

# KELLY K. IVY

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## CURRICULUM VITAE

### Visiting Instructor of Teacher Education

Department of Educational Studies  
Saint Louis University

School of Education  
3500 Lindell Blvd.  
Saint Louis, MO 63103

### EDUCATION

- Ph.D.           **Mathematics Education**  
2021           University of Maryland, College Park (UMD)  
                  Department of Teaching and Learning, Policy and Leadership (TLPL)
- M.Ed.           **Curriculum & Instruction**, Educating for Change in Urban Schools Program  
2016           Trinity Washington University
- B.S.            **Mathematics, Secondary Education Professional Minor**  
2009           Howard University

### SCHOLARSHIP

#### Refereed Book Chapters

Terrell Shockley, E., **Ivy, K. K.**, & Peters, M. (2020). Culturally relevant pedagogy and connectivism: Interdisciplinary literacy in linguistically diverse STEM classrooms at the middle grades. In S. Stacki, M. Caskey, & S. Mertens (Eds.), *Curriculum, Instruction, and Assessment: Intersecting New Needs and New Approaches* (pp. 127-153). Charlotte, NC: Information Age Publishing.

Clark, L., Goffney, I., & **Ivy, K. K.** (2017). From diffusion to distribution of responsibility: A mathematics teacher's journey toward establishing an equitable mathematics classroom. In D. White & A. Fernandes (Eds.) *Access and equity: Promoting high quality mathematics in grades 9-12* (pp. 151-160). Reston, VA: National Council of Teachers of Mathematics.

#### Refereed Journal Articles

**Ivy, K. K.**, Buli, T. (February, 2021). Let's talk about race: Black doctoral students' reflections on teaching majority white preservice teachers. In A. Hardison, & K. Vaggalis (Eds.), *Women, Gender, and Families of Color* [Special issue].

Terrell Shockley, E., Ellis, V., **Ivy, K. K.**, Collins, K., & Johnson, W. (in press). PWIs get into formation! Lessons learned from HBCUs on the recruitment and retention of African American STEM majors. *Journal of Negro Education*.

### Published Conference Proceedings

Stoltz, A., **Ivy, K. K.**, Buli, T., Goffney, I., & Terrell Shockley, E. (2020, October). Teacher candidates' implementation of equitable mathematics teaching practices: An examination of divergent paths. [Paper Presentation]. *Proceedings of the forty-second annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Online.

**Ivy, K. K.**, Stoltz, A., \*Buli, T., Goffney, I., & Terrell Shockley, E. (2019, November). Teacher candidates' understanding of equitable mathematics teaching [Paper Presentation]. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1335-1339). St Louis, MO: University of Missouri. Available at:

<https://www.pmena.org/pmenaproceedings/PMENA%2041%202019%20Proceedings.pdf>

**Ivy, K. K.** (2021, April). *The essence of conversation: The journey to becoming culturally relevant in the urban mathematics classroom*. Paper presented at the Annual Meeting of the American Educational Research Association, Online.

### **DOCTORAL FELLOWSHIPS & AWARDS**

2020-2021      **Fey-Graber Fellowship and Department Graduate Assistantship**  
\$19,000      Center for Mathematics Education, University of Maryland College Park  
Teaching and Learning, Policy and Leadership Department

2019            **Fey-Graber Fellowship and Department Graduate Assistantship**  
\$24,000      Center for Mathematics Education, University of Maryland College Park  
Teaching and Learning, Policy and Leadership Department

2015 - 2018    **Fey-Graber Fellowship and TLPL Graduate Assistantship**  
\$23,000/SY    Center for Mathematics Education, University of Maryland, College Park  
Teaching and Learning, Policy and Leadership Department

### **RESEARCH FELLOWSHIPS**

2020-2023      **Maryland Collaborative for Research in Urban STEM Education (MD-CRUSE)**  
**Faculty Fellow**  
NSF Award      Morgan State University  
#2025280      Principal Investigators: Dr. Roni Ellington, Dr. Vanessa Dodo Seriki  
\$999,023.00

### **PRESENTATIONS**

#### Refereed Presentations

**Ivy, K. K.** (2021, April). *The Essence of Conversation: The Journey to Becoming Culturally Relevant in the Urban Mathematics Classroom*. Paper presented at the American Educational Research Association Conference (AERA), Online.

Terrell Shockley, E., Kramarczuk, K., **Ivy, K. K.**, Henderson, F. D., Ellis, V., Powell Green, L. (2021, April). *A Call to Action for a Changing World: The Positionality of Accountable STEM Researchers*. Paper presented at the American Educational Research Association Conference (AERA), Online.

