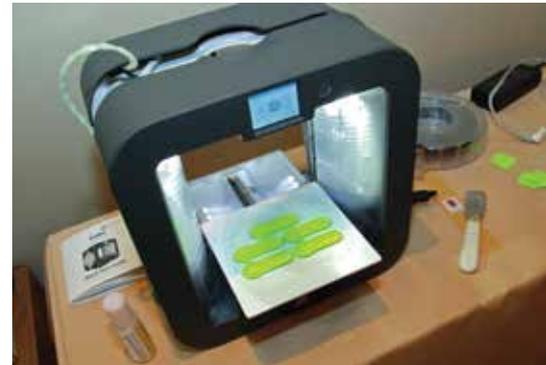


## YouthQuest Introduces 3D Printing to Tomorrow's Engineers



(left) Students show the 3D printed tags they created at NSBE's 41st Annual Convention.

(below) A Cube 3 printer makes a batch of tags.



PHOTOS BY YOUTHQUEST FOUNDATION

By Steve Pendlebury, Communications Director, YouthQuest Foundation

**M**ore than 70 students from across the United States and Canada attended the YouthQuest Foundation's 3D printing workshops at the National Society of Black Engineers Annual Convention, on March 26.

"It was really rewarding to be able to share our critical thinking and problem-solving rubric using 3D printing with these very bright and talented youth," said YouthQuest Co-founder and President Lynda Mann, who led our team at the event, in Anaheim, Calif. "We were excited to be a part of this amazing opportunity for youth of all ages to expand their knowledge and gain invaluable experience within key STEM disciplines," she added.

The workshops gave middle school and high school students a taste of what we teach in *3D ThinkLink* classes at the Maryland, District of Columbia and South Carolina Youth ChalleNGe Academies, where 3D printing is used as a tool for developing creativity and thinking skills.

### CREATING TAGS

Our three 90-minute sessions at the NSBE convention focused on Moment of Inspiration, the 3D modeling software we use in *3D ThinkLink* classes.

"Learning about 3D printing turns on your brain,"

YouthQuest Director of Instruction Tom Meeks told the students. He explained that Moment of Inspiration (MOI) provides a "link" to transform the ideas in their brains into 3D-printed objects they can hold in their hands.

Meeks guided the students through the steps to make keychain tags personalized with their initials and a simple design they created.

He demonstrated how to start with two-dimensional shapes such as circles or rectangles and use the software to combine them and add a third dimension — in this case, giving the tags depth and raising the initials and designs. Introducing an engineering principle to the future engineers, he showed how raising the tag's rim by one millimeter made the object stronger, while minimizing material use and print time.

As he does in all of our *3D ThinkLink* classes, Meeks urged the students not to fear failure. If something goes wrong, he told them, don't give up: go back and figure out how to correct the mistake, and then keep working toward your goal. If you get stuck, he said, ask for help, and if someone else is struggling, try to help them.

With a little help from the YouthQuest convention team, nearly every student was able to complete the project within the allotted time. ■