### **GUEST EDITORIAL**



# Show up and disrupt

During the 2019 annual ASEE meeting in Tampa, Florida, Alice Pawley gave a rousing distinguished lecture titled, "'Come Get Your People!': Breaking Silences About Equity in Engineering Education Research" (Pawley, 2019). In it, she grappled with the privilege, accountability, and embedded injustice within engineering education that produces our current and ongoing condition of homogeneous demographics, exclusion, and inequity in engineering. Her talk was a call to advocacy and allyship in solidarity with others.

We write to share one immediate opportunity to "come get your people" in February 2020 that is part of a continuing conversation and campaign of building resources, community, and support for change. As part of a National Science Foundation-funded project focused on building social infrastructure for achieving change at scale, we are exploring the possibilities of learning from social movements to effect change in engineering education and to build solidarity and community among the many "lone wolves" who work in relative isolation apart from engineering education departments or centers (Foster, Karlin, Quiles-Ramos, & Riley, 2019).

The week of February 23–29, 2020—the week *after* the National Society for Professional Engineers "Engineers Week" (Eweek)—we invite you to participate in a week of action and advocacy focused on changing cultures of oppression in engineering. Actions can range from one-minute commitments to anything you can imagine. Our goal is to build momentum in engineering educators' decades-long movement for equity and inclusion in engineering (Lucena, 2005; Slaton, 2010), growing palpable solidarity and a sense of community and joy in our work for change.

This week of action is the culmination of multiple conversations over the past three years organizing engineering educators toward addressing root causes of inequity (racism, sexism, homophobia, ableism) deeply embedded in engineering education and practice (Appelhans et al., 2019; Riley, Slaton, & Pawley, 2014; Robinson & McGee, 2016). Participants in these conversations are seeking to trouble surface-level approaches to "diversity" that do not challenge systemic inequities built into engineering education and practice.

We wonder: what would it look like for engineers to confront power and inequity embedded in the systems and structures in which we act? What would it mean to show up for one another in solidarity and community as advocates and allies? What would it mean to disrupt systems in engineering education that have been so durably resistant to the engineering education community's efforts, over decades, to create change?

Our approach is simple: Reframe, Retool, React.

Reframe is the call to confront power and privilege. To focus our work as a community on the root causes of systemic inequality, we need to name them and identify how power and privilege act to maintain the status quo. Cech (2013) and Slaton (2010) reveal how ideologies of meritocracy, selectivity, and depoliticization mask mechanisms of exclusion as disciplinary norms. As we explore different kinds of privilege and seek to dismantle them, it is helpful to remember that engineers have a certain kind of power and privilege by way of our professional positioning and education. We can make change and design infrastructure that contributes to equity rather than reifying injustice; however, this work is not lightly undertaken and requires incisive analysis of our own positioning in relation to it (Riley, 2008).

Retool is the call to equip people to engage with one another, have meaningful transformative conversations, learn, build community, and act reflectively for change. Many engineers are not yet empowered as leaders in this arena, and we need to reach out to those with more experience. Such groups include cultural centers and engineering diversity programs on our campuses and in our communities, and national organizations such as the National Association of Multicultural Engineering Program Advocates (NAMEPA), Showing Up for Racial Justice (SURJ), or Women in Engineering ProActive Network (WEPAN).

Re(flectively)act: Do something! While we need not "react" in the negative sense of unthinking rapid response, we also ought not delay action, as "the time is always right to do right" (King, 1965). In the Highlander (2013) model of change, actions are effective when they address root causes, build community, cultivate leadership among those impacted, bring organizing and education together, develop a shared analysis, create space for personal and collective transformation, and establish equitable spaces for sharing stories, reflection, and democratic participation. These enable us, through multiple actions, tactics, and strategies, to ultimately transform unjust power relations both structurally and in our day-to-day

interactions. As we all work toward enacting change collectively, it is important to keep in mind that for many engineering educators who do not have much bandwidth, an action can be small and should come out of one's own capacity—it could be a tweet or enacting a personal reflection.

