

Talitha M. Washington

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Howard University
Department of Mathematics
Washington, DC 20059

Phone: (812) 604-0979
talitha.washington@howard.edu
<http://talithawashington.com>

EDUCATION

Ph.D. in Mathematics, University of Connecticut (2001)
Dissertation Title: *Mathematical Model of Proteins Acting as On/Off Switches*
Advisor: Dr. Yung-Sze Choi

M.S. in Mathematics, University of Connecticut (1998)

B.S. in Mathematics, Spanish Minor, Magna Cum Laude, Spelman College (1996)
Senior Thesis: *Derivation of Black-Scholes Option Pricing Model*
Advisor: Dr. Jeffrey Ehme

Study Abroad, Universidad Autónoma de Guadalajara, Guadalajara, México (Fall 1995)

Study Abroad, Escuela Cecilio Lindo Morales, Juan Viñas, Costa Rica (February 1992 - July 1992)

Diploma, Bosse High School, Evansville, IN (1992)

EMPLOYMENT

Howard University, Washington, DC
Associate Professor, Department of Mathematics (2012 - present)
Visiting Associate Professor, Department of Mathematics (2011 - 2012)
Awarded tenure (2012)

The EDGE Program, Florida Agricultural and Mechanical University, Tallahassee, FL
Instructor (June 2001)

University of Evansville, Evansville, IN
Assistant Professor, Department of Mathematics (2005 - 2011)
Awarded tenure and promotion to Associate Professor (2011)

The College of New Rochelle, New Rochelle, NY
Assistant Professor, Department of Mathematics (2003 - 2005)

Ivy Tech Community College, Evansville, IN
Adjunct Faculty in Mathematics (Summer 2007)

Duke University, Durham, NC
VIGRE Research Associate, Department of Mathematics (2001 - 2003)
Advisors: Dr. Michael Reed and Dr. Joseph Blum

University of Connecticut, Storrs, CT
Teaching Assistant, Department of Mathematics (September 1996 - August 2001)
Instructor, Project 3000 by 2000 (Summer 2000)
Research Mentor, UConn Mentor Connection (July 2000)
Instructor, Center for Academic Programs (Summer 1997 and 1998)

Spelman College, Atlanta, GA
Mathematics Tutor (February 1994 - May 1996)

CIGNA, Hartford, CT
Actuarial Intern (Summer 1995)

Bentley University, Waltham, MA
Scholar, Minority Scholars Summer Institute in Accountancy (1994)

Bristol-Meyers Squibb, Inc., Evansville, IN
Pharmaceutical Packaging Intern (Summer 1993)

AWARDS AND RECOGNITION

- Community Service Award, Black Women’s Task Force, Evansville, IN (February 2009)
- Recognized as one of the “Six People You Need to Know” in *Evansville City View* magazine (2009)
- Competent Communicator Award, Toastmasters International (Summer 2008)
- Member, Kappa Mu Epsilon, National Mathematics Honor Society (April 2006)
- Project NExT Fellow (New Experiences in Teaching) (2004 - 2005)
- Graduate Scholar, The David and Lucile Packard Foundation (1996 - 2001)
- Minority Fellow, University of Connecticut (1996 - 2001)
- Student Multicultural Award, University of Connecticut (1998)
- Scholars in Mathematics at Spelman (SIMS), Spelman College (1994 - 1996)
- Academic Scholarship, Spelman College (1992 - 1994)
- Pi Mu Epsilon, National Mathematics Honor Society
- Golden Key National Honor Society

SCHOLARLY AND PROFESSIONAL ACTIVITY

Research Interests.

- Applied mathematics, more specifically, applications of differential equations to model processes in biology, materials engineering, and structural engineering

Publications.

Refereed Publications.