### Invited Presentations

**Ivy, K. K.** (2020, February). *What's Culture Got to Do with It? Infusing a Socio-Cultural Teaching Theory into the Urban Mathematics Classroom*. In C. Perez (Chair), *The Science of Inclusive Mentoring*. Symposium conducted at the 16<sup>th</sup> Annual USM PROMISE AGEP Research Symposium and Professional Development Conference, College Park, MD.

**Ivy, K. K.** (2020, January). *What Can Really I Do: Exploring a Career in Mathematics*. In STEM Careers Intervention Program (SCIP). Presentation conducted at the 9<sup>th</sup> and 10<sup>th</sup>-grade Saturday Academy, Howard University School of Pharmacy, Washington, DC.

**Ivy, K. K.** (2019, July). *Working Through Mathematics Anxiety*. In Health Occupations Program (HOP). Presentation conducted at the 9<sup>th</sup> and 10<sup>th</sup>-grade Saturday Academy, Howard University School of Pharmacy, Washington, DC.

**Ivy, K. K.** (2017, October). *What's Math Got to Do with It: Popular Careers in Mathematics*. In STEM Careers Intervention Program (SCIP). Presentation conducted at the 9<sup>th</sup> and 10<sup>th</sup>-grade Saturday Academy, Howard University School of Pharmacy, Washington, DC.

Hughes, G. B., **Ivy, K. K.** (2014, August). *Using Formative Assessment Strategies to Support Learning Progressions in Mathematics*. In Math Science Summer Institute. Presentation conducted at the Capstone Institute at Howard University/ Office of the State Superintendent of Education (OSSE). Howard University, Washington, DC.

**Ivy, K. K.** (2012, April). *Understanding Math Anxiety*. In Upward Bound Wednesday Academy. Presentation conducted at the College Board, Washington, DC.

**Ivy, K. K.** (2012, March). *Women in STEM*. In Phi Sigma Rho National Engineering Sorority Phi Chapter's quarterly meeting. Invited panelist at Howard University, Washington, DC.

### **RESEARCH EXPERIENCE**

2018-2021      University of Maryland, College Park – College of Education  
Graduate Research Assistant to Dr. Ebony Terrell Shockley, Associate Clinical  
Professor/Director of Office of Teacher and Leader Education & Master's Certification  
Program

I collaborate with the STEM Identity Project's research team to write manuscripts for publication and present findings at academic conferences. I also assist with data collection and support analysis of all research for the STEM Identity Project that falls within the scope of STEM identity, African American student recruitment and retention, and social justice for culturally and linguistically diverse learners in mathematics and science education. I also assist the Master of Education with Certification (MCERT) program and the Office of Teacher and Leader Education (OTLE) with data collection and analysis and course programming. I provide support to the College of Education's Faculty of Color.

2002-2009      Howard University – School of Education  
Undergraduate Research Assistant to Dr. Gerunda B. Hughes, Associate Professor  
Director of the Office of Institutional Assessment and Evaluation (OIAE)

I collaborated with the Classroom Assessment Project (CAP), at the time housed under the umbrella of the Capstone Institute at Howard University (formally the Center for Research on the Education of Students Placed at Risk (CRESPAR)). I reviewed and edited scholarly articles for CRESPAR before publication. I worked with the CAP team researching elementary school students based on the alignment of taught, learned, and assessed mathematics 3<sup>rd</sup>-grade curriculum in DC Public Schools. I also conducted observations of elementary school classrooms to gather data and evaluate the effectiveness of CAP interventions. I analyzed reading and writing strengths, weaknesses, and growth of 3<sup>rd</sup> graders within a mathematics classroom. I designed, constructed, and coordinated a Pen-Pal program between student participants in the CAP and Howard University students to encourage literacy in the mathematics classroom.

## **TEACHING**

### Higher Education

#### **The University of Maryland, College Park (Department of Teaching and Learning, Policy & Leadership)**

MATH 212: Elements of Numbers and Operations  
Teacher (SP 2021, FA 2020)

TLPL 312: Curriculum and Instruction Elementary Education: Mathematics  
Teacher (FA 2019, FA 2018)

TLPL 312: Curriculum and Instruction Elementary Education: Mathematics  
Teaching Assistant to Dr. Imani Goffney (FA 2017)

MATH 003: Developmental Mathematics  
STEM Teaching Assistant to Megan Bergandy (SP 2019, SP 2018, FA 2017)

MATH 003: Development Mathematics  
Teacher (FALL 2015)

### K-12 Education

#### **MATHEMATICS INSTRUCTOR / MATHEMATICS TUTOR (SU 2016 – SU 2020)**

*Advanced College Summer Enrichment Program (ASCEP)*

*Health Occupation Program (HOP) and the STEM Career Intervention Program (SCIP)*

