Creating Equitable STEM Workplaces
by Addressing Unconscious Bias

Unconscious biases are social stereotypes held by both women and men. **Research shows biases negatively impact STEM workplaces in a number of areas**, including: climate, evaluation, hiring, salary, workload, resource allocation, daily interactions, recognition, promotion, publication, funding, & access to key professional networks. Fortunately, research also shows steps we can take to mitigate the effects of bias and create more equitable STEM workplaces.
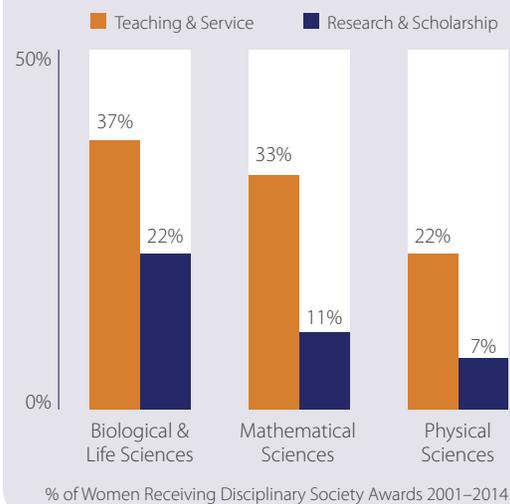
3 Examples of bias from the research

1. Bias in Hiring

Yale researchers gave experienced faculty application packages and asked them to evaluate a lab manager candidate on competence, worthiness of hiring and mentoring, and the starting salary they would offer. The same application package was given to all evaluators with the only difference being the name at the top. Some were given "John" and others "Jennifer."

Bias in Hiring

Average Rating (Scale of 1–7). Categories: Competence, Hirability, Mentoring. Series: "John", "Jennifer"

Bias in Recognition

% of Women Receiving Disciplinary Society Awards 2001–2014

Teaching & Service — Research & Scholarship

Biological & Life Sciences: 37%, 22%
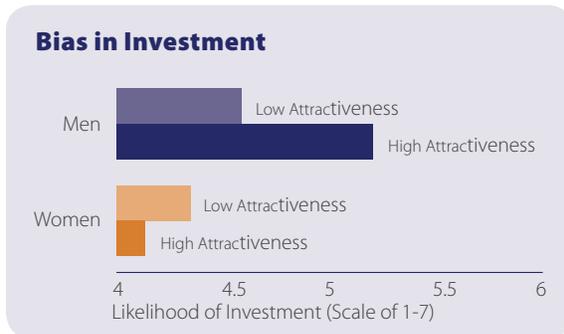Mathematical Sciences: 33%, 11%
Physical Sciences: 22%, 7%

2. Bias in Recognition

AWIS research with 18 STEM disciplinary societies shows that awards allocations are stratified along gendered lines. The data below show that between 2001 and 2014, women were consistently underrepresented among recipients of scholarly and research awards and overrepresented among recipients of teaching and service awards relative to their proportion among PhDs, full professors, and disciplinary society members.

AWIS

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"Regardless of the evaluator's gender, most evaluated "John" more favorably on all metrics and offered "Jennifer" a 12% lower salary and significantly less mentoring support."

Bias in Investment

Bias in Investment

Men — Low Attractiveness
Men — High Attractiveness

Women — Low Attractiveness
Women — High Attractiveness

4   4.5   5   5.5   6
Likelihood of Investment (Scale of 1-7)

3. Bias in Investment

In three entrepreneurial pitch competitions and two controlled experiments, Harvard and MIT researchers found that investors prefered entrepreneurial pitches presented by men over women. The effect was moderate by physical attractiveness for men, while physical attractivness made no significant difference for women

"Regardless of their representation in the nomination pool, men were twice as likely to win scholarly awards compared to women."

"Even when the content of the pitch is identical, men are more than twice as likely to have their entrepreneurial pitches funded than women."

What can you do?

- **Recognize unconscious biases**
  Perceiving ourselves as objective, rather than being willing to see our biases correlates with showing even more bias. Bringing our biases into conscious awareness allows us to intervene before they dictate our behaviors so we can better align our intentions and actions.

- **Pay attention to language**
  Small differences in language have signficant impacts. Gendered language in materials, position descriptions, solicitations, and award titles might subtly discourage certain candidates from applying.

- **Create clear, consistent, & transparent evaluation processes**
  Clearly defining and prioritizing evaluation criteria helps facilitate objective committee discussions. Transparency in evaluation creates space for potential inequitites to be addressed before final decisions are made.

Sources:

1. Moss-Racusin, C.A., Dovidio, J.F., Brescoll, V.L., Graham, M.J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. Proceedings of the National Academy of Sciences, 109(41), 16474-79. doi:10.1073/pnas.121286109

2. http://www.awis.org/?Awards_Recognition

3. Brooks, A., Huang, L., Kearney, S.W., & Murray, F.E. (2014). Investors prefer entrepreneurial ventures pitched by attractive men. Proceedings of the National Academy of Sciences, 111(12), 4427-4431.