

# Moving Beyond Bias

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U.S. DEPARTMENT OF  
**ENERGY**

# ICALEPCS



Founders of ICALEPCS  
(mid-1980s)



ICALEPCS 2019 International  
Scientific Advisory Committee and  
Local Organizing Committee

# Motivation

- Studies show diverse workgroups are more productive, more innovative, more creative
- Companies now invest in building a diverse workforce because studies show, this increases their profits
- What happens when we workgroups are not diverse?



# Disasters



Earthquake Gujarat 2001

Tsunami Sri Lanka 2004



# Automotive Safety

- In the US, first mandatory car safety testing began in 1973
- Tests used only average male size crash dummies (5'8" 165 pounds)
- Airbags have saved a lot of lives, but initially caused some injuries and deaths to shorter drivers (sitting too close to the steering wheel < 10")
- Testing requirements changed to include women and child size dummies in 2011
- We now have "smart airbags" with deployment pressure and speed modified according to the size of the occupant



# Medical Care

- Vast majority of medical studies conducted on white males
- Data used to determine diagnosis and treatment protocols
- Medical care based on this data bias is optimized for 31% of the population
- This data bias has led to
  - Women receiving excessive medication dosages
  - Women treated based on normal blood levels for men
  - Misdiagnosis and inadequate treatment
    - Heart attacks in women often missed in the ER because they often have different symptoms which men symptoms

# Implicit Bias

- Also called unconscious bias
- Limits are ability to become more inclusive
- Learn about your bias
  - <https://implicit.harvard.edu/implicit/>
- Reflects our learned stereotypes rather the values we believe we live by
- Affinity Bias – people are generally more comfortable with people similar to themselves – your “comfort zone”

# Social and cultural factors

- Girls and boys treated differently from birth
- Gendered language, toys, clothing, activities, roles
- Girls steered away from math, science and engineering
- Boys encouraged, easily viewed in STEM roles
  - Most role models are white males
  - Reinforced by media images
  - Powerful stereotypes



# Men and women are treated differently



Dr. Ben Barres  
Neurobiologist  
1954-2017

- Advocate for equality for women in science
- First openly transgender scientist in the National academy of Science (2013)
- Unique perspective from working in science as a woman and a man

# Organizational bias

- Most organizations now recognize the boundaries in place limiting diversity in STEM fields
- Historically, approached as a problem for HR, women and minorities
- Women encouraged to be more like men
- Misguided notion that would limit the value diversity brings
- You can't "fix" the women – they are not broken
- We have to fix our biased organizations
- Diversity is not a problem, but rather an opportunity for organizations to excel

# Why are you successful?

- Intelligence?
- Hard work?
- Lucky breaks?
- Fortunate opportunities?
- Opportunities = Advantages = Privilege
- Privilege is usually comes from factors you did not control
- Most privilege is shared by the dominant group with others in the dominant group
- Real change requires the dominant group to become allies for diversity and extend their privilege equitably

# Extend your privilege

- Work toward equity in career building business practices
  - Hiring
  - Professional development
  - Mentoring
  - Recommendations
- Speak out against inequitable practices
- Include women and minorities in decision making committees
- Build accountability into organizational processes



# More on Diversity and Inclusion

## Breaking Down Barriers to Diversity and Inclusion

### Panel Discussion

Wednesday 10/9/19

2:30 – 4:00 PM

Allan Casey



Florence Hudson



Allison Bishop



Allan Casey