

Gender and Sexuality in Computer Science

Diversity in Computing

What comes to mind when you picture a woman in STEM? How about a LGBTQ person?



IBM
@IBM

Calling all [#womenintech](#)! Join the [#HackAHairDryer](#) experiment to reengineer what matters in [#science](#) amp.twimg.com/v/4769657e-253...

4:06pm · 4 Dec 2015 · Twitter Web Client

304 RETWEETS 411 LIKES

MY TEAM IS GREAT.
EVERYONE IS
SMART, CREATIVE
AND HILARIOUS.

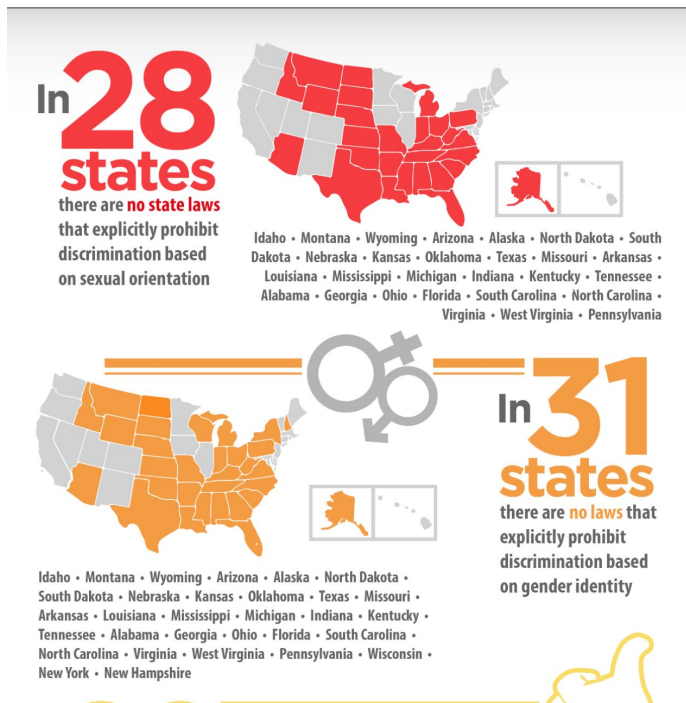
ISIS WENGER
PLATFORM ENGINEER



onelogin.com/careers



But isn't STEM about results? How is sexuality relevant?



The dropout rate for LGBTQ students is 3 times the national average.

Do you know your history?

- Megan Smith
- Grace Hopper
- Sue Black
- Ada Lovelace
- Margaret Hamilton

- Alan Turing
- Tim Cook
- Christopher Strachey
- Ludwig Wittgenstein
- Lynn Conway



Women were not admitted into college (Yale/Princeton/Columbia/Harvard : 1969-1974), LGBTQ folk were persecuted.

In the U.S. in 2001, 27.6 percent of bachelor's degrees awarded in computer science went to women, according to the National Science Foundation. By 2008, that number had dropped to a low of 17.7 percent.

In Mississippi, Montana and Wyoming, not a single girl took the AP Computer Science examination in 2014.

Furthermore, the percentage of women working in computer science-related professions has steadily declined since the 1990s, dropping from 35% to 25% in the last 15 years. Why is this the case?

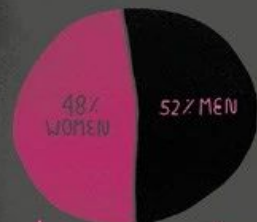
Here are a few theories....

STATISTICS IN STEM

The U.S. government has used the census to understand the demographics of the American workforce. The census published in 2013 gave the world insight into how poorly women are represented in the STEM fields. From the mid-twentieth century to the new millennium, there has been a definite increase in female scientists, but women are still underrepresented in these fields. That simply won't do. There are little girls right now who could grow up to cure cancer, explore a new galaxy, or even discover a new type of energy. Let's inspire more awesome girls and women to share their point of view and make amazing discoveries!

