

Makena Leonard

IDEA Center's Spotlight on UC San Diego's Future Woman Engineers



Quick Facts

Grade: Class of 2023

Major: Electrical Engineering

Outside Interests: Snowboarding, Cooking, Reading, Surfing, Gardening

Questions about your experiences:

What does Women's History Month mean to you? Why do you think it is important to celebrate it?

To me, Women's History Month is a time to celebrate women's accomplishments and contributions in various fields such as politics, STEM, arts, and literature. Women have played critical roles in shaping our world, but their achievements have often been overlooked or minimized in mainstream historical narratives. In addition to providing an opportunity to learn more about the activists and innovators that have allowed us to achieve greater equality and progress, Women's History Month reminds me to honor and celebrate the wonderful, hard working women in my own life that have shaped me into the person I am today.

Women's History Month also serves as an important reminder of the gender inequality and oppression faced by women in the United States and abroad. In recent years, we've seen major setbacks in reproductive rights in the US after the overturn of Roe v. Wade, racial disparities in women's healthcare made even more clear during the pandemic, and legal attacks on LGBTQ rights at both federal and state levels. Women's History Month reminds me to remain vigilant, acknowledge the achievements of the women around me and those that came before me, and be inspired to demand a more equitable future for generations to come.

How did you get involved in the Society of Women's Engineering (SWE)? What has been your favorite part of SWE?

I became involved with SWE my freshman year of college after chatting with SWE board members tabling on Library Walk. My initial motivation to join was admittedly the free food offered at most events, but I quickly met wonderful people and felt an immense sense of community and support.

For me, the best part of SWE has been the opportunity to connect with other women and nonbinary folks in engineering while also participating in outreach and mentorship at UCSD and surrounding high schools. Finding a sense of community in male-dominated engineering spaces can be difficult at times, so I am incredibly grateful to have found mentorship, lifelong friendships, and the opportunity to give back to my community through SWE.

How did you find out you wanted to pursue a major in electrical engineering?

In high school, I really enjoyed physics and mathematics. I wanted to go into a field that offered opportunities to work for the good of others, but I was terrible at biology, so being any sort of doctor or physician was out of the question. I began looking into engineering, and was enticed by the versatility of an electrical engineering degree and the potential career paths it could lead to. In hindsight, I joke around that I had no idea what I was getting myself into when I checked the electrical engineering box at age seventeen, but I wouldn't change a thing.

As I progressed through my electrical engineering degree, I chose to specialize in power engineering, a field that I feel very passionately about. Electricity is a human need in our modern world, essential in providing power for agriculture, medical care, and basic daily functions that we may take for granted. Through maintaining and improving power systems infrastructure, I hope to be part of the solution to issues of climate change, wildfire threats, and increased reliance on the electrical grid.

How has being a woman affected your experience at UC San Diego in the Jacobs School of Engineering?

While I have broadly felt supported by my instructors and peers within the Jacobs School and electrical engineering major in particular, I have sometimes struggled with imposter syndrome and the feeling that I might not belong, especially during my freshman and sophomore years. As any woman in a male-dominated field can tell you, the occasional sexist remark is not uncommon, but the most daunting aspect of my experience in the Jacobs School has been the lack of gender diversity in my major. The EE major at UC San Diego comprises just 10-20% women, and only two of eighteen ECE courses I've taken here have been taught by a female professor. It's not uncommon to be the only woman in a lab group or project team.

It has been difficult at times to overcome the (mostly irrational) feeling that I have to “prove” my intelligence or avoid asking questions for fear of seeming incompetent. Making friends with other women in my major, joining SWE, and looking up to female upperclassmen succeeding in classes I was scared to even take helped immensely with this feeling, and I am proud to be part of the slowly increasing number of women graduating with an electrical engineering degree from UC San Diego. I hope that the Jacobs School continues to address this issue by investing in diversity in engineering student organizations, youth outreach, and programs aimed at improving diversity and retention rates like the IDEA Center.

What advice would you give to current and future women engineering students?

Above all, I would say don't be afraid to take up space. Whether you are just starting at UC San Diego or graduating soon, you've worked so hard and deserve to be here as much as anyone else. In more practical terms, I would advise women engineering students to find community, friendship, and mentorship among other women in STEM, through making friends in class and joining diversity in engineering organizations like SWE, WIC, GMBE, NSBE, oSTEM, SHPE, and SASE. There is truly strength in numbers.

What is the biggest lesson you learned in your four years here at UC San Diego?

I feel like the older I get, the less I really know– and that's okay! While an engineering degree certainly teaches the fundamentals, I think that college is a time to learn how to learn, and accept the idea that learning is a lifelong process. Embracing the idea that I have so much more to learn as a new engineer and am not expected to know everything right away has been so freeing – I think that pride can sometimes stop us from being curious and exploring new things that we may not initially be great at.

What has been your greatest achievement here at UC San Diego?

Serving as Vice President External for Society of Women Engineers has been an incredibly fulfilling achievement for me, as I've been able to assist in raising funds and forming partnerships with a variety of companies in support of SWE's programs and outreach efforts. Of course, none of this is without help, and I am so grateful for the support given to SWE by past VP Externals, the Jacobs School, Corporate Affiliates Program, and IDEA Center. This past January, after months of planning efforts with committee members from NSBE, SHPE, oSTEM, and WIC, we hosted the first in-person Professional Evening with Industry since 2019, with over 15 companies and 250 students in attendance. It was such a wonderful and inspiring experience to see so much industry support and opportunity for engineering students from historically marginalized groups, and I'm grateful to have been part of the planning efforts.