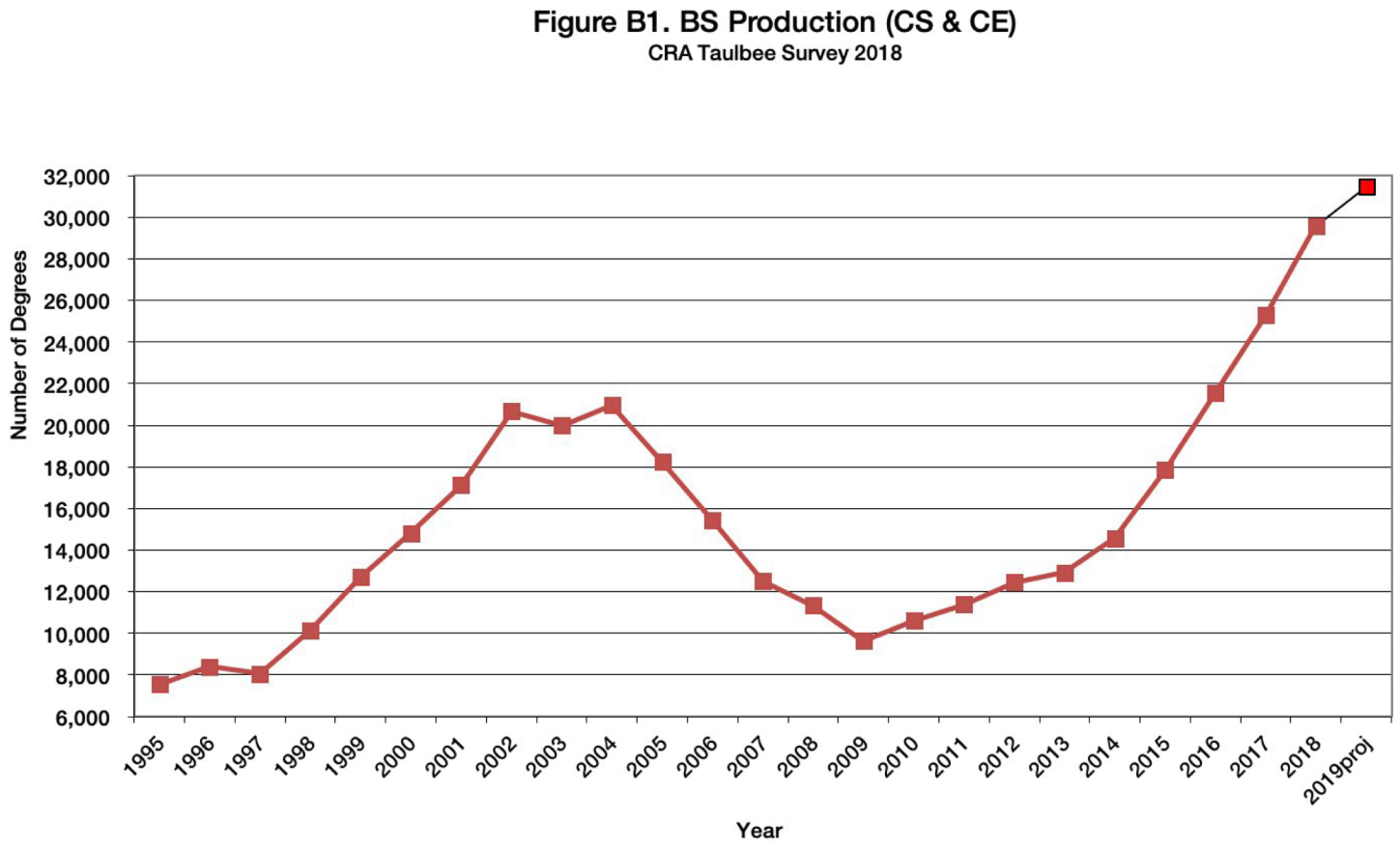
Gender Gap in Science in North America: A Computer Science Perspective

Jodi Tims, Ph.D.

