

Striving for Excellence at OIST

***Intervening
to Minimize Bias
in Faculty Recruitment***

*OIST Gender Equality and
Human Resource Development Division*



Outline

- Diversity **and** Inclusion
- Bias in Action
- Bias in Evaluation
 - Research about Bias in Evaluation
- Preventing Bias
 - Real-Life Examples **for Change**
- Toward Diversity and Inclusion
 - Tips for Striving for Excellence



Diversity and Inclusion are
Important Issues for
Institutions.



Why Diversity and Inclusion are important

Diverse groups:

- Accept differences, interact differently and process information more carefully
- Outperform more homogeneous groups

Inclusive environments:

- Make faculty, chairs and deans accountable for diversity, leading to better decisions and greater innovation.
- Being inclusive is the right thing to do. So why not do it?

Joyce W. Yen (2015). LiY! T3 Bias keynote example.



Diversity in Faculty Recruitment

“When recruiting diverse faculty members, many search committees report **they cannot find qualified women and underrepresented minorities (URM) to apply.**”

“However, committees succeed in hiring women and URMs **when they transform the search process, commit to diversity, and proactively build a diverse applicant pool.**”

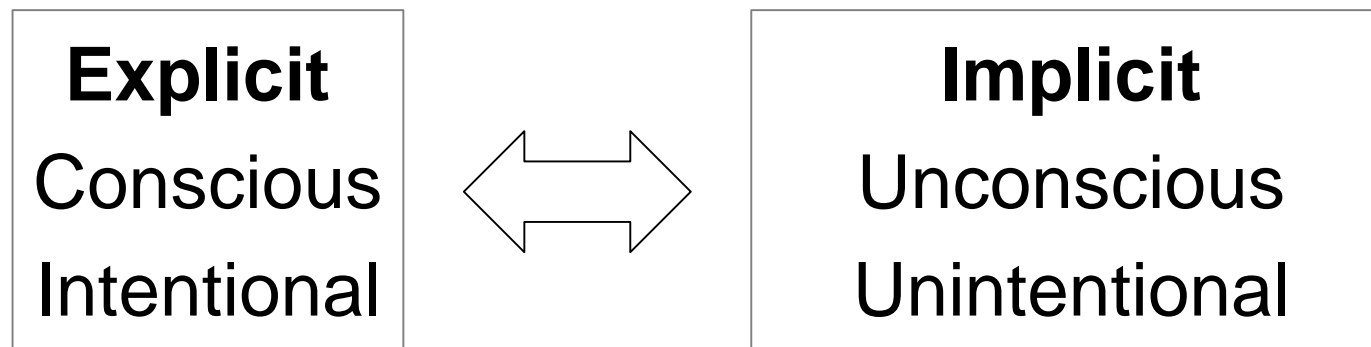
From “Excellence and Diversity in Faculty Recruitment”:

<http://www.engr.washington.edu/lead/biasfilm/materials/Film%20Website%20-%20Best%20Practicess%20for%20Excellence%20and%20Diversity.pdf>



