

Michole Washington, Ph.D.

michole@mathhole.com | 404-503-8180 | www.linkedin.com/in/micholewashington

1. EDUCATION

- 2024 **Ph.D. in Educational Studies (Concentration: Mathematics Education)**
Advisor: Dr. Angela Calabrese Barton
School of Education, University of Michigan-Ann Arbor
- 2020 **M.S. in Mathematics,**
Advisor: Dr. Karen Smith
Department of Mathematics, University of Michigan-Ann Arbor
- 2016 **B.S. in Applied Mathematics,**
Georgia Institute of Technology
- 2015 **Budapest Semester in Mathematics (Undergraduate program in pure mathematics),**
Budapest, Hungary

2. ACADEMIC APPOINTMENTS

- 2024 - 2025 **Postdoctoral Research Scholar (NASA SCoPE),**
Advisor: Dr. Meenakshi Wadhwa
School of Earth and Space Exploration, Arizona State University

3. RESEARCH & SCHOLARSHIP

3a. RESEARCH INTERESTS

STEM Education || Informal STEM Education || Design-Based Research || Educational Game Design || Educational Escape Rooms || Mathematics Education || Out-of-School/Informal K-12 STEM Education Program Development & Evaluation || Design-Thinking|| Space Science Education|| Learning Ecosystems || Epistemologies/Knowledge Systems || Science Communication || Cultural Historical Activity Theory (CHAT) || Endarkened Storywork || Programmatic Evaluations || College Math

3b. RESEARCH EXPERIENCES

- 2024 - 2025 **Postdoctoral Research Scholar**, NASA SMD Community of Practice for Education,
School of Earth and Space Exploration, Arizona State University
Supervised by Dr. Meenakshi Wadhwa, Dr. Chris Mead, & Dr. Sanlyn Buxner
- 2024 **STEM EdTech Research Consultant**, Discover Research for Higher Ed. Courseware,
Optimistic Design
Funded by Bill & Melinda Gates Foundation

- 2024 **Doctoral Student**, Dissertation, The Space Outside of the Box: Fostering Fugitivity for Black Girls in STEM Through Endarkened Storywork
School of Education, University of Michigan
Advised by Dr. Angela Calabrese Barton, Dr. James Holly Jr. , Dr. Natalie King, & Dr. Christopher Quintana
- 2023 - 2024 **Senior Math Education Researcher**, [Modernizing Mathematics Project](#),
Optimistic Design
Funded by Bill & Melinda Gates Foundation
- 2023 **Research Associate**, Culturally Sustaining Pedagogy Research Project,
Center for Measurement Justice at University of Michigan
Supervised by Dr. Jennifer Randall
- 2021 - 2022 **Research Fellow**, MUREP Upward Bound High School to College Bridge
Office of STEM Engagement, Glenn Research Center, NASA
Supervised by Dr. Catherine Graves
- 2021 - 2022 **Research Fellow**, Broadening K-12 Marginalized Girls Participation in STEM
Office of STEM Engagement, Glenn Research Center, NASA
Supervised by Dr. Catherine Graves
- 2019 **Research Associate**, Black Girl Face: Racialized and Gendered Performativity in Math Contexts
University of Michigan
Advised by Dr. Maisie Gholson
- 2014 **Undergraduate Researcher**, *Infinite Products Arising in Paperfolding*
Mathematical Sciences Research Institute
Advised by Dr. Victor Moll and Dr. Herbert Medina
- 2013 **Undergraduate Researcher**, *NETWISE II*
Georgia Institute of Technology
Advised by Dr. Julia Melker

3c. AWARDS, GRANTS, & FELLOWSHIPS

- 2025 **Recent Doctoral Recipient Recognition**, National Association of Mathematicians
- 2023 **Anti-Racism Collaborative Research Grant**, University of Michigan [\$5000]
- 2023 **Bouchet Graduate Honor Society**, University of Michigan
- 2021 [The James A. Kelly Learning Levers Prize](#), University of Michigan [\$10,000]
- 2021 **Mathematician of the Year Nomination**, STEMedia's STEM Success Summit
- 2021 [40 Under 40 Alumni Class of 2021](#), Georgia Institute of Technology

2020	Rackham Merit Fellowship Research Grant , University of Michigan [\$1,500]
2019	CREATE-X Start-Up , Georgia Tech
2019 - 2023	Ford Foundation Pre-Doctoral Fellowship , National Academies
2018	Graduate Research Fellowship Honorable Mention , National Science Foundation
2017	Georgia Tech Black Alumni Award , Georgia Tech Black Alumni Association
2017 - 2024	Rackham Merit Fellowship , Georgia Institute of Technology
2016	Trailblazer Award , Georgia Tech Society of Black Engineers (NSBE)
2016	Black Women in STEAM Dr. Jedidah Isler Award , Georgia Tech Society of Black Engineers (NSBE)

4. PUBLICATIONS

4a. DOCTORAL DISSERTATION

Washington, M. (2024). *The Space Outside of the Box: Fostering Fugitivity for Black Girls in STEM through Endarkened Storywork* (Doctoral dissertation).

