

# SEEK 2012

## An Experience Worth the Ride



SEEK students and mentors gathered for competition in San Diego

By Kevin M. Briscoe

As the summer comes to an end and the class bell rings out across local school districts, thousands of youngsters – and their parents – are looking back fondly at their time in the Summer Engineering Experience for Kids (SEEK) program. Launched by NSBE in 2007 with a \$1-million donation from the Battelle Foundation and a curriculum provided by SAE International (the Society of Automotive Engineers), SEEK is designed to get pre-college students more interested science, technology, engineering and math (STEM) and promote engineering as a career option. This year, more than 2,000 students in grades 3 through 8 took part in a host of SEEK activities held in Washington, D.C., Houston, San Diego, Oakland, Detroit and New Orleans.

“We are extremely excited about what SEEK offers to our young children,” says Franklin O. Moore, SEEK director, “and perhaps even more excited that this comes at no cost to parents.”

One such parent, Nadia M. Green, a marketing manager for Whirlpool, drove an hour along Interstate 10 from Donaldsonville, La., to get her son, Christian, to the SEEK camp in New Orleans. For her, the benefits to her 11-year-old were immediately apparent.

“It was an experience that Christian and I will always remember,” says Green. “For a mother seeing her son’s beautiful mind blossom in the areas of presentation skills, team building, engineering and math in a short, three-week program really indicated to me how dynamic my son can (be) when challenged. He would provide me with a summary on how to build a can crusher, cruiser and glider. *CONTINUED ON PAGE 42*



Working with Gravity Cruisers, during the artistic design competition (above) and during a performance competition in New Orleans (at left)



PHOTOS BY JASON MICCOLO JOHNSON AND JR. THOMASON



Completing a design log



(center) Vice Adm. Manson K. Brown, United States Coast Guard, at the SEEK Parent Orientation in Washington, D.C.



Getting a Jet Toy ready for competition in Washington, D.C.



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Moreover, he was able to really improve his public speaking skills as he was the presenter for his age group.”

Caltrans transportation engineer Andy Woods drove his son, Cameron, 11, from Long Beach, Calif., each day to the SEEK camp in San Diego. Calling the results of the program, “profound, eye-opening and influential,” he adds: “The exposure to engineering at a young age also exposed my son’s interest in becoming an electrical engineer.”

SEEK’s mission is to build a pipeline to engineering careers for African-American and other minority youth who are underrepresented in the field. Only about 5 percent of U.S. students receiving bachelor’s degrees in engineering are black. And, although blacks and Latinos collectively comprise about 30 percent of the U.S. population, they only make up about 11 percent of the engineering workforce, according to the U.S. Census Bureau 2010 Statistical Abstract.

NSBE’s SEEK Department developed this year’s program with SAE International’s “A World in Motion,” an interactive, standards-based curriculum that emphasizes student motivation, mentoring, cultural connection and parental involvement.

SEEK students learned basic science and engineering concepts and engaged in team competitions during the three-week day camp. The students were taught and guided by SEEK “mentors,” NSBE collegiate members who are recruited and trained to bring out the best in their young protégés. In D.C., a SEEK Parent Volunteer Organization, born last year, assisted in

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## SEEK RECEIVES \$50K GRANT FROM MOTOROLA

NSBE’s Summer Engineering Experience for Kids was one of more than 30 national programs awarded a grant this year through the Motorola Solutions Foundation’s Innovation Generation program. The foundation’s \$50,000 gift to SEEK was used to purchase training materials and supplies, provide stipends for the SEEK mentors and pay for meals for the campers.

“Supporting our community is part of our DNA,” says Matt Blakely, foundation director. “And, as a technology company, we are thrilled to see our investments in today’s youth result in promising innovators for the next generation.”

Since 2007, the Innovation Generation program has provided \$30 million for STEM education programs, supporting more than 300 school, museum and nonprofit programs across the U.S. The National Partnership Grant that NSBE received supports large-scale, multiregional STEM education programs that impact at least 150 students or teachers.

— KMB

# SEEK 2012



Giving oral presentations



Preparing for a Can Crusher competition



## 14-YEAR-OLD PHENOM GIVES TIME TO SEEK

Clearly, Zakiya James doesn't like to brag about her accomplishments. Being a 14-year-old college sophomore at the University of the District of Columbia — taking such courses as pre-calculus, biology, English composition and psychology — is certainly worthy of a pat on the back. But as she speaks about her time as a volunteer for the SEEK camp in Washington, D.C., James is nonchalant.

