

MICHOLE WASHINGTON, PH.D.

MATHEMATICS AND MATHEMATICS EDUCATION INSTRUCTOR

(404) 503-8180 | michole@mathchole.com**I. Education****Ph.D. in Educational Studies (Mathematics Education)**

Dissertation: [The Space Outside of the Box: Fostering Fugitivity for Black Girls in STEM through Endarkened Storywork](#) (Advisor: Dr. Angela Calabrese Barton) 2024
 University of Michigan | Ann Arbor, MI, USA

M.S. in Mathematics

University of Michigan | Ann Arbor, MI, USA 2020

B.S. in Applied Mathematics

Georgia Institute of Technology | Atlanta, GA, USA 2016

Related Academic Experiences: Development of Preservice and Inservice Mathematics Teachers; Educational Game Design; Identity and Agency in STEM Education; Equitable STEM Experiences; EDUtainment Research and Design; Black Girls in STEM; Application of Qualitative Research

II. Teaching Experience + Curriculum Development Experience

Top Skill Categories: Mathematics Instruction, Curriculum Development & Implementation, Instructional Support & Student Engagement, Culturally Relevant Pedagogy, Classroom Management & Facilitation, Supplemental Instruction & Academic Support

Course Title: Designing an Educational Escape Room to STEMulate Black Girls' Abilities

Institution: Future Ready's Conference in Kingston, Jamaica 2024
Students: Educators, Principals, Superintendents
Role: Workshop designer and facilitator

Course Title: STEMulating Design Workshop

Institution: I AM STEM Summer Camp at Georgia State University 2023
Students: Rising 9th grade Black girls
Role: Course designer, curriculum writer, and facilitator

Course Title: [Study Hall's Real World College Math](#) YouTube Series

Institution: Collaboration with Complexly and Arizona State University 2022
Students: High School and Undergraduate students
Role: Scriptwriter

Course Title: Topics in Elementary Math (Inquiry-Based Learning style)

Institution: University of Michigan – Ann Arbor 2019
Students: Future Elementary and Middle School Teachers (undergraduates)
Role: Instructor

Course Title: Pre-Algebra

Institution: The Comprehensive Studies Program at University of Michigan – Ann Arbor 2019
Students: Incoming Minority Freshmen
Role: Instructor

Course Title: Exploring the Relationship between Income and Cost of Living

Institution: Wolverine Pathways at University of Michigan – Ann Arbor 2019
Students: Traditionally underrepresented minorities in 10th grade
Role: Curriculum writer

<p>Course Title: Calculating Social Justice Institution: University of Washington's Young Scholar's Summer Challenge Students: 5th and 6th graders Role: Course designer and curriculum writer</p>	2018
<p>Course Title: Engineering Minds: Using Design Thinking to Redesign a Shelter Institution: Atlanta Cares STEM EnRICH Summer Academy at Morehouse College Students: 6th and 9th graders Role: Course designer and lead instructor</p>	2017
<p>Course Title: Advanced Calculus Crash Course (calculus, linear alg., diff. eq.) Institution: Afrithmetic Students: 11th-12th graders Role: Course designer, curriculum writer, and instructor</p>	2017
<p>Course Title: AP Calculus Clinic Institution: Westlake High School Students: 11th-12th graders Role: Course designer, curriculum writer, and instructor</p>	2017
<p>Course Title: Georgia 4th Grade Milestones Preparation Institution: Afrithmetic Students: 4th graders Role: Course designer, curriculum writer, and facilitator</p>	2017
<p>Course Title: STEM Innovation Lab Institution: Centennial Academy Students: 3rd-5th graders Role: Facilitator</p>	2015 - 2016
<p>Course Title: 5th Grade Mathematics Institution: Centennial Academy Students: 5th graders Role: Teaching Aide</p>	2015-2016
<p>Course Title: Calculus 1 Institution: Georgia Institute of Technology Students: Undergraduate students Role: Supplemental Instructor and Supervisor</p>	2013 - 2016
<p>Course Title: Calculus 1 Institution: The Challenge Summer Program at Georgia Institute of Technology Students: Incoming minority students Role: Instructor</p>	2013

III. Research Experience

Top Skill Categories: Research Methodologies & Analysis, Framework & Report Development, Knowledge Translation & Presentation, STEM Education & Learning, Program & Workshop Development, Professional Development & Team Collaboration

