

Proceedings of the *Who's Not at the Table Conference*

The *Who's Not at the Table Conference* brought “to the table” scholars, practitioners, policy makers, and other thought leaders from diverse fields and from across the United States. The goal was to develop a national research agenda for broadening participation in engineering fields by engaging more people from underrepresented, underserved, and undercounted groups, including

- people with disabilities;
- veterans;
- low income/first-generation (LIFG) college students; and
- individuals who identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ).

Workshop participants addressed critical research questions around the experiences of underserved and understudied communities including questions suggested by intersectional inquiries. The one and one-half day conference was held at Clemson University on October 31 – November 1, 2016. Participants also engaged in online discussions both before and after the on-site meeting. For information about who attended the conference, consult the Conference Participants section of these proceedings.

Table of Contents

About the Who's Not at the Table Project	1
Conference Agenda	2
The Value of Intersectionality	5
Thought-Provoking Video and Discussion.....	5
Research-Practice Cycle and Theory-Methods-Research Questions.....	6
Conference Thread Discussions, Data Analysis and Concept Mapping.....	6
Small Group Activity: Craft a Proposal Title.....	11
Conference Participants.....	12
Resources	17
Acknowledgments	17

About the Who's Not at the Table Project

This Broadening Participation in Engineering (BPE) project is funded by the National Science Foundation (NSF, grant #EEC-1551402). The goal of the project is to build capacity to conduct formal research on broadening participation of LGBTQ, LIFG, veterans and people with disabilities. The desire is to create a landscape where research on the participation of these groups is

- popularized (i.e., gaining more research practitioners from more communities),
- legitimized (i.e., made reasonable and welcome among other engineering education research topics), and
- enriched (i.e., made more rigorous and extensive in its critical aims).

The objectives of the project are to

- develop an understanding of how to increase research capacity in the area of broadening participation of underrepresented, underserved, and undercounted groups;
- conduct a conference of individuals representing a wide range of stakeholder groups who will contribute to the project goal;
- develop summary proceedings for the conference that include a synthesis of input presented at the meeting as a contribution toward creating a research agenda around the project goal; and

- disseminate findings through the project website, online forums, and conferences that project leaders and participants routinely attend.

The project serves to explore transformative concepts and advance knowledge and understanding with respect to five key questions:

- What research is needed to increase our understanding of broadening participation in engineering of a wide range of underrepresented, underserved, and/or undercounted groups?
- What resources, infrastructure, programs, etc., are needed to broaden the participation in engineering of a wide range of underrepresented, underserved, and/or undercounted groups?
- How does current research and practice reproduce marginalization of underrepresented and underserved students?
- What theories, critical questions, and methodologies promote the best research and practice in this area?
- What recommendations do we have for promoting research and evidence-based practices that will lead to broadening participation in engineering that engages a wide range of underrepresented, underserved, and/or undercounted groups?

Project Principal Investigators (PIs) believe that conference participants and researchers around the country will embark on new research projects focused on improving the representation of underrepresented, underserved, and undercounted groups in engineering. Without excluding inquiry into matters of race, ethnicity, and gender, these project leaders hope to bring more severely understudied experiences among students, faculty, and employees in engineering fields into clearer and more sustained focus. Questions about existing national understandings of diversity and identity, and about institutional commitments to equitable opportunities in engineering, will be formulated, and new inquiries about these issues inspired.

The project leaders for the *Who's Not at the Table* are

- Julie Martin, Clemson University;
- Sheryl Burgstahler, University of Washington; and
- Amy Slaton, Drexel University.

A project advisory board has helped identify broad research areas, recruit conference participants, and develop the conference agenda and execution. In addition to the three project leaders, the following individuals serve on the advisory board:

- Karl Booksch, Professor, Chemistry, University of Delaware
- Juan Lucena, Professor, Liberal Arts and Intl. Studies and Director, Center for Humanitarian Engineering, Colorado School of Mines
- Alice Pawley, Associate Professor of Engineering Education, Purdue University
- Darryl Williams, Director, Center for STEM Diversity, Tufts University
- Donna Riley, Professor of Engineering Education, Virginia Polytechnic Institute and State University

Project leaders hosted the conference described in these proceedings and also facilitate an ongoing online community of practice to discuss topics that support the project objectives.

