

Many voices, one future



Inclusive Leadership and Innovation

***Institute for Research and Innovation in Software
for High Energy Physics (IRIS-HEP)***

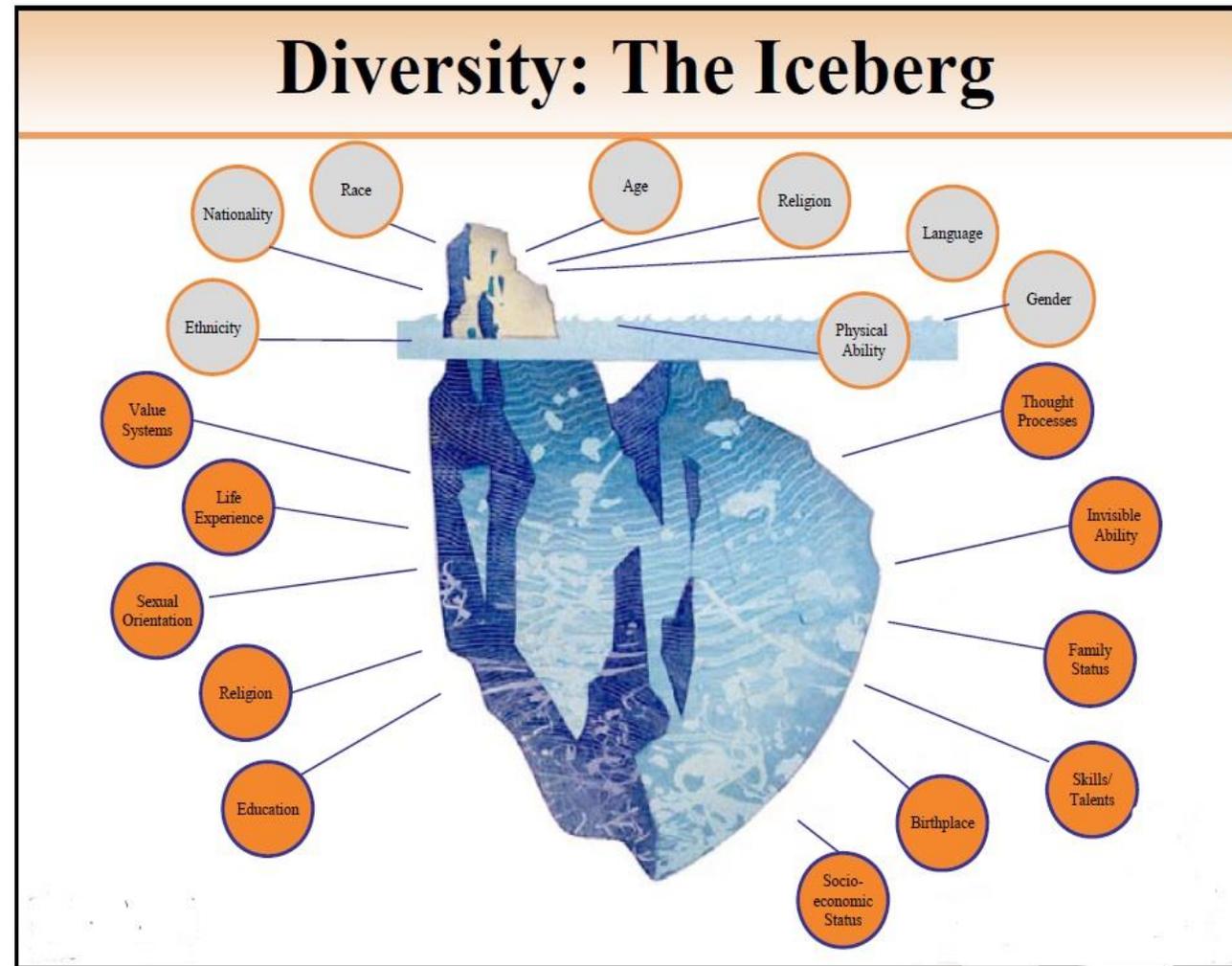
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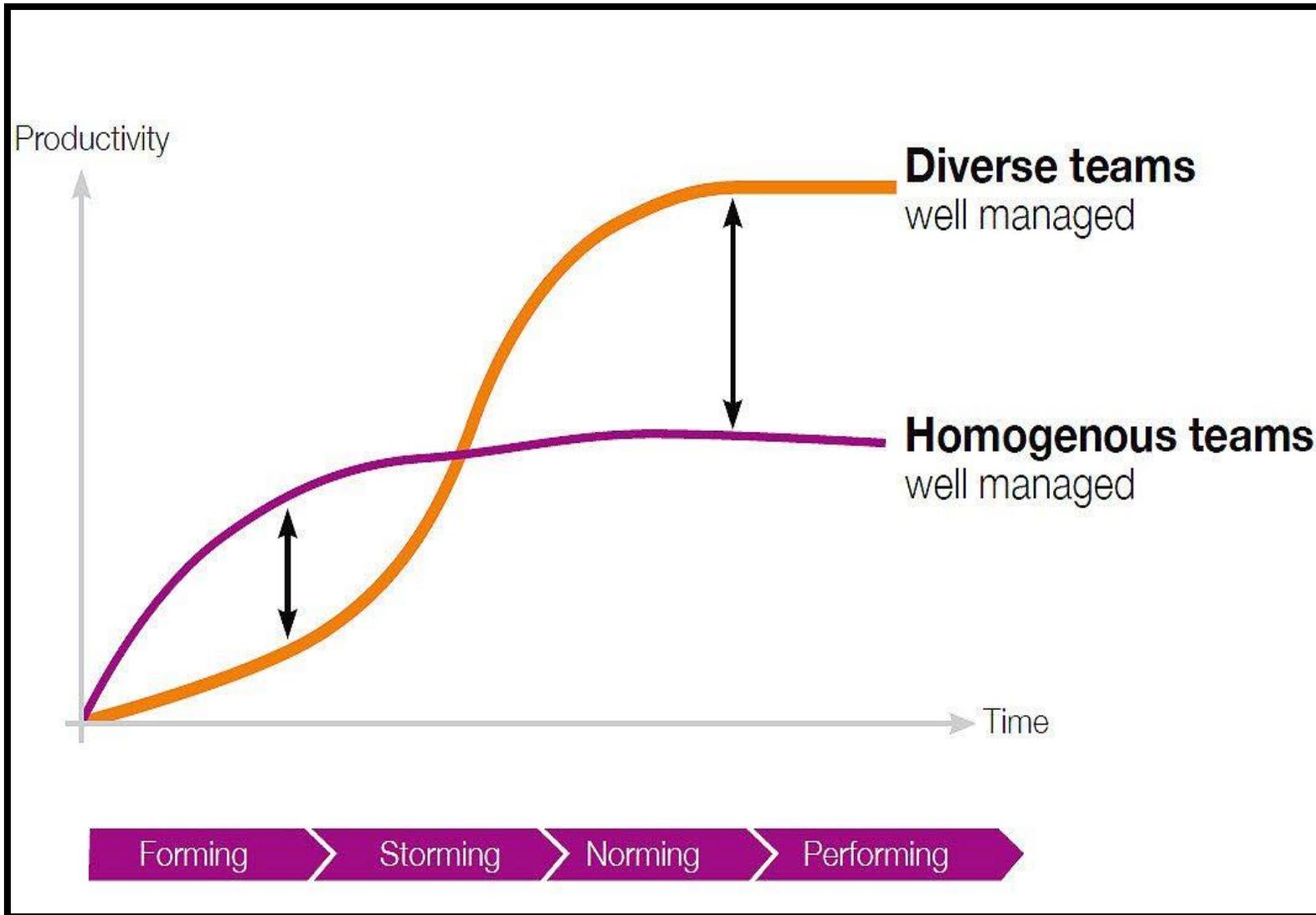
Diversity & Inclusion

