

Dr. Carlotta Berry

on purpose and passion



BY: MEGHANA KRISHNA

Dr. Carlotta Berry isn't your typical engineering professor: she's bubbly, outgoing, and silly, and she's not afraid to say what's on her mind. She's part of a wave of women shattering stereotypes about STEM and deconstructing barriers to give younger women an easier path forward.

Inspired by her mother and grandmother, both of whom were teachers, the Nashville, Tennessee native always knew her calling was in the classroom. "I just love connecting with people and seeing that light bulb turn on," she says.

Dr. Berry was introduced to engineering through a professional development program in high school. She chose to pursue a dual degree in mathematics and electrical engineering from Spelman College and Georgia Institute of Technology, respectively, with the intent of one day teaching mathematics. Dr. Berry spent the first two years of her five-year program at Spelman, an all-women HBCU (historically black college or university), where she fell in love with the close-knit atmosphere and attentive faculty. Transferring to Georgia Tech was a culture shock - she dealt with overflowing lecture halls and sterile, impersonal interactions with professors too

busy to give her the time of day. Many of her professors were caricatures of the “stereotypical” engineer, lacking basic social skills and often uninterested in connecting with their students. Though she originally dreamed of teaching high school, Dr. Berry realized there was a shortage of well-rounded professors in engineering and felt she could bring a new perspective to the field.

“Too often, the ‘people’ element of engineering gets lost, but people skills are actually integral to the profession, and professors need to reflect that,” says Dr. Berry.

"I wanted to change the face of engineering."

Upon graduation, Dr. Berry pursued a master’s in electrical engineering from Wayne State University. She programmed and maintained industrial robots on an assembly line for car windshields at her first full-time job at Ford Motor Company. Once her student loans were paid off, Dr. Berry left Ford to pursue her doctorate in electrical and computer engineering (ECE) from Vanderbilt University with the intent of teaching. After a three-year stint as an Assistant Professor of ECE at Tennessee State University, she was offered a role as an Associate Professor of ECE at the Rose-Hulman Institute of Technology in Terre Haute, Indiana. At Rose-Hulman, she teaches courses in robotics, circuits, and control systems. Her research focuses on human-robot interaction and interface design. “Robotics is fascinating to me because it connects people to engineering,” she explains. “Applications for robotics are so multidisciplinary - you can connect with the interests of so many groups of people.”

Dr. Berry is well-known across campus not only for her dedication to her students but also for the work she’s done for underrepresented groups in engineering. She is

one of two founders of Rose Building Undergraduate Diversity (ROSE-BUD), a program that offers scholarships and social support programs for women and racial minorities. ROSE-BUD strives to improve student retention and foster professional skills through mentoring and networking opportunities. Traditionally, ECE is among the branches of engineering that attract the fewest women. Eleven years after the founding of ROSE-BUD, however, the percentage of women in ECE at Rose-Hulman has more than doubled.

“Minority students still have some of the exact same experiences I had at Georgia Tech in 1993,” Dr. Berry notes. “I have students who tell me how isolated they feel, and students who don’t feel like they’re smart enough to deserve being here.



"I want them to know I made it, so they can too."



The professor also touched on the controversy surrounding affirmative action: “I’m a big proponent of it,” she says. “Georgia Tech and The University of Michigan, for example, are some of the highest producers of black engineers because they serve as a pipeline from HBCUs.” Diversity is critical to engineering, Dr. Berry explains, as designing solutions for the range of problems in the world requires experience outside one’s own bubble. As Rose-Hulman’s lone female African-American faculty member, Dr. Berry believes minorities - in a sense beyond race and gender alone - can provide an otherwise overlooked perspective. She believes

affirmative action is a key tool in leveling the playing field for students who come from unfavorable socioeconomic backgrounds or who may lack relatable role models within a field. Anti-affirmative action activists have misrepresented and oversimplified the justifications behind such policies, she says. “Affirmative action isn’t about taking away opportunities from deserving students,” Dr. Berry argues. “It’s about giving students who wouldn’t normally have had those opportunities a real chance.”

Prior to becoming an advocate, Dr. Berry faced many challenges through her journey to professorship. She suffered a miscarriage during her time at Tennessee State, which she attributes to the stress of working toward tenure. The trauma was a wake-up call: Dr. Berry realized she needed to prioritize her health and work in an environment that promoted balance. Upon receiving an offer from Rose-Hulman, Dr. Berry made it clear she wanted children and needed flexibility. “One of my colleagues at Rose had three kids before getting tenured. I needed to work somewhere where that would be okay,” she says. Dr. Berry gave birth to her now twelve-year-old daughter during her second year at Rose-Hulman and took off a full quarter for maternity leave. The family-friendly culture at the institution allowed Dr. Berry’s daughter to tag alongside the professor for campus events, robotics competitions, and office hours.

“It was really, really hard,” Dr. Berry recalls about maintaining work-life balance in the early years of her career. Now a tenured professor, she can scale back a bit. Even so, she often works 60-80 hours per week: “I do what I have to do to get things done,” she says.



When Dr. Berry isn’t in the classroom, however, she makes an effort to explore her “non-nerdy” side. These days, she’s taken up cross stitching and occasionally indulges in *The Real Housewives of Atlanta* and romance novels. “I’ve started reading trash, and it’s so relaxing!” she laughs.

At this point in her career, Dr. Berry has numerous publications and awards under her belt. She’s created Rose-Hulman’s first multidisciplinary minor in robotics, has been published in *The New York Times*, and has given speeches inspiring thousands of young women. Though she hopes to one day move into a department head role, she never wants to move too far away from the classroom. “Teaching is my first love!” she says. Her advice for little girls with big dreams?

"NEVER THINK YOU DON'T DESERVE TO BE WHERE YOU WANT TO BE."



This article was written in partnership with the Rose-Hulman Institute of Technology. Rose-Hulman is consistently recognized nationally as an elite science, engineering and mathematics school that prepares its students (approximately 2,000 undergraduate and nearly 100 graduate) in an environment infused with innovation, intellectual rigor, and individualized attention. The institute also has distinctions for faculty excellence, return on investment, value added, and career services. Learn more at www.rose-hulman.edu.

