

Diversity, Equity and Inclusivity in Action: What Can Engineering Education Research Publications Do?

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Abstract: This panel discussion will gather journal editors and associate editors, authors, and reviewers from the engineering education research (EER) community to discuss how to take action that will increase diversity, equity and inclusivity in EER publications and communications. Specifically, we seek to engage in a frank discussion of how publication practices and policies affect traditionally marginalized populations in EER, and identify ways that we can implement more equitable and inclusive practices and policies. Panelists will give short presentations on their roles in academic publishing and the steps they have taken to make academic publishing more diverse, equitable and inclusive. This will be followed by a moderated discussion among the panelists, with predetermined prompts as well as questions fielded from the audience. The outcome of this panel discussion will be actionable steps that can be shared throughout EER to create a more diverse, equitable and inclusive community through our academic publications and communications.

Introduction:

Recent events, specifically the COVID-19 pandemic and increased activity around the Black Lives Matter movement, have given rise for calls for the EER community to “authentically listen to those who have historically been silenced — we who possess unearned societal benefits have something to learn” (Vanasupa, 2020, p. 4). Published articles and guest editorials outline the issues at hand related to a lack of diversity in engineering (Pawley, 2019; Burt, 2020), and a lack of inclusivity in our educational practices (Cech, 2013). Other published editorials (e.g., Riley, Foster & Karlin, 2020) and presentations (Pawley, 2019; Benson, 2020) identify ways to take action, with the understanding that we are at a pivotal point in our societal discourse where listening and learning are no longer enough to move toward diversity, equity and inclusion. Those of us who are active in academic publishing in the EER community have a platform for bringing about social change through our respective roles as editors, authors and reviewers.

Background:

Journal editors and members of editorial boards are in some ways the vanguards of engineering education research and publishing as they set guidelines for authors and reviewers, coordinate messages about the vision and mission of their respective journals and publishers, and guide new research through the publication process. However, academic journals do not always provide specific messaging about how to write, review, edit, and publish research with diversity, equity and inclusivity at the forefront (Coley, Simmons & Lord, 2021). Some initiatives have been undertaken by EER journals to address this issue. For example, the editor for the *Journal of Women and Minorities in Science and Engineering*, Julie Martin, wrote in an editorial about expectations for reviewers to be constructive rather than destructive (Martin, 2020). Martin provided explicit instructions for reviewers to consider their own positionality, or their position in relation to the social and political context of the study – the community, the organization, or the participant group (Hampton & Reeping, 2019). Positionality statements allow a reader to see “how the researchers viewed their own internal conversation with their identity and the identity of those being studied” (Hampton & Reeping, 2019, pp. 3–4). A researcher (or reviewer’s) positionality includes personal and philosophical perspectives that influence a study’s research design, methods, and worldview (Hampton & Reeping, 2019). More specifically, researcher positionality incorporates a researcher’s choice of research topic, epistemology, ontology, relation to participants, and communication with their intended audience (Secules et al., 2021). Therefore, a

researcher's implicit or explicit bias has the potential for influencing the data collection, analysis, and interpretation in qualitative studies and the interpretation in quantitative studies (Hampton & Reeping, 2019), and challenges the notion of a researcher as a "neutral observer" (Malterud, 2001, p. 484) in both quantitative and qualitative research traditions. Thus, without explicit positionality statements, authors and reviewers do not discuss how they have critically reflected on their own identities and could influence how research is conducted and reviewed, which could perpetuate systemic racism. Positionality statements are one approach towards transparent communications and disrupting power dynamics in research contexts (Secules et al., 2021).