Diversity – a Broad Definition





Benefits of Diverse Teams



- Drives innovation
- Increases creativity
- Challenges biases and negative stereotypes*
- Improves cognitive skills including critical thinking, complex thinking and problem solving*



Waiter, is that Inclusion in my Soup?

Workplace theory suggests that when people feel included and able to reach their full potential, they are more engaged, more productive and often more creative. We already know that when individuals feel highly included they feel more engaged in their work. This means that individuals are motivated to turn up to work and to do their best work.



Elements of Inclusion

| Fairness and respect | Value and belonging | Confidence and inspiration |
|---|---|--|
| Foundational element that is underpinned by ideas about equality of treatment and opportunities | Individuals feeling that their uniqueness is known and appreciated, while also feeling a sense of social connectedness and group membership | Creating the conditions for high team performance through individuals having the confidence to speak up and the motivation to do their best work |

Diversity, Equity and Inclusion Values



The Institute for Research and Innovation in Software for High Energy Physics (IRIS-HEP) is committed to fostering a welcoming and inclusive environment for everyone from all backgrounds not limited to political views, religion, national or ethnic origin, race, color, sexual orientation, gender identity or expression, age, marital status, veteran status, disability, research discipline, history of conviction or incarceration, socioeconomic status, and educational history. The entire team strives to create an environment that makes interactions and collaborations enjoyable and fulfilling while eliminating discrimination, harassment, exploitation, and intimidation.

