

# Brooke Coley, Ph.D.

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## 1. EDUCATION

- Ph.D. University of Pittsburgh, Bioengineering, 2010  
Dissertation: Adaptive Postural Strategies: Impact of Aging  
B.S. University of Maryland, Baltimore County, Chemical Engineering, 2003

## 2. PROFESSIONAL POSITIONS HELD

- 2017-present Assistant Professor, Arizona State University Polytechnic  
2015-2017 Associate Research Scientist, Arizona State University  
2014-2015 Associate Director, Center for Diversity in Engineering, University of Virginia  
2013-2014 Engineering Analyst, Engineering Education and Centers, Engineering Directorate,  
National Science Foundation  
2011-2013 Science & Technology Policy Fellow, American Association for the Advancement of  
Science, National Science Foundation

## 3. PUBLICATIONS

### a. Refereed Journal Articles

#### i. Under Review

1. **Coley, B.**, Kellam, N., Boklage, A. “I’m Happy Here, but I’d be More Sane There”:  
Exploring the Emotions of Underrepresented Students in their Inaugural Year of Engineering.  
*Journal of Engineering Education*.
2. Boklage, A., **Coley, B.**, Kellam, N. Understanding the Multifaceted Identity Formation of  
Engineering Students Through a Narrative Approach. *Journal of Engineering Education*.

#### ii. In Preparation

1. Kellam, N., Walther, J., **Coley, B.**, Gregory, W., Gerow, K., Uncovering the Role of Emotion  
in Learning through Engineering Students’ Narratives. (90% completed). *To be submitted to  
the International Journal of Engineering Education*.
2. Boklage, A., **Coley, B.**, Kellam, N. Arriving at the Finish: An exploration of the emotional  
trajectory of persisters through engineering. (80% completed). *To be submitted to the Journal  
of Engineering Education*.
3. Kellam, N., **Coley, B.**, Boklage, A. Story of Change— Using experience-based critical event  
narrative analysis to understand an engineering program’s culture. (65% completed). *To be  
submitted to the proposed Journal of Qualitative Engineering Education Research*.

## b. Conference Proceedings (\*Presenter)

1. Kellam, N., **Coley, B.**, Boklage, A. (2017). Story of Change— Using experience-based critical event narrative analysis to understand an engineering program’s culture. Submitted to Research in Engineering Education Conference #190, Bogota, Colombia. *Abstract under review. This paper will be a draft for the manuscript planned for submission to proposed Journal of Qualitative Engineering Education Research (see section a above).*
2. Kellam, N., Walther, J., Durham, S., **Coley, B.**, and Boklage, A. (2017). “A Long Way Coming”—Understanding Engineering Educators’ Transformations to Student-Centered Teaching through the Hero’s Journey. Submitted to Research in Engineering Education Conference #188, Bogota, Colombia. *Abstract under review. This paper will be a draft for the manuscript planned for submission to the Journal of Engineering Education.*
3. Kellam, N., **Coley, B.**, Boklage, A., Walther, J. (2017). Connected Ways of Knowing: Uncovering the Role of Emotion in Engineering Student Learning. Submitted to the National Science Foundation’s Grantee Poster Session of the American Society for Engineering Education (ASEE) International Meeting, Columbus, Ohio. *Abstract accepted.*
4. Kellam, N., **Coley, B.**, Boklage, A. (2017). Narrative Smoothing and Constructing in the Wild: Navigating the Space of Co-Constructing Narratives for Analysis. To be presented at the American Educational Research Association (AERA) Conference, San Antonio, Texas. *Proposal Accepted. This proposal will be a draft for a manuscript planned for submission to Narrative Inquiry.*
5. **\*Coley, B.**, & Vallas, C. (2015). Tapping into the Talent: Exploring the Barriers of the Engineering Transfer Pathway. *Proceedings of the Two-Year College Division of the American Society for Engineering Education (ASEE) International Meeting, Seattle, Washington, Paper #13792.*
6. **\*Coley, B.** (2015). Diversity from the Inside Out: Exploring the Institutional Climate in Engineering Programs across the country. Paper presented at the American Educational Research Association (AERA) Conference, Chicago, Illinois.
7. McLaughlin, D. Rubin, K., **\*Coley, B.** (2013). Diversity Impacts in Large Research Centers: Cast Study of the US NSF Engineering Research Centers Program. Paper presented at the Triple Helix International Conference, London, United Kingdom.
8. Maldonado, T., **Coley, B.** (2012). Gender Diversity, Institutional Culture, and NSF’s Engineering Research Centers. Keynote Address. Presented at the Women Engineering Proactive Network Conference, Columbia, Ohio.

