# Education

**Purdue University** West Lafayette, IN Anticipated Graduation: 2020

Degree: Ph. D. Engineering Education GPA: 3.69

Advisors: Dr. Monica Cardella

# Research Question: How do community partners make meaning of community engaged design experiences?

# Purdue University West Lafayette, IN Anticipated Graduation: 2019

# Degree: Master’s in Industrial Engineering

# Advisor: Dr. Bob Kenly

# Research Question: What evidence of Systems Thinking present in community engaged design experiences?

# University of Michigan Ann Arbor, MI 2014

# Degree: B.S.E Industrial and Operations Engineering GPA: 3.066 / 4.0

# Research experience

**Purdue University**, *Black Cultural Center Fall 2017 - Present*

*Scholar in Residence for Black Thought Collective*

* Taught and demonstrated qualitative research process
* Facilitated development of 10 student-led research projects
* Developed programming relevant to black students and their experiences
* Managed Publication of student findings across various platforms including journals and symposiums

**National Association of Multicultural Engineering Programs,** *Purdue University Spring 2017 - Present*

*Thought Leader for Cultural Hackathon*

* Developed a professional development intervention that allows engineering students the chance to interface with corporate representatives on projects designed and led by community members
* Developed and Implemented programming with over 200 students and 20 community partners
* Conducted a pilot study with High School seniors to see if social problems could be addressed with the Engineering design process
* Organized Community partner and student needs into a semester long course where student collaborated with community partners to solve community problems
* Designed and conducted research around the experiences of the community partners and design ability of the students through surveys and interviews

**Purdue University**, *Mechanical Engineering Fall 2016 - Present*

*Research Advisory Board: TECH-AIDE Grant*

* Designed three-phase qualitative study to unpack the values, norms, expectations, and experiences of African Americans across the College of Engineering
* Conducted 12 focus groups, and 25 one-on-one interviews of 54 African American students in Engineering
* Interreacted with multiple University Departments and Centers to implement campus climate change through research and programming

***Purdue University,***  *FACELab Spring/Summer 2015*

*Research Advisor: Morgan Hynes*

* Developed and implemented curriculum for four 9 day Everyday Engineering Camp in which 9-17 year olds engaged with every step of the design process to address problems in their immediate communities
* Developed Make an Engineer Activity in which participants build a model of an engineer using their personal interests and skills to solve global engineering problem
* Conducted research on the impact of informal engineering experiences and activities

***Purdue University,*** *Engineering Explorer’s Grant Fall 2014*

Research Assistant under Stephen Hoffmann

* Conducted research on the experience of underrepresented and international students in first year engineering teams.
* Developed survey to quantify student experiences in teams based on group dynamics frameworks.

***Duke University,*** *Mary Lou Williams Center for Black Culture*  Fall 2014

**Graduate Research Assistant:** Durham, NC

* Conducted informal focus groups to understand African American Student Experience
* Developed outline of needs of African American Students
* Began University wide effort to collect data on African American Student Satisfaction
* Co-Lead Programs on African American Women Student Experiences

***University of Michigan,*** *Engaged Advising Learning Grant*  2013-2014

**Project Coordinator** Ann Arbor, MI

* Conducted interviews and focus groups to develop a better understanding of the current state of advisor-student relationships
* Conducted research on student engagement within the classroom
* Developed a comprehensive rubric for faculty to use in evaluating and quantifying student performance
* Helped advisors to see a clearer and more detailed picture of the student’s performance

# TEACHING EXPEREINCE

**Purdue University,** *Multicultural Engineering Programs Fall 2017 - Present*

*Instructor for Multicultural Engineering Program Seminar*

* Developed curricula for Cultural Hackathon Co-Curricular Experiences
* Assigned and reviewed student reflections
* Lead various class sessions around design identity and expectations
* Managed a classroom of 35 students for two semester

**Purdue University,** *Black Cultural Center Fall 2017 - Present*

*Scholar in Residence for Black Thought Collective*

* Designed curricula for undergraduate students to investigate gentrification patterns across cities within the African Diaspora
* Facilitated weekly discussions around personal experiences of trauma
* Brought in guest speakers on Urban Planning and Ethnography to prepare students for research project
* Guided students through data collection, analysis and publication process

**Beebe Arts LLC**, *Detroit Based Research and Design Firm 2015-2017*

*Research, Arts and Teaching Consultant*

* Co-Designed and taught Poetry Workshop for Purdue Theatre Class
* Developed and Conducted workshops on Freewriting, Painting, and Vision Boarding
* Taught design to 30 High School Seniors via Summer and Spring Break Programs

**Project SEED,** *Detroit Branch Fall 2014-Spring 2017*

*Mathematics Specialist*

* Wrote Socratic lesson plans to teach 3rd – 6th students advanced mathematics
* Taught 5 different classes daily using Socratic teaching pedagogy
* Assessed student learning with Pre-and Post-evaluations
* Conducted Professional Development for 50 Detroit Public School Teachers