Bias and **W**omen's **R**epresentation in **A**cademia

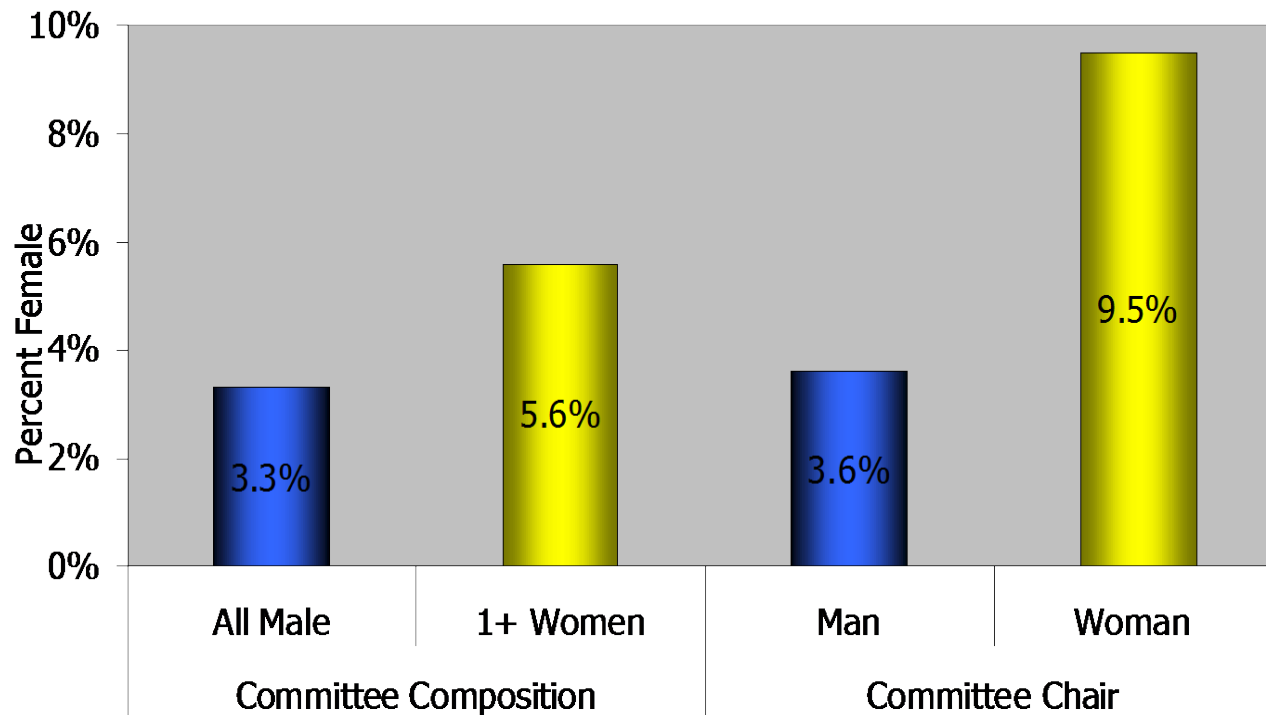
- **Bias** is a consequence of stereotyping that is often subliminal and unintentional.
- **Bias** resides outside of awareness. It often contradicts our conscious beliefs, which are intentional and controllable.
- **Implicit/unconscious bias** links social groups according to characteristics that generate relative disadvantages for some groups.



Bias in Action: Implicit Bias

Implicit bias in Award Committees in the American Physical Society

Award Recipients by Committee Composition and Chair, American Physical Society 1997-2009



Total No. of Awards: 42/yr
Total No. of Awardees: 464/12yrs

Members in 2006: 46,293

Women Physicist (%) in 2006
Ph.D.: 16%
Assistant Professor: 17%
Associate Professor: 14%
Full Professor: 6%

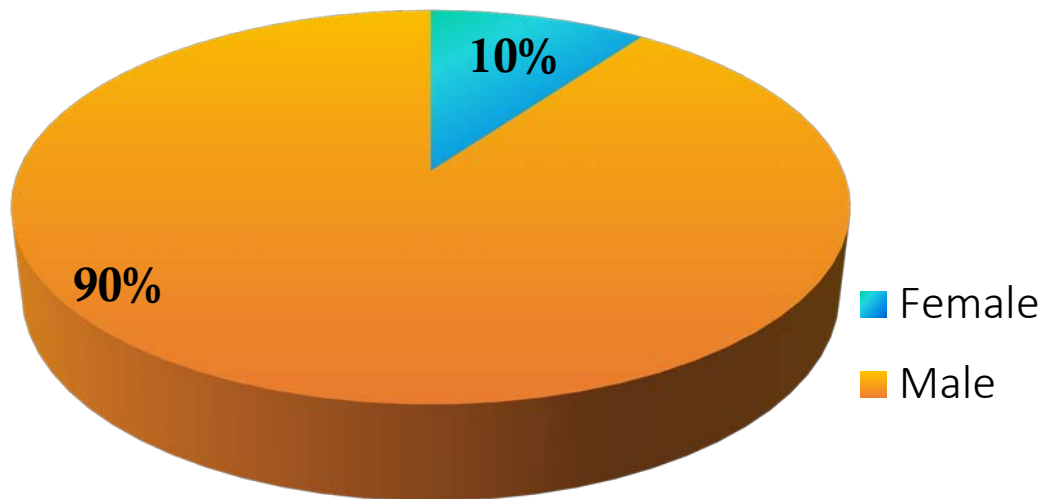
Anne E. Lincoln, et al. (2009). Evaluating science or evaluating gender? *APS News*.
From "Best Practices: Awards and Honors, Sociological Perspectives on Award Processes":
http://www.portal.advance.vt.edu/Advance_2009_PI_Mtg/PIMtg2009_Awards_Honors.pdf



