i-CoMSE emPower hour
Building an inclusive community for all

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Dr. Eric Jankowski, Boise State University

Image source: https://globalhealthsciences.ucsf.edu/about-us/diversity-equity-and-inclusion

Setting expectations for this space

- Build community
- Expand knowledge
- Mobilize action

- Get comfortable with knowing this is continuous work
- We will not walk away with solutions, but we will walk away with beginning on the path toward building and contributing to solutions

- Important note: We are not experts. We are committed to growing and learning with you and raising awareness.
- We will make mistakes as we learn, that's ok, don't let this deter you.

- Why do I do this? What do I want you to get out of this?

    - I am passionate about this (but not an expert)

    - There is a lot of nuance, we need to think carefully about policies and practices. Be open minded, be critical, be optimistic/realistic, don't engage in or support performative DEI – but don't be quick to judge, be part of the solution

Setting expectations for this space

- We get out what we put in – engage!
- Maybe uncomfortable – lean in!
- Respect each other
- Make mistakes
- Take care of yourself
- Expect/accept non-closure
- Be open to different perspectives

- Let's work together to make this a safe space to share

About this session

➢ Terminology

➢ Some data

➢ Implicit Bias

➢ Intersectionality

➢ Inclusive & equitable space & policies:
   Actionable items

DIVERSITY

EQUITY

INCLUSION

JOIN CHIME

1. Go to: https://chimein2.cla.umn.edu/join/117983
2. Or: visit chimein2.cla.umn.edu and enter **117-983**

Terminology

Diversity simply means that difference is present. For example, if everyone on a research team held the same racial identity, there would still be diversity – difference in socioeconomic backgrounds, religious/spiritual affiliations, age, gender, etc.

Inclusion means that there is purposeful and thoughtful inclusion of particular groups/people. For example, one might notice that their lab has no women and might seek to add women to the lab.

Equality means that everyone has access to the same thing. Let's say the department offers a virtual professional development seminar in the summer and everyone is invited and has access to the link – we could say there is equal opportunity to participate in the seminar.