Northeastern University, USA

ACM-W Chair

Booming Enrollments – Ph.D. Granting Institutions



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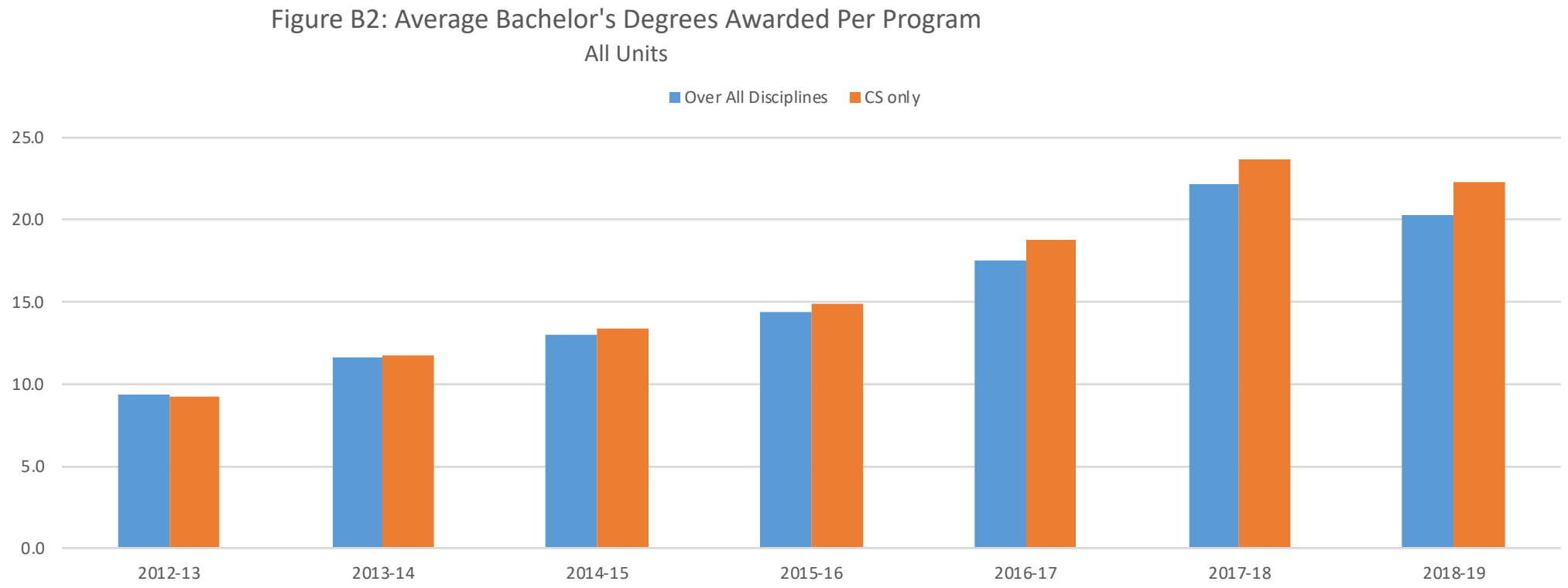
Booming Enrollments – Non-Ph.D. Granting Institutions