- [1] T. Washington. *Mathematical Model of a Protein-Protein Interaction Network*. *Nonlinear Studies*, **10** (2003), no. 3, pgs. 201-220.
- [2] T. M. Washington, J. J. Blum, M. C. Reed, and P. M. Conn. *A Mathematical Model for LH Release in Response to Continuous and Pulsatile Exposure of Gonadotrophs to GnRH*. *Theoretical Biology and Medical Modeling*, **1** (2004), no. 9, pgs. 1-17.
- [3] A. D. Jones, P. Ngnepieba, T. M. Washington, and D. K. Rollins. *Mathematical Modeling of the Chemical Vapor Infiltration Process*. *Proceedings of the International Conference on Carbon* (2007).
- [4] T. M. Washington. *Evansville Honors the First Black Ph.D. in Mathematics and His Family*. *The Notices of the American Mathematical Society*, **55** (2008), no. 5, pgs. 588-589.
- [5] E. H. Goins and T. M. Washington. *A Tasty Combination: Multivariable Calculus and Differential Forms*. *The Pentagon*, **69** (2009), no. 1, pgs. 11-28.
- [6] E. H. Goins and T. M. Washington. *On the Generalized Climbing Stairs Problem*. 8 pp. *Ars Combinatoria*. Accepted July 24, 2009.
- [7] E. H. Goins and T. M. Washington. *Sphere-of-Influence Graphs*. *Wolfram Demonstrations Project* (2010).
<http://demonstrations.wolfram.com/SphereOfInfluenceGraphs/>
- [8] T. M. Washington. *A Note on Fixed Points of Iterations of Real-Valued Functions*. *International Journal of Pure and Applied Mathematics*, **61** (2010), no. 3, pgs. 297-300.
- [9] M. J. Wolyniak, C. J. Alvarez, V. Chandrasekaran, T. M. Grana, A. Holgado, C. J. Jones, R. W. Morris, A. L. Pereira, J. Stamm, T. M. Washington, and Y. Yang. *Building Better Scientists Through Cross-disciplinary Collaboration in Synthetic Biology: A Meeting Report*

- from the Genome Consortium for Active Teaching Workshop 2010. CBE-Life Sciences Education, **9** (2010), no. 4, pgs. 399-404.
- [10] R. E. Mickens and T. M. Washington. *A Note on an NSFD Scheme for a Mathematical Model of Respiratory Virus Transmission*. Journal of Difference Equations and Applications, **18** (2012), no. 3, 525-529.
- [11] E. H. Goins and T. M. Washington. *The Area of the Surface Generated by Revolving a Graph About any Line*. PRIMUS, Vol. 23, Iss. 2 (2013), pgs. 121-132.
- [12] R. E. Mickens and T. M. Washington. *A Note on Exact Finite Difference Schemes for the Differential Equations Satisfied by the Jacobi Cosine and Sine Functions*. Journal of Difference Equations and Applications. 5 pp. Accepted November 23, 2012.
- [13] R. E. Mickens and T. M. Washington. *NSFD Discretizations of Interacting Population Models Satisfying Conservation Laws*. Computers and Mathematics with Applications. 19 pp. Accepted December 29, 2012.
- [14] T. M. Washington. *NSFD Representations for Polynomial Terms Appearing in the Potential Functions of 1-Dimensional Conservative Systems*. Computers and Mathematics with Applications. 14 pp. Accepted December 29, 2012.

Publications in Progress.

- [15] T. M. Washington. *A Survey of Nonstandard Finite Difference Schemes in Biology*.
- [16] E. H. Goins and T. M. Washington. Ordinary Differential Equations.

Other.

- [17] T. Washington. *Evansville Man Led Inspiring Life as Math Pioneer*. Evansville Courier & Press, April 18 (2006), A7.
- [18] T. Washington. *Low Dropout Rate Helps Us All*. Evansville Courier & Press, July 17 (2006), A9.
- [19] T. Washington. *Cyclists Do More Than Spin Wheels*. Evansville Courier & Press, July 29 (2008), A6.
- [20] T. Washington. *New Definition of 'American' Has Arisen*. Evansville Courier & Press, November 9 (2008), A15.
- [21] T. Washington. *Police Diversity Report Does Not Include Full Story*. Evansville Courier & Press, March 13 (2011), A12.

Editorship.

- *Editor*, National Association of Mathematicians (NAM) Newsletter (January 2010 - July 2012)
 - Solicit articles, manage advertisements, and oversee production of the NAM Newsletter
 - Managed a staff of three individuals
 - Dr. Mohammad K. Azarian, Department of Mathematics, University of Evansville (January 2010 - July 2012)
 - Dr. Edray H. Goins, Department of Mathematics, Purdue University (January 2010 - July 2012)
 - Neeley Koester, Student, University of Evansville (January 2010 - May 2010)

Grants.

