AGU Honors Program Workshop
Getting to Fair: Recognizing Implicit Bias and Reducing its Impact

12 December 2016
1. Welcome and Introductions

Beth Paredes
AGU Assistant Director, Honors and Science Affiliations
Today’s Presentation

- Welcome and Introductions
- H&R Initiative and Implicit Bias
- Introduction on Implicit Bias
- Short Film Presentation and Discussion
- Alternate Film Ending and Discussion
- Best Practices
- Q&A
Our Workshop Panelists

Samuel B. Mukasa
- Dean, College of Science and Engineering, University of Minnesota
- Chair, Honors and Recognition Committee

Mary Anne Holmes
- Professor of Practice, Emerita, Earth and Atmospheric Sciences Department, University of Nebraska-Lincoln
- Member, Honors and Recognition Committee

Donald Schwert
- Professor Emeritus of Geology, Department of Geosciences, North Dakota State University
2. H&R Initiative and Implicit Bias

Samuel B. Mukasa
Dean, College of Science and Engineering
University of Minnesota
Chair, Honors and Recognition Committee

Credit and special thanks:
1. University of Michigan ADVANCE
2. University of Washington ADVANCE
3. American Geophysical Union (AGU)
Honors Program Aligns with AGU’s Strategic Goals

SCIENTIFIC LEADERSHIP AND COLLABORATION

- Strengthen AGU’s ability to operate in an interdisciplinary manner

SCIENCE AND SOCIETY

- Develop mechanisms to support interdisciplinary collaboration among members
- Enhance mutual support and networking opportunities for students and early career scientists

TALENT POOL

- Decrease our real barriers to gender and ethnic diversity and involvement within AGU and within Earth and space science
- Increase participation of underrepresented groups

ORGANIZATIONAL EXCELLENCE

- Increase awareness among members about AGU’s full scope of activities and opportunities and that AGU is more than meetings and publications
- Optimize responsiveness to members
- Increase transparency of governance, finance, and operations
- Improve governance effectiveness, efficiency, and visibility
- Enhance diversity and inclusiveness
Why are we here and why implicit bias?

From the Prow post of AGU President, Margaret Leinen

“We cannot live up to all that our mission promises if the Earth and space science community is not representative of humanity.” AGU recognizes the important role we play and the obligation we have as an organization to not only ensure a workplace climate for Earth and space scientists that is inclusive, respectful, and free from bias and discrimination but to also foster a community that reflects the diverse public we serve.
2016 Honors Demographics

*Women and Non-US residents are growing percentages of AGU members*

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<tr>
<td>Approximate Total AGU Membership</td>
<td>12,000</td>
<td>39,000</td>
<td>45,000</td>
<td>60,000</td>
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<td>% Women Members</td>
<td>Unrecorded</td>
<td>15%</td>
<td>17%</td>
<td>20%</td>
<td>26%</td>
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<tr>
<td>% Non-US Members</td>
<td>20%</td>
<td>32%</td>
<td>34%</td>
<td>39%</td>
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Comparative Data (2014-2016)
AGU Medals, Awards and Prizes

Gender Comparison
Geographic Location (US vs. Non-US)
2014-2016

- Male: 85%, 65%, 70%
- Female: 15%, 35%, 30%
- U.S.: 90%, 84%, 70%
- Non-U.S.: 10%, 16%, 30%
Comparative Data (2007-2016)
AGU Fellows

Gender Comparison
Geographic Location (US vs. Non-US)
Implicit Bias on Faculty Search Committees: Impact on Departmental Climate and Enrollment Demographics

Samuel B. Mukasa
Dean, College of Science and Engineering, University of Minnesota
Chair, Honors and Recognition Committee

Credit and special thanks:
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Session Outline

• Barriers in our educational system
• What is implicit bias and what are its consequences?
• Benefits of diversity
• Film case study
• Top five interventions to minimize implicit bias
Barriers to Underrepresented Groups in STEM

The Problem

Resources
- Lack of preparation
- Lack of role models
- Implicit bias

Minimal or no networks
- Lack of role models
- Implicit bias

K-12
1st Two Years of College
Completion of Undergraduate Degree
Workforce Entry or Graduate School
Re-Entry to Workforce

Courtesy of David Harwell, American Geophysical Union (AGU)
The Leaky STEM PIPELINE

- For women in the US, the yield in engineering is 20% of the total
- For African Americans in the US, the yield for all of STEM is 1-2% of the total
Evaluation of Identical CVs

For a faculty position:
• Male and female psychology professors recommended for hire “Brian” over “Karen” as an assistant professor (2:1).

For an undergraduate lab manager position:
• Male and female science professors rated male applicants more competent, more hirable, more suitable for mentoring, and offered higher salaries.