Diversity, Equity and Inclusion Values



We expect the entire IRIS-HEP team to promote the following best practices with regard to diversity, equity, and inclusion:

- Affirm that promoting diversity must be consistent, ongoing, and is an active process that requires engagement;
- Promote awareness of perspectives that may have been previously inaccessible (or less prominent) to groups traditionally represented in scientific research environments;
- Believe that diversification requires cultural, experiential, and ideological representation as well as increasing the number of researchers and staff from underrepresented groups; and
- Aim to foster an environment where all perspectives are valued because they serve to advance the Institute's academic excellence and intellectual capacity, and will contribute to a more productive and respectful professional environment.



Inclusive Leadership and Innovation:

Expressing our DEI Values

Inclusive Leadership Competency framework



The Six Competencies of Inclusion

- Trait 1: Commitment
- Trait 2: Courage
- Trait 3: Cognizance of bias
- Trait 4: Curiosity
- Trait 5: Culturally intelligent
- Trait 6: Collaborative

Principles of Innovation



Inquiry and problem solving: Innovation starts when people convert problems to ideas. New ideas are born through questions, problems and obstacles. In order for the innovation process to flourish, it needs a climate that encourages inquiry and welcomes problems.

Co-locating drives effective exchange: Co-location refers to physical proximity between people. It is a key for building the trust that is essential to the innovation process. It also increases the possibility for greater exchange of information, stimulation of creative thinking in one another and critique of ideas during their formative stage.

Differences should be leveraged: The differences that normally divide people — such as language, culture, and problem solving styles — can be a boon to innovation. When differences are used constructively, they can be leveraged to enhance and sustain the innovation process.



Inclusion and Innovation

- Academic discovery and innovation demand the need to challenge prevailing knowledge and thought. The wider the range of perspectives, the more far-reaching the thinking.
- The ability to collaborate with those from different backgrounds are essential to human thought. A scientific discovery, artistic invention, or social solution can impact virtually every demographic group.
- Inclusive leaders believe diversity drives creativity, flexibility and innovation in the production of research and new knowledge. They bring together people across academic disciplines, from industry, non-profits and government, and from all nations and backgrounds to facilitate a collaborative culture to achieve breakthroughs of benefit to humanity.
- Many studies, including one by [Javed et al. published in 2017 in the Australian & New Zealand Academy of Management](#) **indicate a strong positive relationship between inclusive leadership practices and innovative working behavior.** Javed et al. write that “in an inclusive culture, where employees experienced high support from their leadership, employees tended to risk disagreement with their leadership and challenged the status quo by showing IWB.”

The Science of Implicit Bias



What Is Implicit Bias?

- Everyone has implicit (also called unconscious) biases. A bias is a kind of cognitive shortcut; it is not always unacceptable.
- Those working in academia often use these shortcuts which sometimes manifest as “Cognitive Errors” which can lead to stereotyping and microaggressions (JoAnn Moody, 2011).
- This can negatively impact others and/or can also lead to exclusionary behavior, such as in the academic search process.



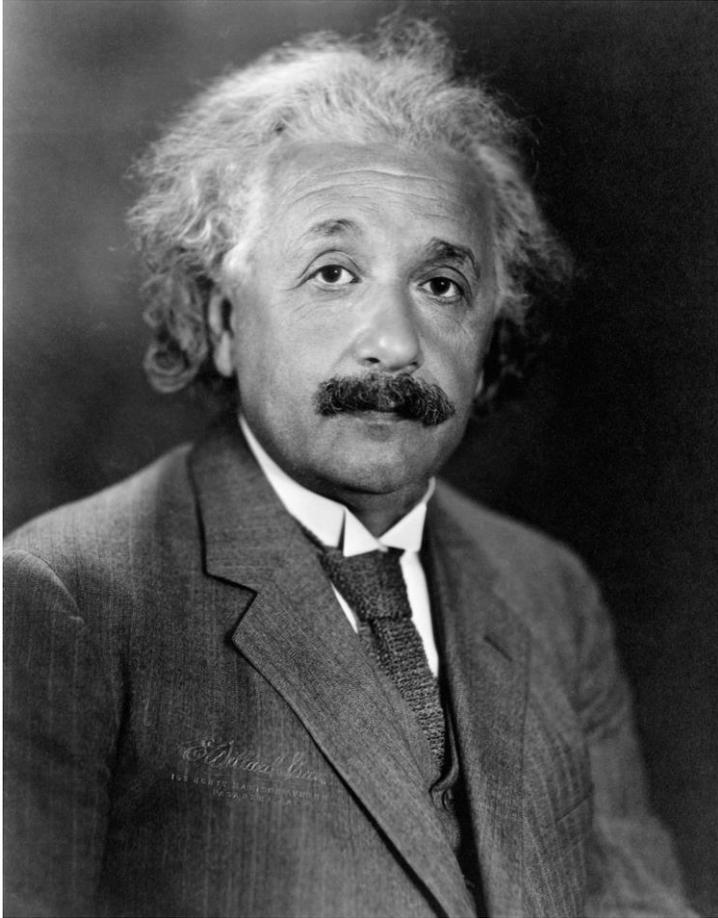
We receive **11 million** bits of information
every second

...