Conference Agenda

Five questions provided the organizational structure for online and on-site discussions and conference activities:

1. What theories inform your work?
2. What research methods inform your work?
3. What research questions inform your work?
4. What educational practices or experiences inform your research?
5. What are the things you wish you knew to do your educational practice better?

Participants engaged in four phases of activities—creating, organizing, analyzing, and relating.

- During day 1, participants engaged in the creation and organization phases. Leaders of the five groups presented summaries of the communications that took place in the online community before the conference. Then, working in five groups, Individuals and groups put their ideas and reflections on sticky notes and posted them on poster boards labeled with each of the five conference threads.
- During day 2, participants began the process of analyzing and relating the ideas by working in groups developing concept maps and creating reports describing themes found in the sticky-note data and as well as spotlighting distinct or individual voices.

Following is the agenda for the one and one-half day conference.

Sunday, October 30

- 6:00 – 7:00 pm **Registration**
- 7:00 – 9:00 pm **Networking Reception**

Monday, October 31

- 7:30 – 8:00 am **Registration**
- 8:00 – 8:30 am **Breakfast**
- 8:30 – 8:55 am **Welcome**
Julie Martin, Clemson University
An explanation of conference norms and the importance of reflection and feedback
- 8:55 – 9:10 am **The Value of Intersectionality**
Amy Slaton
- 9:10 – 9:40 am **Video and Discussion**
- 9:40 – 10:00 **Research-Practice Cycle and Theory-Methods-Research Questions**
Donna Riley and Julie Martin
- 10:00 – 10:45 am **Panel of Champions: 5 Conference Threads**
1. What theories inform your work? Facilitated by Juan Lucena
2. What research methods inform your work? Facilitated by Alice Pawley
3. What research questions inform your work? Facilitated by Donna Riley
4. What educational practices or experiences inform your research? Facilitated by Darryl Williams
5. What are the things you wish you knew to do your educational practice better? Facilitated by Karl Booksch
- 10:45 – 10:55 am **Reflection Time**
- 10:55 – 11:00 am **Organization of Breakout Sessions**

11:00 – 11:15 am	Snack and Beverage Break
11:15 – 12:00 pm	Conference Threads Breakout Session
12:00 – 12:45 pm	Conference Threads Large Group Report Out
12:45 – 12:55	Reflection Time
1:00 – 1:45 pm	Buffet Lunch and continued discussion of conference threads
1:45 – 1:55 pm	Reflection Time
2:00 – 3:30 pm	Posters
3:30 – 3:45 pm	Break and Reflection Time
3:45 – 4:30 pm	Small Group Activity: Craft a Proposal Title Amy Slaton
4:30 – 5:00 pm	Large Group Report Out: Craft a Proposal Title Amy Slaton
5:00 – 5:15 pm	Reflection Time
5:15 – 6:00 pm	Break
6:00 – 8:00 pm	Dinner

Tuesday, November 1

7:30 – 8:15 am	Breakfast
8:15 – 8:30 am	Instructions for the Day Julie Martin
8:30 – 9:30 am	Data Analysis and Concept Mapping Small Group Activity Donna Riley
9:30 – 10:45 am	Data Analysis and Concept Mapping Report Out to Large Group Amy Slaton
10:45 – 11:00	Pulling It All Together Conference Team and Advisory Board Champions
11:00 – 11:30	Electronic Evaluations Sarah Woodruff, Project Evaluator
11:30 – 12:00	Conference Wrap-up Julie Martin, Amy Slaton

12:00 pm

Boxed Lunches

The following sections elaborate on key presentations and activities of the conference.

The Value of Intersectionality

Presenter: Amy Slaton

Our framing of discrimination in engineering fields for this project, along with the potential remedies we discuss, build on many ways of thinking about identity that have emerged over recent decades; for example, the value of identity politics approaches that highlight the collective concerns of marginalized communities. Taken uncritically, the goals of STEM “diversity” and “inclusion,” however, do not necessarily serve as the most transformative among such approaches. While well intentioned, these two aims can pivot on essentialized notions of difference (“Here is a black person,” “Here is a veteran,” etc.) that hide complex and layered personal experiences. They can encourage stereotyping and assimilation as we attempt to “know” and then “welcome” those we encounter. We thus turn in this project to the analytical approach called “intersectionality” to counter some of these regrettable effects.

