

'A woman driver on Mars'

Why we need more diversity in the sciences (and in engineering, too!)



This op-ed appeared in the Santa Fe New Mexican newspaper. Planetary scientist **Nina Lanza** was a guest speaker at the Institute of Meteoritics' 75th anniversary at UNM on Oct. 25, 2019. Her story is one that I could have told as well, having been warned by my Ph.D. advisor (an older white, male Baptist minister) that I would never marry if I pursued the degree. Boy, was he wrong – though it took me a long time to find the right guy! -- Heidi

By Nina Lanza

Three years ago, I was a keynote speaker at a conference, talking about my job at Los Alamos National Laboratory as a planetary scientist who shoots rocks on Mars with a laser. Part of my job involves helping to guide the Curiosity rover to the appropriate

targets. After my talk, I was socializing with a small group of other conference attendees when one of them said, “Oh, so we’ve got a woman driver on Mars!” The joke was made by a man and the others assembled—also men—laughed.

I didn’t. I just stood there, speechless. I couldn’t believe that he had just made such a tired, outdated (and unfunny) joke.

But it stuck with me. As a planetary scientist who holds a Ph.D. in geology, I’m no stranger to being a minority in professional settings. I’m often the only woman, or one of only a handful. But still, this joke surprised me. It was 2016, after all, not 1956. I had just delivered a keynote address that I was invited to give based on my academic and professional credentials. (Incidentally, the man who made the joke was not a speaker, invited or otherwise.)

It brought to mind my undergraduate college advisor who discouraged my pursuit of an astronomy degree. The only time he could muster any enthusiasm for my course selection was when I enrolled in a modern dance class.

I could go on with similar experiences—and I have innumerable female colleagues who have their own collection of stories. But it can be hard to see the demoralizing effect statements such as these have when looking from the outside. Taken as single events, each of these stories might be a simple misunderstanding, or a dumb joke. It’s only when viewed over the course of a lifetime does the pattern begin to emerge.

The fact is, despite the great strides women have made in the sciences, stereotypes persist. In the 1960s and 70s, a social scientist asked 4,807 elementary-school children to [draw a scientist](#). Of those, only 0.6 percent depicted a woman. The good news is, today, about 28 percent of children draw female scientists, a significant improvement, but we still have a long way to go—especially when you consider that women earn roughly [34 percent of all doctoral degrees](#) in science, technology, math, and engineering.

To continue this upward trend, we need to approach diversity not as the feel-good, check-the-box requirement it’s often perceived to be, but as a critical foundation on which successful teams are built. Because it is.

I see it every day in my work. Science is all about solving problems. The more diverse a team is—not just in terms of gender and race, but also educational background, career experiences, socioeconomic background, and the list goes on—the better it is at solving those problems. That’s because all of those experiences that shape us as human beings influence how we look at challenging questions and investigate possible answers.

The research bears this out. For example, a [2018 study](#) that looked at nearly 2,000 companies in 8 countries found that those companies with more diverse management teams had 19 percent higher revenue due to innovation.

I'm fortunate that I've worked with a lot of leaders—including many men—who have been firm believers in the benefits of diversity. When I was a graduate student at the University of New Mexico, my advisor was adamant about giving his female students the same opportunities as the men. Consequently, he fostered an atmosphere of creativity and can-do-ism that influences me to this day.

This week, I will be a guest speaker at the Institute of Meteoritics' 75th anniversary at UNM. Giving this talk feels in some ways like I'm coming full circle, making my way back to the place that helped empower me to pursue science passionately and without boundaries. And I bet no one will make a joke about me being a woman driver on Mars.