GENDER GAP PERCENTS

2011
TOTAL WORK FORCE



GENDER GAP
4%

2011
SCIENCE AND
ENGINEERING GRADS



GENDER GAP
22%

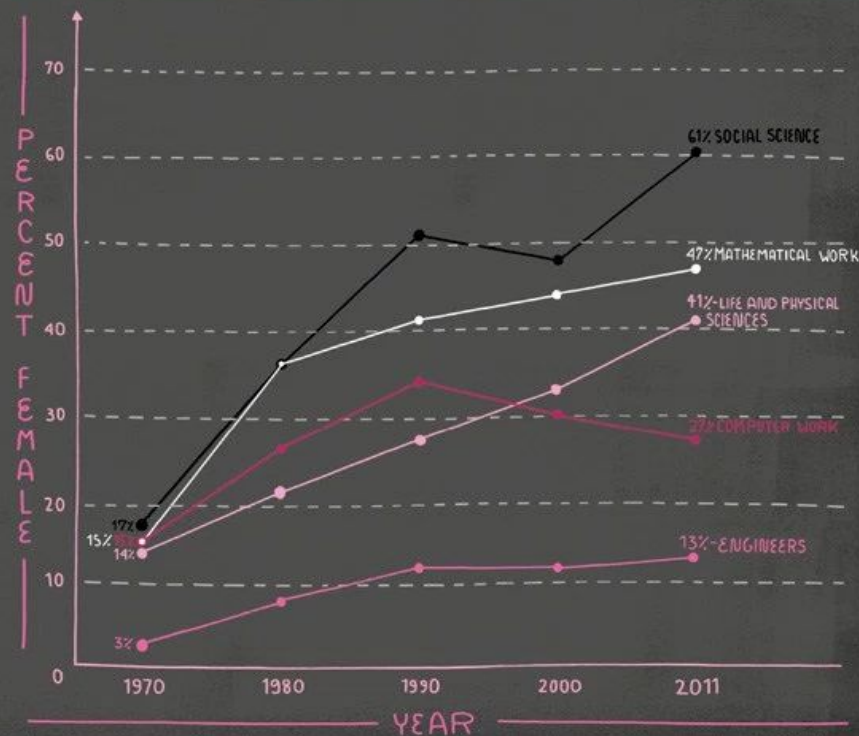
2011
STEM WORK FORCE



GENDER GAP
52%



PERCENTAGE OF WOMEN IN S.T.E.M. FROM 1970-2011



“I think the worst was that I passed by a group of my male coworkers in a hallway and one of them patted my butt. And then one of them giggled. My humiliation was much worse than I would have expected, and yes, I went home and cried. It was so unexpected and personal and I can’t find the words to express how deeply it wounded me. But I can explain WHY. There were 3 other men in that group who said nothing. Perhaps they thought it was amusing, IDK. No one confided to me that they thought that I had been wronged. By not saying anything they were part of a group, and this is the crux of the problem. Almost no one wants to challenge the status quo. At that particular company, to show support for me was to invite ostracism. So the entire time I worked there (on and off for 7 years as a contractor, they liked my work, and apparently I was a masochist) I felt alienated, isolated, and bullied (and I was bullied).”

- Casey, Machine Designer

Table 3: Major Tech Companies: Gender Representation

	Black/African-American				All Ethnic Groups	
Company	Male		Female		Male	Female
	%	N	%	N	%	%
Apple	5%	3036	3%	1773	69%	31%
Dell*	5%	1661	4%	1400	66%	34%
Facebook	1%	34	<1%	11	69%	31%
Google	1%	378	1%	250	70%	30%
Intel	3%	1443	1%	447	76%	24%
LinkedIn	1%	36	<1%	23	61%	39%
Microsoft	2%	1411	1%	687	72%	28%
Yahoo	1%	79	1%	59	67%	33%
Yelp	1%	14	1%	8	53%	47%

Data represents the companies' employee demographics data for 2013 and/or 2014.