Intersectionality arose from scholarship in black feminist legal studies through the 1980s and has since found a home across many humanities and social-scientific fields. It is an analytical disposition that welcomes complexity (suggesting for example that black women may have different experiences than white women in a particular setting); reflexivity (encouraging us to ask questions about our questions); and indeterminacy (suggesting that, say, social privilege and penalty can co-exist in a single individual; or that identities may change over time and place). We believe that this provocative but open-ended and creative way of thinking about identity sets the stage for new understanding of stubborn discriminatory patterns in engineering education.

Thought-Provoking Video and Discussion

Participants viewed the video *The Backwards Brain Bicycle* (available at www.youtube.com/watch?v=MFzDaBzBIL0) and discussed its relevance to conference topics. The video shows how difficult it is to learn to ride a customized bicycle, where turning the handlebars one way moves the front wheel in the opposite direction. The bike example was about (1) brain plasticity and how we become more rigid in our perceptions as we get older, and (2) that unlearning a bias does not necessarily mean we are unbiased, but maybe just that we changed our bias in another direction. The bike example sends a message this it is both important and possible to challenge one’s most familiar perceptions. The video suggests that such challenges may require support, but that both that effort and attempts to provide support can be very fruitful in the search for self-understanding.

Participants were then given the opportunity to elaborate on the challenges in confronting existing assumptions, the importance of considering issues that address both the life of the mind and of the body, the recognition that everyone comes to a situation with biases and in some cases need to change, and how some categorize certain ways of doing things as incompetence. It was pointed out that the father and the son in the video have different past experiences with a bicycle and different levels and types of support as they learned to ride the backwards brain bicycle, making it clear that support networks do make a difference; in this example the child had more encouragement (from his father) than the father had (from his friends). The bike story brought to mind how typical simulations about disability (e.g., having people try, for the first time, maneuvering a wheelchair or accomplishing a task while blindfolded) do not simulate the experiences of typical people with disabilities who have gained skills in alternative ways to accomplish mobility and other tasks. We can’t quickly simulate the

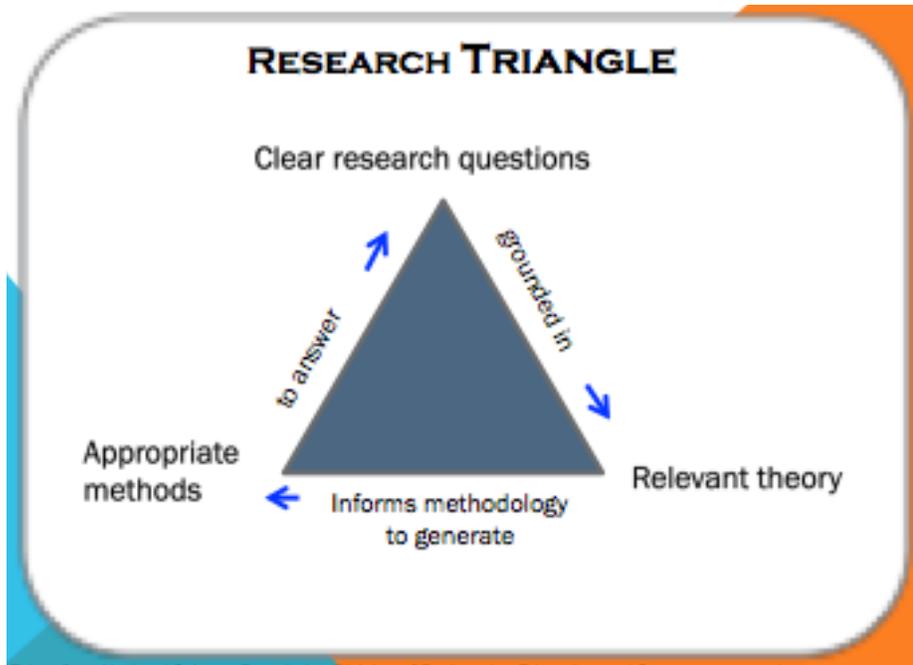
experience of another individual. Other participants pointed out that a single category of mastery (say, riding the unusual bicycle) may not signal meaningful effort or achievement for all individuals. In short, the variety and indeterminacy of effort, achievement and self-understandings, all stressed by intersectional analyses of identity, were highlighted by the video and our discussion of it. .

