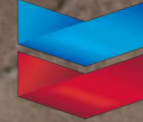




Chevron



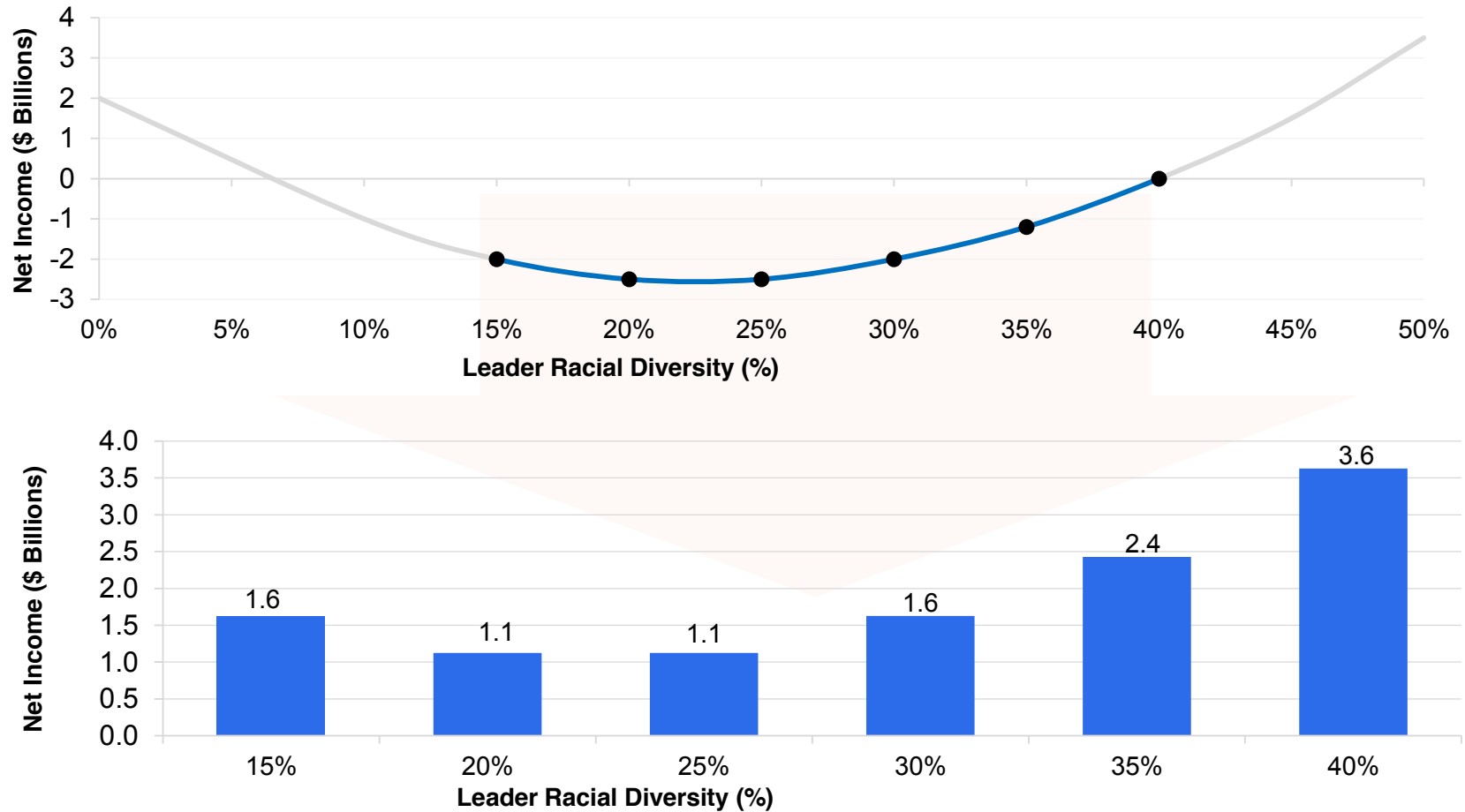
human energy

# Women in Engineering Roundtable

Shariq Yosufzai  
Vice President

New York, NY  
March 14<sup>th</sup>, 2016

# There is a Relationship Between Leadership Diversity and Performance



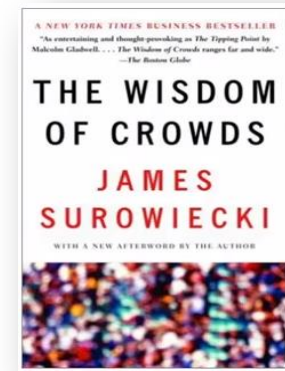
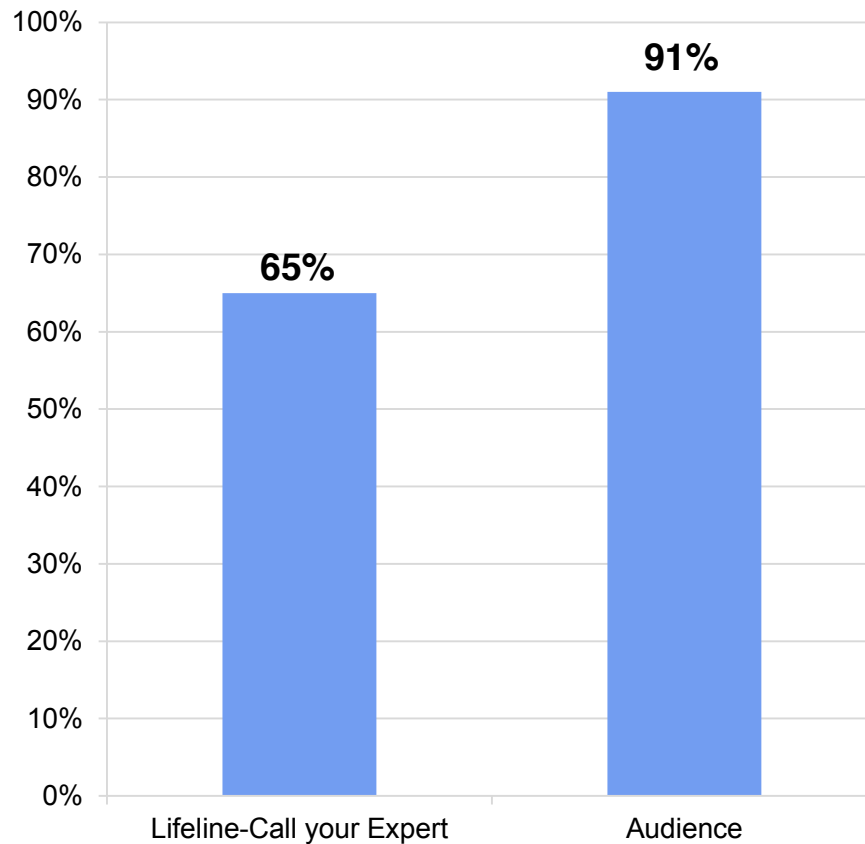
Source: 2006 Cornell Study: Examining the Link Between Diversity and Firm Performance

- Average net income for companies \$1.6 B studied.
- Average U.S. firm ethnic diversity approximately 15%.



# Diversity Does Improve Group Performance

## Who Wants to be a Millionaire (Percent Accurate)



### Key Themes:

- Diversity trumps ability. Diverse groups can often outperform a group of the best.
- People with different backgrounds bring new information, forcing group members to prepare better, anticipate alternative viewpoints.



# Unconscious bias is real

## Impact of Blind Auditions

- Top 5 U.S. orchestras had 5-10 percent women in 1970s and 1980s
- Blind auditions start during this time (no shoes allowed)
- Orchestras are now 25-30 percent women
- Women now 50 percent more likely to advance to finals in competing for orchestra position

## Women in Leadership

Setting the agenda for current and future leaders

