

Female Students Technology Aspirations and Awards

New Horizons - VCCCS

Thursday, April 11, 2019 at 11:15AM – 12:00PM

Roanoke H

Rachel Stange
Amy Buchanan
Dr. Melissa Stange

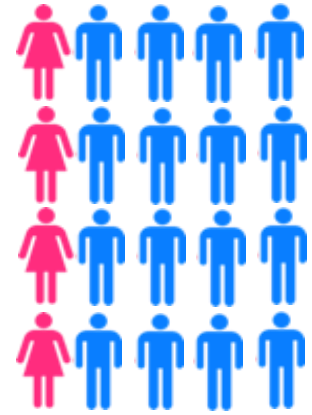
Diversity is a problem in computing



High school
computer
science



University
computer
science



Software
workforce

Women who try AP Computer Science in high school are ten times more likely to major in it in college, and Black and Hispanic students are seven times more likely.

Young Women = Untapped Talent

Undergraduate degree recipients 57%

AP test-takers 54%

AP calculus test-takers 46%

ISEF finalists in biochemistry 63%

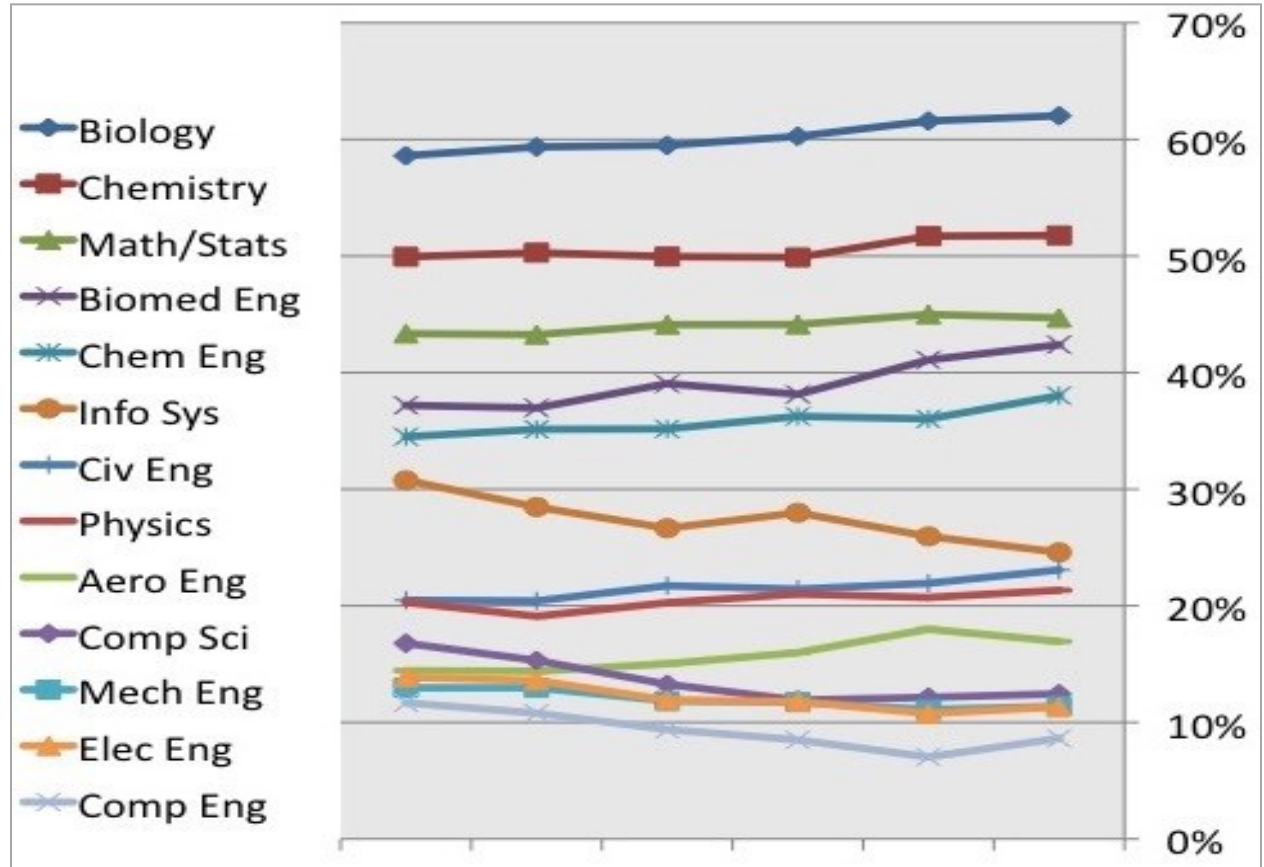
Computing degree recipients 18%

AP computer science test-takers 29%

Computing-related occupations 26%

Women in Scientific Disciplines

Percentage of Bachelor's Degrees Awarded to U.S. Women in Various STEM Disciplines



Source: Data Retrieved from National Center for Education Statistics Integrated Postsecondary Educational Data System.