Bias in Action: Implicit Bias

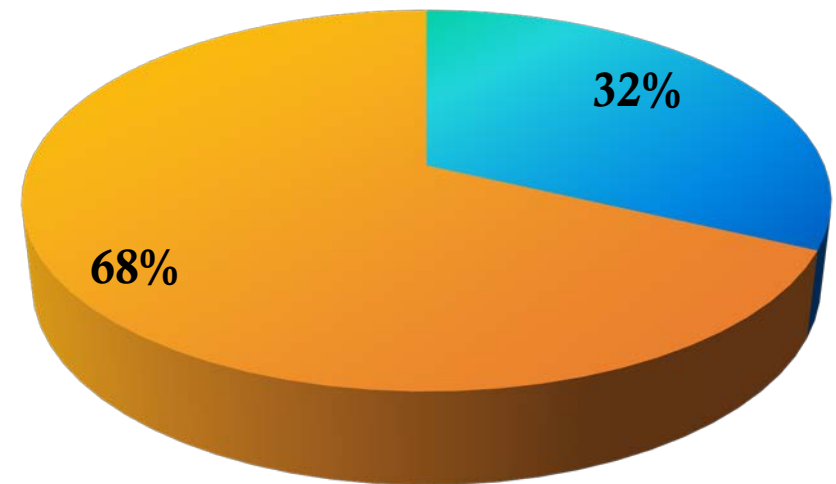
Organizer's gender and the percentage of female speakers at the annual meetings of the Molecular Biology Society of Japan (FY2008-2010)

Speakers invited to symposia organized solely by men



N = 82

Speakers invited to symposia organized by both men and women



N = 194



Stereotype Threat

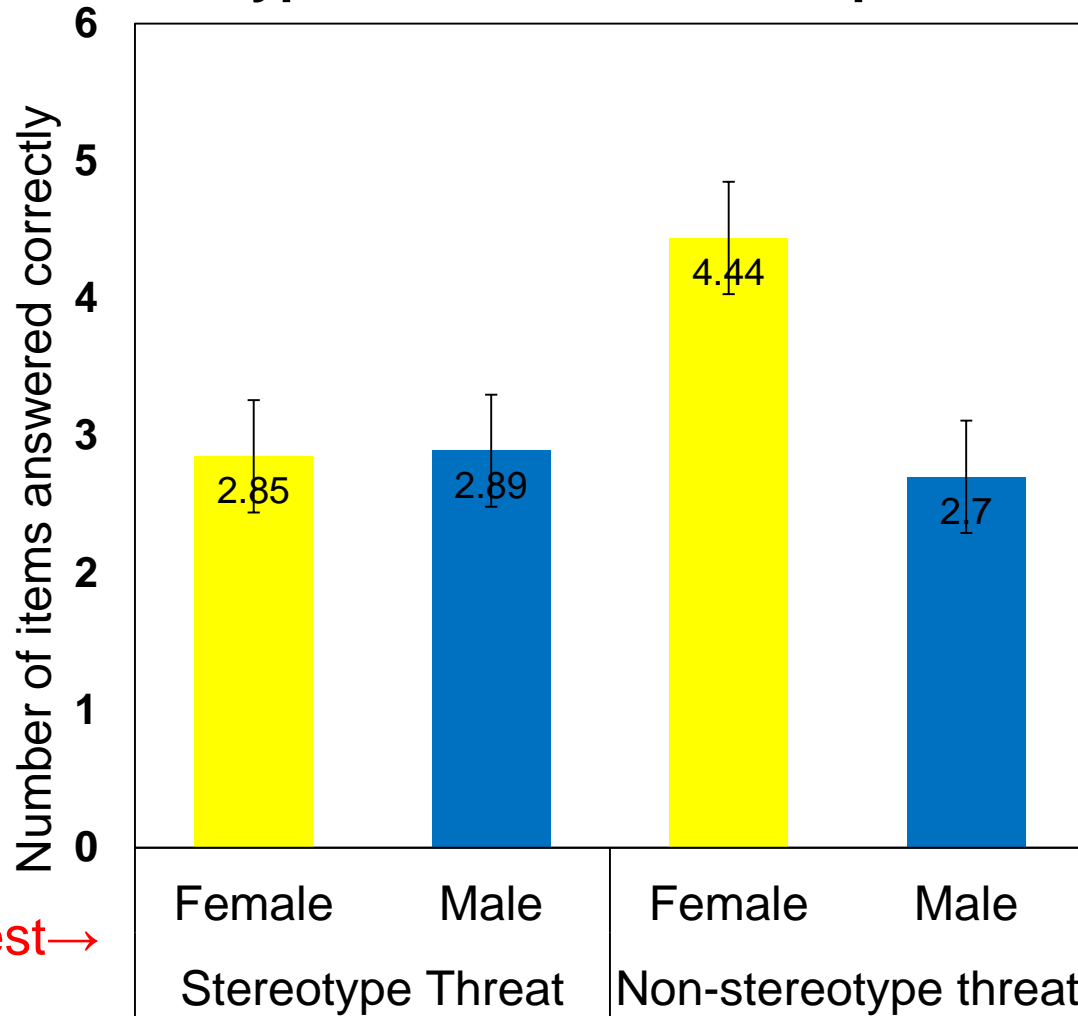
Stereotype threats link bias strongly.