### How blind auditions help orchestras to eliminate gender bias

To get more women into their ranks, many orchestras use blind auditions where musicians perform behind a screen. Could we replicate this in business?

Curt Rice

Guardian Professional, Monday 14 October 2013 07.00 EDT



The number of female musicians in orchestras has increased since blind auditions became commonplace Photograph: Lebrecht Music And Arts Photo Li/Alamy



# Understanding unconscious bias

*Unconscious biases are errors in judgment that cause people to make choices that unwittingly favor one group over another.*

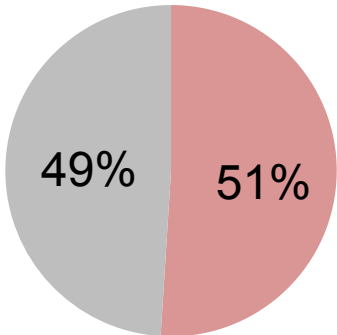


- Most people:
  - are unaware that they harbor unconscious biases,
  - do not recognize situations in which unconscious bias may play a role in their decision-making,
  - often hold **conscious** beliefs that are directly opposite of their unconscious bias.
- Unconscious biases are most prevalent in situations where individuals must make decisions based on an overwhelming amount of data, under time constraints.
- The brain uses unconscious biases as “short cuts” to make decision-making easier and faster.
- Awareness of the potential for unconscious bias in decision-making can often mitigate its effects.



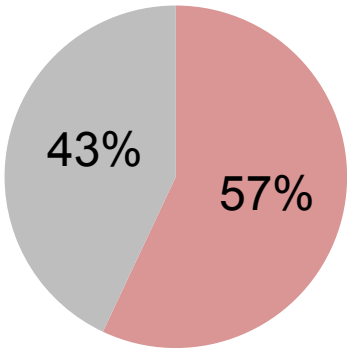
There is a gender gap at the top

Population  
U.S.