**Data represents demographics for 2011.*

Class	Program	Gender	Asian	Black/African American	Hispanic/Latino	Multiple Races	Non-Resident Alien	Unknown	White/Caucasian			Year	Male	Female
2006	BA - Arts & Sciences	Male					1		5	6	0	2006	6	0
2007	BA - Arts & Sciences	Male							3	3	0	2007	3	0
2008	BA - Arts & Sciences	Female		1						1	12.5	2008	7	1
2008	BA - Arts & Sciences	Male							7	7		2009	1	0
2009	BA - Arts & Sciences	Male					1			1	0	2010	6	0
2010	BA - Arts & Sciences	Male			1		1		4	6	0	2011	8	3
2011	BA - Arts & Sciences	Female							3	3	27.27273	2012	1	2
2011	BA - Arts & Sciences	Male	1	1	1		1	1	3	8		2,013	2	6
2012	BA - Arts & Sciences	Female							1	1	25	2014	5	2
2012	BA - Arts & Sciences	Male					1		1	2		2015	2	3
2013	BA - Arts & Sciences	Female			1	1			4	6	75			
2013	BA - Arts & Sciences	Male							2	2				
2014	BA - Arts & Sciences	Male	2				1		2	5	0			
2015	BA - Arts & Sciences	Female		1					1	2	40			
2015	BA - Arts & Sciences	Male				1			2	3				
			3	3	3	2	6	1	38	56				

Class	Program	Gender	Asian	Black/African American	Hispanic/Latino	Multiple Races	Non-Resident Alien	Unknown	White/Caucasian		Year	Female	Male	
2006	BS - Engineering	Female							2	2	2006	2	14	
2006	BS - Engineering	Male	3						8	11	2007	1	16	
2007	BS - Engineering	Male		1			2			3	2008	1	8	
2007	BS - Engineering	Female	1							1	2009	0	9	
2007	BS - Engineering	Male	2		1			1	9	13	2010	2	11	
2008	BS - Engineering	Male							1	1	2011	1	7	
2008	BS - Engineering	Female					1			1	2012	2	5	
2008	BS - Engineering	Male	1				1		5	7	2013	2	7	
2009	BS - Engineering	Male	1				2		6	9	2014	2	9	
2010	BS - Engineering	Male					1			1	2015	3	8	
2010	BS - Engineering	Female							2	2				
2010	BS - Engineering	Male		1	1	2			6	10				
2011	BS - Engineering	Female							1	1				
2011	BS - Engineering	Male						1		1				
2011	BS - Engineering	Male	1				2		3	6				
2012	BS - Engineering	Female							2	2				
2012	BS - Engineering	Male	1				1		3	5				
2013	BS - Engineering	Male							2	2				
2013	BS - Engineering	Male			1	1	1		4	7				
2014	BS - Engineering	Female							2	2				
2014	BS - Engineering	Male				1		1	7	9				
2015	BS - Engineering	Female	1				1		1	3				
2015	BS - Engineering	Male				1	2		5	8				
			11	2	3	5	14	3	69	107				

GOVERNMENT PROGRAMS FOCUSED ON Women CS

1. [Computer Science Education Week](#) devoted to inspiring K-12 students to take interest in computer science topics.
2. [The Council on Women and Girls](#) The U.S. Department of Energy maintains this program, which spotlights girls who have excelled in contributing to STEM-related projects.
3. [NASA Girl Scout Partnership](#) More than 66% of all astronauts have been involved in scouting, including 27 Girl Scouts. The administration maintains strong ties with the scouting community and offers varied initiatives.

Organizations to support women in STEM

1. Grace Hopper Conference for Women in Computing
2. ACM-W
3. Girls Who Code
4. Anita Borg Institute for Women in Technology



ANITA BORG INSTITUTE
WOMEN TRANSFORMING TECHNOLOGY

GRACE HOPPER
CELEBRATION OF WOMEN IN COMPUTING



ANITA BORG
INSTITUTE
WOMEN TRANSFORMING
TECHNOLOGY



The Missing Statistics

- Where are the LGBTQ folk in STEM? What about disabled folk?
- According to a 2015 study, 43% of LGBTQ people in STEM do not share their identity in the workplace.



Organizations & Resources for LGBTQ folk in STEM

1. [Queer in STEM](#), A national survey of sexual diversity in science, technology, engineering, and mathematics. (USA)
2. [NOGLSTP](#), National Organization of Gay and Lesbian Scientists and Technical Professionals (USA)
3. [OSTEM](#), OSTEM – Out in Science, Technology, Engineering and Mathematics (USA)