Research-Practice Cycle and Theory-Methods-Research Questions

Presenters: Donna Riley and Julie Martin

The research triangle that helped participants organize their work, as indicated in the image below, includes three key elements: Clear research questions, relevant theory, and appropriate methods. The relationship between the three elements is as follows:

- Clear research questions are grounded in relevant theory.
- Relevant theory informs methodology to generate appropriate methods.
- Appropriate methods are necessary to answer the research questions.



Conference Thread Discussions, Data Analysis and Concept Mapping

The following subsections summarize online and on-site discussions regarding the five organizing questions for the conference. Each summary is followed by the results of data analysis and concept mapping small group activities.

#1: What theories inform your work?

Facilitator: Juan Lucena, Colorado School of Mines

In online discussions, participants pointed out how everyone is always theorizing—deductively and inductively—by looking for patterns, identifying conjectures, and otherwise developing theory. The contents of

the discussions can be summarized as follows.

- Socio-cultural vs. medical models of disability and universal design—where is the source of disability? Is it in the body, or does it lie in social values or inaccessible design?
- Critical race, feminist, and queer pedagogy theories—how has engineering education become race-, gender-, sexual-identity blind and yet is still exclusionary?
- Identity and possible selves—how do students make sense of who they are and their relationship to engineering?
- Growth mindset/strength-based approach/motivation theory—How can we mentor students beyond fixed mindsets to thrive in engineering?
- Funds of knowledge (FoK) → Social, cultural, and financial capital—How can we value FoKs and transform them into forms of capital?
- Multiple dimensions of identity (intersectionality)—How do we understand and value these differences in engineering education?
- Social constructivist approaches to privilege, marginalization, or knowledge—How do sociohistorical conditions and cultural values shape our determinations of experience, justice, or sense of certainty about either?

A current and future challenge is technical and social depoliticization. We need to consider engineering as a social-technical domain and to understand the natural order of things; who and what has been kept outside engineering; and how to resist, disturb, and poke holes in boundaries. We need to design makerspaces to be inclusive and relevant, design for affordability to support inclusive excellence, and incorporate marginalized theories and knowledge into research and design.

Group discussion at the meeting included how theorizing is a scary space, especially for pre-tenure colleagues, and the importance of using practice to inform theories. We need to consider what happens in K-12 and other places where learning occurs, such as in families and informal science activities. It is important to explore the history of theories—for example, engineering emerged from the military and yet it seems veterans have such a hard time finding a route into engineering. We should choose theories that permit people to think about change, recognizing that people are not static. We should recognize that every group has its own unique culture. We should embrace “praxis” by combining theory and practice. The belief that if something isn’t grounded in theory it is not credible should be challenged. How do we produce theory that leads to impactful work? Where do we want to go and how do we get there?

The results of the day two small group data analysis and concept mapping activities follow. A number of participants expressed anxiety and intimidation regarding the use of theory in their work. Theory was often characterized as a “scary space”, and some participants questioned the appropriateness of applying existing theories commonly used in engineering education to studying the populations in question. The hesitancy regarding the use of existing theory was due to concerns that the assumptions underpinning them are often at best, unstated, and at worst, often function to (re)produce marginalization. In particular, critical theories were suggested as an alternative because they incorporate the historical context surrounding policy and practice; participants felt that critical theories offered powerful tools to challenge exclusionary practices in educational systems. Other participants emphasized theories related to identity, change, and learning. Some participants even took an anti-theory stance suggesting that work related to these populations should not be being guided by theory, but instead new theories should be generated from the data.

#2: What research methods inform your work?

Facilitator: Alice Pawley, Purdue University

In the online discussion this question led to further questions on the topic:

- What are the methodical questions that we as researchers need to deal with?

- How can we recognize the specific challenges for growth in methodical research?
- How do we give voice to marginalized groups?
- How do we coordinate multi-institutional studies to get big data in which to look for patterns?
- How do we avoid replicating studies that have already been done?
- How do we use qualitative research to influence STEM policy and practice?
- What large data sets exist that we as a community could be using more effectively?
- How do we disseminate research in authentic and true ways, while still publishing in academically accepted places?
- How do we challenge talking about methods without talking about questions and populations?
- What is missing; what is next?