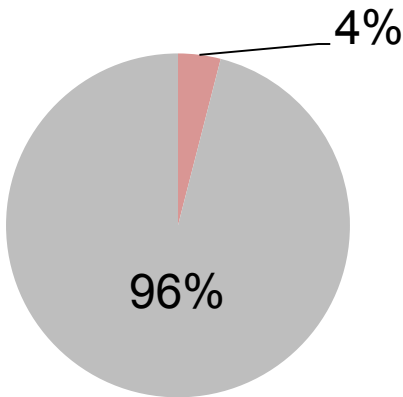
Source: Census.gov

College Graduates  
Bachelors Degree



Source: NCES.ed.gov

CEO's  
S&P 500

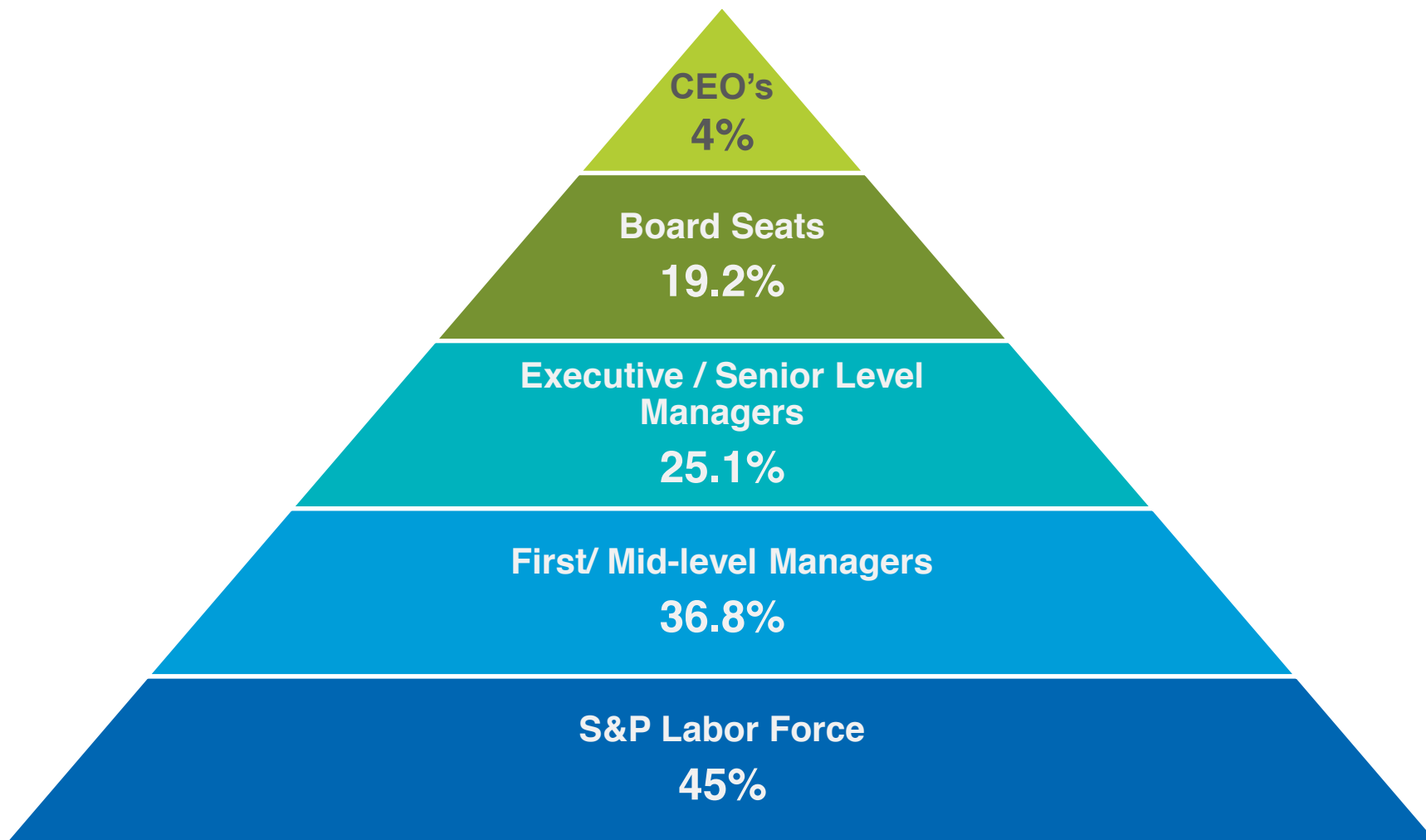


Source: Catalyst.org

■ Women   ■ Men



# Women in S&P 500 companies

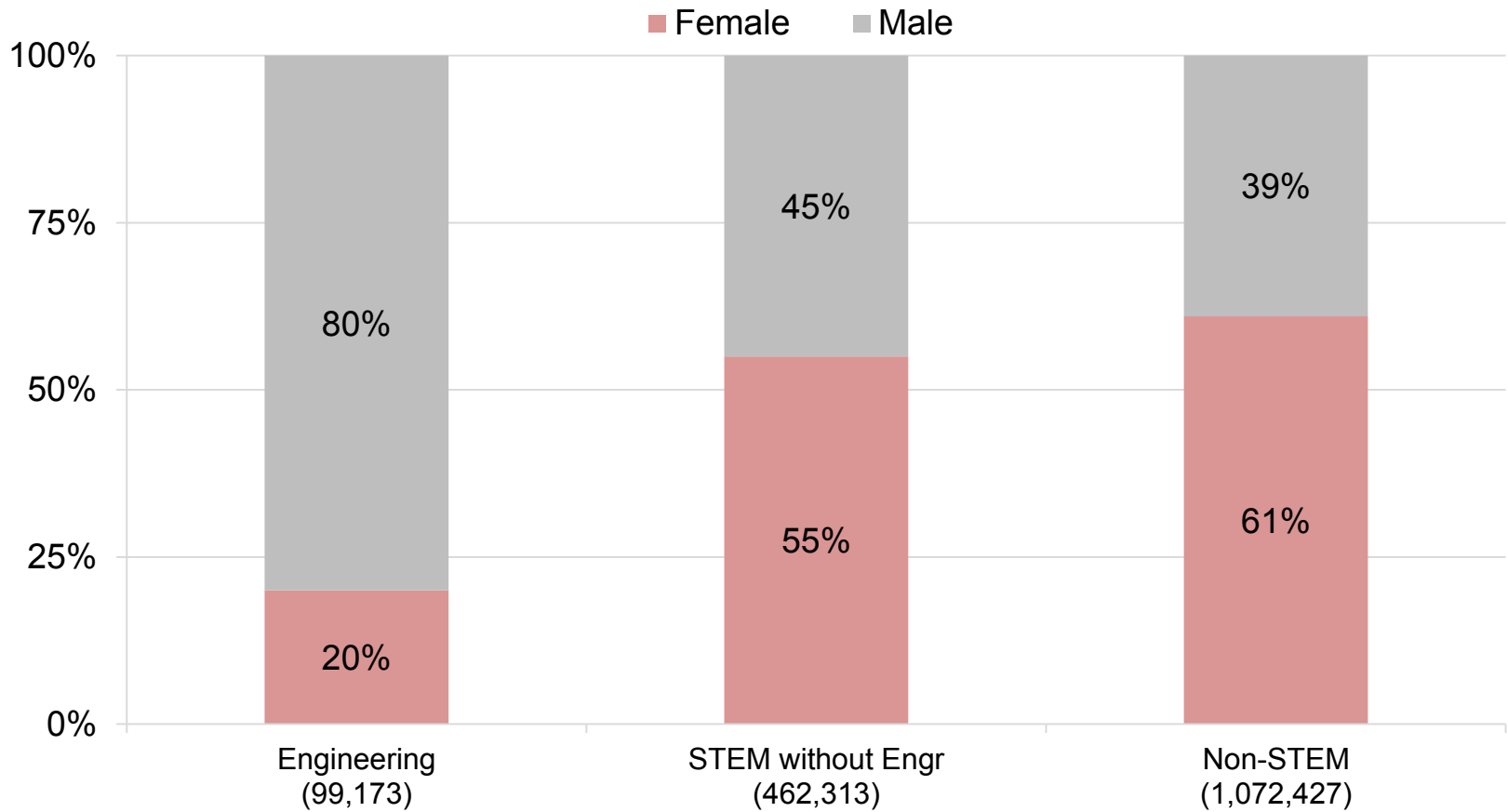