“Members of negatively stereotyped groups may underperform when reminded of their group membership”.



Stereotype Threat Example

Effects of stereotype threat on math test performance by gender



Data obtained from
91 Anglo-American
Students in Math major:
Female:36, Male: 55

Priming before the test →

Good, C., Aronson, , et al. (2008).

Problems in the pipeline: Stereotype threat and women's achievement in high-level math courses. *Journal of Applied Developmental Psychology*.



Privilege and Micro-aggression
are **A**ttitudes also linked to **B**ias.
They adversely affect
Diversity and Inclusion.

Joyce W. Yen (2015). LiY! T3 Bias keynote example.

From "Key concept": <http://www.engr.washington.edu/lead/biasfilm/materials/key-concepts.html>



Privilege

- Privilege is a systemic form of advantage for those to whom it is granted. Beneficiaries receive more positive evaluations.
- Because it is invisible, it affects everyone. We are all both afforded and denied privileges based on our various group memberships, so it strongly links to bias.

From “Key concepts”: <http://www.engr.washington.edu/lead/biasfilm/materials/key-concepts.html>



Micro-aggression

subtle in action, persistent

“Everyday acts of exclusion against underrepresented groups that attempt to denigrate their capabilities.”

Micro-aggression includes:

- Interruption (cuts off someone in a conversation)
- Translation (speaks for someone else who is present)
- Marginalization (treating someone as insignificant or peripheral)
- Misidentification (calling someone by wrong name, or repeatedly mispronouncing his or her name)
- Exclusion (deliberately leaving someone out)

From “Key concepts”: <http://www.engr.washington.edu/lead/biasfilm/materials/key-concepts.html>



Implicit Biases are Pervasive.

The **Implicit Association Test (IAT)** measures **implicit attitudes** that we do not perceive. For example, we may believe that women and men should be treated equally in leadership position, but your automatic associations might show that we tend to associate men with leadership more than you associate women as leaders. Two IAT Tests below are widely used by academic institutions.

➤ **References: Implicit Association Test (IAT)**

- IAT#1: Harvard's "Project Implicit" by Dasgupta and Asgari (2004)
<https://implicit.harvard.edu/>
- IAT#2: Gender and Leadership Implicit Association Test (IAT)
<http://wiseli.engr.wisc.edu/leaderiat.php>
- IAT #3: "Are You Biased against Women Leaders?"
by the American Association of University Women (AAUW) (2016)
<http://www.aauw.org/article/implicit-association-test/>



Bias in Evaluation



Research about Bias in Evaluation

- Many researches have shown that a majority of people have unconscious association causing influence their responses to the decisions related to recruitment and recommendation.
- Biases are inherited through the culture. People naturally grow up by learning the stereotypes associated men and women.
- Yes, gender bias is clearly present in the procedure of decision-making in faculty recruitment and hiring.



Academic CVs

Steipreis et al. (1999) reported that in a national study, male and female faculty members evaluated a CV that had randomly been assigned a male or female applicant name.

Both male and female evaluators rated the male applicant higher in research, teaching, and service experience, and were more inclined to hire the male rather than the female applicant.