Additionally, participants in the online discussion developed some questions for further consideration:

- What methods do you think have potential for understanding different aspects of broadening participation (even if you are not an expert)?
- What research questions would you ask if you didn't have to worry about how you would actually answer them and if you didn't need to worry about the method?
- What new method have you read about that you most want to learn about?
- What are the advantages and disadvantages of your current favorite method for understanding broadening participation?
- What are some methodological questions we need to ask ourselves as a community?
- What methods in studies do you like reading about?
- What research questions do we need better methods to answer?
- What do you read? Where do you get your brightest ideas?

In the conference discussion participants shared methods they tend to use; their responses ranged from the intensely quantitative to the intensely qualitative with a good amount of overlap between the two.

Participants discussed challenges and opportunities in all types of engineering research, asking multiple questions:

- What world views do different research methods embody?
- Can we study translation between researchers and practitioners?
- How do we validate quality of work?
- How do we give voice to marginalize groups?
- How can we label communities as such when we are talking about them?

The results of the day two small group data analysis and concept mapping activities follow. Participants cited the many ways that research data collection, analysis, and dissemination often work to further marginalize the communities of discussion. Participants identified proposal reviewers and funding agencies as forces driving research foci and methods by controlling what research is funded. Participants expressed concern that despite the growing need for research methods capable of capturing and reporting the experiences of marginalized persons within engineering, they observed a disproportionate preference among engineering education research communities and funding agencies towards large quantitative research studies. Participants questioned the appropriateness or ability of quantitative methods to capture the stories and voices of these populations; instead participants identified qualitative research methods as being much more appropriate to capture and understand marginalized experiences. Finally, participants emphasized the need for researchers themselves to critically examine their own assumptions and values underlying their work.

#3: What research questions inform your work?

Facilitator: Donna Riley, Virginia Polytechnic Institute and State University

Key issues presented in online discussions before the meeting included the following observations:

1. There was a clear sense of community in the group; there were opportunities for support, collaboration, friendship, rabble-rousing, and co-conspiracy.
2. Most individuals who communicated on this topic are simultaneously working within categories of difference (people with disabilities; veterans/military connected folks, first generation/low income students, and LGBTQ people, as well as, in various ways, stretching or challenging those categories (e.g., studying intersectional categories like queer people of color, recognizing non-monolithic aspects of communities).

Meta-questions were also discussed:

1. How can we know? What is allowed/precluded with different ways of knowing or lenses of understanding and analysis? (epistemics, theories, lenses, methodologies).
2. What data do we need? What do we not (yet) know? What are our obstacles to finding out? (methods).
3. What's it like to be...? What works and doesn't...? (experiences and interventions).
4. What's wrong and why? (critique and analysis).
5. Once we know some things about what works, how do we create change? How do we get colleagues, institutions, etc. to....? (change theories/strategies; research to practice).

In discussions at the conference, members talked about challenges that included research to practice, the great variety of dualisms, fixed mindset, how different cultures factor in, and including humanizing empathy as part of the conversation.

The results of the day two small group data analysis and concept mapping activities follow. Participants discussed the importance of exploring how institutional structures, policies, and practices affect visibility, recognition, and inclusion for individuals from different social groups. The participants also emphasized research questions that worked to create inclusive campus and engineering environments and utilized co-constructive methods. Finally, participants believe both researcher and practitioner knowledge should inform research questions in ways that break down normative culture to lessen barriers and marginalization of individuals from underrepresented groups.

#4: What educational practices or experiences inform your research?