We can only consciously process
40 bits



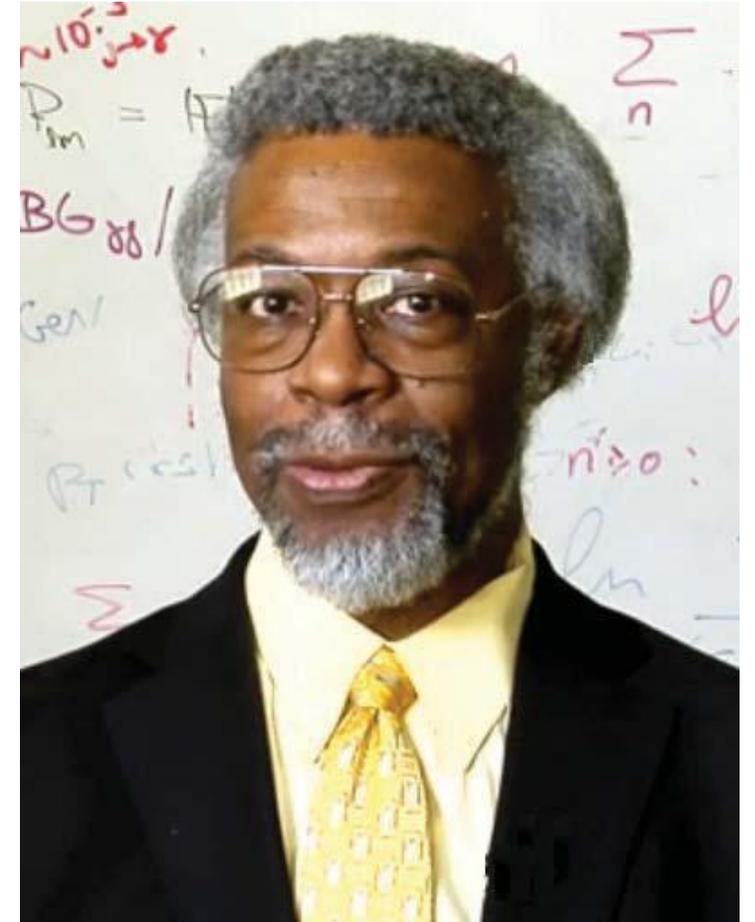
What does a Physicist Look Like?