Outside of the EER community, there are initiatives and resources that could be leveraged to promote diversity and inclusive practices within the academic communications ecosystem, for example the Joint Statement of Principles by the Coalition for Diversity and Inclusion in Scholarly Communication (C4DISC). C4DISC promotes diversity and inclusive practices within the scholarly communications ecosystem, and is working to eliminate barriers to participation, create a space that respects diverse traditions, heritages, and experiences, as well as promote diversity in all staff, volunteers, and audiences (C4DISC, n.d.). How do we increase diversity on editorial boards and pools of peer reviewers for EER journals? Other important considerations include how we refer to gender, disability, race and ethnicity, among other characteristics, in our publications. The American Psychological Association (APA) has provided an online guide based on their updated 7th Edition Handbook about bias-free language and urges authors to "to use language that is free of bias and avoid perpetuating prejudicial beliefs or demeaning attitudes in their writing" (APA, n.d.). But there are conflicting opinions on issues such as capitalization of racialized groups (Appiah, 2020; Law, 2020). How should authors and editors refer to diverse types of people in engineering in ways that are inclusive and respectful?

Positionality statements, diverse appointments and bias-free language are just a few examples of the many issues that need to be frankly discussed and acted on in the EER community from the perspective of our research publications and communication venues such as conferences. The proposed panel discussion will focus on identifying actions such as drafting guiding documents (i.e., author and reviewer guidelines), targeted training (i.e., online resources for writing positionality statements), and policies that can be adopted by any EER journal or conference (for example, acceptable formats for referring to human research subjects, and strategies for creating more diverse editorial boards).

Panel Members:

This panel session will assemble a diverse group of individuals representing a variety of voices and roles, particularly those who have been champions for diversity, equity and inclusivity. To represent EER journal editorial boards, two journal editors, specifically those who have initiated action related to diversity, equity and inclusivity, will participate: Julie Martin (*Journal of Women and Minorities in Science and Engineering*) and Denise Simmons (*Journal of Engineering Education*). To represent EER authors, two recently published authors working in the diversity, equity and inclusivity space will participate: Brian Burt and Cassandra McCall. Representing EER reviewers will be two recently active reviewers whose research focuses on diversity, equity and inclusivity: James Holly, Jr. and Kelly Cross. These panelists have been selected by the co-moderators of the session (Lisa Benson, Editor, *Journal of Engineering Education*) and Katreena Thomas (Diversity, Equity and Inclusivity Intern with the *Journal of*

Engineering Education), to represent diversity in terms of gender, race, disability and sexual orientation identities in addition to their understanding of issues related to diversity, equity and inclusivity.

Panel Session Structure and Discussion Prompts:

After introducing each panelist and co-moderators, we anticipate each panelist spending 1 – 2 minutes describing what they believe to be the most pressing issues facing academic research editors, authors, and reviewers, and initiatives already under way related to diversity, equity and inclusivity (10 minutes total). An open discussion will follow. Discussion prompts will be prepared and posed to the panelists by one of the co-moderators. Sample prompts include:

- What actions can we take to guide reviewers in writing constructive reviews to ensure that manuscript submissions are treated equitably?
- There are conflicting opinions in publications about capitalization and use of descriptive terms such as those referring to race, ethnicity and disability. What are the roles and responsibilities of editors, authors and reviewers to educate themselves on current practices in academic publishing related to inclusive language?
- How should editors and reviewers provide feedback to authors on the use of appropriate, up-to-date, bias-free language when referring to people and groups of people in human subjects research?
- How can we as a community facilitate selection of diverse reviewers for conference and journal papers?
- What actions can we as a community take to foster and promote diverse conference program chairs and journal editorial board members?

Audience members will also be able to ask questions through an online portal such as Slido (sli.do) or Menti (www.menti.com), which will be fielded and organized by topic by the second co-moderator.

Conclusions:

We anticipate that documenting this discussion and identifying key questions and responses from stakeholders in the EER publication community who are well-versed in current issues related to social justice, racial equality and systems of social oppression will allow us to develop a collection of action items that can be adopted by the entire EER community. We focus in particular on EER journal editors and editorial boards in an effort to use our publications as platforms for increasing diversity and creating an equitable and inclusive community.

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