Facilitator: Darryl Williams, Director, Tufts University

In general, the responses to this online thread focused primarily on experiences that inform participants' research. For example:

- The responses were mixed, focusing on individual lived experiences versus vicarious experiences (recognizing challenges of others) that seem to fuel participants' particular research foci.
- Common words that were used in the online discussion were:
 - Experience/experiences – discrimination, marginalization, or feeling undervalued, overlooked, and encounters with other forms of bias
 - Student/Students - (recalling an educational experience that happened to them, or their outlook on research and the impact it will have in the future on marginalized student populations)
 - “Being” - as in existence (or nature/essence of) – and in being, recalling points in time feeling “out of place”, “on the fringes” and wanting to be fully integrated in an environment
- Hidden identities in the context of systems that support visible identities (the intersectionality of the two) and the relationship of hidden identities to mental health issues
- Stereotype threat, performance-avoidance; imposter syndrome and having a fully expressed identity
- The impact of negative, discouraging feedback from peers and professionals (academic, industry)
- Notion that academic systems work to obscure experiences of discrimination
- The importance and role of community (power of the collective) in connecting people of similar experience, backgrounds, identities to cope with social and academic challenges

- Moving from a superficial level of diversity in engineering to understanding its cultural nuances in order to truly realize diversity.
- Diversity means nothing without inclusion

With respect to practices, participants expressed the following sentiments:

- From research to practice, the need to support efforts that work WITH teachers rather than DONE TO teachers; research that samples interventions across diverse learning environments (urban, suburban, rural) to provide a greater level of confidence in findings for implementation in formal classrooms
- More attention to understanding the principles of universal design (e.g., for learning and of technology) and how it can benefit all students and make learning more accessible

In the discussion at the conference participants explored the importance of working within cohorts or mentoring groups and across disciplines, how to retain people in the community, the possibilities for using social media, and how to think about individual pathways in engineering (interest, preparation, quality of experiences, and interactions on their journey). They explored the concepts of a person's engineering identity, how is it developed (or not), and the culture of engineering. They discussed the need to value highly and address diversity issues throughout both K-12 and higher education. They discussed the importance of retaining students in engineering—we've opened the door and while it remains open, we need to make them feel welcome and want to stay. There is a need for more ongoing funding and other support from institutions to continue mentoring and undertake other practices that show positive outcomes for broadening participation. There is also a need to support students as they transition into college and the workforce and for a database with profiles on a large scale so students can see how others have overcome similar barriers to achieve success. It is important to consider how the intersectionality of race/class/gender/disability layers play out.

Five constructs can be used to inform educational practices:

1. **Interest** in engineering, K-21
2. **Preparation** so that students are prepared to make it to the next level
3. **Experiences** that are high quality
4. **Relationships** that matter
5. **Opportunities** once the first four constructs are in place

The results of the day two small group data analysis and concept mapping activities follow. Participants discussed and highlighted institutional structures that act as barriers preventing students in these populations from participating fully; namely the policies and cultural norms of engineering education defining the very narrow range of identities that align with what/who an engineer is. The participants also emphasized how such institutional barriers can be reduced when institutions of higher education and engineering departments make inclusion a priority and engage in diversity and inclusion efforts and by making classrooms accessible and incorporating these themes into the curriculum. Finally, participants called for a stronger path for research to inform practice and program development as well as research being informed by practice.

#5: What are the things you wish you knew to do your educational practice better?

Facilitator: Karl Booksch, University of Delaware

Things online participants reported that they wished they knew to do their educational practice better included:

- How to fully understand the policy and practice implications of our project results
- Research-based support services
- Challenges engineering faculty members face in teaching students with various characteristics
- Methods to ensure that all engineering curriculum and instruction is accessible to students with

disabilities

- Research-based practices that can be integrated into postsecondary engineering curriculum and instruction
- Educational research results that are presented and documented to be more accessible to engineering instructors (e.g., use of personas from human centered design)
- Reports of the experiences of students with disabilities in research studies to determine if the methods studies are effective for this subgroup of participants
- How to address shortcomings with respect to social skills of engineers
- Access to meta-analysis and review papers on related topics
- Increased understanding of underrepresentation of a broad range of groups as well as issues related to intersectionality
- How current research methods and reports marginalize some underrepresented groups
- What theories, critical questions and methodologies can promote the best research and practice regarding underrepresented groups in engineering
- How to build an effective, inclusive engineering community
- What resources, infrastructure, programs, etc., are needed to broaden participation in engineering
- Tools and resources to navigate engineering cultural and political practices
- Where to get funding for research and practice

At the conference participants discussed how to get an institution beyond minimal compliance or diversity to true inclusion. How do we get high level administrators to buy in and support best practices that work for the institution? What are ways to implement best practices? How can we, within small groups, meet individual needs? Concern was expressed that theory can be used as a gatekeeper for practices to be accepted. Terminology such as “best practices” should be used rarely in favor of “promising practices” or “evidence-based practices” because these terms more accurately reflect the level of evidence we have for the practices we use.