This call builds on prior work in engineering education, including the work of minority and women in engineering programs, and the work of professional societies focused on diversity, equity, and inclusion (Frehill, 2011; Holloman et al., 2018; Matt, 2007). It also builds on efforts outside of engineering education including work by Myles Horton (1998) and the Highlander Center for Research and Education, rooted in Horton's principles of popular education. Highlander's outgoing Executive Director Pamela McMichael cofounded SURJ with Carla Wallace in 2009, building on earlier efforts including the intersectional justice organization Southerners on New Ground (SONG, 2019), founded in the early 1990s. SURJ (2019) describes itself as an organization that "moves white folks into accountable action as part of a multi-racial movement through community organizing, mobilizing, and education."

We aspire to develop a community in engineering that is committed to accountable action across multiple intersecting identities. Working with NAMEPA, WEPAN, and the American Society for Engineering Education (ASEE) Committee on Diversity, Inclusion, and Equity, we invite faculty, staff, and students to enact change at their institutions, or across national organizations. No matter how small the intervention, teach-in, social media engagement, or sharing of resources, everything counts. This campaign both builds on existing networks and extends them as a support system and means for sharing resources and actions, beyond the week of action into the future and beyond our existing social infrastructure to a broader community. SURJ introduced us to its affiliate, Organizing White Men for Collective Liberation, who have additionally offered resources and expertise to this effort, for which we are deeply grateful (White Men for Collective Liberation, n.d.).

What makes us think this time will make a difference? After decades of excellent creative and exhausting work with a great deal of funding from the public and private sectors, we as a community are often frustrated that we have not realized the change we wish to see. Rather than viewing these efforts as a failure, however, as organizers, we view this as a new opportunity to act in our time, in this moment, with a new generation of students energized for change, and informed by the lessons of the past and social movements that have successfully created progress over time. We can come to terms with the fact that it is perhaps not realistic to expect massive social change to occur in the short term, but we can act with confidence that if we coordinate our efforts over the long haul, change will happen. As Horton (1998) recalled, he experienced this revelation after the Depression:

I realized that the capitalist system was more viable than I had thought.... That's when I started trying to calm myself down, step by step, that it wasn't going to come as a great explosion automatically. It had to be made, or it wouldn't happen. That's when I started saying, "Horton, get yourself together, get ready for the long haul." (p. 81)

There is another tool we can learn from social movements around "moving the needle." It is common to debrief actions, asking what participants noticed in terms of impact and where there might be opportunities for progress next time (Gecan, 2004). In engineering education, we can expand our accounting of the subtle but significant shifts we witness: when we get invited to a meeting we were shut out of before; when the dean really hears what we said, at long last; when an idea we have been talking about gets integrated somewhere, albeit imperfectly or without attribution (Adams & Riley, 2018).

Another powerful tactic can inform our reframing efforts. Instead of seeing diversity as a problem, as it has often been named the "diversity problem" (Chubin, May, & Babco, 2005), we intend to focus on the "issue" of (in)equity at the root of engineering (Bobo, Kendall, & Max, 2010). "Problems" are a nuisance to gripe over instead of act on while "issues" are matters of concern that cause the need for reflection and action. Recasting as an "issue" instead of as a "problem" allows us to break it into small parts around which to campaign for change and wherein small wins over time make an impact.

Actions can engage audiences from those already on-board and ready to act to others who may be at the pre-awareness stage and perceive themselves not directly affected by these issues. It is helpful to remember that people will come from multiple perspectives with different entry points that afford different analyses. In these times that seem to afford us less and less time to do what we will (Slaughter & Rhoades, 2004), it is important to keep in mind our community's need for care, for showing up for one another with compassion, and for offering freely and without obligation no more than what we are able to offer in this moment.

The goal is for accountable action to spread from raising greater awareness to conversations facilitated by trained advocates, to classroom interventions of every length, to community reads and discussions, to solidarity shown via social media, and to action on campuses and in communities that generate new administrative commitments, policy

changes and cultural shifts. Local actions will differ by context and interest, but all actions move in the direction toward addressing root causes of racism, sexism, ableism, and other forms of structural inequity in engineering. Currently, we are building a repository of ways for different actors to engage the week of action, which we hope will help to establish a collective community of support and resources that can foster continuing action and conversation beyond that week.