Source: Catalyst.org



# Women are underrepresented in STEM

**Gender Distribution of Bachelor's Degrees Awarded**



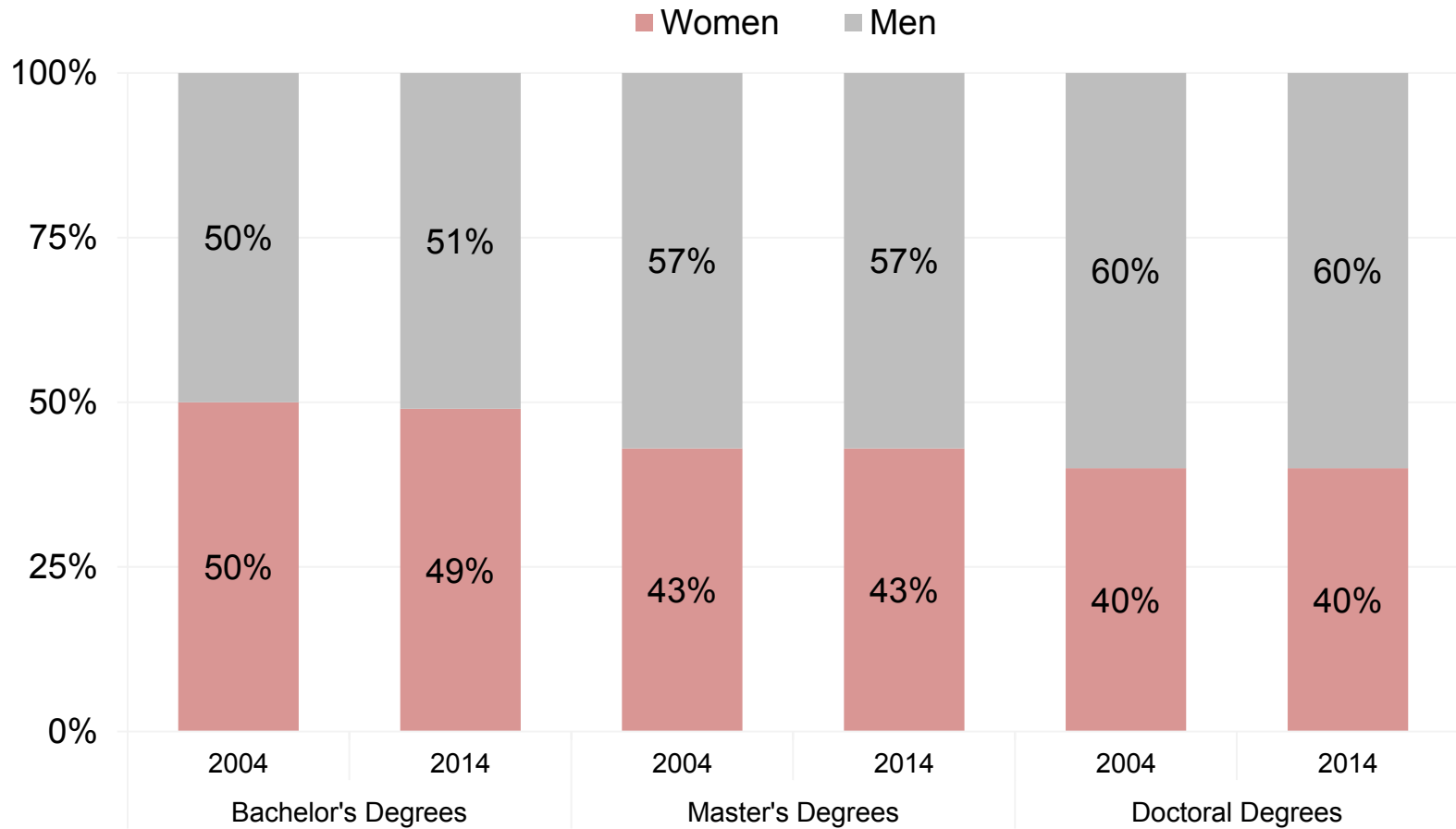
Source: National Center for Education Statistics (NCES), National Student Clearing House Report.