Source: ACM NDC Study 2013-2019

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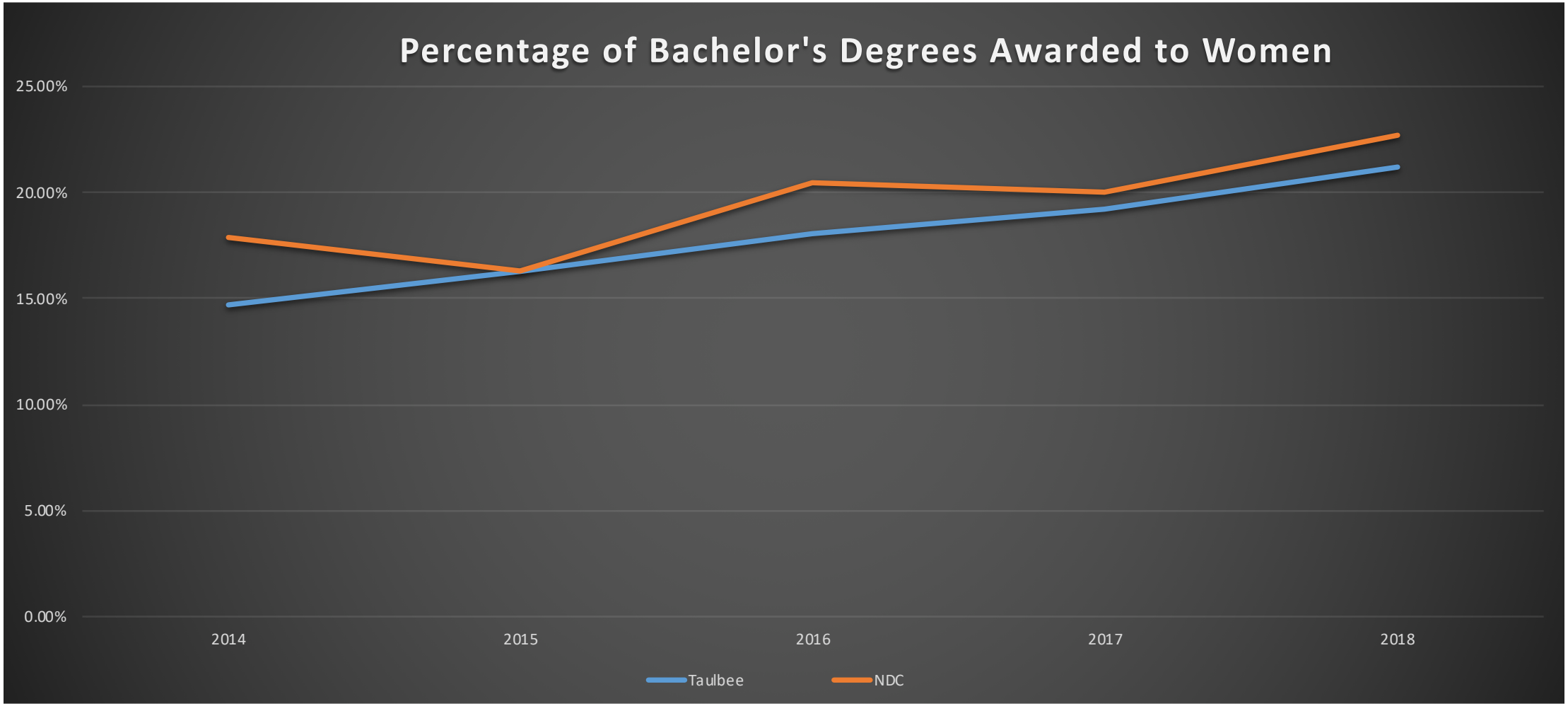