Ten ways to get involved:

- 1. Tweet using hashtags #engineersshowup or #engineersdisrupt. Imagine these messages: "#engineersdisrupt white supremacy with curriculum dismantling white privilege at Oregon State" or "#engineersshowup for access at Virginia Tech by participating in a 'sit out." Note these actions are already occurring; there is a great deal of commitment and activity that we can direct to build momentum and solidarity.
- 2. Put up a flier on your door, in your department hallway, across campus. Imagine thought-provoking images and messages that inspire action and a call to community. Examples are available at www.engineersshowup.org.
- 3. Teach related materials in class. From quick mentions to whole semester syllabi, organizers have been compiling resources at www.engineersshowup.org
- 4. Host someone to talk in your class. Imagine a visitor having a life-changing impact on students. Reach out to cultural centers on your campus or to community organizers for potential guest speakers or discussion leaders.
- 5. Host a conversation or reading group. Imagine a common reading raising consciousness and leading to reflective action on your campus over time.
- 6. Ask for a commitment from your dean. See https://diversityrecognition.asee.org/ for some ways to start that conversation.
- 7. Take a webinar or attend a training. Imagine engineering hallways filling with SafeZone stickers. WEPAN, NAMEPA, and ASEE offer webinars on a variety of related topics.
- 8. Organize a Sit-in. It would not be the first! Matt Wisnioski (2012) has documented engineers' activism in the 1960s and 1970s. As Frederick Douglass (1857) wisely noted, "Power concedes nothing without a demand. It never has and it never will."
- 9. Self-educate on your own privileges. For example, see various SURJ resources and reading materials at https://www.showingupforracialjustice.org/resources.html.
- 10. Show up at a campus or local event, or get involved in a local organization for action over the long haul. Local chapters of national organizations might include SURJ, Organizing White Men for Collective Liberation, SONG, and the Global Climate Strike. This need not be engineering-specific!

Want to be a part of the deeper conversation and organizing? Want to let us know what you are planning for the Week of Action? Email us at roar.for.change.at.scale@gmail.com or check out our website www.engineersshowup.org or tweet us @ROAR\_EER.

#### **ACKNOWLEDGMENTS**

We would like to acknowledge the continuing hard work, support, and collective efforts of contributors and collaborators on this project including Rebecca Bates, Lisa Benson, Alan Cheville, Scott Davis, Darryl Dickerson, Kitty Didion, Soheil Fatehiboroujeni, Ayush Gupta, Andrea Haverkamp, Johanna Lonngren, Alice Pawley, Stephanie Quiles-Ramos, Dylan Rees, Amy E. Slaton, Ian Slattery, Tom Siller, Kyle Trenshaw, Linda Vanasupa, Susan E. Walden, Amanda Walden, and Tasha Zephirin. This material is based upon work supported by the National Science Foundation under Grant Numbers 1759958 and 1929320. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Donna Riley<sup>1</sup> Ellen K. Foster<sup>1</sup> Jennifer Karlin<sup>2</sup>



## Correspondence

Donna Riley, Purdue University, 1317 Armstrong Hall, 701 West Stadium Avenue, West Lafayette, IN. Email: riley@purdue.edu

