Yamilée Toussaint sparks girls' interest in STEM through dance

The engineer and dancer aims to increase the number of women of color in the sciences.

YAMILÉE TOUSSAINT is the CEO and founder of STEM From Dance, a nonprofit organization that aims to empower and encourage girls to pursue STEM careers. (Photo by CEO Portrait.)

When she was four years old, Yamilée Toussaint started taking ballet classes. While growing up on Long Island, New York, she continued to dance—adding tap, jazz, modern, and African hip-hop—while pursuing her other interest: math.

Toussaint has since combined those passions by founding and leading a program that helps girls, especially girls of color, become interested in the sciences through dance. Today, STEM From Dance hosts multiple free programs throughout the country.

Toussaint says that when she arrived at MIT in 2004 to study mechanical engineering, she noticed that she was one of the few women of color in her major. Later, as part of a service project, Toussaint and four classmates flew to New Delhi, India, to meet with college students to discuss how engineering could be used to tackle local sanitation issues. Seeing how engineering served people directly led Toussaint to think about a career with social impact.

After graduating with her bachelor's degree in 2008, Toussaint joined Teach for America, an organization that places teachers at schools where students face educational inequities resulting from poverty and systemic racism. While teaching algebra at a high school in Brooklyn, she learned that many students had negative views about math. "Students may not have had great teachers who inspired them or who made math feel relevant to the real world," she says. "If math was presented to me in a way that didn't feel exciting, then I probably wouldn't love it either." Toussaint began to wonder whether she could help improve perceptions about math and thereby increase the number of women in STEM.

That led to STEM From Dance, which she founded in Brooklyn in 2012. Through the organization, she aims to decrease gender and racial disparity in STEM by building the confidence of girls of color and increasing their exposure to career options. With a little more than $4000, Toussaint presented her first workshop. By 2016, her efforts had begun to gain national attention.

STEM From Dance programs include a network of three-week summer camps for girls ages 8–18. Each day, the participants learn about a specific topic and do group activities, such as coding, costume construction, music composition, and circuitry. They then incorporate those skills into dance routines that they choreograph and perform at the end of their camp session. "When you see the girls perform, you see the pride they have in their performance, not just because they get to dance, but because there's this technical aspect to it that they created," says Toussaint. The participants also go on field trips to places like Google, Amazon, and the American Ballet Theatre.

Last year, about 1500 girls participated in the dozens of after-school clubs that STEM from Dance has launched nationwide. School administrators, teachers, and independent community members can host a club. They receive training and materials to teach a STEM topic in a 10-week series of project-based lessons. One module intertwines Afrobeats and AI; another combines the physics of percussion with hoop dancing.

Many girls come in excited about dancing but skeptical about the STEM aspect, says Toussaint. She describes a participant who came to camp during high school eager to dance but wary

A DANCE PERFORMANCE at the end of a three-week STEM From Dance camp last year showcased the participants' knowledge of coding, circuitry, music composition, and more. The girls programmed the light-strip belts to change colors during the performance. (Photo by Jeremy Stanley.)

about learning coding and circuitry. The girl realized that she liked computer science and ended up coming back for two more years. She is now a junior at Georgia Tech studying computer engineering and is on the STEM From Dance board of directors.

Toussaint says that early on, skeptics warned her that her mission was too niche and that it would be hard to get funding. Yet STEM From Dance has received large grants and gifts from corporations and foundations, including a recent $2 million grant from Google's charitable arm to support AI learning.

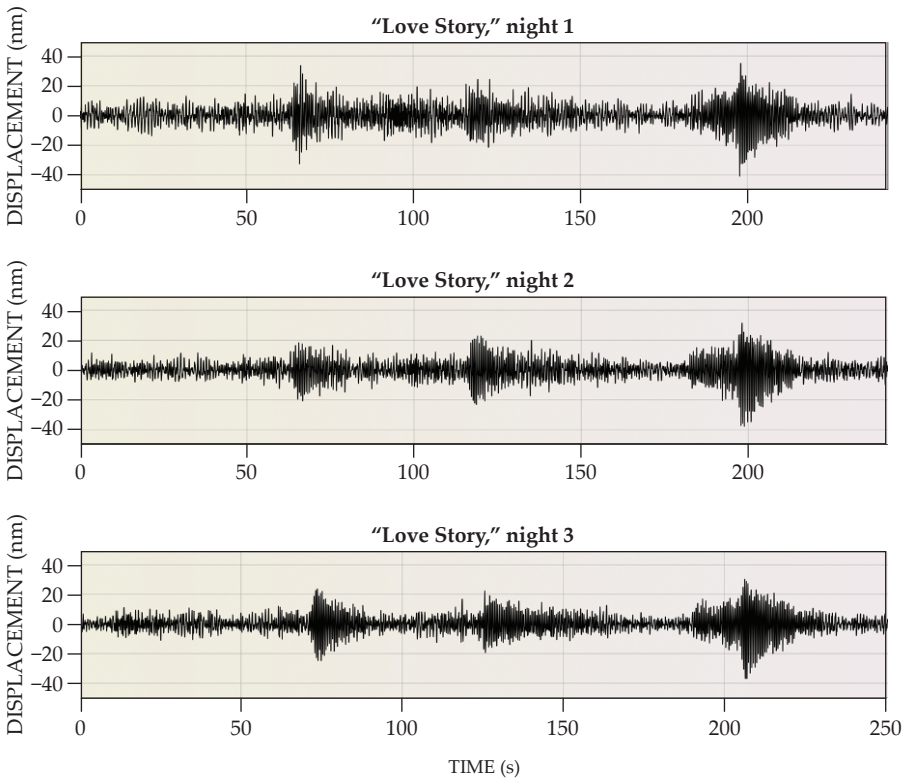
STEM From Dance has so far served more than 4000 girls nationwide. Toussaint says she hopes to meet the 1 million mark by 2032. To help reach that goal, the organization of 12 employees will soon offer resources, including mentorships and networking opportunities, to draw in high school participants entering college. Toussaint says that she wants girls of color "to know that they belong in the STEM community."

Hannah H. Means

A geophysicist uses Swifties' seismic activity for science outreach

Eleanor Dunn employs celebrity and crowdsourcing to spark the public's interest in science.

As many fans jumped and sang along with their idol at a Dublin concert at Aviva Stadium last June, one stayed outside the venue and quietly took data. Eleanor Dunn had set up 41 seismometers at 21 locations near the stadium where Taylor Swift would be performing for three nights. Residents let her put the seismometers inside their homes and underground on their property. Dubbed #SwiftQuakeDublin



FOR EACH OF TAYLOR SWIFT'S THREE DUBLIN CONCERTS in June 2024, the ballad "Love Story" produced the most seismic energy out of all the songs performed. A seismometer 53 meters from the stadium recorded peak activity during the chorus of the song. (Image courtesy of Eleanor Dunn.)