Albert Einstein



Marie Curie



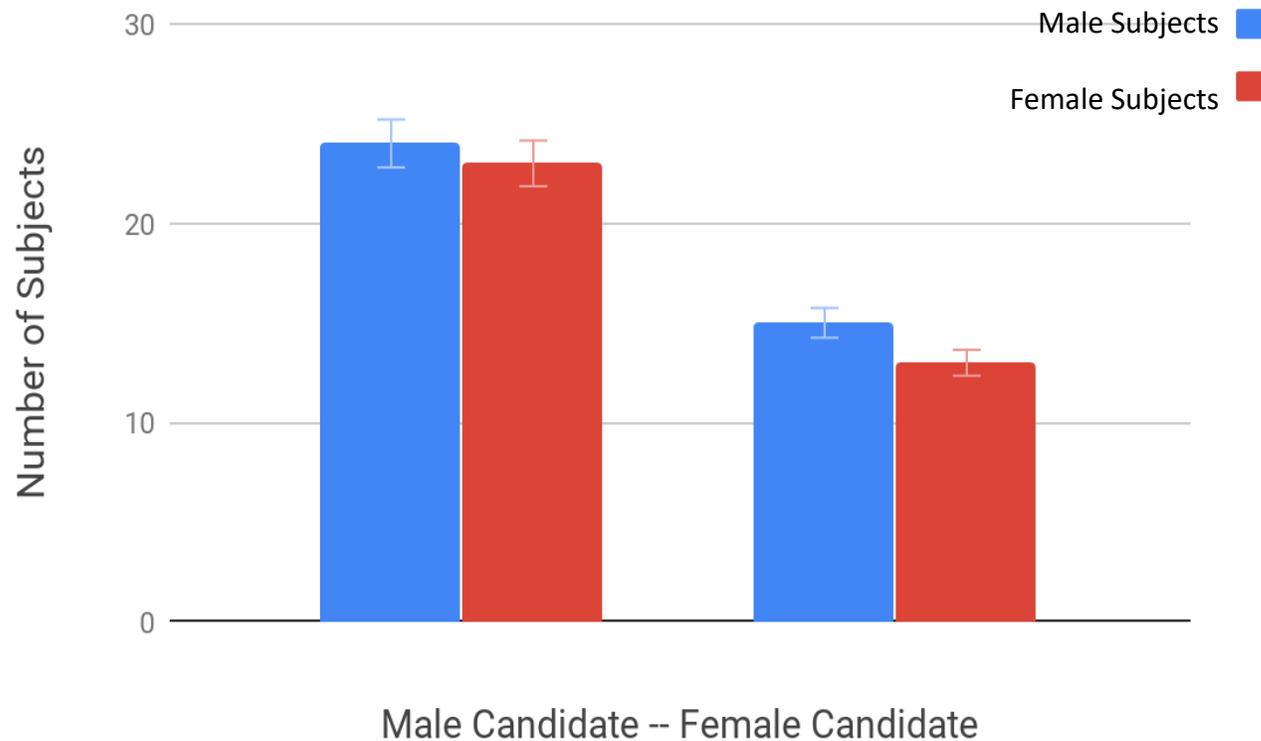
Sylvester James Gates





Implicit Bias in Hiring

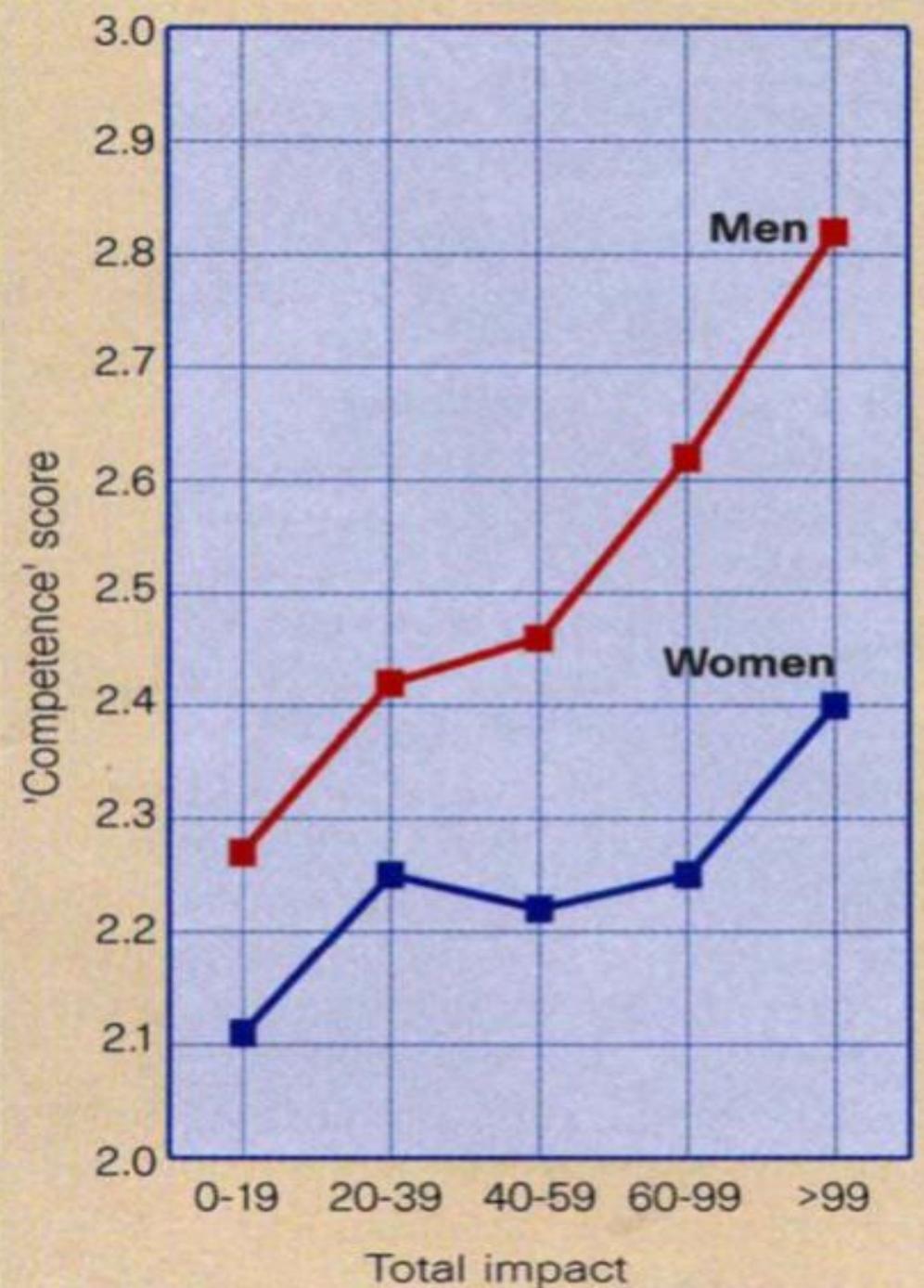
Hiring Decisions by Gender



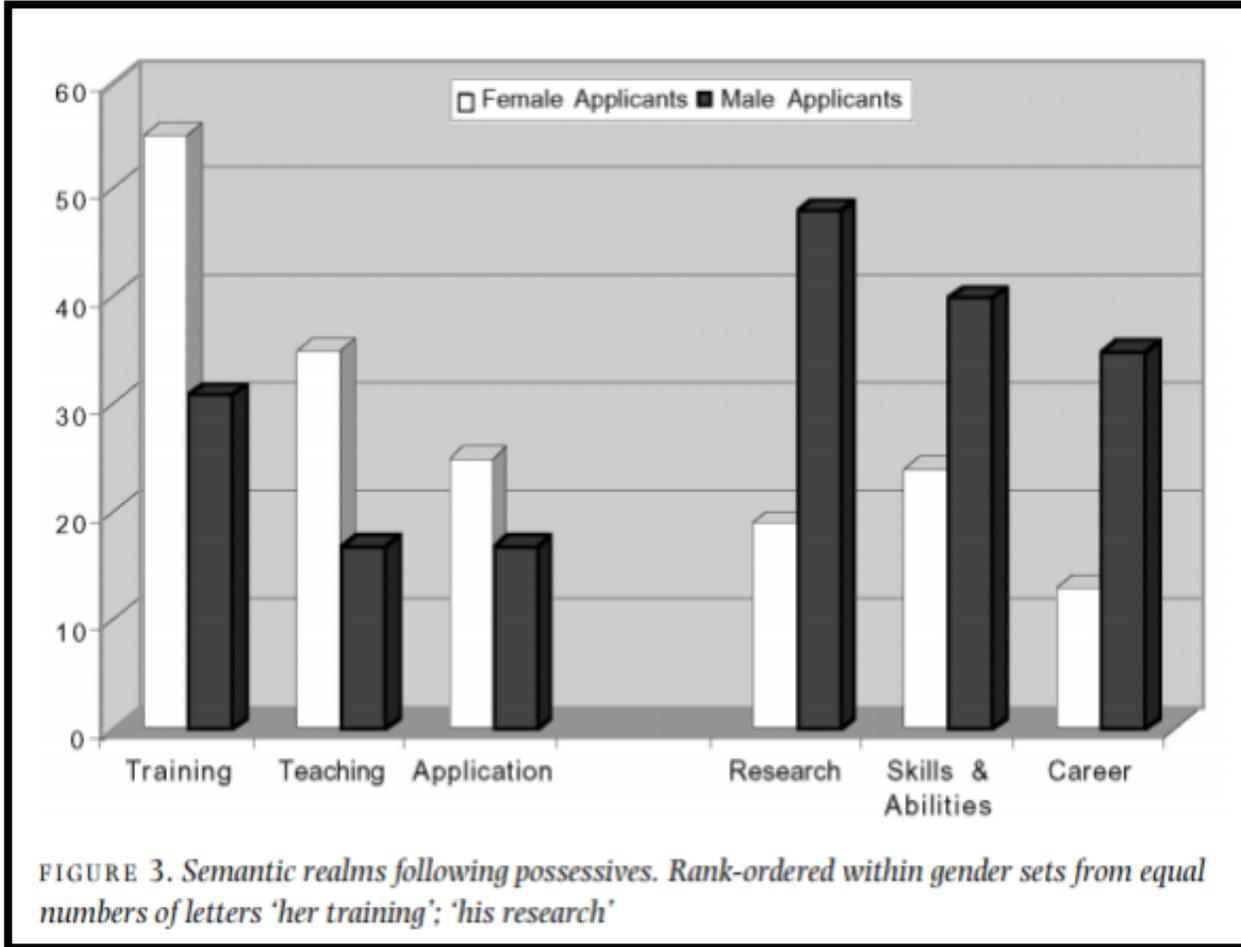
Both female and male faculty were more likely to recommend the male applicant for hire - based on identical CVs

Implicit Bias in Evaluation

Wenneras & Wold (*Nature*, 1997) found that in order for a female scientist to be awarded the same competence score as a male scientist, she had to have **3** extra papers in *Science* or *Nature*, **20** other papers, OR known someone on the panel...



