I recently attended a student IEEE Women in Engineering (WIE) networking night with over 50 student members in attendance. More than half of the students attending the event were majoring in biomedical engineering. When I polled them about what they wanted to do upon graduation, some told me they wished to pursue a medical degree or graduate degree so they could become researchers. The majority of them told me that they really had no idea what they could do with the degree but liked the idea of developing technology to cure diseases and assistive devices to help disabled people regain some of their lost mobility. They were hoping that by attending the WIE networking night, they would learn about biomedical career opportunities from others who had already traveled on this path.

The young audience seemed surprised that on the panel of six women, including myself, none of us had degrees in biomedical engineering but were all involved in biomedical research and applications. There were electrical engineers developing new tissues and surgical robots, computer engineers developing nanotechnology drug dispensing systems, mechanical engineers developing surgical instruments, and my own research using image processing to automatically and accurately diagnose tumors better than the human eye. It now occurred to the audience that when we say engineering requires interdisciplinary skills that we actually mean it.

Each woman on the panel had gained depth in a specific area of engineering and then used her expertise to solve problems to help benefit humanity. Sound familiar? It should because this is one of the missions of the IEEE.

“So is most of engineering really biomedical engineering?” one young woman asked. In this issue of IEEE Women in Engineering Magazine, we let you decide. It doesn’t seem to matter from which engineering major students graduate, there is still quite a number of students who confess to plodding through their undergraduate studies with no definitive vision of what kind of career they are seeking. We will introduce you to a variety of engineers who have focused their careers on developing technology and applications for the benefit of humanity. The career path you think you are heading down may end up leading you to a place that you never knew existed. Our job at IEEE Women in Engineering Magazine is to help you understand how to build your career options so that when a new and exciting opportunity greets you, you are ready to take on the challenge with enthusiasm and confidence.

Students often ask me how I got involved in the IEEE. I recall the story of attending an IEEE Student Professional Awareness Conference (S-PAC) as an undergraduate student. There, I witnessed one of the best examples of presentation and communication skills that remain unparalleled to this day. The audience received advice on everything from how to find a job in a downturned economy, graduate school options, to gaining leadership skills. The distinguished speaker that the IEEE had sent to visit my university was Jim Watson from Ohio. I couldn’t believe that such an esteemed individual would waste his weekend with us, a group of undergraduate students. Jim made us all feel valued and intelligent regardless of our class ranking. I still use what Jim taught us in my own presentations and lectures. Jim’s S-PAC was the only training I have ever received that prepared me for a career as a professor and entrepreneur, both careers that I never dreamed of as an undergraduate.

Jim is still participating in S-PACs and has helped generations of students find success beyond the walls of academia. Jim is truly an unsung hero. All of us at IEEE WIE wish to commend him for his years of mentoring and hope our story on IEEE S-PACs will help WIE Affinity groups consider holding an S-PAC for their region and get professional engineers to volunteer to share their experiences with students.

As I traveled the world visiting our WIE Affinity groups, I heard many stories—some are heartwarming, while others are heartbreaking. One reoccurring theme is how to deal with difficult...
individuals in the workplace and the lack of mentors.

There are many individuals who assume that all women make good teachers and are best suited to be mentors for other young women. In this issue, we will share real situations encountered by some of our IEEE WIE members. While the solutions may not provide a “one size fits all” for every situation, the advice comes from the women who have experienced it. This could help others experiencing the same issues, recognize the pattern, and be better positioned to have a positive outcome.

As IEEE celebrates its 125th anniversary, WIE is proud to commend the IEEE’s leadership and commitment to supporting women and diversity. Happy Birthday IEEE!

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Postmaster: Send address changes to IEEE Women in Engineering Magazine, IEEE Operations Center, 445 Hoes Lane, Piscataway, NJ 08854 USA.
Canadian GTS #125634188.
PRINTED IN THE USA