For sales, administrative support, clerical and customer services positions:
• “Greg” preferred over “Jamal” & “Jennifer” over “Lakeisha”

Musical Auditions: Gender

Records from major US symphony orchestras from 1970-1996:

- Audition data from 14,000 individuals show the use of a screen increases the probability that a woman will advance from preliminary rounds by 50%.

Penalties/Rewards for Parental Status

When evaluating equally qualified same-gender job applicants,

Mothers…
• were rated as **less** competent and **less** committed to paid work than nonmothers.
• were **less** likely to be recommended for hire, promotion, and management, and were offered **lower** starting salaries than nonmothers.

Fathers…
• were rated as **more** committed to paid work than nonfathers.
• were offered **higher** starting salaries than nonfathers.

Impact on Women’s Careers

Leaks in the Academic Pipeline for Women*

Graduate School Entry

PhD Recipient

Assistant Professor (Tenure Track)

Associate Professor (Tenured)

Full Professor (Tenured)

Women with Babies (29% less likely than women without babies to enter a tenure-track position)

Women Married (20% less likely than single women to enter a tenure-track position)

Women (23% less likely than men to become an Associate Professor)

Women (25% less likely than men to become a Full Professor within a maximum of 16 years)
Why do we need a diverse faculty in order to attain excellence?

- Why is a diverse faculty necessary to attain excellence?
- What are the obstacles to achieving diversity on the faculty?
  - Gives us access to talent currently not represented
  - A diverse faculty has positive effects on our diverse student body – at both undergraduate and graduate levels (i.e., role models; wider array of experiences)

Documented Benefits of Diversity

- Diversity powers innovations superior to those of monochromatic groups
- More perspectives are taken into account and fewer things taken for granted

Examples:
- A concept car designed by women and including many new features was also highly rated by men.
- Compared with all-white juries, diverse juries deliberate more thoughtfully about an African American defendant.

Short Film Presentation and Discussion

Mary Anne Holmes
Professor of Practice, Emerita, Earth and Atmospheric Sciences Department, University of Nebraska-Lincoln
Member, Honors and Recognition Comm
Interrupting Bias in Faculty Searches

• Implicit (unconscious, unintentional) bias (assumptions, ideas) pop up in *any* evaluation process: applications grad school/job; annual evaluation, P&T, etc.,

• Characters in film...
Questions to Consider as We Watch the Film

• What are some of the criteria being used to evaluate candidates?
• Did you witness any conflicts of interest?
• What breaches of good protocol for evaluation did you witness?
• What would you differently?
Alternate Film Ending and Discussion

Mary Anne Holmes
Professor of Practice, Emerita, Earth and Atmospheric Sciences Department, University of Nebraska-Lincoln
Member, Honors and Recognition Comm
Alternate Ending

• What was the alternate ending?
• Is this a practical step?
• What are better ways to accomplish the task in the time originally allotted?
Best Practices

Donald Schwert
Professor Emeritus of Geology, Department of Geosciences, North Dakota State University
Nomination and Applicant Pools:
Addressing the Issues of Equity and Diversity
Implicit Bias and Evaluation

Pressure increases the “opportunity” for implicit bias to affect the process:

- Lack of time
- Stress from competing tasks
- Ambiguity (including lack of information)
- Group association and lack of critical mass
e.g. solo status and tokenism
Mitigating Implicit Bias

- AWARENESS of potential of implicit bias
- MOTIVATION to recognize and control implicit bias
- PAUSE: take the time
- BUILD the applicant/nomination pool
- FOCUS on the evidence
## Evaluation Rubrics