#### REFERENCES

- Adams, R., & Riley, D. (2018). Conversation on measuring impacts of engineering education research [audio recording].
- Appelhans, S., De Pree, T., Thompson, J., Aviles, J. A., Cheville, A., Riley, D. M., ... Akera, A. (2019), From "leaky pipelines" to "diversity of thought": What does "diversity" mean in engineering education? Paper presented at the ASEE Annual Conference & Exposition, Tampa, FL. Retrieved from https://peer.asee.org/32861
- Bobo, K., Kendall, J., & Max, S. (2010). Organizing for social change: Midwest academy manual for activists. Santa Ana, CA: Forum Press.
- Cech, E. A. (2013). The (mis) framing of social justice: Why ideologies of depoliticization and meritocracy hinder engineers' ability to think about social injustices. In J. Lucena (Ed.), *Engineering education for social justice*. Dordrecht, Netherlands: Springer.
- Chubin, D. E., May, G. S., & Babco, E. L. (2005). Diversifying the engineering workforce. Journal of Engineering Education, 94(1), 73-86.
- Douglass, F. (1857). The significance of emancipation in the West Indies. Speech given at Canandaigua, New York, August 4, 1857. In *Two speeches by Frederick Douglass*. Rochester, NY: C.P. Dewey. Retrieved from Frederick Douglass Archives. http://memory.loc.gov/ammem/doughtml/doughome.html
- Foster, E., Karlin, J., Quiles-Ramos, S., & Riley, D. M. (2019). Seeding a strategic campaign to address root causes of inequity in engineering education. Paper presented at The Collaborative Network for Engineering and Computing Diversity Conference, Crystal City, VA. Retrieved from https://peer.asee.org/31789
- Frehill, L. M. (2011). Moving beyond the double-bind: WIE and MEP Programs and serving the needs of women of color in engineering. Paper presented at the ASEE Annual Conference & Exposition, Vancouver, BC. Retrieved from https://peer.asee.org/18963
- Gecan, M. (2004). Going public: An organizer's guide to citizen action. New York, NY: Anchor.
- Highlander Research and Education Center. (2013). Newsletter.
- Holloman, T., Lee, W.C., London, J., Halkiyo, A., Jew, G., & Watford, B. (2018). A historical and policy perspective on broadening participation in STEM: Insights from National Reports (1974–2016). Paper presented at The Collaborative Network for Engineering and Computing Diversity Conference, Crystal City, VA. Retrieved from http://par.nsf.gov/biblio/10080892
- Horton, M. (1998). The long haul: An autobiography. New York, NY: Teachers College Press.
- King, M. L., Jr. (1965). Remaining awake through a great revolution. Oberlin College Commencement Speech, June 2. Oberlin College Archives. Retrieved from http://www2.oberlin.edu/external/EOG/BlackHistoryMonth/MLK/CommAddress.html
- Lucena, J. C. (2005). Defending the nation, U.S. policymaking to create scientists and engineers from Sputnik to the War Against Terrorism. Lanham, MD: University Press of America.
- Matt, C. D. (2007, June). WEPAN history and current update. Paper presented at the ASEE annual Conference & Exposition, Honolulu, Hawaii. Retrieved from https://peer.asee.org/2125
- Pawley, A. L. (2019). "Asking questions, we walk": How should engineering education address equity, the climate crisis, and its own moral infrastructure? *Journal of Engineering Education*, 108(3), 447–452. https://doi.org/10.1002/jee.20295
- Riley, D., Slaton, A. E., & Pawley, A. L. (2014). Social justice and inclusion: Women and minorities in engineering. In A. Johri & B. M. Olds (Eds.), *Cambridge handbook of engineering education research* (pp. 335–356). New York, NY: Cambridge University Press.
- Riley, D. M. (2008). Engineering and social justice. San Rafael, CA: Morgan and Claypool.
- Robinson, W. H., & McGee, E. O. (2016). Viewing engineering education through the lens of social science: A candid dialogue on race and gender. Paper presented at the ASEE Annual Conference & Exposition, New Orleans, LA. https://doi.org/10.18260/p.25851
- Slaton, A. (2010). Race, rigor, and selectivity in U.S. engineering: The history of an occupational color line. Cambridge, MA: Harvard University
- Slaughter, S., & Rhoades, G. (2004). Academic capitalism and the new economy. Baltimore, MD: Johns Hopkins University Press.
- SONG (2019). Who we are [website]. Retrieved from https://southernersonnewground.org/who-we-are/vision-mission-history/
- SURJ (2019). About showing up for racial justice. Retrieved from https://www.showingupforracialjustice.org/about.html
- White Men for Collective Liberation (n.d.). Facebook group page. Retrieved from https://www.facebook.com/organizingwhitemen4collective liberation/
- Wisnioski, M. (2012). Engineers for change: Competing visions of technology in 1960s America. Cambridge, MA: MIT Press.