A broader view: Diversity, Inclusion and Equity - Words and Actions by Natasha N. Croom, PhD
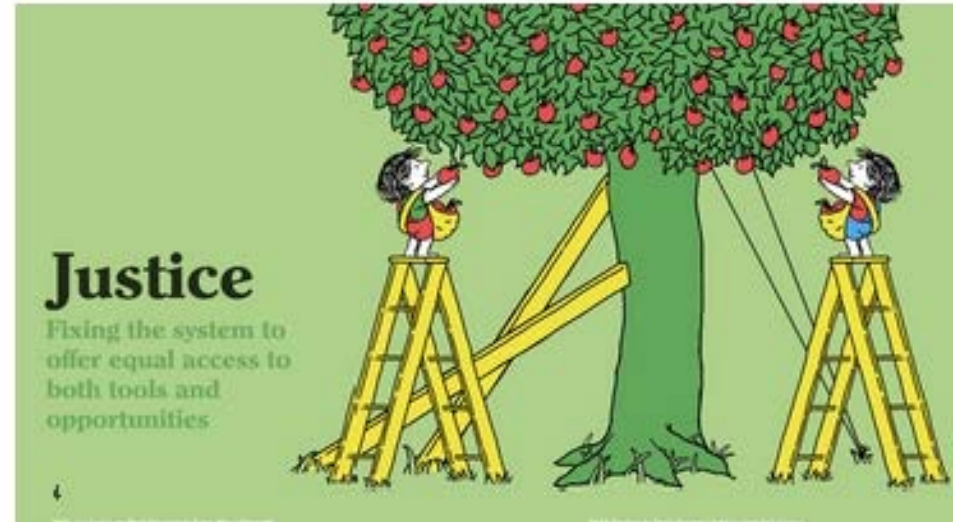Associate Professor of Higher Education, Clemson U., CoMSEF Newsletter, June 2021
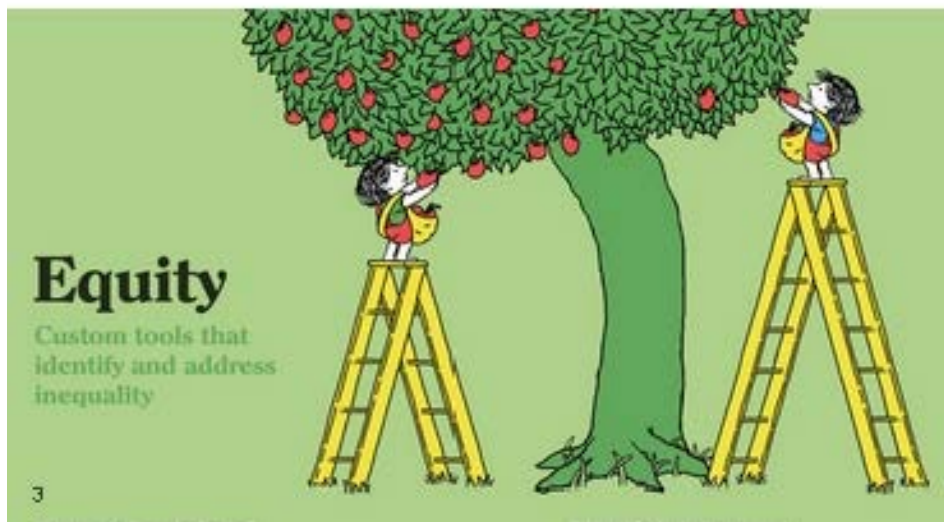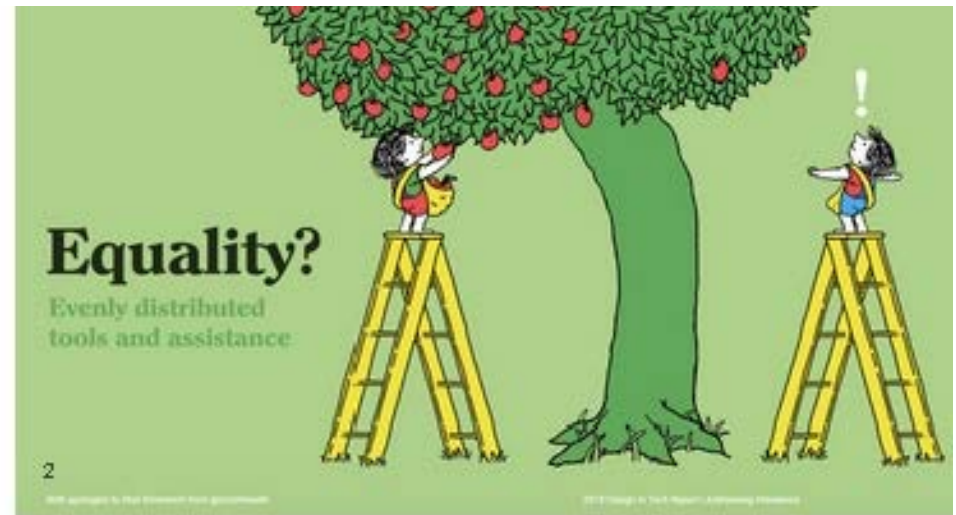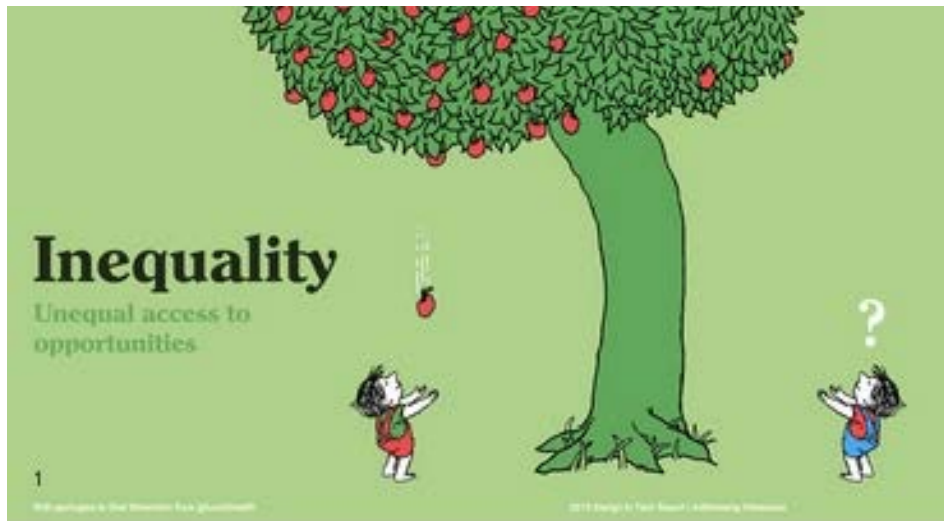
Terminology