## 4. HONORS AND AWARDS

- |           |   |
|-----------|---|
| 2017      | Apprentice Faculty Grant recipient, Education and Research Methods Division, American Society for Engineering Education |
| 2011-2013 | American Association for the Advancement of Science, Science and Technology Policy Fellow                               |
| 2007      | Outstanding Teaching Assistant Award, Department of Bioengineering, University of Pittsburgh                            |

## 5. GRANTS

- 2017-2020 The Untapped Community: Community Colleges as an avenue to Broaden Participation in Engineering. Engineering Education and Centers, National Science Foundation, NSF#1733716, Co-Principal Investigator, \$399,388.
- 2016-2019 Value through the Voices: Exploring making and its Impact on Engineering Identity Formation of Underrepresented Groups. Engineering Education and Centers, National Science Foundation, NSF#1636475, Co-Principal Investigator, \$599,905.
- 2005-2010 Adaptive Postural Strategies: Impact of Aging, National Institute on Aging, National Institutes of Health, NIH-NIA 1 F31 AG025684, Principal Investigator, \$118,750 + partial tuition.

## 6. INVITED TALKS, LECTURES & WORKSHOPS

- “Inclusive Maker Pedagogies and the Power of Story for Innovation in Engineering.” (2017). Ho Chi Minh City University of Technology Faculty Development Workshop, Ho Chi Minh, Vietnam, July 18-21.
- “From Stress to Success: From Lemons to Lemonade in Engineering.” (2016). National Society of Black Engineers Region II Meeting, Norfolk, VA, October 17.
- “Creating Effective Mentor-Mentee Relationships in Difference.” (2016). University of Pittsburgh AGEPScholars and Faculty Inaugural Retreat, West Virginia, September 24.
- “Roadmap to Action: LSAMP Principles for Broadening Participation in STEM.” (2014). Louis Stokes Midwest Center for Excellence, Chicago, IL, October 25.
- “A Study of the ERC Impact on Diversity.” (2012). NSF ERC Annual Meeting, Bethesda, MD, November 15.

## 7. CONFERENCE ACTIVITY

### a. Conferences Organized

- 2013 NSF Engineering Research Center Diversity Working Group Meeting, National Science Foundation, Arlington, Virginia.

### b. Panels

- 2014 Engineering Research Centers: Linking Discovery to Innovation. Invited Moderator for the Louis Stokes Midwest Center for Excellence Conference, Chicago, Illinois.
- 2006-2008 Why Should I Attend Graduate School? Panelist, School of Engineering, University of Pittsburgh

### c. Campus and Departmental Talks

2013 A SWOT to Improve Diversity in Engineering Departments. Invited Seminar and workshop at the Swanson School of Engineering sponsored by the Office of Diversity, University of Pittsburgh, Pittsburgh, Pennsylvania.

