ASEE AMERICAN SOCIETY FOR ENGINEERING EDUCATION

Paper ID #36462

Connecting Efforts to Support Minorities in Engineering Education

Dr. Elizabeth Cady, National Academy of Engineering

Dr. Elizabeth T. Cady is a Senior Program Officer and Director of the Practices for Engineering Education and Research (PEER) program of the National Academy of Engineering (NAE). PEER conducts studies, workshops, and other activities focused on equitable and inclusive engineering education writ large and related research at the precollege and higher education levels. She earned M.S. and Ph.D. degrees in Cognitive and Human Factors Psychology from Kansas State University and a B.A. in psychobiology and political science from Wheaton College in Massachusetts.

Dr. Shernita Lee

Dr. Shernita Lee is the Assistant Dean and Director of the Graduate School's Office of Recruitment, Diversity, and Inclusion at Virginia Tech. She holds a bachelorâ€™s degree in mathematics from Alabama State University and a doctorate from Virginia Tech

Dr. Nina Parshall, The Ohio State University
Ms. Alissa Sperling, Drexel University
Dr. Jacqueline E McDermott, Purdue University

Dr. Jackie McDermott joined the College of Engineering at Purdue University in August 2018 and is the Associate Director of Graduate Diversity and Inclusion. Jackie completed her Ph.D. in Molecular and Cellular Biology from Brandeis University and has over 5 years of recruitment and higher education administration experience. At Purdue, Jackie is passionate about preparing future graduate students and supporting current graduate students, especially those from historically underrepresented backgrounds in Engineering. She also has a specific focus on increasing the diversity of future engineering faculty and developing a more diverse, equitable and inclusive Purdue Engineering.

Panel Discussion: Connecting Efforts to Support Minorities in Engineering Education

Despite calls to increase diversity throughout the engineering education enterprise and years of efforts by universities, K-12 schools, education-related organizations such as professional societies, and collaborations among those organizations, it remains true that American Indians/Alaska Natives, Blacks/African-Americans, and Hispanics of any race and do not participate in engineering education and occupations in the same proportions as their representation in the US population. Considerable resources over decades have been spent on initiatives to build awareness and interest in the STEM fields among young people from traditionally marginalized groups, support their success in K-12 schools, recruit them to and matriculate them in 2- and 4-year engineering programs, reduce their attrition from these programs, and facilitate their pursuit of further academic studies and/or employment in academia and industry. While some of these efforts have demonstrated success, because many organizations work independently at the K-12, undergraduate, or graduate level, their impact on the overall lack of diversity in engineering has been disappointing.

Because disparate efforts will be more powerful with increased collaboration and coordination, with support from the Alfred P. Sloan Foundation, the National Academy of Engineering hosted a workshop and is conducting follow-up activities to provide actionable insights to the engineering education community about existing and potential new approaches for increasing coordination and communication among the various levels of the engineering education system to increase the number of engineering undergraduate, graduate, and postgraduate students and faculty from traditionally minoritized populations in US colleges and universities. Specifically, the workshop explored existing and potential collaborations between extramural initiatives that support success in engineering education pathways for individuals from historically marginalized populations as well as universities seeking to recruit and retain these students in undergraduate and advanced engineering education, including as faculty.

Following the workshop, attendees were invited to apply for a mini-grant that would support either a new collaboration or further existing collaborative work. Three mini-grants were awarded, with projects that addressed K-12 education and transition to undergraduate engineering education, undergraduate retention, and graduate retention. The work supported by the mini-grants was conducted in the summer and early fall of 2022. This panel will include individuals who were awarded the mini-grants and will discuss their work during and after the period of the grant. Specifically, they will discuss lessons they learned during their collaborations, including what did and

did not work as they built their collaborations, that could be applied to other groups seeking to work together to increase diversity and inclusion in engineering education.

Moderator: Elizabeth Cady, National Academy of Engineering
Panelists: Shernita Lee, Virginia Tech
Jacqueline McDermott, Purdue University;
Nina Parshall, Ohio State University;
Amir Saeidi, Texas A&M University;
Alissa Sperling, Drexel University