- HU Advance It: Mini Grant, Howard University ADVANCE-IT: Women of Color Faculty in STEM as Change Agents (HRD-1208880), \$16,157 (June 2013 - December 2013);
- Director, Summer Mathematics and Research Training in Evansville (SMARTE), Memorial Community Development Corporation, Evansville, IN; funded by Toyota U. S. A. Foundation \$3,000 (July 2013)

- Support for *Stepping Up*, Memorial Community Development Corporation, Evansville, IN; funded by Vectren Foundation, Toyota Foundation, Old National Bank (October 2008)
- Support for *The Family Jazz Celebration* featuring the Spelman College Jazz Ensemble, Memorial Community Development Corporation, Evansville, IN; funded by Old National Bank, Alcoa and Fifth Third Bank (March 2008)
- Support for *Stepping Up*, Memorial Community Development Corporation, Evansville, IN; funded by Vectren Foundation (August 2007)

Undergraduate Projects Advised.

- Jasmine Hopkins, *Mathematical Model of the Intercellular Biological Processes of the Influenza A Virus*, Howard University (2011 - 2012)
 - Student gave an oral presentation at the College of Arts and Sciences Symposium on Undergraduate Research, Howard University (April 2012)
- Christopher Harrison, *Applied Associative Networks*, University of Evansville (Spring 2011)
- Sarah Schulz, *Intracellular Model of HIV Lifecycle*, University of Evansville (2009 - 2010)
 - Student won a presentation award at the National Association of Mathematicians' Undergraduate MATHFest XIX, University of the District of Columbia (November 2009)
- Brian Fillenwarth, *Modeling the Tacoma Narrows Bridge*, University of Evansville (2006 - 2007)
 - Refereed publication
Improving the Mathematical Model of the Tacoma Narrows Bridge. Rose-Hulman Undergraduate Math Journal, **8** (2007), no. 2.
- Amanda Hagerty, *Applications of Differential Equations to Biology*, University of Evansville (Fall 2005)
- Veronica Cambra, *Spherical Geometry*, The College of New Rochelle (2004 - 2005)

Talks / Presentations.

- [1] Speaker, *Give Your Pi a Break*, Parkland Middle School, Rockville, MD (March 2013)
- [2] Speaker, *Modeling with Nonstandard Finite Difference Schemes in Biology*, Women's Research Symposium, Howard University (March 2013)
- [3] Speaker, *Queen of the Sciences: Using Mathematics to Understand Phenomena*, Research Forum, College of Arts and Sciences, Howard University (February 2013)
- [4] Speaker, *Numeracy and Algebra: Math with Middle School Math Teachers*, OSSE Professional Development Training, Capstone Institute, Howard University (December 2012)
- [5] Panelist, *Five Fingers of STEM: Graduate Fellowships and Other Programs Students Should Know About*, Howard University, Washington, DC (October 2012)
- [6] Invited Speaker, *Cells and Hormones and Diseases, Oh My!: Applications of Mathematical Modeling to the Biosciences*, Department of Biological Sciences Seminar, Clark Atlanta University, Atlanta, GA (October 2012)
- [7] Invited Speaker, *Nonstandard Finite Difference Discretizations of Population Models Satisfying Conservation Laws*, Applied Math Colloquium, University of Maryland, Baltimore County, MD (September 2012)
- [8] Keynote Speaker, *Graduate Fellowships and Other Programs Students Should Know About*, Undergraduate Research Capstone Conference, Mathematical Biosciences Institute (MBI), The Ohio State University, Columbus, OH (August 2012)
- [9] Presenter, *Infusing the Flavor of Mathematical Biology Research into the Undergraduate Experience*, MAA MathFest, Madison, WI (July 2012)
- [10] Presenter, *Designing a Research-based Mathematical Biology Course*, The Society for Mathematical Biology Annual Meeting and Conference, Knoxville, TN (July 2012)

