For many, summer conjures up visions of kids outside playing baseball or basketball or swimming in a pool. But thanks to NSBE’s Summer Engineering Experience for Kids (SEEK), learning about engineering, science, technology and math is moving up the list of fun things to do in the nation’s black communities.

SEEK is the brainchild of NSBE’s executive director, Carl B. Mack. The program was born out of his own experience in college, studying mechanical engineering.

“The curriculum was very challenging, and what was hurting me was inexperience and lack of exposure to the field of engineering,” says Mack, who earned his bachelor’s degree from Mississippi State University and now is a Distinguished Engineering Fellow at his alma mater.

When he came to NSBE in 2005, Mack made one of his top priorities the expansion of NSBE’s Pre-College Initiative to include children in elementary school, as well as middle and high school. He saw NSBE’s collegiate and Alumni members as a huge resource to teach the younger kids.

“NSBE has the largest collection of African-American engineers in the world, and I challenged our college students and professionals to be visible,” Mack says.

Founded in 2007 using funds from a $1-million grant from Battelle, the annual SEEK program provides students with hands-on, team-based engineering experiences and African-American engineering mentors and role models: NSBE collegiate members from across the country. SEEK’s mission is to build a pipeline to careers in science, technology, engineering and math (STEM) for African-American and other under-represented minority children, beginning as early as the third grade. The camp is designed to reinforce students’ aptitude in science and math and keep them in the STEM pipeline through grade 12. The program’s basic curriculum, called “A World In Motion,” was developed by SAE International (the Society of Automotive Engineers), one of NSBE’s major partners in SEEK.

In its first four years, more than 2,000 students have participated in SEEK programs in Washington, D.C., and Columbus, Ohio. Waiting lists for the camps have grown to hundreds of names each year.

In its first four years, more than 2,000 students have participated in SEEK programs in Washington, D.C., and Columbus, Ohio. Waiting lists for the camps have grown to hundreds of names each year.

STRONG IMPRESSIONS

This year, SEEK gained Google, Inc. and Cisco Systems, Inc. as major sponsors and enlisted the help of the U.S. Coast Guard to engage students in D.C. On July 27, the Coast Guard arranged a helicopter flyover at the SEEK program for third through fifth graders, at Friendship Public Charter School’s Woodridge Campus. The students also went to Pier V in D.C. for more flyovers and a boarding of the Coast Guard Cutter Kennebec. Coast Guard Rear Adm. Ronald T. Hewitt and Cmdr. William J. Makell Jr. from the Office of Diversity
at Coast Guard Headquarters in Washington, D.C., attended the events and addressed the students.

“We are happy to have our people out here and to have the helicopters and cutters available to physically show the kids what we do,” Adm. Hewitt told NSBE Magazine. “Say a kid wants to go into engineering? The Coast Guard Academy is one of the top engineering schools.”

“I was very happy to be a part of bringing in helicopters to do a flyby of the NSBE SEEK summer camp, to help illustrate to the kids what a STEM education could allow one to accomplish in the future,” said Cmdr. Makell, a helicopter pilot and 25-year member of the Coast Guard. Cmdr. Makell enrolled his two children in SEEK — daughter Selena, 10, and son William, 12. “For the first time, they are able to bond with college students that are doing well in their STEM fields,” he said. “The image that will last in their minds is that there are many African-American youth getting a good education, and they should, too.”

The Coast Guard vessels and personnel made a strong impression on aspiring engineers such as brothers Aaron and Brandon McCoy.

“I am having a lot of fun, and I want to serve my country like my brother in the Navy. I want to do the engineering. I want to do all of it,” said Brandon McCoy.

“This is fun! I think I want to be an engineer,” added Aaron.

Their mother, Jackie McCoy, couldn’t have been happier about their newfound educational interests.

“I enrolled them in the program because I thought that this was a tremendous opportunity from NSBE to take part in a program that put an emphasis on innovation. Both my sons are very creative. They love invention and finding out how things work,” she said.

CONTINUING GROWTH

The next day, students at Woodbridge, and the sixth through eighth graders at SEEK’s other D.C. location, Friendship Public Charter School’s Chamberlain Campus, participated in the National Water Initiative, an exercise developed by National Lab Day. Students, with some parents in tow, collected water samples from various locations in and around D.C. for testing. Students learned about pH levels, specific definitions regarding safe drinking water and what access to clean water supply means for them and the environment. Several students commented that this kind of work would be a good career choice for them.

SEEK participants in Ohio — sixth through eighth graders at St. Stephens Community Center in Columbus — also had the opportunity to experience STEM firsthand. There, students worked on “gliders,” “motorized toy cars” and “gravity cruisers,” as part of SAE International’s “A World In Motion.” The students in Columbus also experienced the National Science Center’s Fast Track Curriculum. Fast Track teaches team-based challenges while using remote-controlled cars to systematically collect and analyze data to maximize the performance of the cars. This project emphasizes skills such as measurement and basic computation, averaging data, graphing data manually and in Excel spreadsheets, making simple equations and graphing them, and using higher order problem-solving and thinking skills. Students in Columbus also participated in the National Water Initiative.

Various partnerships were instrumental in making this year’s SEEK Program a resounding success, says Franklin Moore, manager of NSBE’s Pre-College Initiative.

““All the engineering companies tell us that they need more engineers, but few are supporting these programs,” Mack says. “We should have camps all across the country. But I am proud of what we have done.”

“More than 500 parents and other adult caretakers packed Pryzbyla Auditorium at Catholic University in D.C., for SEEK’s parent orientation on July 10.

Lynette Locke is a freelance writer based in Baltimore, Md.