# Degrees awarded - STEM

Gender Distribution of Science and Engineering Degrees by Level

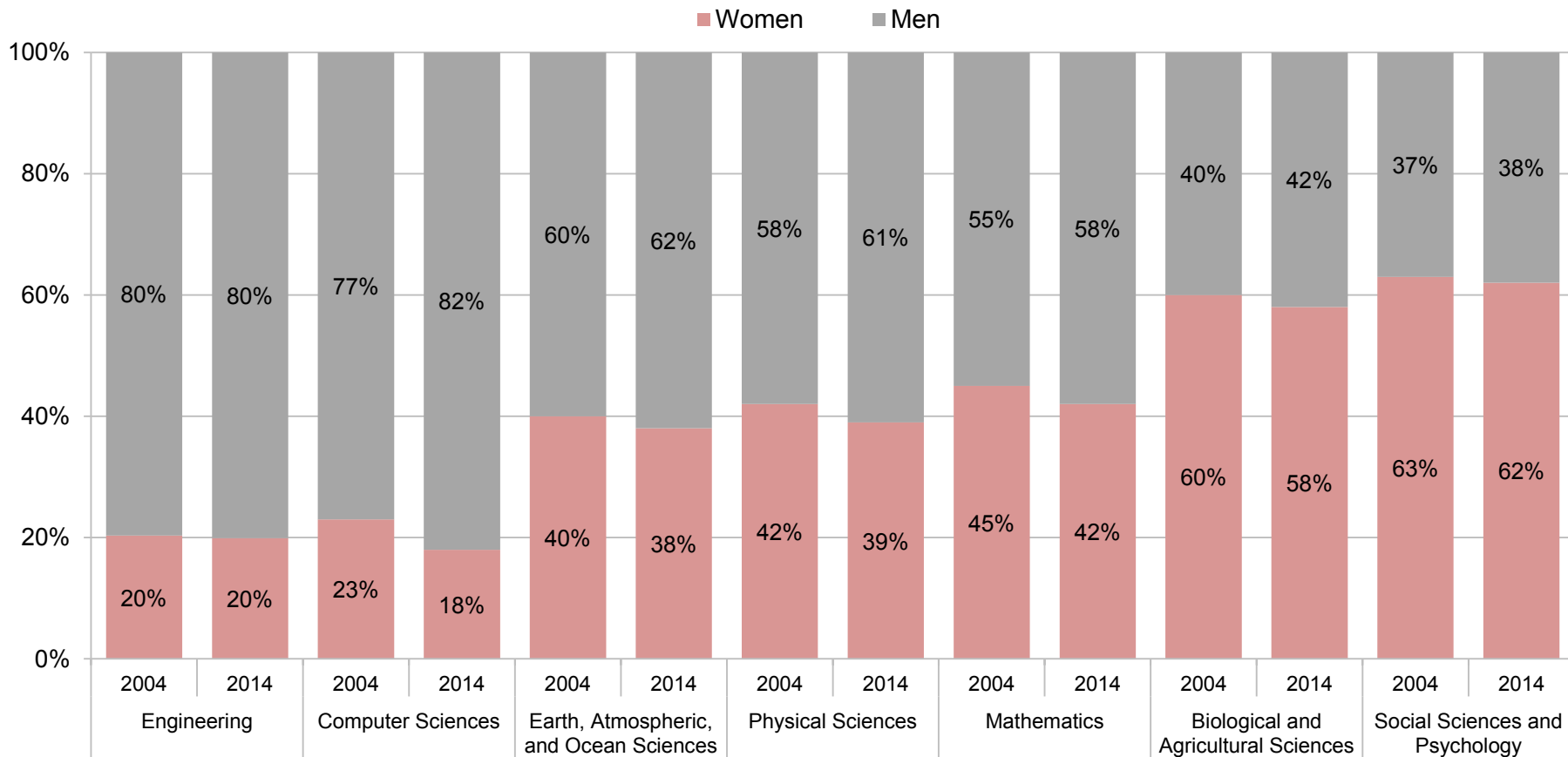


Source: National Center for Education Statistics (NCES), National Student Clearing House Report.



