

The Impact of Investing in Diversity

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in partnership with



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Session Overview

- PowerPoint Presentation
- Introduction to Panelists
- Panel Discussion
- Audience Q&A and Open Discussion

Diversity and STEM - January 30, 2023

Women, Minorities, and Persons with Disabilities

Statistical information about the representation of these three groups in STEM employment and science and engineering education. A formal report is issued every two years.

[Link to Full Report](#)

Key WINS Takeaways on the following slides.



NSF STEM Report - Jan. 30, 2023 - Key Takeaways

STEM Workforce and Education:

- Among the college-educated workforce in S&E occupations in 2021, women's representation ranged from 61% of social and related scientists to 16% of engineers.

S&E Degrees:

- In 2020, women earned 66% of bachelor's, 67% of master's, and 60% of doctoral degrees in the social and behavioral sciences.
- In 2020, women were underrepresented among degree recipients at all degree levels in physical and earth sciences, mathematics and computer sciences, and engineering.



NSF STEM Report - Jan. 30, 2023 - Key Takeaways cont.

Part-Time Employment in the Workforce with at Least a Bachelor's Degree

The share of women working part time in the S&E workforce is nearly twice the share of men.

Among college-educated workers employed in S&E occupations in 2021, 13% of women and 7% of men worked part time (less than 35 hours per week). Among computer and mathematical scientists and engineers, women's part-time employment rate was higher than that of men. The distribution of part-time work across the S&E occupations is uneven. A greater proportion of social and related scientists work part time (30% among women and 27% among men) than did any other occupation group. Fewer engineers and computer and mathematical scientists worked part time: 8-9% among women and 4-5% among men. The only significant difference between men and women was among engineer and computer and mathematical scientists. In S&E-related occupations, a greater proportion of college-educated women (20%) than men (11%) worked part-time.,



NSF STEM Report - Jan. 30, 2023 - Key Takeaways cont.

Representation in the Workforce with at Least a Bachelor's Degree

Women make up a smaller portion of the S&E workforce than they do of the college-educated workforce overall.

Women made up 51% of the total labor force with at least a bachelor's degree (college-educated labor force) in 2021. Similar to the overall STEM workforce, women represent a smaller proportion than men of the college-educated workforce in S&E occupations—29% were women. The distribution of women among the S&E occupations is uneven in the college-educated labor force. In 2021, 61% of the social related scientists were women, as were 46% of biological, agricultural, and other life scientists, 33% of physical and related scientists, 26% of computer and mathematical scientists, and 16% of engineer. Compared with men, a greater share of college-educated workers in S&E-related occupations and non-S&E occupations were women (58% and 54%, respectively) in 2021.



NSF STEM Report - Jan. 30, 2023 - Key Takeaways cont.

Overall S&E Degrees Earned by Women

The number of S&E degrees earned by women increased at all degree levels between 2011 and 2020.

In 2020, women were awarded approximately 53,000 associate's degrees, 375,000 bachelor's degrees, 99,000 master's degrees, and 17,000 doctoral degrees in S&E fields. From 2011 to 2020, the number of S&E degrees awarded to women increased the most at the bachelor's degree level (96,000 degrees), representing a 34% increase. The 63% increase in S&E associate's degrees awarded to women was the largest percentage increase over this period among all degree levels. S&E master's degrees awarded to women increased by 45%, and doctoral degrees awarded to women increased by 18% over this decade.



NSF STEM Report - Jan. 30, 2023 - Key Takeaways cont.

As seen in the gender pay disparity across broad STEM occupation types, male STEM workers typically make more than female STEM workers regardless of whether they have an advanced degree. The median wage and salary earnings for men with at least a bachelor's degree was \$97,000 in 2020, compared with \$74,000 for women in the same education category. In the skilled technical workforce, men's median earnings (\$50,000) were higher than women's median earnings (\$41,000).



What about Leadership?

- With an increase in S&E degrees awarded to women from 2011 to 2022, does this correlate with senior and leadership roles held?
- CUPA-HR reports that the gap in representation for senior positions is widening.
- Minority groups accounted for 38.5 percent of the U.S. population in 2016, up from 30.1 percent in 2001
- Minority groups accounted for 14 percent of higher ed admin roles in 2016, up from 11 percent in 2001

Women in IT Networking at SC (WINS)

- The Women in IT Networking at SC (WINS) is a multi-year program initially funded by the National Science Foundation (NSF). *
- Was developed for addressing the prevalent gender gap that exists in Information Technology (IT), particularly in the fields of networking engineering and high-performance computing (HPC).
- Collaborative project managed by:
 - **University Corporation for Atmospheric Research (UCAR)**
 - **Energy Sciences Network (ESnet)**
 - **Indiana University**
- It was originally introduced as a pilot program** in November 2015 at the SC15, and has supported volunteers for SC16 - SC23.