Implicit Bias in Recommendation Letters



Letters written about women were shorter and less likely to be aligned with research record and ability.



Inclusive and Equitable Best Practices



Interrupt Bias through Equity and Inclusion

Interrupt bias in all people-oriented processes through equitable and inclusive behaviors and practices

- Hiring
- Mentoring
- Research

Hiring: Attracting Candidates

- Develop a broad position description
- Review job description for gendered language
- Review website for inclusive language/images
- Personal recommendations
- Under-represented professional networks
- NSF Diversity & Inclusion programs
- Diversity-focused publications





Hiring: Reviewing Applications

Please indicate which of the following are true for you (check all that apply):

- Read candidate's CV
- Read candidate's scholarship
- Read candidate's letters of recommendation
- Attended candidate's job talk
- Met with candidate
- Attended lunch or dinner with candidate
- Other (please explain):

Please rate the candidate on each of the following:

| | excellent | good | neutral | fair | poor | can't judge |
|---|-----------|------|---------|------|------|-------------|
| Potential for (evidence of) scholarly impact | | | | | | |
| Potential for (evidence of) research productivity | | | | | | |
| Potential for (evidence of) research funding | | | | | | |
| Potential for (evidence of) collaboration | | | | | | |
| Fit with department's priorities | | | | | | |
| Ability to make positive contribution to department's climate | | | | | | |
| Potential (demonstrated ability) to attract and supervise diverse graduate students | | | | | | |
| Potential (demonstrated ability) to teach and supervise diverse undergraduates | | | | | | |
| Potential (demonstrated ability) to be a conscientious university community member | | | | | | |
| Potential (demonstrated ability) to mentor diverse students | | | | | | |

advance.umich.edu/resources/candidate-evaluation-tool.docx

- Establish a list of criteria and their weights beforehand
- Pre-commit to specific requirements
 - Remind people of criteria
 - Ask for evidence
- Accountability
 - Keep track of when waived
 - Require an explanation



Mentoring: Mentor Roles

Mentor roles can be grouped into 2 categories: "Technical or instrumental career functions" and "Psychosocial or expressive career functions".

| Technical or Instrumental | Psychosocial or Expressive |
|---|---|
| Advisor for professional goals and career choices | Promoter of scholarly values and professional integrity |
| Advisor for development of academic scholarship | Advocate |
| Facilitator of professional networking | Role Model |
| Sponsor who provides specific strategic opportunities with career relevance | Coach |
| Advisor for development of teaching skills | Intellectual Challenger |
| | Colleague |
| | Supporter |



High quality mentoring should include BOTH psychosocial and technical functions.

Academics from underrepresented groups are less likely to receive high quality mentoring that provides both these functions. (Mott, 2002, Pololi & Knight, 2005, and Ibarra, 1993)