*Junior Underrepresented Minority Program (JUMP)*

*National Workforce Diversity Pipeline Program*

*School of Pharmacy, Howard University*

- Tutored 9<sup>th</sup> and 10<sup>th</sup>-grade students in subjects including Pre-Algebra, Algebra, and Algebra 2
- Designed interactive and hands-on workshops integrating mathematics, physics, and nutrition
- Designed and conducted interactive math anxiety workshops for rising 9<sup>th</sup> & 10<sup>th</sup> graders
- Designed and taught rising freshmen and sophomore college students in a mathematics curriculum tailored for health profession majors covering College Algebra, Pre-Calculus, and Calculus I

**MATHEMATICS TEACHER (SP 2011, SP 2010)**

*H. D. Woodson Senior High School, Evening Credit Recovery  
District of Columbia Public Schools (DCPS)*

- Designed and taught daily lesson plans aligned with the District of Columbia standards for secondary mathematics in Probability & Statistics and Geometry
- Created formative and summative assessment aligned to lesson plan objectives

**SECONDARY MATHEMATICS TEACHER (2010 – 2012)**

*Benjamin Banneker Academic High School  
District of Columbia Public Schools (DCPS)*

- Taught students using the District of Columbia's Algebra I and Algebra II curriculum
- Designed and taught daily lesson plans aligned with the District of Columbia standards for secondary mathematics
- Created, executed, and evaluated formative and summative assessments
- Mentored students as a faculty advisor and engaged students in dialogue concerning improvement in study skills and setting future goals
- Collaborated with members of the math department to prepare students for the DC-CAS learning standards-based assessment
- Analyzed school's testing data and planned math intervention strategies for students

**MATHEMATICS TEACHER (2010 – 2013)**

*The College Board Upward Bound Program  
Catholic University; Washington, DC*

- Mentored 9<sup>th</sup> – 12<sup>th</sup>-grade future first-generation college students on college survival
- Created a mathematics curriculum that aligned to the College Board Standards for Success for 9<sup>th</sup> - 12<sup>th</sup>-grade students in Algebra I, Geometry, Algebra II, and SAT Prep
- Analyzed student's math test data to create an Individual Prescriptive Educational Plan (IPEP)
- Planned mathematics interventions for struggling students

**SECONDARY MATHEMATICS TEACHER (2009 – 2010)**

*Eastern Senior High School  
District of Columbia Public Schools (DCPS)*

- Taught students using a rigorous curriculum in Probability & Statistics
- Designed and taught daily lesson plans aligned with the DC standards for secondary mathematics
- Created formative and summative assessment aligned to lesson plan objectives
- Sponsored the Senior Class of 2010 through planning, organizing, and overseeing all aspects of senior class functions, including fundraising, Senior Week, Grad Night, senior class pictures, and prom

Other Education Related Experiences**BRADFORD BROWN FELLOWSHIP SUMMER INTERN (SU 2008)**

*Woods Hole Science Aquarium of Cape Cod, MA  
National Oceanic Atmospheric Association (NOAA)  
United States Government*

[http://www.nefsc.noaa.gov/press\\_release/2008/SciSpot/SS0815/Kelly%20Watson.html](http://www.nefsc.noaa.gov/press_release/2008/SciSpot/SS0815/Kelly%20Watson.html)

- Organized and conducted seminars for K-5 elementary-aged groups in Marine Science and Biology
- Created and administered aquarium scavenger hunts to K-5 elementary-aged groups
- Mentored high school interns on caring for aquatic animals and leading public collection walks
- Assisted in treating marine animals through animal care and food preparation
- Evaluated and reported aquatic animal behaviors and conditions to aquarist and aquarium curator
- Maintained public aquarium exhibits

## **SERVICE**

#EDTERPSDIALOGUE SERIES (2020-2021)

College of Education

University of Maryland, College Park

ANNUAL CONFERENCE SUBMISSION REVIEWER (2019)

North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)

ELEMENTARY EDUCATION PROGRAM (2019)

Teaching and Learning, Policy and Leadership Department

College of Education

University of Maryland, College Park

SCHOOL OF EDUCATION FACULTY OF COLOR (2018 – 2020)

College of Education

University of Maryland, College Park

AFTER SCHOOL PROGRAM COORDINATOR (2006 – 2008)

Shaw Community Ministry, Inc., Potomac Association (SCM)

Washington, DC

## **PROFESSIONAL AFFILIATIONS**

American Educational Research Association (AERA)

National Council of Teachers of Mathematics (NCTM)

North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)

Benjamin Banneker Association (BBA)

The Black Doctoral Network (BDN)