4b. PUBLISHED ACADEMIC ARTICLES

Almodovar, L., Moll, V. H., Quan, H., Roman, F., Rowland, E., & **Washington, M.** (2016). *Infinite Products Arising in Paperfolding*. *J. Integer Seq.*, 19(5), 16-5.

4c. GOVERNMENT REPORTS (NOT PUBLICLY ACCESSIBLE)

NASA Glenn Research Center Office of STEM Engagement (2022) *Best practices for implementing a High School Capstone Project*. [NDA] (**Sole Author**)

NASA Glenn Research Center Office of STEM Engagement (2021) *Minority undergraduate research and education project (MUREP) Pilot Recommendations: Designing a Summer Bridge Residential Program at HBCUs and PBIs*. [NDA] (**Sole Author**)

NASA Glenn Research Center Office of STEM Engagement (2021) *Assessing the Implementation of Different STEM Summer Bridge Programs for Minority Students: A Benchmark Study*. [NDA] (**Sole Author**)

NASA Glenn Research Center Office of STEM Engagement (2021) *Effective Strategies for Developing a Summer Bridge Program*. *NASA Glenn Research Center Office of STEM Engagement*. [NDA] (**Sole Author**)

NASA Glenn Research Center Office of STEM Engagement (2021) *The Participation of K-12 Girls in NASA STEM Engagement Activities: A Literature Review of Evidence-based Effective Practices*. [NDA] (**Sole Author**)

4d. OP-EDS

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. (2019). *The Crumbling Bridge: How States and Post-Secondary Institutions Manipulate Summer Bridge Programs.* LinkedIn

4e. MULTIMEDIA

Study Hall–Complexly. (2022). *Real World College Math: College Foundations* [YouTube playlist]. YouTube. https://www.youtube.com/playlist?list=PLID58IQe16nEx_-AWPOr74PBz00LAdymM. (Co-writer of 12 episodes)

J. Abrams, K. Harris, A. Johnson, S. Saunders, & **M. Washington** (Producer). (2021). *Our Voices, Our Story Podcast*. Georgia Tech Black Alumni Association.

S. Hansen, N. Sawyer, & M. Washington (Producer & Host). (2020). *Relatively Prime presents #BlackInMathWeek*. Retrieved from <https://soundcloud.com/acmescience/blackinmathweek>

4f. UNPUBLISHED REPORTS

Washington, M. (2021). *Challenging Racial Hierarchies in Mathematics Education: An Examination of Deficit Narratives, Curriculum Tracking, and Identity Development in Black Students.* Unpublished.

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.

5. TEACHING & PEDAGOGICAL DESIGN

5a. SELECT TEACHING SKILLS

Project-Based Learning || STEAM Curriculum Development || Out-of-School/Informal STEM Education Program Development & Evaluation || Educational Escape Room Design || Context-Based Learning || Mentorship Management || Practice-based scaling and implementation || Field-placement support || Supervising & Mentoring Instructors || Learner-Centered Design || XR in Learning

5b. TEACHING EXPERIENCE

2025 **Course Designer & Instructor, SpaceBox – Educational STEM Escape Room**
I AM STEM Summer Camp at Wolmer's Trust School in Kingston, Jamaica