- Project Title:** NASA's Science Mission Directorates' Community of Practice Engagement
Principal Investigator: Meenakshi Wadhwa
Funder: Arizona State University's School of Earth and Space Exploration and the National Aeronautics and Space Administration (NASA) 2025
Role: Postdoctoral Research Scholar
- Project Title:** The Space Outside of the Box: Fostering Fugitivity for Black Girls in STEM through Endarkened Storywork 2024
Principal Investigator: Self
Funder: Ford Foundation, University of Michigan, and National Center for Institutional Diversity
- Project Title:** [Modernizing Mathematics Project](#)
Principal Investigator: Optimistic Design 2023 - 2024
Funder: Bill & Melinda Gates Foundation
Role: Senior Math Education Advisor
- Project Title:** Culturally Sustaining Pedagogy Research Project
Principal Investigator: Dr. Jennifer Randall at University of Michigan 2023
Funder: Center for Measurement Justice
Role: Research Associate
- Project Title:** MUREP Upward Bound High School to College Bridge Program Development
Principal Investigator: Glenn Research Center's Office of STEM Engagement 2021 - 2022
Funder: National Aeronautics and Space Association (NASA)
Role: Research Fellow
- Project Title:** Broadening K-12 Marginalized Girls Participation in STEM
Principal Investigator: Glenn Research Center's Office of STEM Engagement 2021 - 2022
Funder: National Aeronautics and Space Association (NASA)
Role: Research Fellow
- Project Title:** SpaceBox – An Educational STEM Escape Room
Principal Investigator: Self 2020 - 2023
Funder: STEMulation and James A. Kelly Learning Lever at University of Michigan
- Project Title:** Blackgirl face: racialized and gendered performativity in mathematical contexts
Principal Investigator: Dr. Maisie Gholson at University of Michigan
Funder: University of Michigan
Role: Research Associate

IV. Selected Professional Experience

Top Skill Categories: Educational Content Development & Instruction, Research & Analysis, Cultural Consulting & Inclusivity, Project & Business Management, STEM Program Creation & Implementation, Collaboration & Communication

Company: Optimistic Design Role: Senior Mathematics Education Research Advisor	2023 - 2024
Company: Complexly Role: Multi-Episode Mathematics Script Writer	2022
Law Firm: Davis Bozeman Law Firm Court Case (NDA): Related to racial prejudice towards Black student Role: Statistical Expert Witness	2021
Company: MATHeatre Project/Production: Calculus: The Great Musical Math-Off Role: Cultural Consultant and Sensitivity Reader	2020
Company: STEMulation Product/Project: SpaceBox (an Afrofuturistic Educational STEM Escape Room) Role: Creator, Executive Producer, Funder, and Project Manager	2020 - Present
Company: STEMulation Escape Room Role: Founder and CEO	2020 - Present
Company: Afrithmetic Tutoring Program: Dreambuilders: Bringing Math Home Summer Program Role: Creator and Program Director	2017
Company: Afrithmetic Tutoring Role: Founder and CEO	2016 - 2018

V. Leadership Experience

Project: Land of the Three Fires: Indigenous Narratives via Coding & Computational Thinking Institution: Lawrence Technological University in Southfield, MI, USA Role: Advisory Board Member	2024 - Present
Organization: Department Chair's Ph.D. Advisory Board Institution: School of Education at University of Michigan Role: Member	2019
Organization: Association of Women in Mathematics Chapter: University of Michigan Role: Mathematics Education Representative	2019
Event: STEMULATION Day for High School Students to visit College Host Organization: Graduate Society of Black Engineers Role: STEMULATION Day Chair	2018 - 2019
Organization: National Society of Black Engineers Role: National Pre-College Initiative Academic Development Chair	2016
Organization: National Society of Black Engineers Role: Region III Pre-College Initiative Conference and Special Events Coordinator	2015 - 2016

VI. Features

Mentally STEMulated (Michole Washington) Interview	2022
Radical Math Podcast	
40 under 40 Alumni Class of 2021	2021
Georgia Institute of Technology	
Keynote Speaker	2021
Games for Justice Collective	
King Talks: The (Mis)Calculation of US	2020
University of Michigan	
Math Therapy Podcast: S2 E1 A Black Woman Walks into a Math Classroom Interview	2020
Math Therapy Podcast	
Numbers and Figures: Math, Communication, and Representation	2020
It's Aisha White	
Rising Star Article	2018
Mathematically Gifted & Black	
Hidden Figures Panelist	2017
DuSable Museum and Adler Planetarium	

VII. Publications

- Washington, M. (2022). **Study Hall Math Series. 12 episodes.** *Complexly*
https://www.youtube.com/playlist?list=PLID58IQe16nEx_-AWPOr74PBz00LAdymM
- Washington, M. (2022) **Best practices for implementing a High School Capstone Project.** *NASA Glenn Research Center Office of STEM Engagement.* [NDA]
- Washington, M. (2021) **Minority undergraduate research and education project (MUREP) Pilot Recommendations: Designing a Summer Bridge Residential Program at HBCUs and PBIs.** *NASA Glenn Research Center Office of STEM Engagement.* [NDA]
- Washington, M. (2021) **Assessing the Implementation of Different STEM Summer Bridge Programs for Minority Students: A Benchmark Study.** *NASA Glenn Research Center Office of STEM Engagement.* [NDA]
- Washington, M. (2021) **Effective Strategies for Developing a Summer Bridge Program.** *NASA Glenn Research Center Office of STEM Engagement.* [NDA]
- Washington, M. (2021) **The Participation of K-12 Girls in NASA STEM Engagement Activities: A Literature Review of Evidence-based Effective Practices.** *NASA Glenn Research Center Office of STEM Engagement [NDA]*
- J. Abrams, K. Harris, A. Johnson, S. Saunders, & M. Washington (Producer). (2021). **Our Voices, Our Story Podcast**
- Washington, M. (2021). **Challenging Racial Hierarchies in Mathematics Education: An Examination of Deficit Narratives, Curriculum Tracking, and Identity Development in Black Students.** Unpublished.
- S. Hansen, N. Sawyer, & M. Washington (Producer & Host). (2020). **Relatively Prime presents #BlackInMathWeek.** Retrieved from <https://soundcloud.com/acmescience/blackinmathweek>
- Washington, M., & Vakharia, V. (2020). **What math class and police brutality have in common.** *The Hechinger Report.* Retrieved from <https://hechingerreport.org/opinion-what-math-class-and-police-brutality-have-in-common/>

