

Removing Barriers to Career Progression for Women in the Geosciences

Position Statement. The Geological Society of America (GSA) strongly endorses the right for all to work in a safe, supportive, non-discriminatory, and reprimand-free environment where trust, respect, equity, fairness, accountability, and justice are honored. Data reveal that women are underrepresented in the geoscience workplace, and women of color even more so. Women frequently face systemic challenges: they are often paid less than men for the same jobs; receive fewer professional awards to recognize their accomplishments; are disproportionately burdened by service roles; are disadvantaged if they follow alternative career paths due to life circumstances; and often are perceived as less competent than males with identical accomplishments and qualifications. In addition, women of color experience the double bind of gender and racial discrimination, which provides additional challenges to equity. As noted in GSA's position statement, Diversity in the Geosciences Community, discrimination and loss of equity can be further amplified by LGBTQ intersectionality with gender and race. GSA considers sexual harassment, violence, and all forms of discrimination unacceptable, and is committed to policies, programs, and services that will ensure the success of women in the geoscience professions.

Purpose. This position statement (1) **affirms the pressing need** for a change in professional culture so that all people are welcomed, supported, and thrive in the geoscience profession; and for policies that aspire to the highest standards of conduct as a professional society; (2) **advocates for** resolving implicit and explicit biases and the elimination of harassment, bullying, and sexual misconduct in the workplace; (3) **recommends** elevated personal and professional responsibility and evidence-based policies that extend beyond civil and legal remedies, to promote inclusive, safe, and productive environments in the geoscience classroom, laboratory, field, and office, and (4) **establishes GSA's commitment** to identifying and implementing reporting procedures and clear consequences for members who practice discrimination, harassment, bullying, retaliation, sexual misconduct, or sexual violence.

RATIONALE

Underrepresentation of Women in the Workplace

Women account for 47% of the United States workforce, but only 28% of geoscientists and environmental scientists. Furthermore, in the geosciences women hold only 15% of full professor positions despite earning 43% of doctoral degrees. Women of color represent less than 5% of geoscience degrees and less than 1% of all geoscience faculty positions, despite minority women comprising 18% of the United States population. The geoscience profession, and society at large, cannot afford to lose this human capital if we are to remain at the forefront of discovery and innovation critical to understanding Earth and its interactions with human society.

Summary of Systemic Challenges to Success of Women in the Geosciences

Research indicates that women routinely face more challenges in career advancement than men. The recommended reading list at the end of this document provides the research foundation that supports the rationale for this position statement. Challenges faced by women include both "push" and "pull" factors. Push factors are those that nudge women out of their chosen career paths; e.g., a negative culture toward women in STEM; experiences of implicit and explicit biases such as exclusion, invisibility, micro-aggressions, and other subtle hostilities; the less subtle sexual harassment, harassment in general, and bullying; assault; sexual coercion and sexual violence; and reprimand for confronting or reporting crimes,

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discrimination, hostilities, and biases. Inequities such as lower salaries and smaller benefit packages, lower performance reviews, less mentoring, fewer opportunities for informal networking within a male-dominated field, and diminished opportunities for professional rewards and recognition are well documented. Pull factors impact women by pulling them away from the workplace. For example, women are more likely than men to bear a disproportionate burden of familial responsibilities, such as first-responding and caregiving, particularly when the workplace lacks family-friendly policies and flexible career paths for women. Growing trends in employment precarity and contingent work amplify the vulnerability of non-partnered persons and women to poverty, especially older women, which can create barriers to re-entry into stable, secure employment. Dual career situations may also disadvantage partnered women (the male partner is more likely to have more lucrative compensation). Research shows that women with children are far less likely to enter a tenure-track position compared to men with children; whereas women without children are roughly as successful as men with children in obtaining tenure-track positions.

Pressing Need for Resolving Implicit and Explicit Biases

Implicit and explicit biases are beliefs and associations that impact our perceptions and decision-making processes. These biases result from prevailing stereotypes in society and can include a number of legally protected characteristics: race, gender, age, religion, appearance, gender identity and expression, disability, etc. To ensure equity in the geoscience community, these biases must be acknowledged and proactively addressed by the entire geoscience community. Consequences of such biases are numerous and well documented in both STEM and non-STEM fields. Women are far less likely than men to receive glowing letters of recommendations, and are more likely to receive negative workplace evaluations compared to equivalent males. They are perceived as less competent than men with similar qualifications, and are more likely to be assigned manual labor and supporting roles rather than big picture ideas and leadership. Women make up a disproportionately small percentage of reviewers for geoscience journals and are less likely to receive fair reviews on their manuscripts. Research also suggests that male co-authors are perceived as having contributed more than female co-authors. In addition, women are more likely than men to be criticized for assertive behavior—women who negotiate higher salaries are perceived as “bossy” or “too aggressive” compared to men. Women also hesitate to accept leadership positions because of the negative stereotype of aggressiveness associated with such positions. This is compounded by the observation that women have less access to senior leaders, even though mentorship by senior leaders is considered essential for professional success. Women and minorities are also less likely to receive enthusiastic Ph.D. mentorship compared to white male students, and are underrepresented in the number of professional awards conferred in the geoscience profession. Further troubling is that women of color experience the “double bind” of gender as well as racial and ethnic biases, also known as intersectionality. For example, a study found that almost half of black and Latina women scientists had been mistaken as janitors and support staff. In a similar vein, black Ph.D. scientists are less likely to receive grant funding compared to white Ph.D. scientists with a similar research record; and CVs with traditionally white names are significantly more likely to receive callbacks for job interviews compared to identical CVs with ethnic names.