Rhea E. Steinpreis, et al. (1999).

The impact of gender on the review of the curricula vitae of job applicants and tenure candidates: a national empirical study. *Sex Roles*.



Academic Recommendation Letter

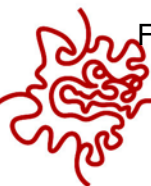
Trix & Psenka (2003) reported on 312 recommendation letters for 103 academic medical faculty positions.

Systematic differences were found in letters for females and males.

Letters for women: shorter than those for men, more likely to refer to their compassion, teaching, and effort,

Letters for men: achievements, research, and ability, the characteristics significantly stressed for male applicants.

“Traits stressed for the women were based on cultural stereotypes of women that are less valued in academic medicine”



Frances Trix and Carolyn Psenka (2003). Exploring the color of glass: letters of recommendation for female and male medical faculty. *Discourse & Society*
From “Research on Bias”: <http://www.engr.washington.edu/lead/biasfilm/materials/bias-research.html>

Lab Manager Application

Moss-Racusin et al. (2012) reported that both female and male science faculty members harbor bias against female students.

- The same CV with different applicant names was reviewed by science faculty.
- Males were rated as significantly more competent and employable.
- Higher starting salary and more career mentoring were offered to males.
- This pattern held for both male and female reviewers.

Corinne A. Moss-Racusin, et. al. (2012). Science faculty's subtle gender biases favor male students. *PNAS, U.S.A.*



Intervening to Minimize the Negative Impact of Bias



Real-life Examples for Change

- NIH Director's Pioneer Award
- Speaker's Gender Equality at ASM
General Meeting
- ADVANCE Program by NSF



NIH Director's Pioneer Award

Background and Facts

- The Pioneer Award was initiated in 2004 by then NIH Director, Dr. Elias A. Zerhouni.
- The Pioneer Award aims to support individual investigators with exceptional creativity and talent in biomedical research for a term of five years.
- The focus of the Pioneer Award was on the individual scientist rather than his or her research.
- In 2004, 1331 applications were received; 291 female applicants and 1040 male applicants.
- In 2004, there were **9** awardees, all male.

G. Stephane Philogene, et. al. (2010). FY 2004-2008 NIH Director's Pioneer Award Process Evaluation-Comprehensive Report.
Institute for Defense Analyses Science and Technology Policy Institute.



NIH Director's Pioneer Award

Analysis of the 2004 outcome

Two major issues

➤ **Criteria**

- Ambiguous selection criteria
- Focused on individual's potential and emphasized "risk-taking"

➤ **Process**

- Time pressure placed on reviewers
- Lack of face-to-face discussion on applicants by reviewers
- Weight given to letters of recommendation
- Interviews of finalists by a committee of reviewers focused on the individual rather than his or her science
- Emphasis on self-promotion

■ **Conclusion:**

Emphasis on "risk-taking", often considered a male characteristic, in both criteria and evaluation caused reviewers to favor male applicants

Molly Carnes. et. al. (2005). NIH Director's Pioneer Award: could the selection process be biased against women? *Journal of Women's Health*.



NIH Director's Pioneer Award

2005 and beyond

Improvement in criteria and process:

- Emphasis on risk removed (even from the URL)
- Funding given to
 - Pioneering approaches
 - Potential to have high impact
 - Highly innovative research
- Self-nomination eliminated.
- External evaluator training

Risk is gone! Then, priming is gone, also!



NIH Director's Pioneer Awards given to women scientists

Year	Recipients (F/Total)	Female ratio	Applicants (F/M)	Female ratio
2004	0/9	0%	291/1040	22%
2005	6/13	43%	227/606	27%
2006	4/13	31%	124/345	26%
2007	4/12	33%	103/344	23%
2008	4/16	25%	113/327	26%
2009	7/18	39%	-	-
2010	3/17	18%	-	-
2011	2/13	15%	-	-
2012	4/10	40%	-	-
2013	3/12	25%	-	-
2014	5/10	50%	-	-
2015	3/13	23%	-	-

G. Stephane Philogene, et. al. (2010). FY 2004-2008 NIH Director's Pioneer Award Process Evaluation-Comprehensive Report.
Institute for Defense Analyses Science and Technology Policy Institute.