- Washington, M. (2020). **Analyzing Summer Bridge Programs Through Cultural Activity Theory: A Pathway to Future Design-Based Research Interventions.** Unpublished.
- Washington, M. (2019). **The Crumbling Bridge: How States and Post-Secondary Institutions Manipulate Summer Bridge Programs.** *LinkedIn.*
- Washington, M. (2019). **A Foundation for Equity-Oriented Professional Development: Integrating Equity-Oriented Practices for Summer Bridge Mathematics Instructors.** Unpublished.
- Crosley, E., Margolis, C., and Washington, M. (2019). **Mathematically Successful Black High School Boys: A Multivariate Logistic Regression Analysis.** Unpublished.
- Washington, M. (2017). **Challenging the Achievement Gap: Reframing Equity Through Cultural Perspectives in Mathematics Education.** Unpublished.
- Washington, M. and Crosley, E.. (2017). **Investigation of African American and Hispanic Students' Math Self-Efficacy and Parent Beliefs.** Unpublished.
- Almodovar, Leyda, et al. "Infinite Products Arising in Paperfolding." *Journal of Integer Sequences* 19.16.5.1 (2016).

VIII. Presentations

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| Presentation: Honoring Legacy: Centering Black Girls in Mathematics Through A.I. and Culturally Relevant Education | 2025 |
| Host: National Association of Mathematicians' Haynes-Granville-Browne Session at the Joint Mathematics Meeting | |
| Workshop: Designing an Educational Escape Room to STEMulate Black Girls' Abilities | 2024 |
| Host: 21stCentEd's Future Ready Conference in Kingston, Jamaica | |
| Workshop: SpaceBox Demonstration | 2024 |
| Host: Wolmer's Trust All-Girls' School in Kingston, Jamaica | |
| Presentation: A Seat at the Table: Black Girls Critically Designing their own STEM Experience | 2024 |
| Host: Yale University's Bouchet Conference on Diversity and Graduate Education | |
| Workshop: The STEMulating Design Workshop | 2023 |
| Host: I AM STEM Summer Camp at Georgia State University | |
| Presentation: DEVAR 4D Augmented Reality Books | 2022 |
| Host: School of Education at University of Michigan | |
| Presentation: STEMulation Escape Room Pitch | 2021 |
| Host: James A. Kelly Learning Lever Prize | |
| Workshop: SpaceBox Virtual Demonstration | 2021 |
| Host: Caterpillar's Promise | |
| Presentation: MUREP's High School to College Bridge Program | 2021 |
| Host: NASA's Office of STEM Engagement | |
| Presentation: Broadening K-12 girls' Participation in STEM | 2021 |
| Host: NASA's Office of STEM Engagement | |
| Presentation: Let's CHAT: Using Contradictions to Analyze Features of STEM Bridge Programs | 2020 |
| Host: School of Education at University of Michigan | |
| Presentation: The (Mis)Calculation of U.S. | 2020 |
| Host: King Talks at University of Michigan's Rackham Graduate School | |
| Presentation: Mathematical Enculturation: The Curriculum | 2017 |
| Host: School of Education at University of Michigan | |

XI. Peer Review Panels

Rackham Graduate Schools' Bouchet Honor Society Applicant Selection Review	2024
Department of Education's Graduate Assistance in Areas of National Need (GAANN)	2023
Rackham Graduate Schools' Bouchet Honor Society Applicant Selection Review	2022

X. Grants

Anti-Racism Collaborative Research Grant (Amount funded: \$5000)	2023
The James A. Kelly Learning Levers Prize for SpaceBox (Amount Invested: \$10,000)	2021
Rackham Merit Fellowship Research Grant (Amount funded: \$1,500)	2020
ICME-14 NCTM NSF Travel Grant (NSF PD #35281) (Amount funded: \$2750)	2020
Ford Foundation Pre-Doctoral Fellowship (Amount funded: \$27,000/annually)	2019 - 2023

IX. Awards

Invited Recent Doctoral Recipient for National Association of Mathematicians	
Bouchet Graduate Honor Society at the University of Michigan	2023
STEM Success Summit Mathematician of the Year Nomination	2021
Georgia Tech 40 under 40 Alumni Class of 2021	2021
Create-X Start-Up Launch	2019
National Science Foundation Graduate Research Fellowship Program Honorable Mention	2018
Georgia Tech Black Alumni Award	2017
Rackham Merit Fellowship	2017
Georgia Tech Society of Black Engineers Trailblazer Award	2016
Black Women in STEAM Dr. Jedidah Isler Award	2016