# PUBLICATIONS

* **Beebe, C.** (2018). Connecting the Humanistic Framework for Engineering with a Service Learning Framework for Community Relationships via the Cultural Hackathon, Michigan Journal for Service Learning. (Under Review)
* **Beebe, C.** Hynes, M. (2018). Understanding the Experiences of African American Engineers, JWMSE (Under Review)
* Beebe, C. (2018). They Will Ask You. Murmurations, 1(1), 5–7. https://doi.org/https://doi.org/10.31946/meee.v1.i1.19
* Esan, H., **Beebe, C**., Cardella, M. (2017). Promoting Computational Thinking in Children Using Apps, ASEE, Columbus, OH.
* **Beebe, C**., Hynes, M. (2017). Youth Ages 9-15 Perceptions of Mechanical Engineering by Race and Gender, ASEE, Columbus, OH.
* Holly, J., Joslyn, C., Hira, A., Hynes, M., & **Beebe, C.** (2016). What do you like to do? Exploring pre-college students’ career aspirations and perceptions of engineering (Work in progress). In ASEE 2016 Annual Conference. New Orleans, LA.
* **Beebe, C.,** Sarwar, U., Jubelt, N., Hira, A., & Hynes, M. (2016). MAKER: A Game to Make Engineering. In ASEE 2016 Annual Conference. New Orleans, LA.

# PERSONAL PUBLICATIONS

* Beebe, Chanel (2017) Fractal, Beebe Arts LLC, Detroit MI
* Beebe, Chanel (2017) Now, Go!, Beebe Arts LLC, Detroit MI
* Beebe, Chanel (2016) Reveal, Beebe Arts & Ahmad Barber Photography, Detroit MI
* Beebe, Chanel (2015) Now & Then, Beebe Arts, Detroit MI

# SERVICE AND LEADERSHIP

**Purdue University**

* Purdue Black Cultural Center: Black Thought Collective, Scholar in Residence (2017-2019)
* Engineering Education Graduate Student Association, Secretary (2017-2018), President (2017-2018)
* Mentoring at Purdue Program, Peer Mentor (2017-2018)
* Purdue Black Cultural Center: Haraka Writers, Spoken Word Poet, (2015-2017)
* National Society of Black Engineers, Member (2015-2018)
* Black Graduate Student Association, Member (2015-2018)

**University of Michigan**

* National Society of Black Engineers: Vice President (2012-2013), Finance Chair (2011-2012)
* Office of Academic Multicultural Initiatives: Academic Success Partner to 6 protégés (Present)
* Center for Educational Outreach- Project Inspire: Student Speaker (2009-Present)
* American Association of University Women, National Student Advisory Council (2010-2011)

# AWARDS AND HONORS

* Ford Foundation Pre-Doctoral Fellowship (2018-2021)
* Leadership in Action Award (Purdue Butler Center – 2017)
* Spirit of Martin Luther King Jr. Leadership Award (College of Engineering – 2014)
* Outstanding Female on Campus (Alpha Phi Alpha Fraternity Incorporated – 2013)
* New Student Achievement Award (College of Engineering - 2009)
* Gates Millennium Scholarship (Bill Gates Foundation-2009)
* Rogel Match Scholarship (U of M-2009)

# eNTREPRENUERIAL experience

***Beebe Arts LLC,*** *Art & Research Design Solutions* 2017-Present

**Founder and CEO:** Detroit, MI

* + Consultant with Detroit Historical Museum to design and implement a 10-Day Immersion Program for High School Seniors to learn about Detroit History and Co-Develop Community Solutions
  + Thought leader with the National Association of Multi-Cultural Engineering Programs Advocates to Design a Cultural Hackathon to develop the skill sets and opportunities of Underrepresented Engineers
  + Commissioned Art Projects with community groups and individuals
  + Develop and Design Publications such as newsletters, poetry books, presentations and flyers
  + Mentoring, Coaching and Advising to students of color
  + Poetry Publication Consultation for Young Writers
  + Poetic Speaking Engagements for Non-Profit Organizations

# Work experience

***The Boeing Company,*** *Consumer Aviation Services Lean Enterprises* Summer 2013

**Industrial Engineering Intern:** Renton, WA

* Completed Shingo training and developed a better understanding of perfected business practices
* Designed and developed a visual management system for managing team projects that was eventually implemented to over 200 employees
* Constructed Values Stream Mapping of change request process and completed root cause analysis to eliminate security issues
* Conducted time studies on Kent Distribution Center Receiving Process
* Facilitated and developed accelerated improvement workshop that decreased receiving time by 50%

***Dow Chemical Company****, Hydrocarbons Improvement Team* Summer 2012

**Supply Chain Intern:** Houston, TX

* Facilitated informational discussions with international teams to gather needs of stakeholders and design informational dashboard
* Reevaluated key corporate processes to streamline work flow by building decision trees and flow charts
* Built a balance sheet to manage $500 million in Canadian Ethylene sales

***Wal-Mart Stores Inc****., Information Systems Department* Summer 2011

**International Department Intern:** Bentonville, AR

* Developed strategies to successfully integrate a recently acquired company
* Oversaw budgets of $200 million+
* Interfaced with international groups