

Girls will make up 45 percent of teams in 2011 Tech Challenge

Project will be to clean ocean but not harm marine life

By Sandeep Ravindran

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When she was younger, Salonee Thanawala thought engineering was boring. But despite her initial disinterest, the 15-year-old has spent every Saturday for the past six months working on her team's project for this year's Tech Challenge.

The annual science competition will be held Saturday at The Tech Museum in San Jose.

Despite women being historically underrepresented in science and engineering, Salonee's far from alone — girls will make up 45 percent of the 263 teams at this year's Tech Challenge. That's an increase from last year's high of 38 percent.

Until she took part in the challenge last year, Salonee's ideas about engineering came from watching her father, a software engineer.

"I just heard about making codes, and it didn't seem interesting," she said. "But then I decided to try the Tech Challenge, and it opened my eyes. I realized there's a whole lot more to it."

Her 13-year-old sister, Suveena, also enjoyed the experience. "It taught me a lot about what engineers do. Engineering definitely seems fun," she said.

On Saturday, Salonee and Suveena will try to solve this year's challenge: Cleaning up the Great Pacific Gyre, a massive collection of plastic trash in the Pacific Ocean, without harming marine life.

The teams had to develop a device that will remove plastic trash from a dry mock-up of the garbage patch without disturbing models of plants and fish.

It's a tough problem, and the sisters said they received a lot of help from the Northrop Grumman and the Software Development Forum's Tech Girls program, an initiative to engage more girls in science and engineering.

Northrop Grumman Program Manager Camille Barnes-Mosley spearheads the program, which started with one team in the 2009 competition, and now mentors three teams. "It's been very enlightening," Barnes-Mosley said. "It's fun to watch the kids grow each year."

Barnes-Mosley led the teams through the entire engineering design process, and the company also provided the space where the teams built their devices.

The program's been popular. The students have come back every year, Barnes-Mosley said. And "last year was the first time that we saw a large group of girls winning. It encourages the rest of the girls to participate," Barnes-Mosley said.

Salonee and Suveena's team came in third last year, and both returned this year, with Salonee as a team captain. They warmed up for Saturday's competition by giving a mock presentation to engineers and managers from Northrop Grumman on April 16.

"They asked a lot of tough questions, but the kids answered most of them," said Francine Gordon, chairwoman of the Software Development Forum's Tech Women

program, of which Tech Girls is a part. "It's a great experience. The kids who've done it before are more confident and more relaxed.

"If you do not grab girls in science, technology, math and engineering by the eighth grade, and get them interested and inspire them, then you've lost them," said Karen Panetta, a professor of electrical and computer engineering at Tufts University and founder of Nerd Girls, an organization aimed at challenging stereotypes of women in engineering.

Meeting female engineers and teaming up with other girls interested in science would help, Panetta said. "If you ask girls to name a famous woman scientist, you're most likely to hear Marie Curie," she said. "There's a lot of them, but these girls don't know about them, so it serves as an inspiration."

Interestingly, "girls are taking more math and science classes and getting higher grades in high school," said Christianne Corbett, senior researcher at the American Association of University Women. But there's a huge drop-off in college, and women only account for 20 percent of all undergraduate engineering degrees, with some fields having even fewer women, she said.

According to Gordon, it's only when 25 percent to 30 percent of engineers are women that they would start feeling represented.

"We're moving in the right direction," said Gordon. "It will probably take a little while, but it's going to happen."

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