Equity refers to everyone having access to what they need to meet their goals. Taking the example above of the seminar -- perhaps students have returned to their home communities for the summer where there is unreliable wifi. Working with IT to ensure that those folks have hotspots and other hardware and service to connect would be an equitable practice.

Social justice requires diversity, inclusion, equality, and equity as it refers to the process of "full and equal participation of all groups in a society that is mutually shaped to meet their needs…[where] all members are physically and psychologically safe and secure" (Adams, Bell, & Griffin, 2007). The important thing to note here is that "justice", in any form, is a process and NOT a destination.

A broader view: Diversity, Inclusion and Equity - Words and Actions by Natasha N. Croom, PhD Associate Professor of Higher Education, Clemson U., CoMSEF Newsletter, June 2021

https://www.paperpinecone.com/blog/teaching-difference-between-equality-equity-and-justice-preschool

What's in a name?
Science faculty's subtle gender biases favor male students

Moss-Racusin, et al. PNAS 2012

Science faculty from research universities rated the application materials of a student—who was randomly assigned either a male or female name—for a laboratory manager position.
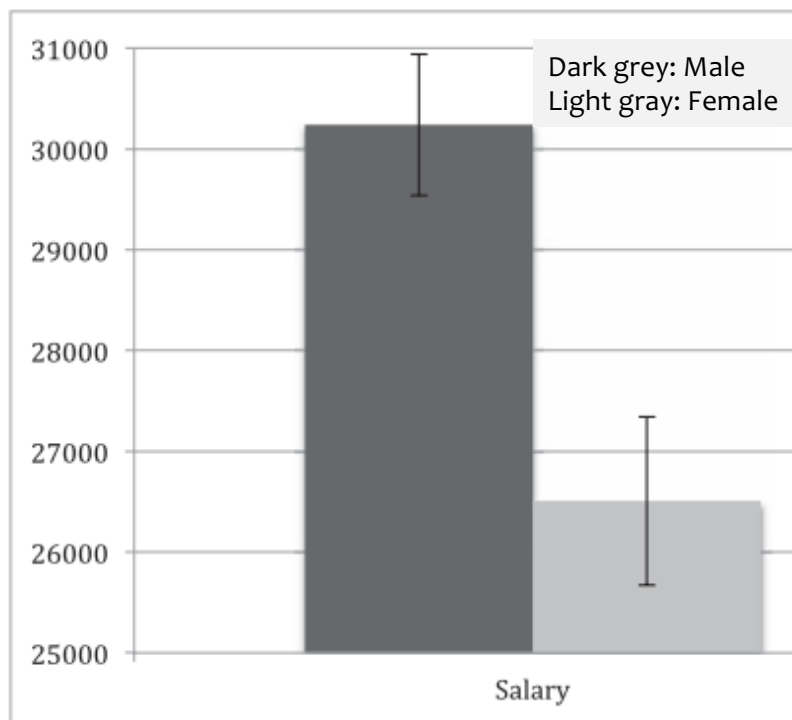