- [11] Panelist, *Balancing Work and Family*, Preparing Future Faculty Summer Institute, Washington, DC (June 2012)
- [12] Presenter, *NSFD Representations for Polynomial Terms Appearing in the Potential Functions of 1-Dim Conservative Systems*, Progress on Difference Equations, Virginia Commonwealth University, Richmond, VA (May 2012)
- [13] Panel Moderator, *Next Steps: Statistics and Probability Beyond Blackwell's Contributions*, David Blackwell Memorial Conference, Howard University, Washington, DC (April 2012)
- [14] Invited Speaker, *The Interplay Between Mathematics and Biology*, Short Course: Applications of mathematics to Biology, Infinite Possibilities Conference, University of Maryland, Baltimore County, Baltimore, MD (March 2012)
- [15] Panelist, *What Should I Do After College?*, Infinite Possibilities Conference, University of Maryland, Baltimore County, Baltimore, MD (March 2012)
- [16] Panelist, *Applying for Jobs*, Spring Opportunities Workshop, Mathematical Sciences Research Institute (MSRI), Berkeley, CA (March 2012)
- [17] Presenter, *Getting to Know Mathematicians of the African Diaspora*, Trinity Washington University, Washington, DC (February 2012)
- [18] Presenter, *Taking Instruction with Numerical Computations to the Next Octave*, Joint Mathematics Meetings, Boston, MA (January 2012)
- [19] Presenter, *From Cells to Bridges: Modeling with Differential Equations*, Department of Mathematics Colloquium, Howard University, Washington, DC (September 2011)
- [20] Presenter, *The Role of Geometry in Higher Education/Brief History of NAM*, 83rd Annual National Technical Association Conference, Howard University, Washington, DC (September 2011)
- [21] Panelist, *Coming Together to Get It Together Minority Technical Organizations*, 83rd Annual National Technical Association Conference, Howard University, Washington, DC (September 2011)
- [22] Presenter, *From Cells to Bridges: Modeling with Differential Equations*, Department of Mathematics Colloquium, Morgan State University, Baltimore, MD (September 2011)
- [23] Invited Presenter, *From Cells to Bridges: Modeling with Differential Equations*, Summer Program for Women in Mathematics, The George Washington University, Washington, DC (July 2011)
- [24] Presenter, *A Discussion on the 'Double Bind: The Price of Being a Minority Woman in Science'*, STEM Women of Color Conclave, Atlanta, GA (June 2011)
- [25] Keynote Speaker, *Axioms of Success: A Spelman Woman's Mathematical Journey*, Etta Z. Falconer Mathematics Lecture, Spelman College, Atlanta, GA (April 2011)
- [26] Presenter, *Revisiting College Geometry: Making it Relevant for Math, Math Education and Elementary Education Students*, Joint Mathematics Meetings, New Orleans, LA (January 2011)
- [27] Invited Presenter, *Galloping Gertie Revisited: Demystifying the Collapse of the Tacoma Narrows Bridge*, Blackwell-Tapia Conference, Mathematical Biosciences Institute, Columbus, OH (November 2010)
- [28] Panelist, *Intersections of Diversity: At Home and Abroad*, International Education Week, University of Evansville, Evansville, IN (November 2010)
- [29] Presenter, *Connecting First-Year students to Current Trends in Mathematical Biology*, MathFest, Pittsburgh, PA (August 2010)
- [30] Presenter, *A Conversation about African-American Mathematicians*, Evansville African American Museum, Evansville, IN (April 2010)
- [31] Presenter, *Diversity and the Allegheny Advantage*, Allegheny College, Meadville, PA (April 2010)