# Gender differences in STEM degrees

**Gender Distribution of Bachelor's Degrees in Science & Engineering Disciplines**

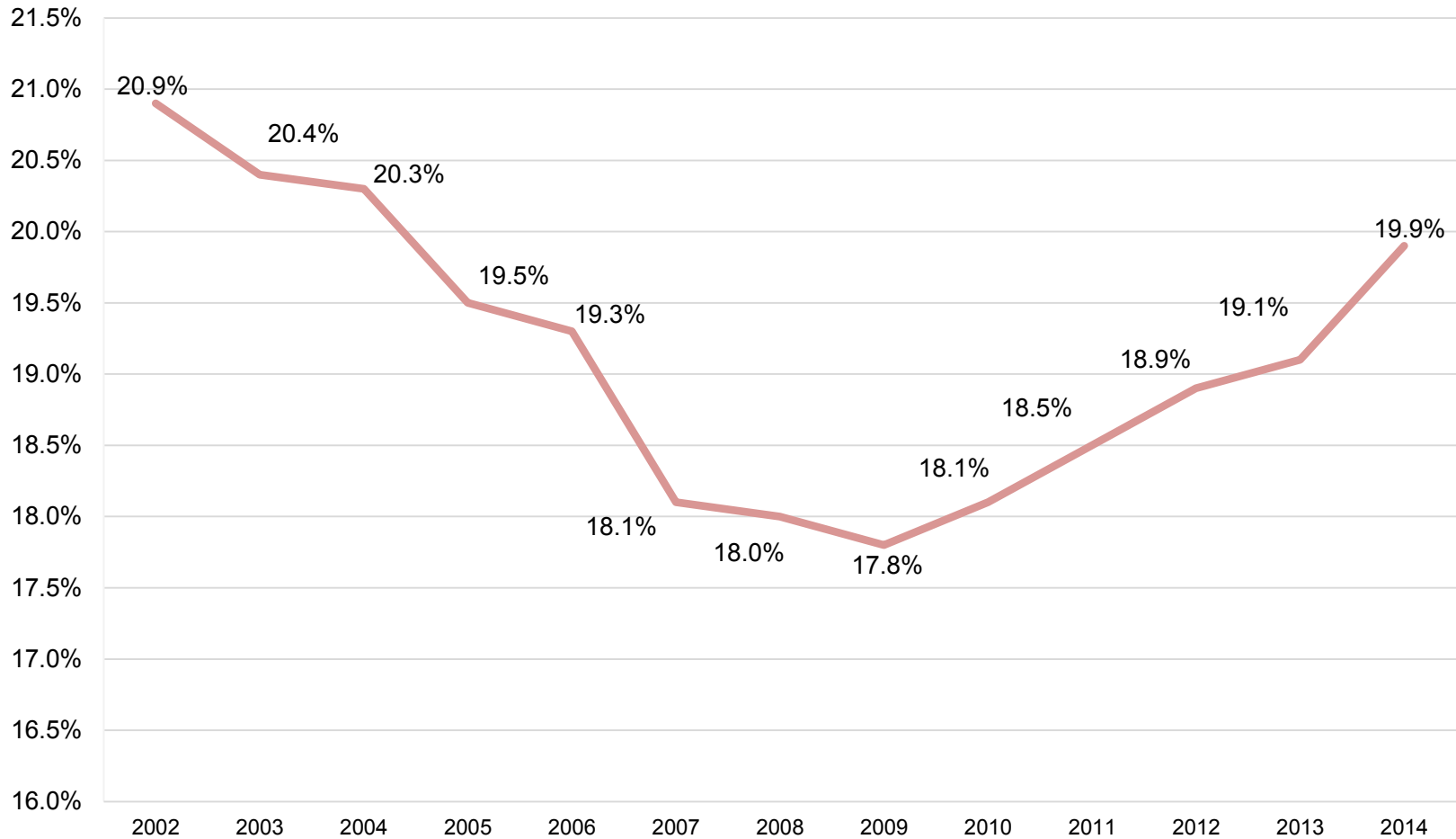


Source: National Center for Education Statistics (NCES), National Student Clearing House Report.