2024	Curriculum Writer , <i>“STEMulating Design Workshop: Using STEM to Build Worlds and Societies”</i> I AM STEM Summer Camp at Georgia State University
2023	Course Designer & Facilitator , <i>“STEMulating Design Workshop: Using STEM to Build Worlds and Societies”</i> I AM STEM Summer Camp at Georgia State University
2022	Math Scriptwriter , <i>“Study Hall’s Real World College Math”</i> Complexly & Arizona State University
2019	Instructor , <i>“Topics in Elementary Math for Future Teachers (Abstract Algebra + IBL)”</i> Department of Mathematics, University of Michigan
2019	Instructor , <i>“Pre-Algebra”</i> The Comprehensive Studies Program at University of Michigan - Ann Arbor
2019	Curriculum Writer , <i>“Exploring the Relationship between Income and Cost of Living”</i> Wolverine Pathways at University of Michigan – Ann Arbor
2018	Course Designer and Curriculum Writer , <i>“Calculating Social Justice”</i> University of Washington’s Young Scholar’s Summer Challenge
2017	Course Designer and Lead Instructor , <i>“Engineering Minds: Using Design Thinking to Redesign a Shelter”</i> Atlanta C.A.R.E.S. STEM EnRICH Summer Academy at Morehouse College
2017	Course Designer, Curriculum Writer, and Instructor , <i>“Advanced Calculus Crash Course (calculus, linear alg. diff. eq.)”</i> Afrithmetic
2017	Course Designer, Curriculum Writer, and Instructor , <i>“AP Calculus Clinic”</i> Westlake High School’s Math & Science Magnet Program
2015 - 2016	Facilitator , <i>“STEM Innovation Lab”</i> Centennial Academy
2013 - 2016	Supplemental Instructor and Supervisor , <i>“Calculus 1”</i> Georgia Institute of Technology
2013	Instructor , <i>“Calculus 1”</i> Challenge Summer Program at Georgia Institute of Technology

6. PROFESSIONAL EXPERIENCE

6a. SELECT PROFESSIONAL SKILLS

Cross Functional Collaboration || Conference Planning || Knowledge Management || Market Research || Presentation and Public Speaking || Pitch Competitions || Project Management || UX Research Methods || Data Visualization || Event Planning || Facilitation/Moderation Experience

6b. PROFESSIONAL EXPERIENCE

2025	Assistant Program Director , I AM STEM, LLC Summer Camp in Kingston, JA
2024 - 2025	Operations Strategist Consultant , I AM STEM, LLC
2021	Statistical Expert Witness , David Bozeman Law Firm
2020	Cultural Consultant and Sensitivity Reader , MATHeatre's "Calculus: The Great Musical Math-Off"
2020 - Present	Founder, CEO, & Executive Producer , STEMulation Escape Room
2017 - 2020	Founder & Program Director , Afrithmetic
2014 - 2015	Supplemental Instructor Supervisor , Center for Academic Success at Georgia Institute of Technology

7. PUBLIC ENGAGEMENT & MEDIA

7a. INVITED TALKS & KEYNOTES

2025	<i>"Bridging Worlds: Stories, Relationships, and Other Ways of Knowing in Science"</i> , ASU's School of Earth and Space Exploration's 5th Annual Symposium
2025	<i>"Honoring Legacy: Centering Black Girls in Mathematics Through AI and Culturally Relevant Education"</i> , National Association of Mathematicians' Haynes-Granville-Browne Session at the 2025 Joint Mathematics Meeting
2024	<i>"A Seat at the Table: Black Girls Critically Designing their own STEM Experience"</i> , Yale University's Bouchet Conference on Diversity and Graduate Education
2022	<i>"Designing Your STEM Career: Lessons from a Serial EDUpreneur"</i> , Are + Be Youth Consortium
2021	<i>"Designing Socially Just STEM Escape Rooms"</i> , Games for Justice Collective
2020	<i>"Designing Your STEM Career: Lessons from a Serial EDUpreneur"</i> , Bates STEM Scholars at Bates College
2020	<i>"King Talks: The (Mis)Calculation of US"</i> , University of Michigan's MLK Symposium
2014	<i>"Teaching with Intention"</i> Atlanta's Teach for America Induction Ceremony

7b. PANELS

- 2025 [Pathways to Careers in Space Science Panel](#), NASA Space Apps Collective Genius Summit
- 2017 [Hidden Figures Revealed](#), Adler Planetarium & DuSable Black History Museum

7c. PROFESSIONAL DEVELOPMENT WORKSHOPS

- 2025 ***“Not Just a Guest Speaker: How NASA SciAct Teams Are Redefining Scientist Engagement”***, NASA SCoPE Symposium
- 2025 ***“Mission Engagement: Exploring SpaceBox and the Power of Educational Escape Rooms”***, Professional Development for I AM STEM Summer Camp at Wolmer’s Schools in Kingston, Jamaica
- 2024 ***“The Gold-Standard of Project-Based Learning”***, Wolmer’s Trust High School for Girls [Presented along with Dr. Natalie S. King and Dr. Laura Peña-Telfer]
- 2024 ***“Designing an Educational Escape Room to STEMulate Black Girls’ Abilities”***, 21stCentEd’s Future Ready Conference in Kingston, Jamaica

7d. CONFERENCE PRESENTATIONS

**indicates presenting author*

Washington, M.*, Mead, C., Buxner, S., & Wadhwa, M. (2025). *Not Just a Guest Speaker: How NASA SciAct Teams Are Redefining Scientist Engagement*. In *American Astronomical Society Meeting Abstracts* (Vol. 246, pp. 311-02).

