

ESSAY

ESSAY SERIES: EQUITY, DIVERSITY AND INCLUSION

Crossing unlikely paths in science

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I didn't encounter the field of cell biology until my sophomore year of undergrad. And although it was the topic title of one of my elective biology courses, being a first-generation college student, I knew very little of what the subject matter actually entailed. At the time, I had seen many things in my twenty years of living, but dealing with the up-close realities of my environment left little time to explore, let alone consider, the microscopic world. Enter the world of Prokaryota and Eukaryota: conversation pieces that would have my family members looking at me at the holiday table in a state of confusion as if I was speaking a foreign language. If only I could show them this world that existed under the microscope: a swab of their own cheek cells stained with Crystal Violet, or perhaps they could appreciate the simple organism *S. cerevisiae* that was responsible for their social enjoyment on many occasions. Yet, despite attempts to gain company in my appreciation for a field that I had recently become familiar with, I remained alone as I explored this invisible world. An outsider, absent friends or family, forced to admire the nuances of cellular organisms from an eye piece as I remained surrounded by peers who shared little in common with me other than my college major.

Despite this initial exposure, my fascination with cell biology didn't fully arrive until my senior year in college, when I had the pleasure of working with higher order eukaryotic cells through a mammalian cell culture laboratory course. There, I encountered an amazing professor who actually served as the first, and only, female professor throughout the entirety of my biology program. The fact that she was a woman was not the key distinguishing feature separating her from the other biology faculty that served my education to that point, rather, the energy and excitement for the subject matter that she bestowed upon our class was far greater than any that I had witnessed from her male colleagues. To this day, she stands in my memory not just for being a woman in science, but for being an educator that brought life to the material in a way that captivated, motivated and inspired her students. And although this experience was a key moment in my life where cell biology resonated strongly with me, I hadn't yet realized that it was going to be my passion until much later.

Shortly after graduation I entered the workforce, and I began my journey in medical research as an assistant in a laboratory at a local children's hospital. It was here that I encountered the person who would go on to be the single most influential source in my scientific career, my beloved research mentor, the late Dr Wenlan Wang. Wenlan and I couldn't have been farther apart in our respective backgrounds: she an immigrant from rural China, and I, a young Black male from the urban East coast of the United States. However, Wenlan and I bonded over a shared common experience: one of adversity, struggle and perseverance. Our humble beginnings had fueled our desires for a better life, and somehow that trajectory led us down the path of scientific research. With Wenlan I didn't just discover a passion for biological research, but I developed my identity as a stem cell biologist. Those precious few years that

I spent in Wenlan's lab were not at all easy, and there were times when I was filled with frustration and self-doubt; however, Wenlan remained steadfast in her belief in me and would not let me give up. Her support and encouragement never wavered, and I have to imagine that she must have seen a little bit of herself in me even if I didn't recognize my potential in those moments. Despite my relative inexperience and unfamiliarity with the field of stem cell biology, Wenlan challenged and tasked me with my very own independent research project: developing a stem cell model for the pediatric disease that we studied. My success with this project was all the validation that I needed in that moment in time, as I navigated a field in which many people didn't look like me, sound like me, or come from the background in life that I was familiar with. But times are changing...

Still, to this day, I have some minor difficulties with my identity in the field of biological research. Often times when I tell lay people what I do for a living the typical response that I receive is that I don't appear like a stem cell scientist, or any scientist for that matter. And if I'm being honest, I sometimes struggle with this notion because at one point in time I would have completely agreed with that statement. But I do realize, now, how ridiculous it is to stereotype a profession, and I'm glad to see that the field of science agrees with me. It is a relief for me to see, and experience, how culturally diverse the field of cell biology has become. I have colleagues from all over the world and I've always felt welcomed around them; tattoos, afro and all. The feeling of being welcome is what I consider to be the largest part of the battle when considering inclusion and diversity.

At this point in my career, my identity as a stem cell biologist has largely been cemented. But the role and platform that I've been given at my current institution, Boston Children's Hospital, is helping me reach heights that I've never quite envisioned for myself. Since my recruitment to Boston Children's Hospital, I've witnessed a commitment to equity, diversity and inclusion on levels that I hadn't over the span of a 15-year career. I have unwavering support not just from a scientific standpoint, but I am a part of an institutional coalition to promote real change when breaking the barriers that often separate communities. I have visibility, a voice, and the responsibility to engage communities that don't feel like science represents them. I am energized by working with the different community outreach programs at Boston Children's Hospital to promote STEM awareness, and I especially seek to serve as a leading resource for those interested in the stem cell biology field. As I continue to navigate my path forward as a stem cell scientist, and team leader, I feel that I have an obligation to educate, inspire, and guide those in the same position that I once found myself in, and I am eager for the challenge.

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