Dark grey: Male
Light gray: Female
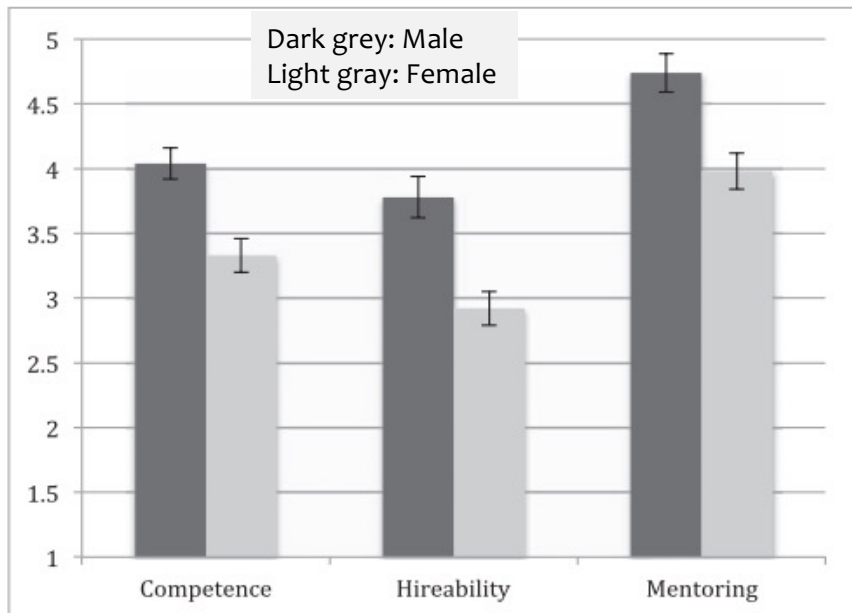
Female applicant rated less competent and less hireable.

What's in a name?
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Dark grey: Male
Light gray: Female

Male applicant offered 10% higher salary.

Female and male faculty equally biased.

Gender differences in recommendation letters for postdoctoral fellowships in geoscience

International data sets of 1224 recommendation letters for postdoctoral fellowships:
Analyzing the tone and length of the letters

	Overall tone	Individual comments
Excellent	Reflected the applicant's potential as a top-notch scientist; stated that the applicant was superior to other students; and/or praised the applicant for conducting novel or groundbreaking research, and/or being a scientific leader and role model	Examples: 'scientific leader'; 'brilliant scientist'; 'one of the best students I've ever had'; 'trailblazer'; and 'role model'. Also, references to accomplishments, such as publications, conference presentations, and awards/honours
Good	Provided clear praise and portrayed the applicant as a solid scientist doing good/very good work, yet were less likely to declare the applicant as comparatively superior to others or praise the applicant's potential to become a scientific leader or role model	Examples: 'highly intelligent'; 'very productive'; 'thorough understanding of the subject matter'; 'very knowledgeable'; and 'very good skill set'. Also, comments that serve as an acknowledgement of the applicant's knowledge/familiarity with the subject matter, for example, 's/he worked on X project'; 's/he has taken courses in Y subject'
Doubtful	Questioned the applicant's calibre as a scientist, and expressed uncertainty that the applicant would become a successful scientist	Examples: 'I haven't worked directly with him/her'; 'I haven't seen any leadership skills'; 'I don't think s/he will make a top-notch scientist'; 'I don't know him/her very well'.

Gender differences in recommendation letters for postdoctoral fellowships in geoscience

Dutt et al. Nature Geosciences 2016

International data sets of 1224 recommendation letters for postdoctoral fellowships:
Results from the analysis

	Excellent	Good	Doubtful	Total
Female applicant	53 (15%)	302 (83%)	7 (2%)	362
Male applicant	203 (24%)	635 (73%)	24 (3%)	862

Female applicants are less likely to receive excellent letters versus good letters compared to male applicants.

Letters for women are shorter than for men.

The gender of the letter writer does not influence the outcomes.

How gender determines the way we speak about professionals
Stav Atir and Melissa J. Ferguson,
PNAS 2018.

Men and women were, on average across studies, more than twice as likely to describe a male (vs. female) professional by surname in domains, such as science, literature, and politics.

We find that this simple difference in reference affects judgments of eminence, with participants judging those professionals described by surname as more eminent and 14% more deserving of a career award.

Women's visibility in academic seminars: Women ask fewer questions than men
Alecia J. Carter, Alyssa Croft, Dieter Lukas, Gillian M. Sandstrom
Plos One 2017

From the survey responses of over 600 academics in 20 countries, we found that women reported asking fewer questions after seminars compared to men.
However, our observations suggest that structural factors might also play a role; when a man was the first to ask a question, or there were fewer questions, women asked proportionally fewer questions.