Achieving Speakers Gender Equity at the ASM General Meeting (GM)

Background

2011 - 2013

Numbers of ASM GM participants avg. ~ 5,440/year

Female GM participants avg. ~ 44 (%)

Numbers of sessions in GM: 216 sessions in 3yrs (2011-13)

All male conveners: 104

1 or more female conveners: 112

Arturo Casadevall and Jo Handelsman (2014).

The Presence of Female Conveners Correlates with a Higher Proportion of Female Speakers at Scientific Symposia. *American Society for Microbiology*.

Arturo Casadevall (2015).

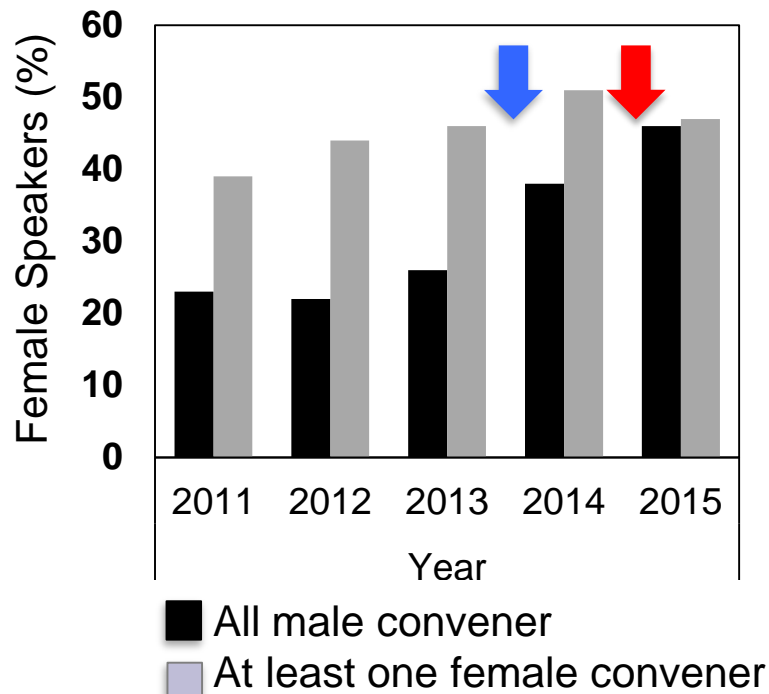
Achieving Speaker Gender Equity at the American Society for Microbiology General Meeting. *American Society for Microbiology*.



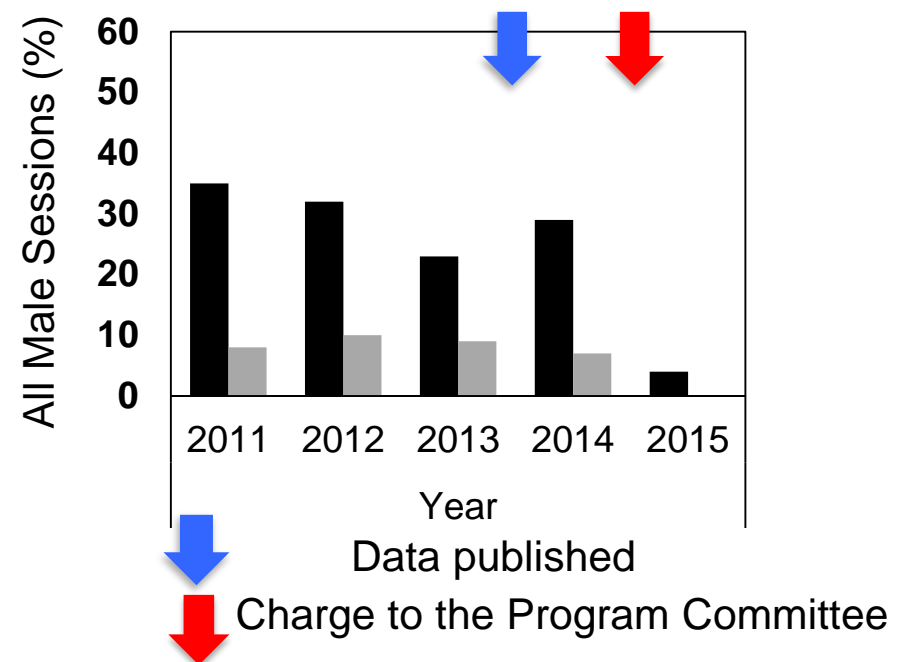
Achieving Speaker Gender Equity at the ASM General Meeting

Impact of data published and charge

Female speakers in session (%)



All male sessions (%)



Arturo Casadevall and Jo Handelsman (2014).