The results of the day two small group data analysis and concept mapping activities follow. Participants were looking for guidance on how to create and sustain institutional change on all levels of educations (i.e. K-12, college, as a researcher/practitioner, in one’s professional practice). They also questioned how to challenge the existing stigmas and norms within engineering to help shift the culture towards a more inclusive environment. In particular, participants wondered how to achieve buy-in and find out who could act as their partners and allies in these efforts; some participants characterized the work of challenging the system of engineering education as treacherous journey for a new faculty member or researcher.

Small Group Activity: Craft a Proposal Title

Facilitator: Amy Slaton

Participants were asked to work collaboratively with the others at their table to craft a proposal title for a research or implementation project that would either broaden participation or expand research capacity in engineering for underrepresented groups. They were reminded to use the threads of theories, methods, questions, practices, and experiential knowledge. The purpose of the activity was to free participants from familiar constraints, such as the conventions of “appropriate” research scale, scope, format, or language, and from any deference to existing scholarship. Participants were instructed to ignore any concerns about budget, disciplinary fit, and experimental design and instead challenge the normally unrecognized limits to research. The groups reported their ideas to the larger group. Some titles identified “missing” subject areas (say, intersectional or under-reported categories of student and faculty experiences) while others honed in on conditions of research that might be challenged (aiming their dream project at immense, minute, highly personal, or otherwise transgressive sorts of inquiries). This was, in other words, a kind of playful exercise that

nonetheless revealed the rarely acknowledged conditions of research.

Conference Participants

The following individuals participated in the conference.

Adams-Wiggins, Karlyn
Assistant Professor of Educational Psychology
The University of Texas at Tyler

Atherton, Timothy
Assistant Professor
Tufts University

Berke, Ryan
Assistant Professor
Utah State University

Booksh, Karl
Professor of Chemistry
University of Delaware

Brown, Fredericka
Associate Professor of Mechanical Engineering
The University of Texas at Tyler

Burgstahler, Sheryl
Director, Accessible Technology Services
University of Washington

Chavela Guerra, Rocio
Director, Education and Career Development
American Society for Engineering Education

Chávez, Abel
Assistant Professor | Environment and Sustainability; Coordinator of MEM Sustainable and Resilient
Communities
WESTERN STATE COLORADO UNIVERSITY

Chua, Mallory
Collaboratory Postdoctoral Fellow
Olin College

Coley, Brooke
Associate Research Scientist
Arizona State University

Cox, Liz
Director, IDEA
Red Rocks Community College

Crawford, Lyla
Program Coordinator/Evaluator
DO-IT, University of Washington

Cross, Kelly
Post doctoral Researcher
University of Illinois Urbana-Champaign

Cruz, Alfredo
Director of Graduate Program
Polytechnic University of PR

Dison, Ana
Assistant Director
Women in Engineering Program-Cockrell School of Engineering-UT Austin

Dong, Jane
Associate Dean
California State University, Los Angeles

Farrell, Stephanie
Chair, Experiential Engineering Education Department
Rowan University

Fletcher, Shawna
Director, Women in Engineering Program
Texas A&M University

Fletcher, Trina
Director, Pre-College Programs
National Society of Black Engineers

Grzybowski, Deborah
Associate Professor Clinical
The Ohio State University

Hall, Janice
Graduate Research Student
Virginia Polytechnic Institute and State University

Hampton, Cynthia
Student Support and Program Staff
Virginia Tech/Center for the Enhancement of Engineering Diversity

Jordan, Shawn
Assistant Professor
Arizona State University

Kellam, Nadia
Associate Professor

Arizona State University

Kirn, Adam
Assistant Professor
University of Nevada, Reno

Korbel, Donna
Assistant Vice President for Student Affairs
University of Connecticut

Kozuch, Kristine
Springfield Technical Community College

Lammey, Cara
Assistant Director, GoldShirt Program
University of Colorado, College of Engineering and Applied Science, The BOLD Center