Pressing Need for Elimination of Harassment, Sexual Harassment, Sexual Violence, and Retribution

Women scientists disproportionately face threats of discrimination and violence. These threats range from criminal sexual assault and coercion (quid pro quo), to unwanted physical contact, unwanted sexual attention, bullying, insulting, and other demeaning behaviors that derive from asymmetric and hierarchical power distributions. Further compounding the problem is reluctance on the part of many geoscientists to accept evidence of gender bias and to be more likely to deny any occurrence of sexual misconduct in the workplace. Silence is complicity, and neutrality in situations where harassment arises is not an acceptable option. Empowering bystanders to act and developing ally networks are essential steps toward changing the culture of acceptance.

Advocating for a Change in Professional Culture

Addressing systemic injustices and barriers to career progression for women in the geosciences requires recognition and resolution of bias and elimination of harassment. This can only be achieved by changing the factors and conditions that affect our professional culture. Depending on civil or criminal remedies is not enough and deflects away from the personal, professional, and moral responsibility that we must own. In order to change our professional culture, we advocate for evidence-based strategies to overcome barriers and increase the recruitment, retention, and re-entry of women in the geosciences. These include the following:

- Educating the geoscience workforce on the presence, nature, and impact of implicit biases. This includes promoting fair assessments by using blind evaluations where practical and having people on every evaluative committee with training on the impact of implicit bias on evaluations.
- Establishing zero tolerance for sexual violence, gender-based harassment, harassment, bullying, and recrimination.
- Establishing family-friendly policies that will enable full participation of women in the geosciences regardless of their personal or professional situation.
- Addressing the disproportionate burdens and ethics of workforce precarity and contingent work on women in the geosciences.
- Promoting flexible career paths that accept and value alternate pathways to and within the geoscience profession.
- Executive commitment to the principles of this Position Statement and follow-through by GSA leadership to the creation of clear consequences for GSA-member violators.

PUBLIC POLICY ASPECTS

GSA is strongly committed to adopting policies that promote a professional culture that is welcoming, inclusive, supportive, and fair to all. These policies should identify and address issues that unjustly impact the professional development of women in the geosciences, and should be applied to all GSA functions, such as membership, governance, meeting and field-trip participation, and award consideration.

This statement recommends that GSA promote awareness of implicit and explicit bias by disseminating the data that demonstrate bias in candidate selection for scholarships, graduate school admission, honors and awards, peer review and publications, and geoscience jobs. GSA should demonstrate executive commitment and follow-through by producing collaborative op-eds by leadership and research papers on this topic, distribute this information at workshops, set high standards of conduct at all GSA events, and circulate this information in GSA governance, to increase the recognition of bias and thereby reduce its impact.

RECOMMENDATIONS

GSA leadership and its members are encouraged to take the following actions to actively promote the success of women in the geosciences following the principles of diversity and equality:

- GSA should ensure that all members understand their responsibility to behave in a professional and ethical manner.
- GSA is encouraged to implement and vigorously oversee the Respectful Inclusive Scientific Events (RISE) program, which requires professional conduct among members and the safety of all who participate in GSA-sponsored activities.
- GSA should ensure that representative voices are present, heard, and respected in all GSA service roles.
- GSA should advocate for and promote policies that support partnered and non-partnered women geoscientists in overcoming structural barriers such as providing recommendations on dual career, workforce re-entry, stop-the-clock, and family support programs.
- GSA should continue developing and promoting scholarship and mentoring programs for students from underrepresented groups and fund those initiatives with demonstrated success.

- GSA should encourage the growth of inclusive workplace and teaching practices throughout the geoscience profession and the implementation of bias-reducing hiring practices.
- GSA should provide Implicit Bias training to all GSA employees, Division and Committee leadership, Council members, Foundation Trustees, Editors, Reviewers, and awards canvassing and selection of Committee members. This training is needed to ensure that implicit bias is minimized in GSA governance, award selection, and publications.
- GSA should provide Bystander Intervention training to empower GSA members in best practices for creating and protecting the safety and inclusivity of all learning and work environments. Field environments, where vulnerability to harm can be greatly heightened, should receive added attention.
- GSA members should serve as mentors, allies, advocates, and champions of women in their career progression.
- GSA should encourage further study of barriers and finding remedies to the full participation and career progression of women in the geosciences by promoting conference sessions, workshops, publication of rigorous studies thereof, and monitoring and evaluation.

Adopted May 2018

ABOUT THE GEOLOGICAL SOCIETY OF AMERICA

The Geological Society of America (GSA), is a global professional society with more than 24,000 members from academia, government, and industry in more than 100 countries. Through meetings, publications, and programs, GSA enhances the professional growth of earth scientists and promotes the geosciences in the service of humankind. GSA encourages cooperative research and shared findings among earth, life, planetary, and social scientists, fosters public dialogue on geoscience issues, and supports all levels of earth science education. Inquiries about GSA or this position statement should be directed to GSA's Director for Geoscience Policy, Kasey S. White, at +1-202-669-0466 or kwhite@geosociety.org.

RECOMMENDED READINGS

Underrepresentation of Women in the Workplace

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