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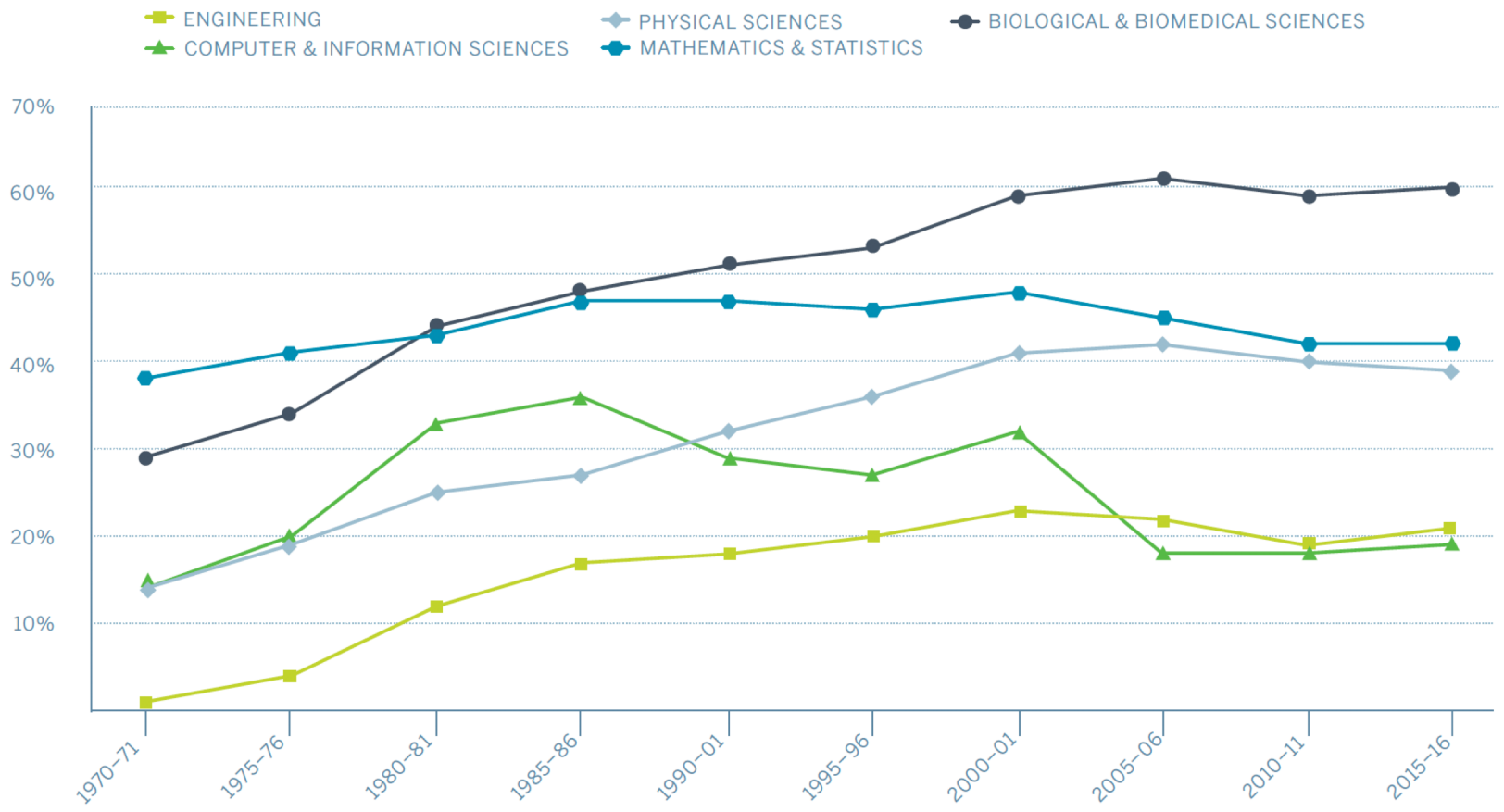
Representation of Women in STEM - US