The Presence of Female Conveners Correlates with a Higher Proportion of Female Speakers at Scientific Symposia. *American Society for Microbiology*.

Arturo Casadevall (2015).

Achieving Speaker Gender Equity at the American Society for Microbiology General Meeting. *American Society for Microbiology*.



Achieving Speaker Gender Equity at the ASM General Meeting

Charge to the Program Committee in 2014

- You have made significant progress, but you need to do better.
- Discuss these statistics with the conveners you select.
- Aim for gender diversity at the convener level. Data suggest that having a female convener



ADVANCE Program

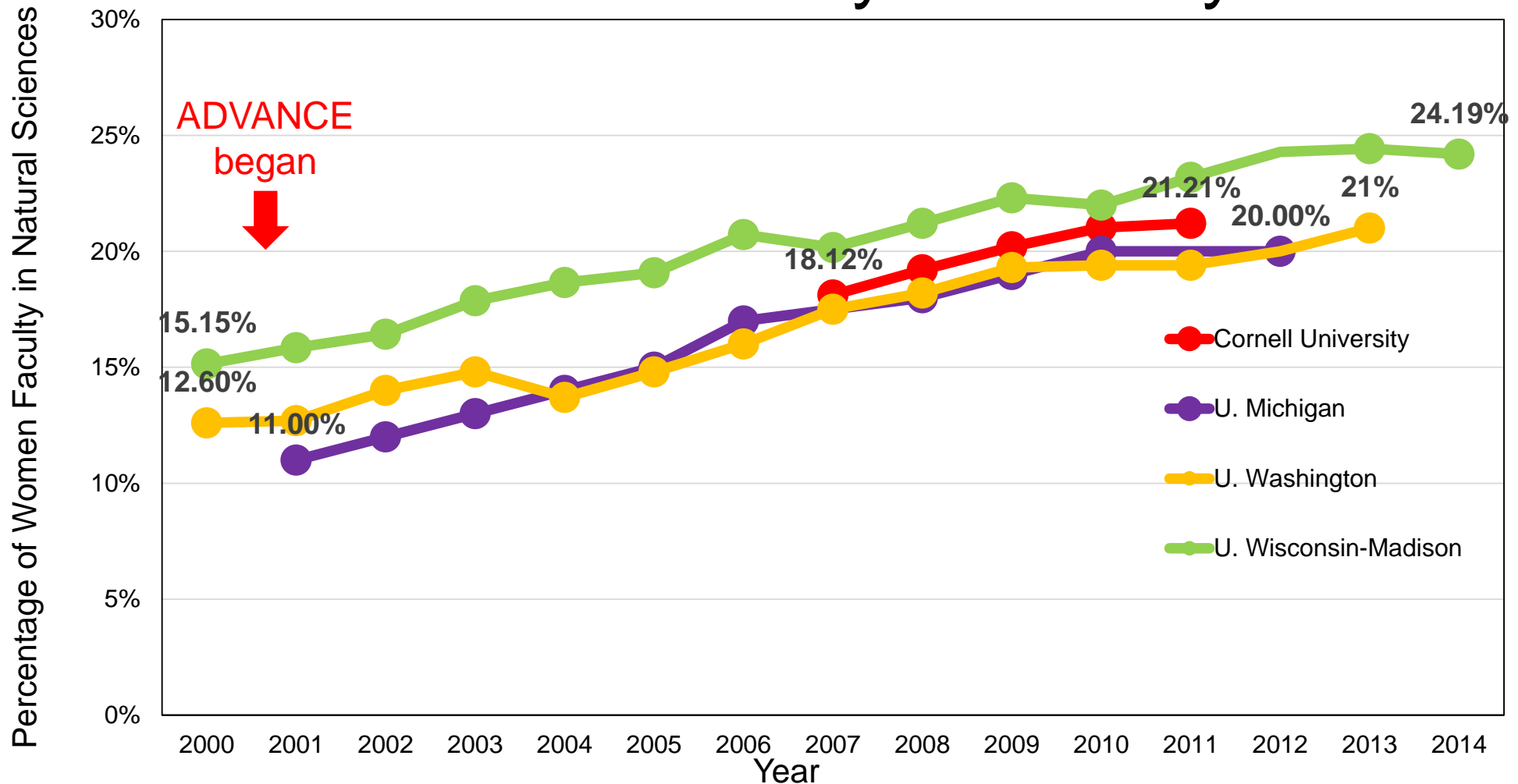
by National Science Foundation

- NSF established ADVANCE to encourage and support US academic institutions to increase the representation and advancement of women in STEM fields in 2001
- ADVANCE focus is on institutional transformation to lower the barriers by reducing bias, especially in the process of recruitment and hiring for faculty members.
- ADVANCE Awardee institutions have developed the strategies, tools and resources to recruit, retain and promote women and other underrepresented groups in STEM academic positions.
- As a result, the number of women faculty in Natural Sciences increased in US Universities.

From “ADVANCE welcome”: <http://www.portal.advance.vt.edu>



Increase of Women Faculty Percentage in Natural Sciences by University in U.S.



From "Cornell University 2006-2011 Annual Reports": <http://advance.cornell.edu/reportsandpubs.html>

From "University of Michigan 2001-2006, 2008-2010, 2012 Reports": <http://advance.umich.edu/indicators.php>

From "University of Washington 2000-2013 Women Faculty Data": <https://advance.washington.edu/about/womenfacdata.html>

From "University of Wisconsin-Madison. 2000-2014 Indicator Data Tables": <http://wiseli.engr.wisc.edu/hiring.php>



Toward Diversity and Inclusion



Tips for Striving for Excellence

- Expand the applicant pool and mine various resources for potential candidates.
- Use best practices for search committees
 - Diversify committees.
 - Ask the Dean to meet with the committee at the beginning of the search process to reiterate the importance of diversity.
 - Consider interviewing more than one member of an underrepresented group.