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**WINS
Team**



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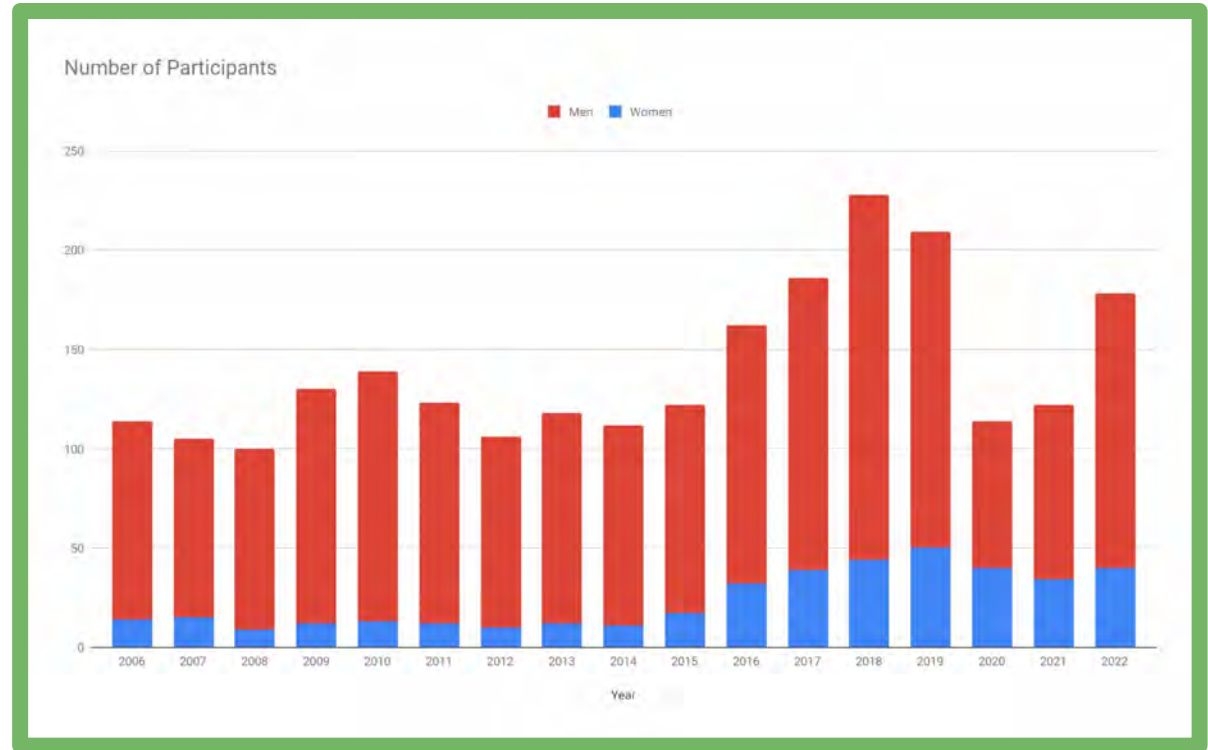
Wendy Huntoon

