

Paper Speakers Bring Music to the Ears of Future Engineers

Nearly 300 seventh-grade students at 24 Columbus schools were able to play their favorite music through speakers made of paper, wire and magnets, thanks to an innovative program designed by engineering students and faculty at The Ohio State University in collaboration with Big Brothers Big Sisters of Central Ohio.

Photos: Paul Berger



A future engineer tests the completed speaker that he built with help from his mentor and Ohio State students.



Ohio State engineering student Jasmyne Walker helps a Columbus City Schools student glue the voice coil of the speaker so that it does not unravel.

Representatives of Project Mentor—an educational outreach initiative between Columbus City Schools and Big Brothers Big Sisters—invited Ohio State electrical and computer engineering (ECE) professor Betty Lise Anderson to talk to middle school students and Big Brothers Big Sisters volunteers. She knew just the activity to spark kids' interest in science and engineering, the speaker project which is one of six hands-on activities developed by ECE students during a senior capstone design class. Anderson, who leads the ECE department's outreach program, has used the projects to reach more than 4,000 kids at some 20 Ohio schools since 2008. The challenge was that all 24 school visits had to take place in just five days. Anderson turned to members of RISE^ECE (Recruitment and Retention Initiative for Successful Engineers: Electrical and Computer Engineering) to coordinate the visit to all 24 schools.

RISE^ECE is a new student organization seeking to engage future engineers, promote engineering as a potential career and spark interest in science and mathematics.

Led by Edwin Lee, RISE^ECE president, and Paul Berger, faculty adviser, nearly 60 student volunteers were

recruited from the Ohio State Minority Engineering Program, the Department of Electrical and Computer Engineering, and across campus. Volunteers had to learn how to make the speakers, prepare 300 audio cables, and cut 300 pieces of magnet wire and 300 speaker templates.

"Activities like this show kids that science can be fun and introduces them to career possibilities like engineering that many may have never considered," Berger says.

Project Mentor aims to help students work toward graduation and a lifetime of success through strong mentoring relationships. The program focuses on the assets required to improve academic performance and high school graduation rates, with the goal of improving the entire education community—one child at a time. ■

– Candi Clevenger

RISE^ECE is accepting donations to enable one-on-one mentorship for future programming. For more information, contact Paul Berger at berger@osu.edu, or rise.ece.ohio-state.edu. Instructions for the paper speakers are available at <http://ece.osu.edu/about/outreach>.

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