FIGURE 2. **Female Percentage of STEM Bachelor's Degrees (1970–2016)**



Source: NCWIT Scorecard, Post-Secondary Education

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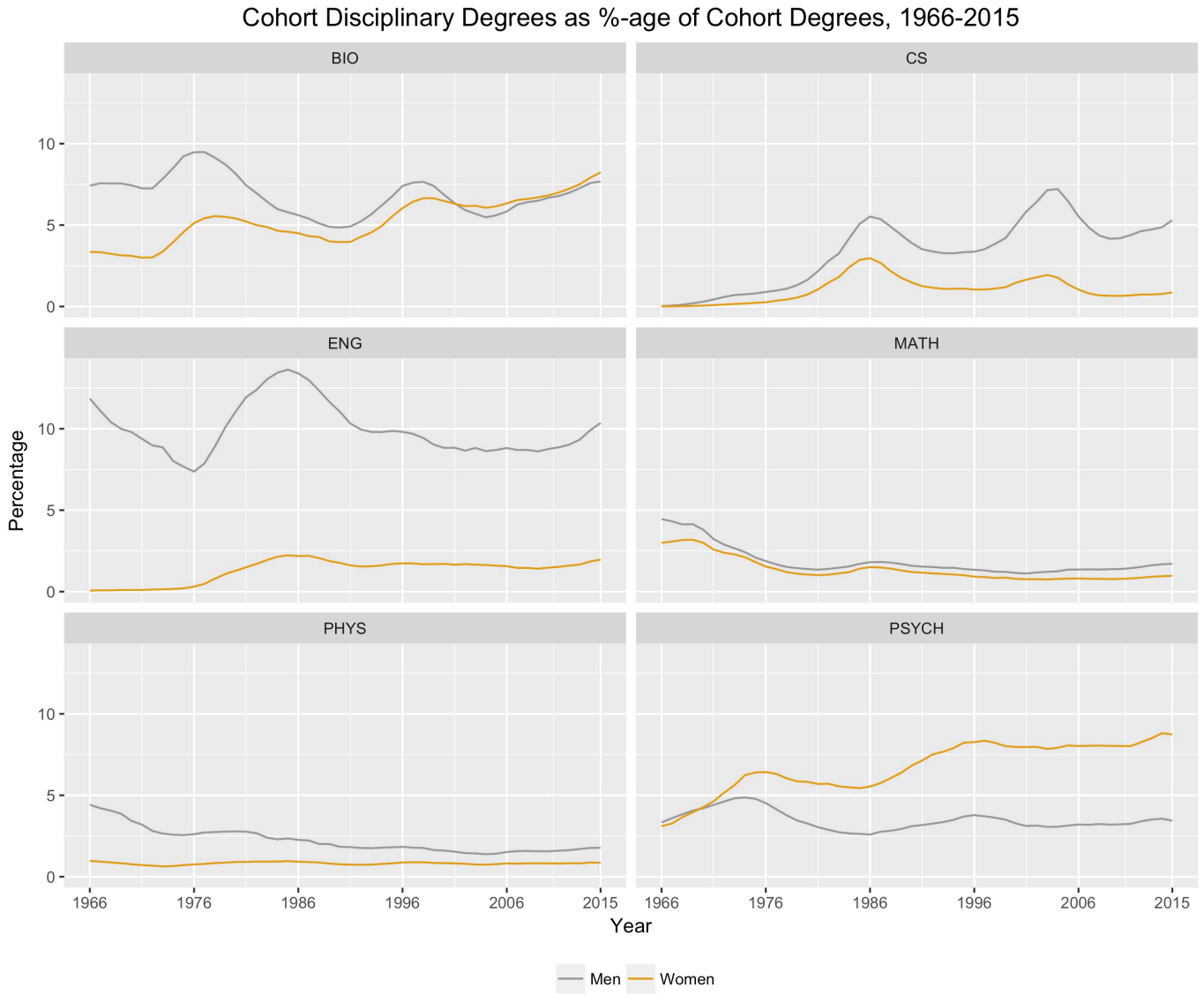
Representation of Women in STEM - US



Source: Different denominators, different results: reanalyzing CS degrees by gender, race & ethnicity
Valerie Barr
ACM Inroads
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Table 1
Representation of women in STEM and BHASE (non-STEM) among first-year undergraduate students in 20101

STEM and BHASE major fields of study	Number of first-year students count	Proportion of first-year students who are women percent
All fields of study	**128,511**	**57.6**
STEM	**39,774**	**43.6**
Science and science technology	**25,627**	**56.0**
Physical and chemical sciences	2,833	32.3
Biological sciences	12,938	59.8
General and integrated sciences	9,856	57.8
Engineering and engineering technology	10,663	19.0
Engineering	10,498	18.7
Engineering technology	165	32.7
Mathematics and computer and information sciences	**3,484**	**27.6**
Mathematics and related studies	1,509	42.9
Computer and information sciences	1,975	15.8
BHASE (non-STEM)	**88,737**	**63.8**
Business and administration	17,928	46.4
Arts and humanities	35,932	66.2
Social and behavioural sciences	19,312	68.4
Legal professions and studies	806	63.2
Health care	6,325	80.7
Education and teaching	3,602	80.0
Trades, services, natural resources and conservation	4,832	58.5

1. Note that the number of first-year enrollees in fields such as legal professions and studies or education and teaching may be much lower than the number of graduates since many students enter these programs in the later years of their studies. Similarly, the high number of enrollees in arts and humanities is partly due to the fact that students with undeclared majors are included in the humanities.