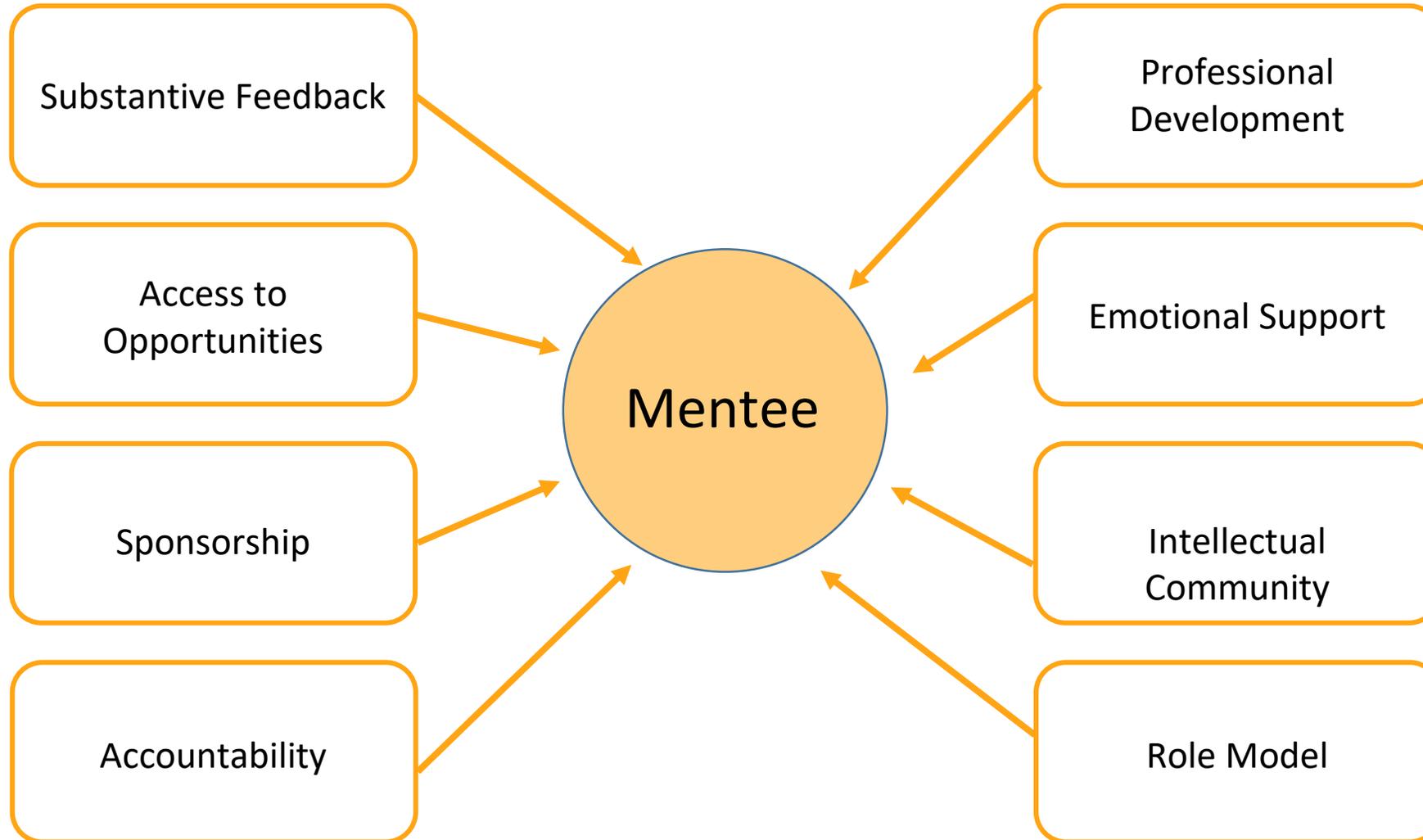
The traditional, hierarchical, dyadic mentoring relationships should be enriched by additional networks of individuals providing very specific guidance in areas of professional development that may not be addressed within a single dyadic relationship.

Mentoring networks are particularly relevant to groups traditionally underrepresented in the professoriate.

Zellers, Howard, & Barcic 2008; Kram & Isabella 1985. Pololi & Knight 2005; Pololi 2012; Bickel 2014; Chesler 2002; De Janasz 2003; Van Emmerik 2004



Mentoring Networks





Tips for Mentors

- Be available: Practice “the open door” policy
- Model inspiration and optimism
- Balance direction and self-direction
- Be widely read and widely receptive
- Skill development: provide varied opportunities to foster mentee development
- Building Community: Actively build scientific and social communities
- Networking: Provide access to your network

Interrupting Bias: “Office Housework”

Housework/Administrative Work: Planning parties, getting gifts, ordering food, taking notes, scheduling meetings, sending follow-ups, serving in certain departmental roles

Tips to Remedy:

- Take inventory (what work exists?)
- Keep track (who does what?)
- Reallocate or redistribute tasks (with accountability)
- **Don't:** Ask for volunteers or assign to who does it well or who won't complain



Inclusive and Equitable Best Practices

| Fairness and respect | Value and belonging | Confidence and inspiration |
|--|--|--|
| <p>Treat people and groups with respect</p> <ul style="list-style-type: none">• Treat people as individuals with unique characteristics rather than on the basis of stereotypes or biases <p>Treat people and groups fairly</p> <ul style="list-style-type: none">• Provide everyone equitable access to opportunities, resources and support/mentorship | <p>Each person should be viewed as a valued and integral member of the team</p> <ul style="list-style-type: none">• Provide micro-affirmations – small acknowledgments showing value to others• Recognize good work or compliment colleagues for their efforts• Use strategies to pull in people on the periphery | <p>Build the confidence of all group members to engage, participate fully and contribute to shared success</p> <ul style="list-style-type: none">• Provide feedback about progress being made and areas for growth• Celebrate group successes together• Model professional and collegial feedback |



Inclusive Innovation

Inclusive
Leadership
Ignites
Innovation



The quest to understand the fundamental building blocks of nature and their interactions is one of the oldest and most ambitious of human scientific endeavors.

IRIS-HEP is an active center for software R&D, functions as an intellectual hub for the larger community-wide software R&D efforts, and aims to transform the operational services required to ensure the success of the HL-LHC scientific program. Three high-impact R&D areas are working to leverage the talents of the U.S. university community.

Many voices, one future

An inclusive Princeton



Questions & Discussion

THANK YOU!

To learn more visit <https://academicinclusion.princeton.edu/>

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