

Bringing diversity into STEM fields is this STCC grad's mission in life

By LAURIE LOISEL

SPRINGFIELD, Mass. – Vastly underrepresented in the STEM field, women and people of color often feel marginalized and unsupported in the halls of academia. That was true for Carolyn Gardner-Thomas until she came to Springfield Technical Community College, where she graduated in 1998 with an associate degree in engineering.

"STCC is where I found community – that's where I found people who looked like me and people who wanted to work with me, smaller classes, instructors I could connect with," she said. "That, coupled with the fact that it fit my budget. I could pay for the courses I was taking."

After STCC, Gardner-Thomas went on to UMass Amherst where she earned a bachelor's degree in engineering in 2000 – and years later she would go on to earn a Ph.D. in STEM education at the state's flagship campus. STEM refers to the areas of study and careers within science, technology, engineering and math disciplines. It's no secret that women and people of color don't flock to those fields.

Gardner-Thomas has devoted her career to expanding the possibilities for women and Black, Indigenous and people of color (BIPOC) in STEM, encouraging greater diversity in the field she loves. She credits her time at STCC, in part, with helping her understand how that could be done.

She ran a STEM starter academy at Holyoke Community College for a year, at UMass for three years she directed

the STEM Ambassador Program and today is co-director of the Mathematics for Teaching master's program at the Harvard Extension School.

Aminah Bergeron, in her second year at STCC majoring in mechanical engineering, is just the kind of student Gardner-Thomas wants to see entering the field. Bergeron, 27, who calls herself a "proud mom" and is working her way through college, said she has felt both welcomed and supported at STCC.

She remembers early on a meeting with Professor Zahi Haddad when she expressed doubt about her abilities in computer science, asking if he thought she could do it. "And he responded immediately, 'yes, why not? You can do whatever you like,'" she said.

Later, thanks to encouragement from STCC Professor of Engineering and Physical Sciences Beth McGinnis-Cavanaugh, Bergeron took part in a competitive NASA program that flew her to a NASA facility in Virginia for a week. She aims to go on for a bachelor's degree in engineering after STCC, hoping eventually to land a job as an engineer at Pratt and Whitney. But she's got an even bigger dream: One day she wants to become a CEO.

Bergeron's experience may illustrate how much things have changed since Gardner-Thomas first entered the STEM field as a pre-med student in the 1980s.

Born on the Caribbean island of Antigua, Gardner-Thomas came to the United States in 1986 to attend college.

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Enrichment clusters still valuable during the pandemic

(One of the experiences lost last spring when we pivoted to remote instruction was the enrichment cluster. As we look ahead to this spring, we are excited to plan re-imagined clusters as we continue in-person instruction for all students at Academy Hill. To learn more about our response to the pandemic, please visit our website at www.AcademyHill.org!)

At AHS, one of the most cherished and highly anticipated academic traditions are end-of-the-year enrichment clusters. Clusters, as they are more commonly known at Academy Hill, are held during a reserved three-day period the final week of school. Clusters provide students with an opportunity to explore a topic of their choice, in the company of a mixed-age group of schoolmates, in extraordinary depth. Clusters culminate with a showcase, during which students display a project or product created, or a skill acquired during the three-day period. Clusters are facilitated by school staff, parents, alumni and other community members who relish this opportunity to share their passions and professions with students.

Over the years, students have explored such diverse topics as cheesemaking, entomology, the art of psyanky, silk screen printing, dogs, and rocketry. Many of the ideas for cluster topics are generated by student interest, as exhibited over the school year. Clusters most often include a field trip or two, allowing students the chance to meet professional practitioners and take part in authentic experiences. During the last cluster cycle, a small group of middle school students explored the play Hamlet, by William Shakespeare. The cluster was facilitated by our middle school literacy teacher and an alumni parent (who is also a professor of English, specializing in Shakespeare). Cluster participants took a trip to Shakespeare & Co. in Lenox, where they enjoyed a private, customized tour that included visits to performance spaces, costume and prop shops, and the set design studio. At each location students were able to try on and try out costume pieces and props such as crowns and swords. The field trip brought their classroom cluster experience into vivid focus, sparking a strong desire in several students to learn more about Shakespeare and theater. Another cluster cooked its way through Italy, learning about the geography, culture and special cuisines of the different regions of the country. The students, ranging in grade level from 4th through 8th grade, learned a bit of the language, chose a particular region to explore in greater depth, and visited both Red Rose Pizzeria and La Fiorentina Bakery - right here in Springfield - to sample dishes and to learn more about Italian cooking and baking. The cluster was facilitated by an administrator of Italian heritage, as well as our Latin and Classics teacher; the latter bringing her vast knowledge of the Italian peninsula to the experience. The cluster culminated in a day of preparing and then



sharing the students' homemade Italian food with guests.

Families, homeschool groups and moms/dads clubs might easily replicate the enrichment cluster experience for their own children and their friends. Clusters are a wonderful way to pass several days during a school vacation week. They also give new meaning to staycations, and might serve to prevent a "summer slide" as they help energize students before the return to school in September. Clusters can be quite manageable to organize and carry out, with just a little pre-planning. Start with what interests your children. When you pick a top that fascinates children, you pave the way for a fun, interactive experience. The first day should include an exploration of the topic, providing an opportunity for the children to learn more about the subject of the cluster. You might use clips from documentaries, you might take a trip to the local library, or you might create an extensive web search and scavenger hunt based on the topic. On day one you can also decide what project you might want to create or what skill you might want to cultivate as you learn more about this topic. Usually, day three or four is reserved for creating and showcasing projects and skills. Next, explore what businesses, museums, historical sites, farms or other places in the area might be open to a visit. Clusters are most meaningful when they are authentic. Alternately, there may be a practicing professional who is open to a virtual field trip or interview. Model creativity for your children as you seek out an immersive opportunity that will allow your children to understand how their interests might turn into careers or vocations. Librarians and museum staff can be extremely helpful with this step! Finally, allow your children time to create a project or product based on what they learned, and encourage them to share their creations and new skills with others.

To learn more about Academy Hill and our unique educational programs for students PreK – grade 8, please visit www.AcademyHill.org. We are now accepting application for the 2021 – 2022 school year (there are limited openings in PreK and Kindergarten for the current year).

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