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# A fair with high-tech flair

Founder of science, engineering competition driven by few minorities, big potential in STEM

**Andrew Kragie**  
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1 of 3 Students from Milwaukee compete at an annual science fair called C-STEM Challenge on Saturday at the Health Museum of Houston. Annie Mulligan/Freelance

Kendall Johnson, 11, gripped a video-game controller tightly and stared at the robot it controlled with as much intensity as if she was defusing a bomb. She had only 150 seconds to guide her robot through a simulated toxic-waste disposal during the C-STEM national competition Saturday at the Health Museum of Houston.

The robot's arm grabbed clumsily for a miniature barrel. The pincer snapped open and closed. Nothing.

A fellow fifth grader, 10-year-old James Lofton, stood beside Kendall and quietly gave suggestions and encouragement. His hands modeled what the robot needed to do next. His right foot tapped anxiously. The seconds ticked by.

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The two students from the Beatrice Mayes Institute, a charter school near the University of Houston, were among the several hundred students at the event, which included the robotics competition as well as a science quiz contest, traditional science-fair displays and an array of art related to this year's theme. The two students from the Beatrice Mayes Institute, a charter school near the University of Houston, were among the several hundred students at the event, which included the robotics competition as well as a science quiz contest, traditional science-fair displays and an array of art related to this year's theme of environmental stewardship.

The event happens in Houston every year, organized by C-STEM Teacher and Student Support Services, a nonprofit group that connects underrepresented students to curricula, events and funding. The founder, Reagan Flowers, started the organization after spending 10 years as a teacher, guidance counselor and administration at Houston ISD schools. Flowers, who got a bachelor's in biology before teaching science, said she saw two problems and an opportunity.

**One million scientists**

First, jobs in STEM areas - science, technology, engineering and math - outnumber people qualified to fill them, according to Department of Labor data. STEM workers account for 90 percent of foreigners who get HI-B visas for high-skilled jobs that companies can't find Americans to fill, according to the data.

Second, Flowers pointed out, women and minorities are underrepresented in those fields.

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Flowers, however, casts the second problem as a solution to the first.

"You are looking at a very large group of people in our country who are just on the bench," she said. "They're untapped talent. And if we're going to stay the innovative country, the place where we're the leader in the free world and everyone wants to be in America, then we can't have all this talent sitting on the sidelines."

Flowers, who grew up in the Mississippi Delta and struggled in elementary school, said she seeks to empower teachers like those who helped her thrive and to give students some hands-on, project-based experience in STEM fields throughout their schooling.

"They've got to be exposed," she said. "They can't dream of being that which they've never seen or experienced."

Flowers said C-STEM takes advantage of kids' natural love of competition to show them real-world applications that keep students such as Kendall engaged in classes, as well as instilling life lessons outside the classroom.

Despite a laser-like focus on her team's robot, Kendall wasn't able to bring the miniature barrel into the proper disposal area, but she got closer than many other teams - meaning that her classmates could continue into the contest's next round. The 20 or 30 people from her school clapped and cheered, led by some older girls from the middle-school cheerleading squad.

But at first she was only frustrated. She hustled away from the robotics area after her round looking defeated.

**'It's not over yet'**

A teacher caught up with her and gently held her face in two hands. The teacher - Chariesse Simpson, a Beatrice Mayes Institute alumna who returned to teach at the K-8 school - squatted down so she was eye-to-eye with the girl who said she loves taking things apart and trying to put them back together without checking the instructions.

"You can't get frustrated and stop trying," Simpson told Kendall. "It's not over yet."


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Written By **Andrew Kragie** [Reach Andrew on](#)

Andrew Kragie is a metro reporter for the Houston Chronicle covering topics ranging from crime and courts to refugee resettlement and the rodeo. He graduated from Duke University, where he earned the Melcher Award for Excellence in Journalism and was inducted into Pi Sigma Alpha, the political science honor society. An Eagle Scout, he also speaks conversational Portuguese and fluent Spanish.

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