- **Lead Selection
Committee, AIHEC**

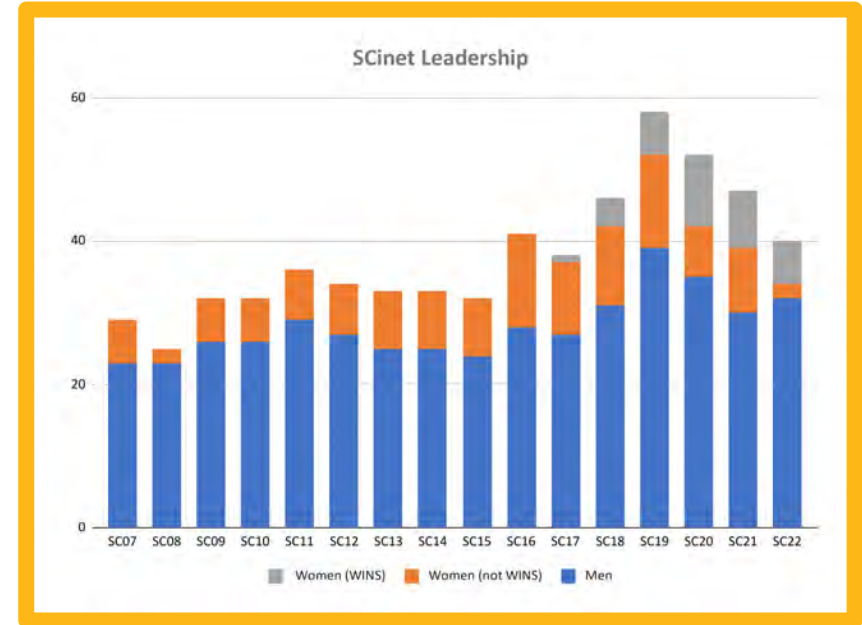
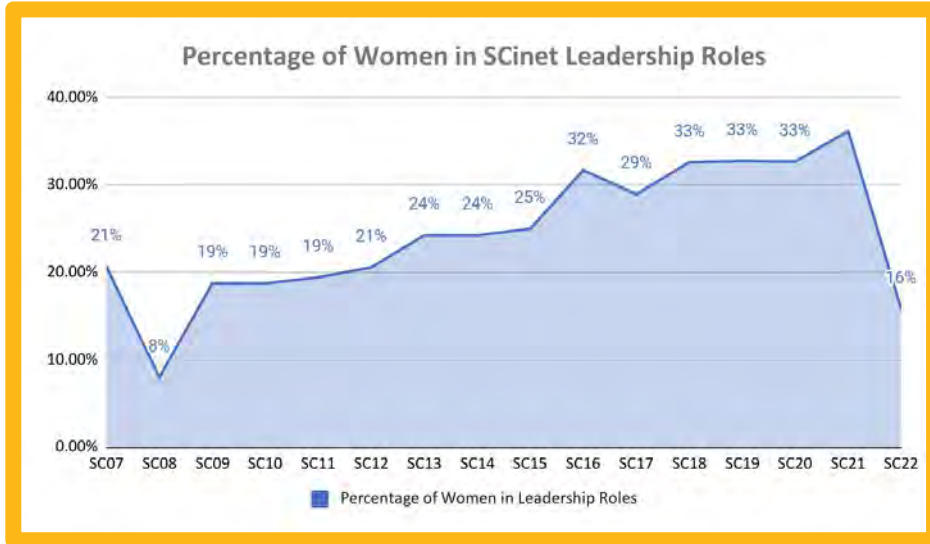


Impact on SCinet

- The percentage of women participating in SCinet has increased significantly since the program started in 2015, both in the number of women participating and the percentage of women on SCinet in general.
- Since 2007, where 15 of the 105 volunteers were women, in 2022, 41 of the 179 volunteers are women with 17 of them in the WINS program.



Impact on SCinet Leadership



- The percentage of women in SCinet leadership has grown from a low of 8% for SC08 to 15% for SC22.
- Women from the WINS program assumed SCinet leadership roles starting in SC17, two years after the program began.
- For SC22, 6 WINS awardees have leadership roles.

Benefits of the WINS Program



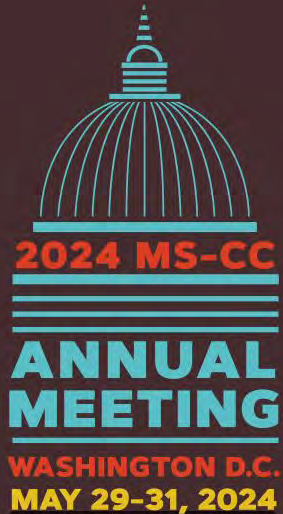
For the participant:

- Experience with different types of equipment, including some that is experimental.
- Working with other professionals.
- Working and spending time with a team of female professionals.
- Working with a team that is supportive and welcoming.
- Making professional contacts.
- Attending the Supercomputing conference and seeing groundbreaking research.
- Develop professional network within the community.

For the home institution:

- Attend and contribute to high-profile conference.
- Receive mentoring from industry professionals.
- Represent and promote your home institution to the outside world.
- Real-world exposure to new and different challenges.
- Bring back experience and ideas to team members.
- Increase diversity in the networking field.

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in partnership with



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