## **8. TEACHING EXPERIENCE**

Instructor, Use Inspired Design II (Spring 2016), 2<sup>nd</sup> year students, 2.5 contact hours per week, Arizona State University

Instructor, Introduction to Engineering (Summers 2006-2009), incoming 1<sup>st</sup> year students, 5 contact hours per week, Pitt Excel Program, University of Pittsburgh

Teaching Assistant (Fall 2006), Ergonomics and Occupational Biomechanics, graduate course, 3 contact hours per week, Department of Bioengineering, University of Pittsburgh

Teaching Assistant (Spring 2005), Biomechanics I; Mechanical Principles Applied to Biological Systems, undergraduate course—primarily 2<sup>nd</sup> year students, 3 contact hours per week, Department of Bioengineering, University of Pittsburgh

Teaching Assistant (Fall 2002), Introduction to Engineering Science, undergraduate course—primarily 1st year students, 3 contact hours per week, University of Maryland, Baltimore County

## **9. SERVICE TO PROFESSION**

### **a. Journal Refereeing**

Journal of Engineering Education

### **b. NSF Related Activity**

Panelist, Research in Engineering Education Program (2015)

Panelist, Research Experiences for Teachers (2016)

Panelist, Research Experiences for Undergraduates (2016)

Site Visit Team Member, Nanomanufacturing Systems for Mobile Computing and Mobile Energy Technologies (2014)

Site Visit Team Member, Center for Ultra-Wide Area Resilient Electric Energy Transmission Networks, University of Tennessee-Knoxville (CURENT) (2014)

Site Visit Team Member, Quantum Energy and Sustainable Solar Technologies (QESST), Arizona State University (2013)

Site Visit Team Member, Center for Compact Fluid and Efficient Fluid Power (2013)

Site Visit Team Member, Center for Sensorimotor Neural Engineering (CSNE), University of Washington (2012)

Site Visit Team Member, Future Renewable Electric Energy Delivery and management Systems Center, North Carolina State University (2012)

Site Visit Team Member, Revolutionizing Metallic Biomaterials, North Carolina A&T State University (2012)

### **c. External Advisory Boards**

Advisory Board Member, University of Pittsburgh AGEP KAT: Transition to the Doctorate by Adaptable Engagement Program, NSF#1434012, National Science Foundation, \$1,729,843

#### **d. Community Service**

Volunteer and Coordinator, Introduction to Engineering Projects, Buford Middle School, Charlottesville, Virginia (2014)

Co-Advisor, National Society of Black Engineers, University of Virginia (2014)

Division Representative, Feds Feed Families, National Science Foundation, Arlington, Virginia (2012-2014)

Judge, Research Presentations, Emerging Research National Conference, Atlanta, Georgia (2012)

Chair, Pre-College Initiative Committee, Pittsburgh Alumni Extension Chapter, National Society of Black Engineers (2008-2009)

Outreach Coordinator, Bioengineering Graduate Student Council, Department of Bioengineering, University of Pittsburgh (2005-2006)

#### **10. SUPERVISION OF STUDENTS**

##### **a. Graduate Student Mentoring**

2017            Wen Huang, Doctoral Student, Engineering Education and Systems Design, Thesis Co-Advisor

##### **b. Undergraduate Student Mentoring**

2008-2010    Wilshaw Stevens, Undergraduate Researcher, Presented at the Proceedings of the Biomedical Engineering Society, Pittsburgh, Pennsylvania, 2009.

2007            Leah Enders, Undergraduate Researcher

2007            Alison Sukits, Undergraduate Researcher

#### **11. PROFESSIONAL SOCIETY MEMBERSHIP**

American Society for Engineering Education  
American Educational Research Association  
National Society of Black Engineers  
National Association of Multicultural Engineering Program Advocates

#### **12. NON-ACADEMIC WORK**

Certified Basketball Official, Virginia High School League, Hampton Roads, Virginia, 2016.

Sundance Festival Volunteer, Park City, Utah, 2016.

Presenter, Ignite Phoenix, Scottsdale, Arizona, 2016.

Audience Award Winner, 1-minute Movie, Outfest Fusion Film Festival, Los Angeles, California, 2016.

Women's Semi-Professional, Full-Contact Football Player, Pittsburgh, Pennsylvania, 2005-2009; Washington, DC, 2014.