<table>
<thead>
<tr>
<th>CRITERION</th>
<th>Excellent (4)</th>
<th>Good (3)</th>
<th>Adequate (2)</th>
<th>Inadequate (1)</th>
<th>NOTES</th>
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<tbody>
<tr>
<td><strong>1. Education &amp; background</strong></td>
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<tr>
<td>1A. PhD in relevant area of study</td>
<td>Academic background in geology</td>
<td>Some geology in academic background</td>
<td>Background in strongly allied field</td>
<td>Academic background weakly relevant</td>
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<tr>
<td>1B. Post-PhD experience</td>
<td>1-3 years relevant post-PhD experience</td>
<td>PhD in hand, but &lt;1 yr post-PhD experience</td>
<td>Clearly ABD (all but done)</td>
<td>not ABD or not in PhD program</td>
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<tr>
<td>1C. Communication skills</td>
<td>Well-written cover letter and teaching/research/curatorial statements with excellent English expression</td>
<td>Cover letter and teaching/research/curatorial statements are well written with minimal grammatical errors</td>
<td>Cover letter and teaching/research/curatorial statements are understandable, but contain significant grammatical errors</td>
<td>Cover letter and teaching/research/curatorial statements are poorly written as to be difficult to understand</td>
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<tr>
<td><strong>2. Research potential</strong></td>
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<tr>
<td>2A. Publication history</td>
<td>ABD/New PhD (1 or more published) plus for post-PhD (2+ published)</td>
<td>ABD/New PhD (2 published) plus for post-PhD (2/year published)</td>
<td>ABD/New PhD (1 published) plus for post-PhD (1 submitted)</td>
<td>ABD/New PhD (none published) plus for post-PhD (nothing past PhD submitted)</td>
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<td>2B. Scholarly impact</td>
<td>At least one paper in Nature, Science, or PNAS</td>
<td>At least one paper in high-impact journal in field with wide readership (e.g., Geology or Paleobiology)</td>
<td>At least one paper in high-impact, discipline-specific journal such as Vertebrate Paleontology, J. Physical Anthropology, or Mammalian Evolution.</td>
<td>All papers in low-impact journals (e.g., museum journals) or in non-peer-reviewed literature</td>
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<tr>
<td>2C. Funding history</td>
<td>ABD/New PhD (NSF fellowship or equivalent); Post-PhD (non external funding and evidence that they are looking for ways to obtain further funding)</td>
<td>ABD/New PhD (small grant from professional org); Post-PhD (small grant from professional organization or proposal submitted to external agency)</td>
<td>ABD/New PhD (internal university grant); Post-PhD (helped with gaining external funding)</td>
<td>ABD/New PhD (no funding); Post-PhD (no experience in gaining funds or writing proposals)</td>
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<td>2D. Potential to develop a well-funded program</td>
<td>Research statement contains concrete ideas for program focus and ideas for funding it</td>
<td>Research statement contains concrete ideas for program</td>
<td>Research statement discusses previous work, with some allusions toward potential program</td>
<td>No proposed program focus</td>
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<td><strong>3. Teaching potential</strong></td>
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<td>3A. Classroom teaching experience</td>
<td>Taught an undergraduate course</td>
<td>TA experience at the college level</td>
<td>Guest lectures or other ad hoc teaching at the college level</td>
<td>1-12 activities or equivalent experience</td>
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<td>3B. Classroom teaching potential</td>
<td>Teaching statement contains novel ideas for courses and content statement describes teaching philosophy and pedagogical approach; candidate indicates how teaching efforts would fit into current EAS offerings</td>
<td>Teaching statement contains novel ideas for courses and content; statement describes teaching philosophy or pedagogical approach; proposed offerings clearly relevant to department focus</td>
<td>Teaching statement contains concrete ideas regarding course offerings and content; proposed offerings do not take into account department focus</td>
<td>Teaching statement lists courses without reference to content or simply lists current course offerings</td>
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<td>3C. Research student supervision</td>
<td>ABD/New PhD (evidence of mentoring junior graduate students and/or undergraduates); post-PhD (has supervised a graduate student)</td>
<td>ABD/New PhD (teaching or research statement discusses approach to working with graduate students); post-PhD (evidence of mentoring graduate students and/or undergraduates)</td>
<td>Teaching or research statement mentions development of graduate program, but with little specific detail regarding approach or vision</td>
<td>No reference to graduate program development or student supervision in teaching or research statements</td>
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<td><strong>5. Outreach</strong></td>
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<td>5A. Potential for outreach</td>
<td>Evidence in application materials that candidate has been instrumental in organizing outreach activities</td>
<td>Evidence in application materials that candidate has participated in outreach activities</td>
<td>Evidence in application materials that candidate has enthusiasm for outreach, but has not so far participated</td>
<td>No enthusiasm for outreach activities evident in application materials</td>
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Men’s Critical Role in Advancing Gender Equity: A Model Initiative for Inclusion

The engagement of women and men is vital to successfully addressing bias and climate issues.

- **Advocates and Allies Programs:** men committed to supporting the recognition and advancement of women colleagues at all levels.

- **Advocates:** senior men with a record of supporting women colleagues willing to commit significant time and effort to leading trainings.

- **Allies:** men trained by Advocates and who identify themselves as allies of women colleagues.
Four Key Aspects of Serving as an Ally

1. Awareness

2. Willingness to alter status quo

3. Knowledge and education

4. Action
Advocates and Allies Programs

- Men as gender-equity allies can be effective in helping achieve institutional transformation.

- Successful Ally programs are intentional and multi-faceted.

- Start with a committed core group; participation will grow as the program develops.

Interested in establishing an Advocates and Allies program? Contact us.
Q&A