# Education

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

Degree: Ph. D. Engineering Education

Advisor: Morgan Hynes

# Third year PhD with interests in building a more empathetic engineer capable of addressing the social justice issues. Dissertation work focuses on building a framework to help engineers and non-engineers work equitably on social issues using the design process.

# Purdue University West Lafayette, IN Anticipated Graduation: 2019

# Degree: Master’s in Industrial Engineering

# Advisor: Bob Kenly

# Thesis work focused on systemic thinking exhibited by designers across discipline in community based settings

# 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*

* Lead a research group of 15 undergraduate students
* Developed research Questions around New Orleans and American Displacement
* Conducted research on New Orleans and American Displacement
* Managed Publication of student findings across various platform

**Purdue University**, *National Association of Multicultural Engineering Programs 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
* 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
* Design research questions and analysis around the experiences of the community partners and design ability of the students

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

*Research Advisory Board: TECH-AIDE Grant*

* Group focused on understanding and affecting positive changes in the experiences of African American Students in Mechanical Engineering
* Designed three-phase study in order 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

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

*Research Advisor: Morgan Hynes*

* Lab focuses on using maker spaces to broaden participation in engineering
* 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

***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,** *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 n guest speakers on Urban Planning and Ethnography to prepare students for research project
* Guided students through data collection, analysis and publication process

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

*Teaching Assistant 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 25 students

**Beebe Arts LLC**, *Detroit Based Solution Firm 2015-2017*

*Research, Arts and Teaching Consultant*

* Co-Designed Poetry Workshop for Purdue Theatre Class
* Developed and Conducted workshops on Freewriting, Painting, and Vision Boarding
* Served as Mentor to 5 young adults o Provided advising and editing services for application processes
* Poetry Publication Consultation for Young Writers
* Poetic Speaking Engagements for Non-Profit Organizations
* Painting Commissions for Small businesses and individuals

**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.** Hynes, M. (2018). Understanding the Experiences of African American Enigineers, IEEE (Under Review)

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 PUBLICATION

* 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**

* Engineering Education Graduate Student Association (President)
* Purdue Black Cultural Center: Black Thought Collective (Scholar in Residence)
* Mentoring at Purdue Program (Peer Mentor)
* Purdue Black Cultural Center: Haraka Writers (Spoken Word Poet)
* National Society of Black Engineers (Member)
* Black Graduate Student Association (Member)
* The People’s Organization Working to End Racism (POWER) (Founder)

**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)

# UNDERGRADUATE AWARDS AND HONORS

* 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

**Founder and CEO:** Detroit MI

* + Contract with Detroit Historical Museum to Design 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 and Pieces 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

# 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, Arkansas

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