APR20-2019-000098

Abstract for an Invited Paper
for the APR20 Meeting of
the American Physical Society

Beyond Representation: Data to Improve the Situation of Women in Physics and Astronomy[1]

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Women face many challenges in physics and astronomy. Although the number of women has increased over time, women continue to be underrepresented in these fields. According to 2018 survey data from the Statistical Research Center at the American Institute of Physics (AIP), women earned 22% of physics bachelor's degrees and 36% of astronomy bachelor's degrees, and 20% of physics doctorates and 35% of astronomy doctorates. Women experience many other challenges in physics and astronomy careers besides underrepresentation. The 2018 Global Survey on Gender Gaps in the Sciences surveyed physicists and astronomers in 159 countries, and women were significantly more likely to report negative relationships with their graduate advisors, slower career progression, and experiences with gender discrimination and sexual harassment. A 2011 survey of mid-career physicists also revealed that women earned significantly lower salaries than men, and women more often reported challenges balancing work and family obligations. In order to improve the situation of women, physics and astronomy communities need to focus on issues beyond representation, and should continue to address the negative experiences and inequalities women encounter in classrooms, graduate schools, and academic work environments. These findings suggest that the experiences of women could be improved in several ways such as promoting more positive mentor relationships, and providing more supportive and flexible work environments for family needs.

[1]The 2018 Global Survey on Gender Gaps in the Sciences was funded by the International Council for Science (ICSU).