

## Tar Heel: Moni Singh uses her experience to get kids excited about STEM

### HIGHLIGHTS

Singh's STEM for Kids offers after-school classes and camps

Company in process of expanding through franchises

Working to bring attention to women's issues in Wake County



Travis Long - [tlong@newsobserver.com](mailto:tlong@newsobserver.com)



BY MARTI MAGUIRE

*Correspondent*

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RALEIGH — Moni Singh earned an engineering degree in India at a time when she was one of the only women in her classes.

She took that training to the United States, working as a software engineer and, after earning an MBA, on the business side of several technology companies.

But in recent years, Singh has devoted her career to helping get children excited about science, technology, engineering and math by founding her own company, STEM for Kids.

Singh has won several awards for her work with STEM for Kids, which offers after-school classes and camps on STEM topics that use hands-on techniques and connect children with professionals in these fields.

The company recently started offering scholarships for minority students, who, like women, are underrepresented in STEM fields, and is in the process of expanding through franchises in Atlanta and, most recently, Dubai.

As chair of Wake County's Commission for Women since 2011, Singh has also won accolades for her work on women's issues; her group's current goals include improving child care and job training opportunities for women in the county.

For Singh, her career and volunteer work are a way to extend the lessons she learned in her own youth - the power and joy of learning in science and technology, and the hard truth that women continue to face any number of barriers.

“Moni has brought all of her knowledge and skills from the worlds of engineering and business, and she’s putting them to use in so many ways,” says Kate Deiter-Maradei, an attorney who is also on the commission for women. “She’s become a passionate and articulate advocate in the areas of education and women’s issues.”

### **Going beyond the norm**

Singh grew up in India, one of five girls born to parents who encouraged all of them to pursue college and careers – not the norm among Singh’s peers.

“They would tell us starting when we were young that people are going to say that you can’t do things,” says Singh. “But, they would say, ‘You can, and you should believe in yourself.’ ”

She gravitated toward science and math in school, yet when she chose engineering as her college major, she was one of only three women in her class of 120 people. At times, she says, even instructors were dismissive.

She came to the United States to find work, and one of her first jobs was with Motorola in Boulder, Colo. She was helping develop software for satellite phones, at the time cutting-edge technology.

Singh was shocked when the product, which was far bulkier than the technologies that spawned today’s mobile phones, failed.

“My engineering mind just couldn’t get my head wrapped around it,” she says. “How could such an exciting technology fail in the marketplace?”

The experience brought to light a lack of business savvy that she decided to remedy, earning an MBA at Duke University.

Returning to the corporate world, she held a variety of positions with Lucent Technologies, which later merged to become Alcatel-Lucent – everything from supply chain management to pricing, to eventually leading groups devoted to business development and sales.

Her next step was a corporate position with Sensus, a metering company. When she lost that job to downsizing, she found her next career challenge in her own home.

### **Sparking children's interest**

Singh's work had led her to visit many factories over the years, and she would often bring home objects to show her children, then in elementary school. She says the impetus for STEM for Kids came after she brought home a robotic arm for them to examine.

“It was just a basic piece of factory equipment,” she says. “But they were just so amazed.”

She wanted to capitalize on the moment by enrolling them in some science activities, but most were geared toward older children.

In preliminary research, she found a study that pegged children's natural interest in scientific topics as highest around the age of 8, and she started to consider the ideal way to tap into that interest. She also knew that the number of high-paying jobs in STEM fields were growing faster than qualified applicants.

She landed on the idea of short courses focused on single topics, such as aerospace engineering, with hands-on activities used to demonstrate key scientific concepts, such as launching rockets to show propulsion. Wherever possible, the people who worked in these fields should share their experiences so children could gain a better understanding of STEM careers.

After exploring the idea for a few years, she dove in, starting with a single aerospace class at a North Raleigh church.

“It made sense because in all I’ve done, I’ve always been a learner,” she says. “Education is a part of me.”

Her company now offers after-school programs, camps during the summer and track-out times for year-round students, and workshops in 15 subjects, such as civil engineering and game creation. They have included visits from NASA representatives and other professionals.

Classes are in Raleigh, Cary, Zebulon and Durham, and she is contracting with some rural school districts to do in-school science field trips. In the past year, she has focused on franchising the company.

At the same time, Singh has taken on several volunteer projects, most notably carving out time to head the Wake County Commission for Women, a citizen group charged with examining the needs of women in the county.

Singh has led the commission into a particularly active period, speaking often on its key areas of focus. She wants to conduct a study on child care needs that she hopes could spur helpful policy changes.

While she loves to see her STEM classes sparking all students to love science, it is particularly gratifying to see it in her female students.

At a recent meeting, a group of students sat at laptops, exploring the game worlds they had created.

One of them, Joi Peterkin, a fifth grader at Partnership Elementary in Raleigh, had created a game in which players explore different settings - a "snow biome," a mountain landscape and a moon crater - looking for hidden clues and other characters, who then unite to fight an evil octopus.

"It's been really cool to see that I can do all this," said Joi, adding that the the camp taught her to use software to bring her imagination to life.

Her career ambition? To be an engineer.

*Know someone who should be Tar Heel of the Week?*

*Contact us at [tarheel@newsobserver.com](mailto:tarheel@newsobserver.com).*

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## **MONI SINGH**

Born: August 1975, India

Residence: Raleigh

Career: Founder and CEO, STEM for Kids, Inc.; President, SFK Franchising; Board Chair, Wake County Commission for Women

Awards: Leader in STEM - Women Business Award and 40 Under 40 Award, Triangle Business Journal, 2015; Enterprising Women Honoree, Enterprising Women Magazine, 2014

Education: B.S. Engineering, Indian Institute of Technology; MBA, Duke University

Family: Husband Atul; Children Arnaav and Mansi

Fun Fact: STEM for Kids holds occasional "Engineering Days" focused on a particular challenge. One, done in partnership with Durham pharmaceutical company Gilero, involved redesigning an ice cream spoon using computer-aided design software. Of course, students got to try out their spoons at the end.

Source: <http://www.newsobserver.com/news/local/education/article39611370.html>