



Biology Seminar

Humanizing biology to promote equitable classrooms

Tuesday February 27, 2024 | 3:30PM PST | LSB 401

Recent innovations in biology education research focus on promoting equity in science, technology, engineering, and mathematics (STEM) by humanizing biology. Research from my lab on this topic can be split into two broad avenues of inquiry, including the impacts of (1) promoting counter-stereotypical role models on student outcomes and (2) contextualizing societal and ethical considerations into biology curricula with ideological awareness. In my seminar, I will focus on research demonstrating that undergraduate students in STEM are unlikely to see a diversity of scientists represented in commonly used educational materials. The mismatch between the identities of scientists featured in courses and an increasingly diversified student body upholds the false narrative that only certain types of people contribute to science. While previous work has demonstrated that highlighting scientists from excluded groups in educational materials benefits students in biology, the critical elements of these materials were previously unknown. To address this gap in knowledge, we tested the effects of including visual and humanizing descriptions of scientists featured in quantitative biology activities on over 3,700 students across 36 undergraduate institutions. We found that sharing humanizing information about scientists increased the extent to which students related to scientists, which in turn increased student engagement and success. Effects were strongest among students who shared the same excluded identities with scientists. Through large-scale collaboration we can advance our understanding of effective and inclusive teaching through integrating research into STEM education.

