“Working toward a more inclusive engineering educational environment”

By Shenwei Chang

As a genderqueer student double majoring in aerospace engineering and Asian American studies, I believe I have a unique perspective on diversity in engineering. My essay offers some anecdotes illustrating the persistence of sexism in engineering and also briefly analyzes the diversity problem within engineering women’s spaces through the lens of intersectionality.

As an aerospace engineering major, I have witnessed, through cases of blatant discrimination and subtler microaggressions, how deep-seated sexism remains in engineering. Multiple female friends of mine have quoted male peers who insist that women must “have it easy” in engineering due to affirmative action initiatives when evidence points to the opposite: women often face pressure to perform better than their male peers to justify their presence in engineering. For example, male aerospace engineering students routinely discredit the women’s student organization for the major, assuming that our projects are less difficult than those of the other project-based organizations, which are male-dominated. Perhaps the most telling and egregious example, a friend of mine, the risk analyst and only woman on her senior design project team, was asked by her teammates to “analyze the risk of having an all-female design team.”

Unfortunately, sexism in engineering is not limited to the attitudes and antics of immature male students. One of my professors from the mechanical engineering department frequently suggested that students explain newly acquired concepts to their mothers, assuming that they, as women, would not be familiar with technical subjects. More notably, a professor made openly misogynistic comments that upset the female students in his introductory-level chemical engineering course. In response to complaints from students, the engineering college administration reassigned him to teach upper division courses, figuring that by the time female students became upperclassmen, they would be “used to sexism.” From these examples and more, it is apparent that sexism is pervasive in engineering educational environments.

However, even the university-funded program and student organizations specifically for women engineers on campus are not necessarily bastions of refuge. These spaces are typically dominated by white, cisgender, heterosexual women and fail to address intersectional issues that many women experience as a result of inhabiting multiple marginalized identities. My university’s chapter of the Society of Women Engineers (SWE) is noticeably lacking in black and Latina women, many of whom prefer to join the National Society of Black Engineers or the Society of Hispanic Professional Engineers because racist microaggressions from white women make them feel uncomfortable in SWE.

Moreover, while engineering women’s spaces at my university are not hostile toward LGBTQ+ individuals, neither are they particularly inclusive of them. Questions of work-life balance at guest lectures and conference workshops always seem to revolve around an assumed heterosexual relationship. One speaker even preached that a woman should “honor her husband.”

Furthermore, there is neither recognition nor discussion of problems faced by transgender women, transfeminine non-binary people, genderqueer and otherwise gender-nonconforming people in these spaces; dress codes for formal events invariably and uncritically uphold sexist and cissexist standards.

My experiences have demonstrated that simply recruiting more women into engineering is insufficient to combat sexism within the field, nor is sexism the only problem that plagues engineering. In addition to increasing enrollment of students from diverse backgrounds, engineering institutions must challenge and reform their dominant microcultural norms in order to create a more inclusive and diverse educational environment.