- [32] Presenter, *Dr. Elbert Frank Cox and Sequences*, College Mentor for Kids, University of Evansville, Evansville, IN (March 2010)
- [33] Presenter, *Confluent Graphs: Making Graphs Pretty*, Joint Mathematics Meetings, San Francisco, CA (January 2010)
- [34] Panelist, *Research and Professional Careers in the Mathematical Sciences*, National Association of Mathematicians' Undergraduate MATHFest XIX, University of the District of Columbia, Washington, DC (November 2009)
- [35] Presenter, *SIGs on Cycles*, Math Coffee Hour, University of Evansville (November 2009)
- [36] Presenter, *The FitzHugh-Nagumo Model for Neural Impulses*, Cognitive and Neural Science Research Group, University of Evansville, Evansville, IN (October 2009)
- [37] Panelist, *Graduate and Professional School Forum*, Career Services and Cooperative Education, University of Evansville, Evansville, IN (September 2009)
- [38] Presenter, *Confluent Graphs*, Visual Analytics and its Applications, Reconnect Conference 2009, Center for Discrete Mathematics and Theoretical Computer Science (DIMACS), Piscataway, NJ (August 2009)
- [39] Presenter, *SIGs on Cycles*, Research Experiences for Undergraduate Faculty, American Institute of Mathematics (AIM), Palo Alto, CA (July 2009)
- [40] Presenter, *Modeling Intracellular Processes*, Morehouse College, Atlanta, GA (May 2009)
- [41] Presenter, *Modeling: Differential Equations & Biology*, Wittenberg University, Springfield, OH (March 2009)
- [42] Keynote Speaker, *Women and Diversity*, Media Stereotypes in Hollywood and Corporate America, Women's History Month, Wittenberg University, Springfield, OH (March 2009)
- [43] Presenter, *Galloping Gertie*, Kappa Mu Epsilon Annual Initiation, University of Evansville, Evansville, IN (March 2009)
- [44] Presenter, *The Great Debaters: A Female's Perspective*, Gender and Women's Studies Brown Bag Series, University of Evansville, Evansville, IN (March 2009)
- [45] Presenter, *The Life and Legacy of Dr. Elbert F. Cox: 1st Black Ph.D. in Mathematics*, Black History at Lunchtime Series, Vanderbilt University, Nashville, TN (February 2009)
- [46] Guest, *Dr. Elbert Frank Cox*, AM Evansville, WTVW Fox 7 News, Evansville, IN (February 2009)
- [47] Presenter, *College 101*, YMCA of Southwestern Indiana College Prep Academy visit, University of Evansville, Evansville, IN (February 2009)
- [48] Panelist, *African Americans as Educators*, National Black Student Union Conference, Lincolnshire, IL (November 2008)
- [49] Moderator, *Barack Obama: Redefining Race in America?* University of Evansville, Evansville, IN (November 2008)
- [50] Poster Presenter, *A Complete Solution to the Climbing Stairs Problem*, Blackwell-Tapia Conference, Statistical and Applied Mathematical Sciences Institute (SAMSI), Research Triangle Park, NC (November 2008)
- [51] Speaker, *Disproportionality: Prejudice in our Schools*, Emeriti Faculty Group, University of Evansville, Evansville, IN (November 2008)
- [52] Guest Lecturer, *Women and Diversity*, Intro to Women's Studies course, University of Evansville, Evansville, IN (October 2008)
- [53] Guest, *Dr. Elbert Frank Cox*, WIKY 104.1 FM, Morning Show, Evansville, IN (August 2008)
- [54] Moderator, University of Evansville Annual African American Alumni Association Meeting, University of Evansville, Evansville, IN (April 2008)
- [55] Presenter, *1925: Dr. Elbert Frank Cox and David Curtiss Stevenson*, Wednesday Mornings at UE, University of Evansville, Evansville, IN (April 2008)

