

The Chemistry Women Mentorship Network: women helping women climb higher in chemistry

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Imagine you're a second-year PhD student, and your qualifying exam is in 2 days. You have submitted your report and prepared your presentation, but you just don't feel like you're good enough to pass the oral exam. You keep telling yourself that the other second-year students are so much smarter and have made far more progress. And you're a woman. You look around for a senior woman mentor to get advice from and come up short. The one woman faculty member in your area is over-committed and unable to connect with you that week. What do you do? Unfortunately, this situation is all too common for women in chemistry. A 2019 report from the National Science Foundation highlighted that 41% of graduate students, 26% of postdoctoral fellows, and 25% of faculty in Chemistry are women [1]. Similarly, a 2024 report from Elsevier highlighted that 41% of active researchers, 37% of research grant recipients, 35% of authors on scientific publications, and 26% of filers on patent applications are women [2]. Despite advances over the past several decades, achieving full gender parity remains elusive. Underrepresentation is perpetuated and exacerbated by a lack of women role models and mentors, leading to feelings of isolation and inadequate guidance for younger trainees as well as those starting out in independent positions. Despite progress in responsibility sharing in households, balancing an academic career with family responsibilities Chemistry can result in career breaks that negatively impact progression [3]. Women also experience imposter syndrome at higher rates than men [4]. Imposter syndrome is especially pronounced in male-dominated environments, leading to diminished self-confidence and discouraging leadership pursuits. Additionally, women frequently encounter microaggressions and implicit biases [5], creating a hostile work environment that can deter their advancement. Networking challenges further limit women's opportunities for collaboration and mentorship, which are crucial for career advancement. Addressing these issues through grassroots initiatives like the Chemistry Women Mentorship Network (ChemWMN, Figure 1) provides essential support, mentorship, and advocacy to help women identifying individuals gain entry and succeed in academia. In the ensuing paragraphs, we highlight the mission and composition of ChemWMN, our mentorship model, our advice for creating mentorship networks, and a case study from a former ChemWMN mentee turned mentor. While this article focuses on the efforts and outcomes of ChemWMN, we would like to recognize that many other organizations have blazed trails in this space, including the American Chemical Society Women Chemists Committee (ACS WCC), the Association for Women in Science (AWIS), The Open Chemistry Collaborative in Diversity Equity (OXIDE), and the National Center for Faculty Development and Diversity (NCFDD).