# Women engineering degrees returning to previous levels

Percentage of Bachelor Degrees Awarded by Women



Source: American Society of Engineering Education (ASEE)



## Women in Life Sciences

Gains in life sciences:

70%

Bachelors Degrees

39%

Assistant Professors

24%

Full Time Professors

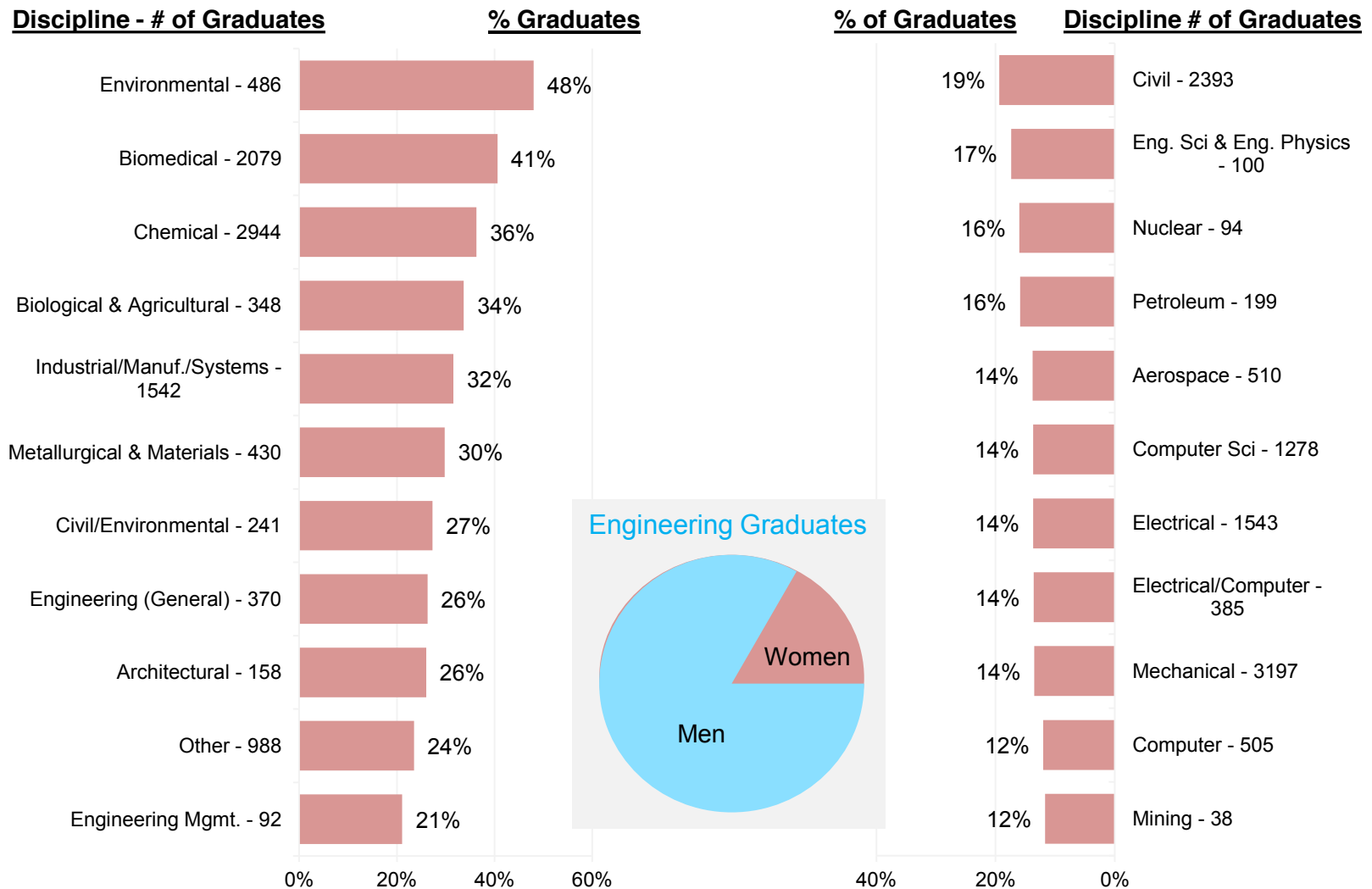
Under representation in physical science,  
technology, engineering & math:

