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Call for Papers: A Special Issue of the Journal of Pre-College Engineering Education Research on “Asset-Based Pre-College Engineering Education to Promote Equity”

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Abstract

We invite original manuscript submissions that investigate the design, learning and social processes, and outcomes of asset-based engineering education. Studies should focus on pre-college engineering education, but may be quantitative or qualitative, observational or interventionist.

Document Type

Front Matter



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Call for Papers: A Special Issue of the *Journal of Pre-College Engineering Education Research* on “Asset-Based Pre-College Engineering Education to Promote Equity”

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Special Issue Overview & Potential Topics

Women and people of color are underrepresented in all fields of engineering, and this problem only becomes more pronounced at higher levels of educational and career attainment. The field of engineering education has embraced the need to broaden participation in engineering at all levels, but despite substantial investment, patterns of inequity persist. Given the resistance of these patterns to change, it is important for the field to consider alternative framings of the problem and possible solutions.

Often, the goal of *broadening participation in engineering* invites a model that takes the discipline of engineering as more or less fixed, with the relevant variables available to change being (a) the pedagogical presentation of engineering and (b) the particular participants and non-participants in educational efforts. For the former, researchers can examine problems in the implementation of educational programs, such as poor pedagogy, structural barriers to participation including high costs or lack of information, or implicit racist or sexist messaging about who belongs in engineering. For the latter, participants or non-participants may lack interest or excitement, may have limited views of the field of engineering, or may lack connections to possible mentors in their community. These issues may not be conceived as being the fault of participants, but they are nonetheless often framed as deficits in need of remediation.

This special issue will explore approaches that take a third view, which is that engineering as a discipline should not be taken as a fixed entity that is “pure and beyond examination” (Medin & Bang, p. 240). Instead, students’ existing assets should be taken as epistemologically primary, so that education is designed first around students’ assets, and conceptions of engineering are interrogated and reimagined as needed. By assets, we refer to the constellation of knowledge, skills, practices, resources, interests, and identities that students have, enact, and/or live within. We connect here to literature on equity that asserts the critical importance of attending to and designing around these assets. Terminology and focus vary—funds of knowledge (Moll, Amanti, Neff, & Gonzalez, 1992), repertoires of practice (Gutiérrez & Rogoff, 2003), heteroglossia (Rosebery, Ogonowski, DiSchino, & Warren, 2010), or community cultural wealth (Yosso, 2005), to name a few—but these perspectives share a common emphasis on cultural, linguistic, and idiosyncratic assets as valuable resources for learning. We believe the field needs to build a robust library of examples of asset-based approaches to equitable engineering education.

We invite original manuscript submissions that investigate the design, learning and social processes, and outcomes of asset-based engineering education. Studies should focus on pre-college engineering education, but may be quantitative or qualitative, observational or interventionist.

Criteria

Manuscripts will be evaluated on the ways in which they: (1) speak clearly to the special issue theme, (2) are well-situated within the research literature, (3) employ rigorous and well-articulated methods and analysis, and (4) present clear findings and well-justified implications.

Timeline

- Extended Abstracts: Structured 500-word abstracts will be accepted on a rolling basis through May 30, 2020. Abstracts should include the following sections: Purpose, Background/Framework, Methods, Findings, and Conclusions. Authors are encouraged to reach out to guest editors with questions about fit. Please send abstracts directly to the guest editors at leemartin@ucdavis.edu or kristen.wendell@tufts.edu.
- Invitations: Invitations to submit full manuscripts will be sent to authors on a rolling basis, but no later than June 1, 2020.
- Initial Submissions: Full manuscripts are due July 15, 2020 and will be sent for review at that time.
- Decisions: Initial reviews and decisions will be returned on Sep. 15, 2020. Authors will be notified with an initial decision (accept, minor revisions, major revisions, or reject) and reviewer comments. The initial acceptance does not guarantee publication, as that decision will depend on the quality of the final manuscript.
- Revised Manuscripts: Revisions are due by Dec. 1, 2020. Feedback on revisions will be returned by Jan. 10, 2021.
- Final Manuscripts: Finalized manuscripts should be submitted and ready for copy-editing by Feb. 1, 2021.
- Anticipated publication date: April 2021.

Submission Instructions

Structured abstracts should be emailed directly to the guest editors at leemartin@ucdavis.edu and kristen.wendell@tufts.edu.

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