We propose alternative recommendations for creating an environment that makes everyone feel more comfortable to ask questions, thus promoting equal visibility for women and members of other less visible groups.

Funding

Analysis of National Institutes of Health R01 Application Critiques, Impact, and Criteria Scores: Does the Sex of the Principal Investigator Make a Difference?

Kaatz, A., et al., Academic Medicine: August 2016, 91, 1080–1088

Linguistic analysis of NIH grant proposal critiques

Category	Word examples
Ability	Able, skill
Achievement	Awards, honors
Agentic	Competent, leader, logic, strength
Negative evaluation	Unclear, illogical
Research	Productivity, grant
Standout adjectives	Exceptional, outstanding

stereotype-based beliefs that women lack agentic traits associated with ability (e.g., independence, leadership ability, logic, strength) in male-typed domains that can lead reviewers to doubt women's competence.

Often unconscious, bias occurs despite explicitly

Despite higher incidence of standout adjectives for women in type 2 proposals, Priority, approach and significance scores worse (higher) for women.

Bias most likely to occur in reviews for high-status position or award

Does demographic bias matter?
The big consequences of small biases: A simulation of peer review

Day . Research Policy 2015

- Grant applicants assigned as "preferred class" vs. "non-preferred class"
- Ran simulations for grant review process applying a particular level of bias amongst reviewers

Non-preferred Class Investigators receiving funding vs. % total review bias
Funding line = 10%
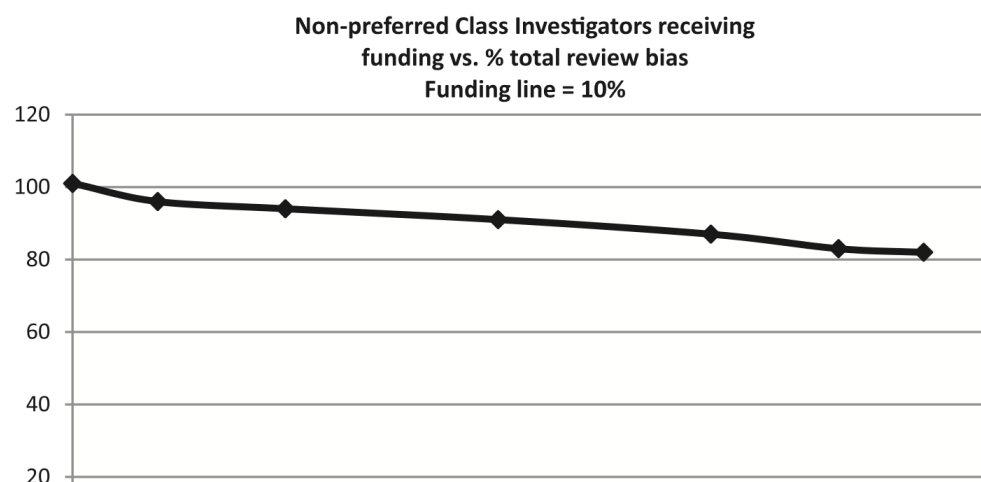
Results
A total review bias of 3.7% translates to a 20% lower grant success rate

when 10% of grants are awarded

— NPC grants receiving funding

Careers are cumulative

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Implicit bias

What is implicit bias?

The tendency for stereotype-confirming thoughts to pass spontaneously through our minds is what psychologists call implicit bias. It sets people up to overgeneralize, sometimes leading to discrimination even when people feel they are being fair.

https://www.scientificamerican.com/article/how-to-think-about-implicit-bias/

How does implicit bias affect our decisions?

We saw the examples (implicit biases **partially explain** these results)

Biases can influence people's judgments even more so when they are motivated to be accurate, particularly if they do not notice that their thought process is biased.