28%

Earning Doctorates



# Women in engineering bachelors degrees by discipline in 2014

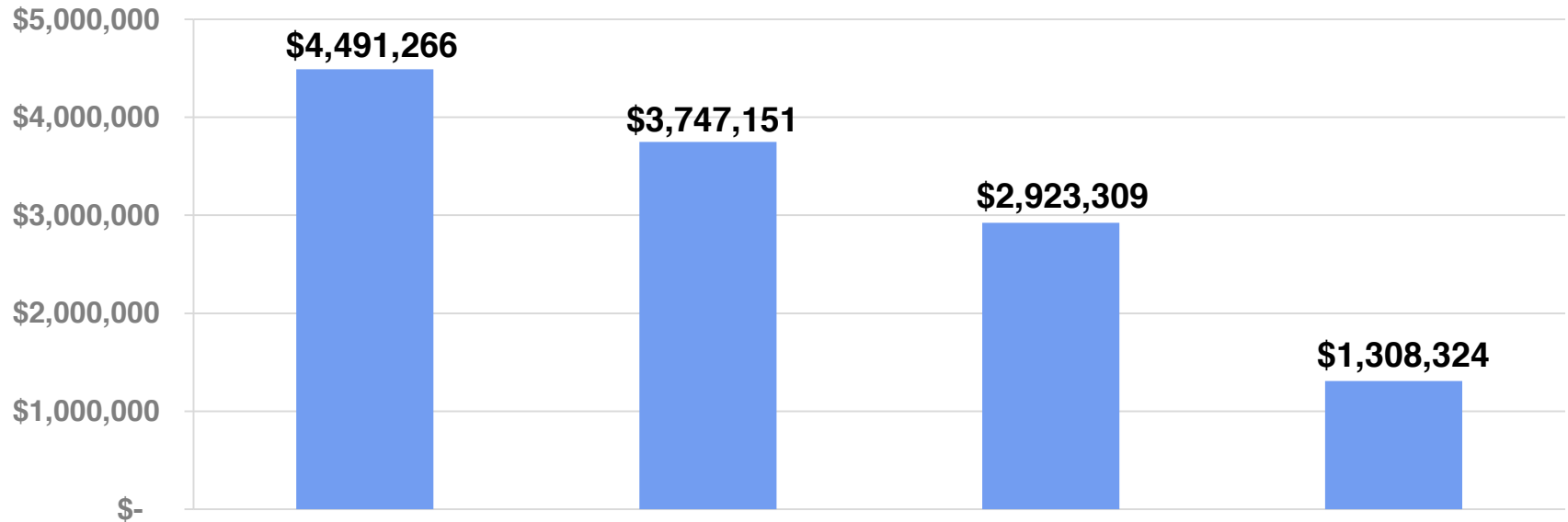


Source: American Society of Engineering Education (ASEE)



# Earnings power of engineers

## Cumulative Workforce Lifetime Earnings



	Engineering	STEM - without Engineering	Non-STEM	No College Degree <sup>4</sup>
<b>Salary Range<sup>1</sup></b> (Low to High Salary Degrees)	<b>\$52,000 - \$101,000</b> (Environmental Engr to Petroleum Engr)	<b>\$40,400 - \$63,100</b> (Biology to Computer Science)	<b>\$30,300 - \$56,700</b> (Early Childhood Education to Nursing)	<b>\$20,110 - \$35,170</b> (No Highschool to Highschool)
<b>Median<sup>2</sup></b>	<b>\$67,600</b>	<b>\$56,400</b>	<b>\$44,000</b>	<b>\$27,500</b>
<b>Cumulative Lifetime Earnings<sup>3</sup></b>	<b>\$4,491,266</b>	<b>\$3,747,151</b>	<b>\$2,923,309</b>	<b>\$1,308,324</b>

1. Data source for salary ranges come from payscale.com.

2. Data source for median salaries come from the National Center for Education Statistics, (NCEE) and the Bureau of Labor Statistics (BLS).

3. Cumulative Lifetime Earnings was derived using the median salary, and a 5% increase per year for 30 years for Engineering, STEM, and Non-STEM Degrees. A 3% increase was used for No College Degree.

4. No college degree salary come from the Bureau of Labor Statistics (BLS), and includes high school diploma and no high school diploma.



## Call to Action

**51%**

*Census.gov*

**Total U.S. Women  
Population**

**51%**

*bls.gov*

**Total U.S. Women  
Labor Force**

**57%**

*NCES.ed.gov*

**U.S. Women  
Bachelor Degrees**

**20%**

*ASEE.org*

**U.S. Women Engineering  
Bachelor Degrees**

Frankly, this is not good enough!





# Women's Engineering Summit: The Power of Convening



# Diversity and Inclusion Drives the Power of Engineering

“**Engineering empowers society** in unprecedented ways. It is at the core of all innovation, resulting in tremendous societal and economic benefits; it is the **most important discipline** to address current and emerging challenges in the United States and on a global scale; and it provides new, imaginative ways to enrich life.

A **fundamental requirement** for growth of this enabling power, is for the engineering community **to attract and engage people from all demographics** of our society.”

*ASEE Statement on Diversity and Inclusiveness*





human energy®

# Participant Dialog