Source: Statistics Canada, Postsecondary Student Information System (PSIS), longitudinal data, 2010/11 to 2015/16.

Representation of Women in STEM - Canada

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ACM-W – Working to Close the Gender Gap

- Inherent in our mission statement:

  "ACM-W supports, celebrates, and advocates internationally for the full engagement of women in all aspects of the computing field, providing a wide range of programs and services to ACM members and working in the larger community to advance the contributions of technical women."

- Operationalized in our primary projects
  - ACM-W Celebrations of Women in Computing
  - ACM-W Chapters
  - ACM Scholarships
- Globally focused
  - ACM-W Europe, ACM-W India, ACM-W China, ACM-W East Asia
  - Upcoming workshop in South America

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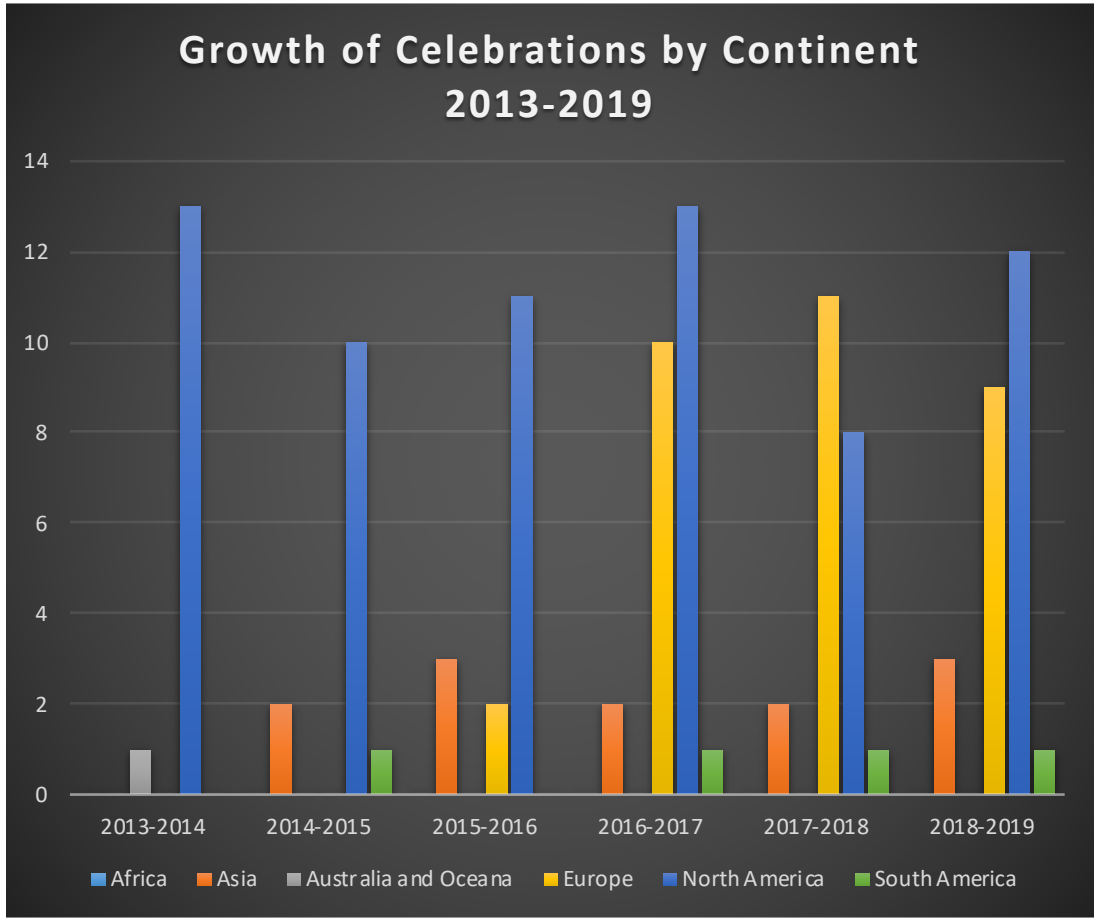
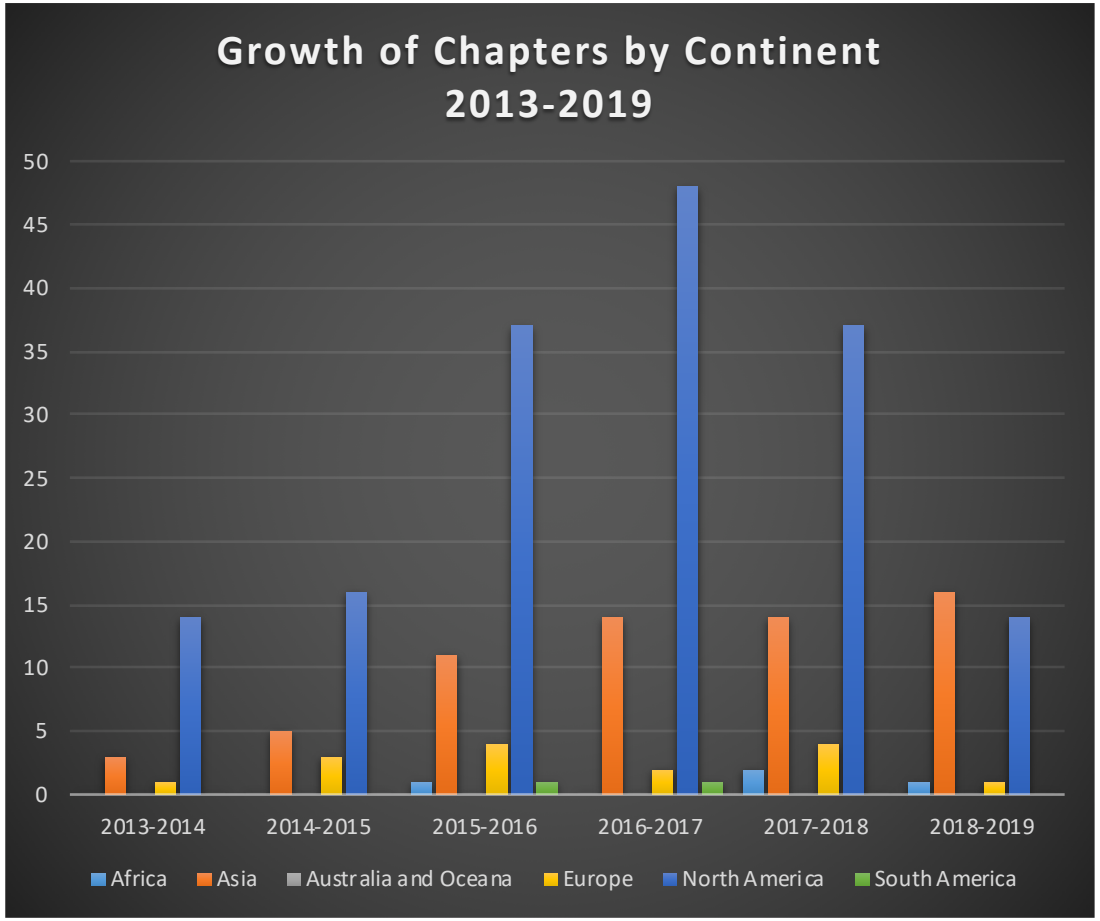
ACM-W Celebrations

- Two day conference events
- Modeled after the Grace Hopper Celebration
- Regionally focused – globally supported
- Over 20,000 women impacted



ACM-W Chapters

- Sustained support for undergraduate women
- Locus of outreach activity to K-12 community
- Fosters confidence and leadership development



ACM Scholarships

- Enables women undergraduate and graduate students to attend technical conferences
- Attendees do not have to be presenting
- Many of our Special Interest Groups support the project by providing free registration and mentors during the conference for awardees

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Partnership Programs

- CRA-WP Partnership
  - International Grad Cohort program
- NCWIT Partnership
  - Aspirations in Computing
- Both CRA-WP and NCWIT run additional programs aimed at recruiting and retaining women in computing

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Thank you!