The Value of Diversity to Computing

- Enhances Innovation
- Expands the Qualified Employee Pool
- Improves the Bottom Line
- Promotes Equality



Aspirations in Computing (AiC)

- » Identify, recognize and encourage young women for their technology aspirations and achievements
- » Build and support technical workforce talent pool
- » National award with local affiliate system
- » Provide peer networking through Facebook group – mitigating girls' isolation experience
- » Build direct relationships among girls interested in computing with universities and employers



Aspirations in Computing

What does the competition look like?

- » Checklist of computing activities
- » Six short essays
 - » Technology Access Question
 - » Experience Question
 - » Origin of Interest Question
 - » Leadership Question
 - » Career Goals Question
 - » Problem Solving Question




Award for Aspirations in Computing


What's in it for the female students?

- » Opportunity to join a growing FB support community of like-minded young women (nearing 12,000 members)
- » Attend an event held in their honor with individual recognition, a plaque for her and her school, plenty of swag
- » Opportunities for scholarships
- » Connections to professors at a number of universities who are involved with NWIT
- » Powerful resume item which is increasingly being recognized





Join About Community Opportunities News



Rachel S.
Rachel is a high school senior who has presented at an international educational technology conference at the age of 14. She was inducted into the PTK honor society for 2-year college at the age of 15 and has earned over 60 college credits and will graduate with her Associates of Science before she graduates from High School. She graduated with a Pre-Allied Health Certificate during her junior year. Some of her technical accomplishments have been earning her certificate from NSA & Computer Science Teachers Association (CSTA) as a Cyber Teacher, Girl Scout Gold Award by educating Tweens and Teens on cyber safety, being an AspirIT grant recipient, and making the college cybersecurity competition team. She plans on continuing her education by earning a B.S. & M.S. in Forensics. She hopes to get an internship or scholarship with the CIA or NSA. She is attempting to find journals to publish her biometric research and hopes to have the opportunity to create a universal tongue print database for criminal justice systems.

Awards Received

- 2019 National Honorable Mention
- 2019 Virginia Affiliate Winner
- 2018 Virginia Affiliate Honorable Mention

More about Rachel at: <https://fcc.edu/about-fcc/news/profiles/students/rachel-stange/>



Rachel's NCWIT Profile

<https://www.aspirations.org/user/114685>



Marisa's NCWIT Profile

<https://www.aspirations.org/user/137010>



Aspirations in Computing Program: **Collegiate Award**

- The Preliminary Round application includes essays, short answer questions, and a project endorsement
- The Finalist Round application includes a project presentation and letter of recommendation from a project advisor
- Honors outstanding technical accomplishments of college women
- Sponsored by Hewlett Packard and Qualcomm
- Winners receive an engraved plaque, \$10,000 and a trip to the NCWIT Summit
- Honorable Mentions receive a certificate and \$2500
- National Finalist receive certificate and plaque
- College must be an Academic Affiliate Member





Amy's Project story on YouTube:

<https://youtu.be/6OANbVDZ1jc>

More about Amy at:

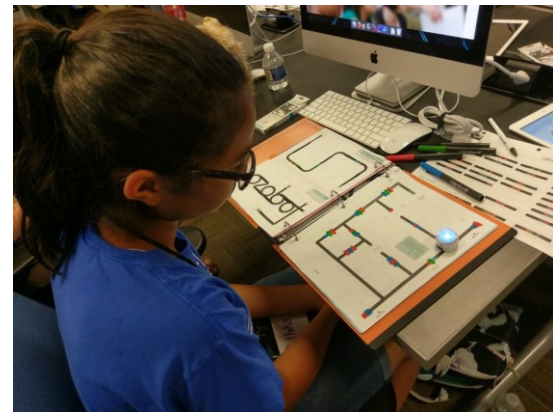
[https://lfcc.edu/about-
lfcc/news/profiles/students/amy-
buchanan/](https://lfcc.edu/about-
lfcc/news/profiles/students/amy-
buchanan/)



Aspire IT

- Connects high school and college women with K-12 girls interested in computing
- Program Leaders (former AiC awardees) teach them computing and computational thinking is FUN!
- Request up to \$3000 to run the program
- Increases technology camps at institution
- Helps build resume with leadership skills





Aspirations in Computing Program: K12 Educator Award

- Publicly celebrates educators who encourage high school women's interest and participation in technology pursuits.
- Sponsored by AT&T

Awards:

- \$1000 (\$250 cash, \$750 for PD activities)
- Recognition at local Aspirations Affiliate
- An Engraved award for both the educator and the winner's school





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- AiC High School Link: <https://www.aspirations.org/participate/high-school>
- AiC Collegiate Award: <https://www.aspirations.org/participate/collegiate-award>



<https://www.ncwit.org/alliances/aa>