"I helped (SEEK D.C. Director Helen) Howell organize everything and make sure that the kids had everything they needed," she says. "I decided to volunteer my time because my brother (Kha Cao Ra, 7,) was in the program, and I needed something to do while I was waiting to go to work."

"Work" for James was her summer job with an environmental program offered by the D.C. Summer Youth Employment Program, an initiative that provides District youth aged 14–21 with summer work experiences through subsidized placements in the private and government sectors.

College-level courses? Community service? And a job?

Next up is a possible career in bioengineering. Why?

"Sounds interesting," she says.

— KMB



Presenting artistic designs for Can Crushers in Houston



Preparing for a Gravity Cruiser competition in New Orleans

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administrative functions, judged competitions and did a host of other duties to help the program run smoothly. The volunteers also put on a job fair for the mentors.

As interest, and the all-too-important funding, continue to grow, NSBE plans to establish SEEK programs in all 50 states. The generosity of sponsors such as Accurate Engineering; Alcoa; Chevron Corporation, Cummins Incorporated; Delphi; The Dow Chemical Company, Northrop Grumman Corporation and many others, enables NSBE to offer the SEEK camps at no cost (See [www.nsbe.org](http://www.nsbe.org) for a complete list of SEEK sponsors.). NSBE Executive Director Carl B. Mack is driving the 50-state campaign with the support of NSBE National Chair Calvin A. Young III and the National Executive Board. Mack says the funding SEEK has received — \$5 million over the past five years — has been vital, but it is also evidence of the country's need to rebuild its technological dominance by improving STEM education for its youth.

"Thank you, NSBE, for focusing your efforts in filling the pipeline and bridging the gap between African Americans and engineers," adds Nadia Green. "I would drive 90 miles again and again if it meant aiding my son in advancement of his education." ■

*Kevin M. Briscoe is a writer based in Baltimore, Md., and a former editor of NSBE Magazine.*



Hard at work with the Jet Toy



Giving oral presentations in Oakland



SEEK New Orleans students and mentors outside Sci-Tech Academy



Taking a test in Washington, D.C.



Gearing up for a Gravity Cruiser competition

## SOLAR-POWERED CAR ADDS FLAIR TO SEEK SAN DIEGO

Challenged by the president and chief operating officer of San Diego Gas & Electric to create a renewable energy activity for the SEEK program in San Diego, three young black SDG&E electrical engineers — Henry Cobb, Christian Henderson and Kazeem Omidiji — created the design for a toy solar car. They also developed a lesson plan, including basic math and engineering principles, that enabled SEEK students to learn as they built their customized model.

“Kazeem, Christian and Henry are... active members of NSBE,” says Mike Niggli, SDG&E’s president and COO. “They were also volunteers at last year’s SEEK camp... so they seemed the perfect choice to ask to work collaboratively to develop the idea.”

How does SDG&E’s involvement in SEEK advance the company’s business model?

Niggli adds: “Supporting programs in the K–12 population, specifically those involving science, technology, engineering and math, helps to contribute to the development of the future workforce with skills that many in our region will need.”

“We want ‘A&E’ to mean more than ‘athletes and entertainers,’” Niglee says, echoing the words of “Brother E.D.,” NSBE Executive Director Carl B. Mack. “The SEEK camp provides roles models that show A&E can also mean ‘academic excellence.’”

— KMB



## ENGINEERING CHANGES THE WOODS FAMILY’S GAME

When Andy Woods graduated from the University of Washington in 1995 with a B.A. degree in American ethnic studies, a career in one of the social sciences seemed a viable option. But, over the course of a final semester and summer, the former college basketball standout’s life took an interesting turn, one that, years later, would even impact his 11-year-old son, Cameron.

“I took a few calculus and pre-engineering classes, and then had an internship with (NSBE Executive Director) Carl Mack at (METRO – King County) in Seattle,” says Woods, 42. “It wasn’t until my internship with Carl that I found that this was a career I could do.”

With his interest in the sciences awakened, Woods later earned a Bachelor of Science degree in civil engineering from California State University, Los Angeles. Now, he is a transportation engineer with Caltrans in Long Beach, Calif., where he analyzes the environmental impact of state transportation projects.

This summer, Woods drove 100 miles to the SEEK Camp in San Diego, passing on his interest in STEM to his son.

“I wanted him to get exposed to engineering at an early age,” Woods says. “What he’s getting at this age, I didn’t get until I was in college.”

— KMB