Resources

Implicit bias
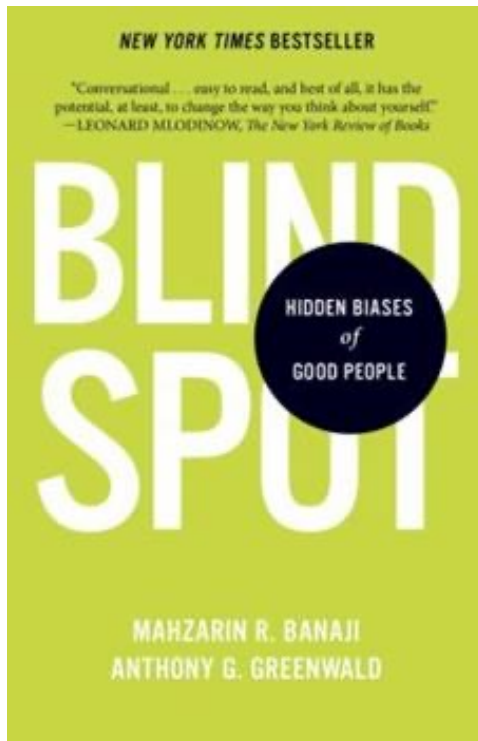
Blindspot: Hidden Biases of Good People by [Mahzarin R. Banaji](#) and [Anthony G. Greenwald](#)

Harvard Implicit Association Test
https://implicit.harvard.edu/implicit/takeatest.html

Activity #2 (15 mins)

Discuss amongst yourself what you understand about implicit bias.

Think about the examples we discussed and implicit bias; what changes can we make to counter the detrimental effects?

Intersectionality

What is intersectionality?

First coined by Professor Kimberlé Crenshaw back in 1989.

It's basically a lens, a prism, for seeing the way in which various forms of inequality often operate together and exacerbate each other. We tend to talk about race inequality as separate from inequality based on gender, class, sexuality or immigrant status. <mark>What's often missing is how some people are subject to all of these, and the experience is not just the sum of its parts.</mark>

https://youtu.be/ViDtnfQ9FHc

Intersectionality

This suggests that we should be mindful of "boxing" individuals

<mark>We should develop policies that are inclusive to all</mark>

I like to call this "Universal design of policy"

Some simple examples

Live Captioning: It benefits those hard of hearing but also benefits a lot of other people (with low attention, language barriers etc)

Multiple forms of engagement: Raise your hands, write your questions, talk to your peers, fill out survey, take collaborative notes, do hands-on, join virtually

Case Study

JOIN CHIME
1. Go to: https://chimein2.cla.umn.edu/join/117983
2. Or: visit chimein2.cla.umn.edu and enter **117-983**

Individual changes vs systemic changes

Auger-Domínguez provided a glimpse into what happened at Google when they stripped out names during the resume screening process to remove bias. While it moved more women through each stage of the software engineer hiring process (screening, interviews, and offer acceptances), the same was not true for Black and Hispanic people. Sure, more of their resumes made it through the early screening, but that's where the impact stopped. Google "would again see the number of [Black and Hispanic] candidates reduced at later stages of the process when they were face-to-face or on the phone with interviewers."

As Auger-Domínguez explained, "I believe it's because we couldn't eradicate the effect of racial bias in the interview process."

To address this bias, she has some straightforward advice.

Auger-Domínguez referenced studies that show that white people automatically perceive Black faces as angrier than white faces. She pointed out that BIPOC candidates who happen to be more direct in their communication style can get dinged for being too confrontational (where the same behavior in white people can lead to them being seen as straight shooters.)

Academic situations

Peer review of manuscripts

Proposal reviews

"Success evaluation"

Student evaluation of teaching

Student (annual) evaluations

Faculty (annual) evaluations

Workshops

Conferences

Classrooms

Networking, Job searches

Individual changes vs systemic changes

Knowledge → Action → Knowledge → Action ...

Individual changes vs systemic changes

How can we make our computational chemistry communities (online and in-person) inclusive spaces for all?

Talk and come up with 2-3 actionable items you would like to put in place to create an inclusive space (e.g., what can you implement in your research group, or department)

What policies would you put in place to make conferences, workshops, etc inclusive?

Inclusive policy

LONG STORY SHORT ...
YOU'RE OUT OF TOILET PAPER

ME: THIS IS A GENIUS IDEA

ME, 15 MINUTES LATER: