

## *Wisdom from Accomplished Women in STEM*



This photo displays Eberhardt Hall from NJIT and was taken in 2022.

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There were no women's bathrooms for Dr. Steffen-Fluhr when she first joined The Newark College of Engineering (currently The New Jersey Institute of Technology) faculty in 1971.

“There was a lot of very crude behavior in those early days that now is actionable and wouldn't exist at all. So the university in that regard, and my experience here has changed dramatically in the last 51 years.” Murray Center Director and associate humanities professor Dr. Steffen-Fluhr said.

Women in STEM have made a significant amount of progress for themselves and their fields over the past 6 decades and will continue to do so. Accomplished women in the field each have their individual journeys of success and hardships.

As a practicing structural engineer and senior university graduate lecturer Dr. Taher has experience with the bias that comes with working in STEM as a woman. “People are not always used to the idea of a woman as a structural engineer. The challenge is that they don't always tell you to your face, but sometimes you feel it. and you feel that this is probably what they're thinking.” Dr. Taher says. “They start asking you, how long have you been doing that? Have you worked a lot? Do you have enough experience? I'm not sure they would ask these questions, if I were a man. They're not really sure whether they want to hire a woman. And sometimes you feel that they may not trust you as well as they would have if you were a man.”

Unfortunately experiences similar to this is something that many women who are currently practicing their careers in STEM face. However, the stories of these professional women can be used to teach students tools on how to persevere in the face of bias.

"I don't worry about what people think so much. The outcome of my work is really what I think is important. Science can be measured, you can evaluate things, and it tends to be very quantitative. So it is not who is right, but what is right, what can be proven experimentally. Personally I just look at the results and let that speak for itself." says Professor and Chair in the Department of Chemistry and Environmental Sciences Dr. Sadik.

Professional women in STEM, especially educators, act as role models and motivate girls who are currently pursuing an education and career in STEM. In a report conducted by NJIT in 2005 called the *Committee On The Status Of Women Faculty At The New Jersey Institute of New Jersey* a direct correlation was made between the retention of women professors and the retention of female students.

"Role models are really important. If you don't see people who are like you, look like you, or you could see yourself as them doing things in a field. It gets harder for you to imagine yourself doing it." Dr. Steffen-Fluhr states.

"I think it's also good for the students who are women because we become role-models. Dr. Taher says "And then, we encourage them so in the future they know that other people have done this before them, so why not them?"

Women professors also had a positive impact on male students by altering the students' attitudes towards women in STEM, making the concept of professional women more normalized to them. By simply being who they are, female professors create more inclusive professional expectations and environments.

Focusing on practicing professional women's stories also gives for better insight on the current landscape of the professions students are trying to Pursue.

"There are plenty of issues that women still have. We could point out that this year on the institute promotion and tenure committee, which is the second level through which faculty have to do when they apply for promotion, there are no women faculty. " Dr. Steffen-Fluhr pointed out.

"Women have complicated lives. Women, faculty, researchers, particularly younger ones, have these intense research programs, but they're also likely to have young children that they have to take care of as well, and do a disproportionate amount of that childcare. Last year alone, the university lost 12% of its women faculty. So even though we've been very successful in recent years with a considerable effort in hiring new women faculty, it was up to about 25%. But when you lose 12% of a small group in one year, you're kind of back where you started from." said Dr. Steffen-Fluhr.

Despite the numerous and disproportionate amount of challenges women in STEM face, these Doctors are still accumulating a bountiful amount of accomplishments in their fields whilst simultaneously sharing their knowledge to future generations. And each of them had wisdom to share for current students.

**Dr. Sadik Advice:**

“Persevere despite whatever challenge that they [students] face. The only person that can stop you from making progress from moving forward is you. Be optimistic, look forward, look at what you can do to overcome some of the challenges. Work hard, be focused, manage your time well and don't give up. “

**Dr. Taher's Advice:**

“I would like to encourage them, if this is what they like to do, then you know, they should go for it and they should not get discouraged by negative comments from some people or a negative attitude, and they are as capable as men. I actually find, you know, I found over the years that sometimes, you know, the girls that I have in my classes, um, are even better than the boys. And they study more and they're better organized. It's not always the case, but there are cases where they can actually do better than the guys in, in this field.”

**Dr. Steffen-Fluhr's Advice:**

“We're trying to figure out ways in which we can sustain young girls and their natural interest in STEM, during the really hard time when it's so easy to get talked out of it. I mean, the cliché thing to say is you sort of wanna figure out stuff you really love to do that's really interesting to you and then kind of find a way to do that kind of stay faithful to that. Because people could talk you out of it in a variety of ways.”