Washington, M.* (2025). *Honoring Legacy: Centering Black Girls in Mathematics Through AI and Culturally Relevant Education*. In *2025 Joint Mathematics Meetings (JMM 2025)*. AMS.

Washington, M.* (2020). *Let’s CHAT: Using Contradictions to Analyze Features of STEM Bridge Programs*. In *University of Michigan’s School of Education Symposium*.

Washington, M.* (2020). *Let’s CHAT: Using Contradictions to Analyze Features of STEM Bridge Programs*. In *Ford Foundation’s Annual Conference*.

Washington, M.* (2015). *Infinite Products Arising in Paper Folding*. In *Joint Mathematics Meeting*.

Washington, M.* (2014). *Infinite Products Arising in Paper Folding*. In *Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) Conference*.

7e. AGENCY PRESENTATIONS

- 2021 ***“Developing the Framework for MUREP’s High School to College Bridge Program”***, NASA’s Office of STEM Engagement [agency-wide]

- 2021 **“Sparkling and Sustaining K-12 Girls’ Interest in STEM”**, NASA’s Office of STEM Engagement [agency-wide]
- 2021 **“GlennTalks: Broadening the Participation of K-12 Girls’ in NASA STEM Engagement Programming”**, NASA’s Glenn Research Center’s Office of STEM Engagement

7f. PITCH COMPETITIONS

- 2021 **STEMulation Escape Room Presents SpaceBox - An Educational STEM Escape Room**, James A. Kelly Learning Lever Prize at University of Michigan
- 2020 **STEMulation Educational Escape Rooms**, CREATE-X at Georgia Tech

7g. MEDIA COMMUNICATIONS

- 2023 Featured in “We’re Outside” Box, Black Girl MATHgic
- 2023 “Interview with Michole Washington”, The New Chemist’s Podcast
- 2022 [**“Mentally STEMulated \(Michole Washington\)”**](#), Radical Math Podcast
- 2020 [**“S2 E1 A Black Woman Walks into a Math Classroom”**](#), Math Therapy Podcast
- 2020 [**“Numbers and Figures: Math, Communication, and Representation”**](#), Math Therapy Podcast
- 2020 Featured in “Game Night/March MATHness” Box, Black Girl MATHgic

8. SERVICE & LEADERSHIP

8a. SERVICE TO PROFESSIONAL ORGANIZATIONS

- 2025 **Newsletter Co-Editor**, National Association of Mathematicians
- 2024 **Peer Review Panel**, Bouchet Honor Society Application Selection Review, Rackham Graduate School
- 2024 **Advisory Board Member**, for Lawrence Technological University’s “*Land of Three Fires: Indigenous Narratives via Coding & Computational Thinking*” project
- 2023 **Peer Review Panel**, Department of Education’s Graduate Assistance in Areas of National Need (GAANN)
- 2022 **Peer Review Panel**, Bouchet Honor Society Application Selection Review, Rackham Graduate School
- 2019 **Advisory Board Member**, for University of Michigan’s School of Education’s Department Chair’s Ph.D. Advisory Board

2019	Math Education Representative , Association of Women in Mathematics at University of Michigan
2018 - 2019	Programs Chair , for UM's Graduate Society of Black Engineers
2016	Academic Development Chair , for National Society of Black Engineer's National Pre-College Initiative
2015 - 2016	Conference Chair and Special Events Coordinator , for National Society of Black Engineers' Region 3 Pre-College Initiative Conference

8b. PROFESSIONAL ORGANIZATION MEMBERSHIP

National Association of Mathematicians
American Geophysical Union
National Society of Black Engineers

9. TECHNICAL KNOWLEDGE

Learning Mgmt & Education Platforms: Kajabi, Canvas, Gather.Town
Project Mgmt & Collaboration: Notion, ClickUp, Trello, Slack
Design & Visualization: Miro, FigJam, Canva
Productivity Suites: Microsoft Suite
Research & Academic Tools: MAXQDA, Mendeley, LaTeX
Programming & Data Analysis: Python, Java, MATLAB, STATA