Lan, Mei-Fang
Clinical Assistant Professor
University of Florida/CWC

Leyva, Luis
Assistant Professor of Mathematics Education
Vanderbilt University

Lim, Christopher
Graduate Student
Yale University

Liptow, Emily
AmeriCorps VISTA, Diversity Initiatives in the College of Engineering
Cal Poly, San Luis Obispo

Litzler, Elizabeth
Director
University of Washington

Lucena, Juan
Professor and Director
Humanitarian Engineering

Margherio, Cara
Senior Research Associate
University of Washington

Martin, Julie
Associate Professor
Clemson University

Massi, Lisa
Director, Operations Analysis, Accreditation, Assessment, & Data Administration

University of Central Florida, College of Engineering & Computer Science

Matusovich, Holly
Associate Professor
Virginia Tech

Minichiello, Angela
Assistant Professor
Utah State University

Mitchell, Marlon
Graduate Research Assistant
University of Illinois Urbana Champaign

Mobley, Catherine
Professor of Sociology
Clemson University

Moore, James
Program Officer
National Science Foundation

O'Cadiz, Maria del Pilar
Education Director
TANMS, UCLA

Ogilvie, Andrea
PhD Candidate & Research Assistant
Virginia Tech

Ortiz, Araceli Martinez
Research Assistant Professor
Texas State University

Pawley, Alice
associate professor
Purdue University

Pearson Weatherton, Yvette
Associate Dean for Accreditation and Assessment
Rice University

Platt, Manu
Associate Professor
Georgia Institute of Technology

Pollock, Anne
Associate Professor
Georgia Tech

Riley, Donna

Professor and Interim Department Head
Virginia Tech

Ristvey, John
Director
UCAR Center for Science Education

Rodríguez-Simmonds, Héctor
Graduate Research Assistant
Purdue University

RUBADIRI-MUJUGIRA, LINDI
Program Manager - STEM Liaison
Bellevue College

Rynearson, Anastasia
Post-Doctoral Research Assistant
Purdue University

Secules, Stephen
Doctoral Candidate / Graduate Assistant
University of Maryland

Sigmund, Wolfgang
Professor
University of Florida

Silverstein, David
Program Director and Professor of Chemical & Materials Engineering
University of Kentucky

Simpson, C. LaShan
Assistant Professor
Mississippi State University

Slaton, Amy
Professor of History
Drexel University

Smith, Ian
Independent

Standage, Dan
Director, Disability in Education
Student Veterans of America

Stefl, Shannon
Ph.D. student; Research Assistant
Clemson University

Svyantek, Martina

iPhD student: Disability and Higher Education
Virginia Tech

Velez Reyes, Miguel
Chair and Professor
The University of Texas at El Paso

Wellman, Bruce
Engineering Chemistry Teacher & Robotics Instructor
Engineering Academy at Olathe Northwest High School

Williams, Darryl
Associate Dean, Undergraduate Education, School of Engineering
School of Engineering

Woelfle-Erskine, Cleo
UC President's Postdoctoral Fellow
Feminist Studies, UC Santa Cruz

Woodruff, Sarah
Director
Discovery Center for Evaluation, Research, and Professional Learning

Zywicki, Stephanie
Assistant Professor
Purdue University

Resources

The *Who's Not at the Table* website at www.uw.edu/doiit/programs/bpe contains information about the *Who's Not at the Table* project, as well as a list of literature that shares research and practice regarding broadening participation in engineering.

Acknowledgments

The *Who's Not at the Table* project is funded by the National Science Foundation (grant # **EEC- 1551605** and EEC-1551402). Any questions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF.

It took a dedicated team to develop and host this conference and develop its proceedings, facilitate and the project online community, and otherwise conduct this project. In particular, the project leaders would like to acknowledge the efforts Shannon Stefl, the graduate research assistant for the project (PhD student in Engineering and Science Education), our advisory board, participants in the event, and those who made the conference and overall project run smoothly, including the student volunteers from Clemson's Engineering and Science Education department and Dr. Karen High, Professor of Engineering and Science Education. Additional thanks goes to Lyla Crawford of the UW DO-IT Center for helping to draft these proceedings.

© 2017. Permission is granted to copy this publication for educational, noncommercial purposes, provided the source is acknowledged.