



# STEM (Science, Technology, Engineering, Mathematics) Why We Do It?

**Women in STEM** is not a new topic. It's been discussed and debated for decades, really. So, why are we still discussing it and why is it relevant today?

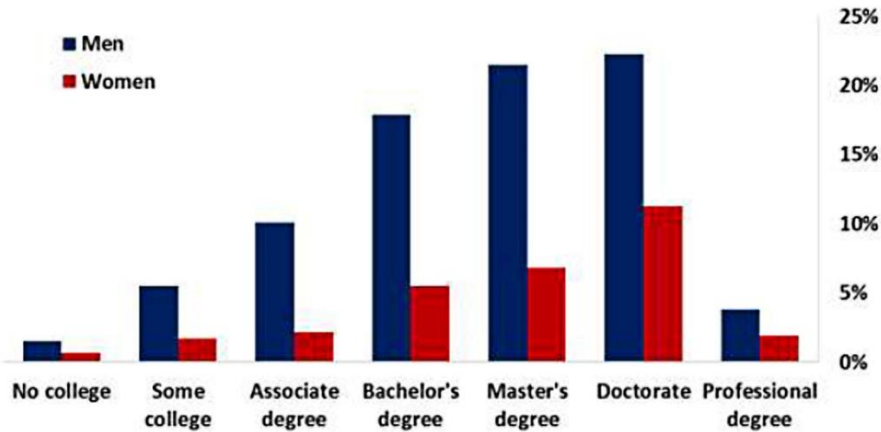
Ongoing research by the U.S. government, AAUW National Organization, and current news reports paint a **distressing** picture of the condition of women in STEM fields. The reason **we** should care is - STEM fields have the largest projected growth of job and income sectors. **To leave women behind in STEM jobs is to leave women behind economically.**

## What's happening today?

In 2017 the U.S. published their most recent *Women in STEM update* from the Office of the Chief Economist and found *"America's STEM workforce is crucial for generating new ideas, receiving and commercializing patents, and providing the flexibility and critical thinking required in the modern economy. While women continue to make gains across the broader economy, they remain underrepresented in STEM jobs and among STEM degree holders."*<sup>(5)</sup> Key findings from that report are:

- Women filled 47 percent of all U.S. jobs in 2015 but held only 24 percent of STEM jobs. Likewise, women constitute slightly more than half of college-educated workers but makeup only 25 percent of college-educated STEM workers.
- Women with STEM jobs earned 35 percent more than comparable women in non-STEM jobs – even higher than the 30 percent STEM premium for men. As a result, the gender wage gap is smaller in STEM jobs than in non-STEM jobs. Women with STEM jobs also earned 40 percent more than men with non-STEM jobs.
- While nearly as many women hold undergraduate degrees as men overall, they make up only about 30 percent of all STEM degree holders. Women make up a disproportionately low share of degree holders in all STEM fields, particularly engineering.
- Women with STEM degrees are less likely than their male counterparts to work in a STEM occupation; they are more likely to work in education or healthcare.

**Figure 1: Share of Workers in STEM Jobs by Gender and Educational Attainment, 2015**



Source: OCE calculations using American Community Survey public-use microdata.  
Note: Professional degrees include medical, dental, veterinary, and law degrees. Estimates are for employed persons age 16 and over.

Taken from OCE Women in STEM:Update, 2017.

The problem is complex and the solutions are not easy. AAUW National has commissioned multiple studies and research. They found a drop-off/drop-out of women who do graduate with a STEM degree vs. those who actually enter the STEM workplace. They found hiring bias. Their research showed that 2 identical resumes fielded with different names on them, one a man's name and one a woman's name, the resume with a man's name received more job offers, higher pay offers and mentorship offers.

Further factors found that must be addressed which contribute to the underrepresentation of women in STEM fields <sup>(2)</sup> include:

- Combating stereotypes and bias
- Emphasizing social relevance
- Cultivating a sense of belonging
- Changing the environment

Additionally, current news reports illuminate a persistent hostile work environment for women in STEM fields, including at Google. Google, a technology giant, global leader and innovator, is accused of gender-based wage and hiring discrimination and sexual harassment. Lawsuits brought in 2017 and their effects are on-going. <sup>(3,4)</sup>

### What can we do about it?

AAUW is an advocacy group. Our mission is to advocate for women and girls both nationally and locally. One way we are able to address the problems of women in STEM and reach hundreds of women locally is through our Women in STEM conference. This vehicle enables us to address all four of the contributing factors to underrepresentation of women in STEM fields, reported above, at an early age in our community. In fact, the well-known importance of conferences/events that focus on the celebration of women in STEM fields is recognized and used by Harvey Mudd College. <sup>(2)</sup> One of the strategies they used to increase the number of women graduating in computer science from 12% to approximately 40% in 5 years' time was to take female students to the Grace Hopper Celebration of Women in Computing conference.

### Conclusion

Solving the problem of the underrepresentation of women in STEM career fields is important and complex. It merits our attention and resources. As an advocacy group, it is our mission to support and promote women in STEM locally. Our best tool that enables hundreds of young women to be reached is **AAUW Redding Women in STEM Conference** - where accomplished women in STEM fields act as role models and demonstrate/explain STEM career pathways using hands-on applications and offer a strategic map to each STEM career. AAUW Redding has produced this conference for 25 years. Our next conference will be March 7, 2020.

## **Bibliography**

1. AAUW. (2019, October). *Women in STEM: search*. Retrieved from American association of University Women: [aauw.org](http://aauw.org)
2. Christianne Corbett, M. A. (2015). *Solving the Equation*. Washington, DC 20036: AAUW.
3. O'Brien, S. P. (2018, November 1). *CNN, Business*. Retrieved from Google Employees Walk Out Over Sexual Harassment Scandals: <https://www.cnn.com/2018/11/01/tech/google-employee-walkout-andy-rubin/index.html>
4. Oconor, C. (2017, September 14). *Google Sued for Gender Discrimination by Female Former Employees*. Retrieved from Forbes: <https://www.forbes.com/sites/clareoconnor/2017/09/14/google-sued-for-gender-discrimination-by-female-former-employees/#104f010b50c9>
5. U.S. Dept. of Commerce. (2017). *Women in STEM: Update*. Retrieved from <https://www.commerce.gov/news/fact-sheets/2017/11/women-stem-2017-update>