 - Decide how the search committee will recruit **women and members of underrepresented groups.**
 - Document these processes.



More Tips for Striving for Excellence

- Bias and assumptions can influence candidate searches.
 - “Minority professors in majority settings often must struggle against the presumption that they are incompetent.” (Moody 2014)
 - “Letters written for women were more likely to refer to their compassion, teaching, and effort as opposed to their achievement, research, and ability, which are the characteristics significantly stressed for male applicants.” (Trix & Psenka, 2003)
 - “Candidates from institutions other than the major research universities may be undervalued.”



Discussion Question

Have you experienced or observed bias
in action at OIST?

What did you do **then**?



References

- University of Washington Advance Center for Institutional Change
<http://advance.washington.edu/grants/index.html>
- LEAD-it-Yourself!
 - “LiY! T3 Bias Keynote Example” by Joyce W. Yen, in LEAD-it-Yourself! Train-the-Trainer Workshop. October 26, 2015, Lake Washington Rowing Club, 910 North Northlake Way, Seattle, WA. USA
- Interrupting Bias in the Faculty Search Process: Film & Facilitation Guide
 - Key Concepts
 - Research on Bias
 - Best Practices
 - Excellence and Diversity in Faculty Recruitment



References (continued)

- Women in Science and Engineering Leadership Institute University of Wisconsin-Madison (WISELI)

<http://wiseli.engr.wisc.edu>

- Breaking the Bias Habit: A Workshop to Promote Gender Equity -“BREAKING THE BIAS HABIT”, A Workshop to promote Gender Equality: Guide for Presenters, WISELI, University of Wisconsin-Madison by Molly Carnes, Patricia Devine, Linda Baier Manwell, Jennifer Sheridan, Cecelia Ford, Angela Byars-Winston, Carol Isaac, Eve Fine and Julia Nelson Savoy (2015)



References (continued)

➤ Others

- FY 2004 – 2008 NIH Director's Pioneer Award Process Evaluation – Comprehensive Report (FINAL REPORT), January 2010

by Bhavya Lal – Task Leader, Ritu Chaturvedi, Adrienne Zhu, Mary Beth Hughes, Stephanie Shipp, Christina Kang, Amy Marshall, Elmer Yglesias Darius Singpurwalla – Statistician, Brian Zuckerman, Ph.D. – Reviewer, Arthur Fries, Ph.D. – Reviewer

https://commonfund.nih.gov/sites/default/files/PioneerAwardProcessEvaluation_2004-2008.pdf



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