE – ALLENTOWN  
HARRITON HIGH SCHOOL – BRYN MAWR  
PENNSBURY HIGH SCHOOL – FAIRLESS HILLS  
LEGACY STEM PROJECT – PITTSBURGH  
YMIC D.B.A. YMWIC FOUNDATION, INC – WEST CHESTER

## SOUTH CAROLINA

TRI-COUNTY JR. CHAPTER – CLEMSON  
ORANGEBURG 5 TECHNOLOGY CENTER – ORANGEBURG

## TENNESSEE

MEMPHIS ACADEMY – MEMPHIS

## TEXAS

TOWN LAKE LINKS-NSBE JR. – AUSTIN  
SAN ANTONIO CITY WIDE CHAPTER – CONVERSE  
THE COLLIN COUNTY CHAPTER OF TEXAS – DALLAS  
SCIENCE AND ENGINEERING MAGNET – DALLAS  
SIGMA BETA CLUB @ HARRELL BUDD – DALLAS  
HARMON RANCH COMMUNITY – FORT WORTH  
ENERGY EXPLORERS – HOUSTON  
FIVE GIRLS R.O.C.K. @ YWCPA – LINKS-NSBE JR. – HOUSTON  
SOUTH EARLY COLLEGE ENGINEERS – HOUSTON  
SOUTH HOUSTON – HOUSTON  
MID-CITIES (TEXAS) FUTURE ENGINEERS LINKS-NSBE JR. –  
IRVING  
LANCASTER JUNIOR ENGINEERING ALLIANCE – LANCASTER  
MAGIC-DFW (MAKING A GENERATION IMAGINE CHANGE) –  
PALESTINE  
KREATIVE MINDZ – RICHARDSON  
STAFFORD HIGH SCHOOL – STAFFORD

## VIRGINIA

ALEXANDRIA-FAIRFAX – ALEXANDRIA  
AT LARGE PCI (REGIONS I-VI) – ALEXANDRIA  
ALBEMARLE COUNTY PUBLIC SCHOOL SYSTEM –  
CHARLOTTESVILLE  
NUBIAN VILLAGE ACADEMY – CHESTER  
POTOMAC RIVER – DAHLGREN  
RAPPAHANNOCK – DUMFRIES  
MARTINSVILLE-HENRY COUNTY – MARTINSVILLE  
DANVILLE/PITTSYLVANIA – RINGGOLD

## WISCONSIN

MCNEEL – BELOIT  
MADISON EAST HIGH SCHOOL – MADISON

## BAHAMAS

NSBE JR. BAHAMAS (G.E.A.R.S.) – FREEPORT

## CANADA

ST. MOTHER TERESA CATHOLIC ACADEMY – SCARBOROUGH, ON

## UNITED ARAB EMIRATES

DUBAI – AL AIN



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