- [56] Keynote Speaker, *National Honor Society Induction Ceremony*, Bosse High School, Evansville, IN (March 2008)
- [57] Panelist, *Women in Engineering Math and Sciences Panel Discussion*, Society of Women in Engineering, University of Evansville, Evansville, IN (November 2007)
- [58] Presenter, *Benefits of Undergraduate Research and Internship Opportunities*, Infinite Possibilities Conference, North Carolina State University, Raleigh, NC (November 2007)
- [59] Moderator, *City Council Debates*, WNIN, Public Broadcasting for the Evansville Tri-State, Evansville, IN (October 2007)
- [60] Presenter, *College 101*, Bosse High School, Evansville, IN (September 2007)
- [61] Presenter, *Modeling: Differential Equations and Biology*, Summer Undergraduate Mathematical Sciences Research Institute, Miami University of Ohio, Oxford, OH (July 2007)
- [62] Presenter, *Discrete Logistic Model in Calculus II*, Joint Mathematics Meetings, New Orleans, LA (January 2007)
- [63] Presenter, *Stories of African Americans Who Earned PhDs in Mathematics*, The Andiron Lecture Series, University of Evansville, Evansville, IN (October 2006)
- [64] Guest, WGBF 1280 AM, Evansville, IN (September 2006)
- [65] Presenter, *Modeling the Spread of Gonorrhea*, MathFest, Knoxville, TN (August 2006)
- [66] Presenter, *Math Workshop on Sequences and Linear Modeling*, Options for Girls, University of Evansville, Evansville, IN (June 2006)
- [67] Keynote Speaker, *Dr. Elbert Frank Cox*, Kappa Mu Epsilon Annual Initiation, University of Evansville, Evansville, IN (April 2006)
- [68] Presenter, *Math Workshop for Grades 3, 4, and 5*, Joshua Academy, Evansville, IN (April 2006)
- [69] Presenter, *Dr. Elbert F. Cox*, Kids on Campus, University of Evansville, Evansville, IN (March 2006)
- [70] Presenter, *Mathematicians of the African Diaspora*, University of Evansville, Evansville, IN (February 2006)
- [71] Presenter, *African-American Studies Class*, Bosse High School, Evansville, IN (October 2005)
- [72] Presenter, *Mathematicians of the African Diaspora*, Faculty Forum, The College of New Rochelle, New Rochelle, NY (March 2005)
- [73] Presenter, Faculty Forum, The College of New Rochelle, New Rochelle, NY (November 2003)
- [74] Presenter, *A Mathematical Model for LH Release by GnRH in Response to Medium-Term Exposure to GnRH*, Mathematical Biology Seminar, University of Michigan, Ann Arbor, MI (November 2003)
- [75] Presenter, *Math Model of LH Release in Response to GnRH*, Packard Graduate Scholars Meeting, Monterrey, CA (July 2002)
- [76] Poster Presenter, *A Mathematical Model of GnRH Stimulated Luteinizing Hormone Release*, The Endocrine Society's 84th Annual Meeting, San Francisco, CA (June 2002)
- [77] Presenter, *A Mathematical Model of GnRH Stimulated Luteinizing Hormone Release from the Pituitary Gonadotrope at the Cellular Level*, Graduate/Faculty Seminar, Duke University, Durham, NC (November 2002)
- [78] Presenter, *Mathematical Model of Proteins Acting as On/Off Switches*, Graduate/Faculty Seminar, Duke University, Durham, NC (November 2001)
- [79] Presenter, *The Fitz Hugh-Nagumo Model for Neural Impulses*, Graduate Student Seminar, University of Connecticut, Storrs, CT (August 2000)
- [80] Poster Presenter, *Mathematical Model of Proteins Acting as On/Off Switches*, Gordon Research Conference on Theoretical Biology and Biomathematics, Tilton, NH (June 2000)

- [81] Poster Presenter, *Derivation of Black-Scholes Option Pricing Model*, Mathematical Association of America Regional Meeting, University of Alabama in Huntsville, Huntsville, AL (April 1996)

Conferences, Meetings and Workshops Organized.

- [1] Co-organizer, with Edray Goins (Purdue University), *AMS Special Session on The Ubiquity of Dynamical Systems*, Joint Mathematics Meeting, Baltimore, MD (January 2014)
- [2] Co-organizer, with Asamoah Nkwanta (Morgan State University), *AMS Special Session on Highlighting Achievements and Contributions of Mathematicians of the African Diaspora*, Joint Mathematics Meeting, Baltimore, MD (January 2014)
- [3] Co-organizer, with Ron Buckmire (Occidental College) and Abba Gumel (University of Manitoba), *AMS Special Session on Nonstandard Finite-Difference Discretizations and Nonlinear Oscillations (in Honor of Ronald Mickens' 70th Birthday)*, Joint Mathematics Meeting, San Diego, CA (January 2013)
- [4] Member, Organizing Committee, David Blackwell Memorial Conference, Howard University (April 2012)

Workshops Attended.

- [1] Applied Statistics and Machine Learning New Directions Short Course, Institute for Mathematics and Its Applications (IMA), Minnesota, MN (June 2013)
- [2] Reconnect Workshop on Water Infrastructure, Contamination and Risk Assessment, Morgan State University, Baltimore, MD (June 2013)
- [3] Modeling Dengue Fever, National Institute for Mathematical and Biological Synthesis (NIMBioS), University of Tennessee, Knoxville, TN (July 2012)
- [4] MBI BioSciences Problem-Solving Workshop, Mathematical Biosciences Institute (MBI), The Ohio State University, Columbus, OH (July 2012)
- [5] PCMI Workshop for Mentors of Undergraduate Mathematics Research by Minority Students, Park City Mathematics Institute - Institute for Advanced Study, Park City, UT (July 2012)
- [6] Writing Across the Curriculum (WAC), Center for Excellence in Teaching, Learning, and Assessment, Howard University, Washington, DC (May 2012)
 - Received WAC certification
- [7] Inquiry Based Learning (IBL) Workshop, University of Michigan, Ann Arbor, MI (May 2011)
- [8] GCAT Synthetic Biology Workshop 2010, Genome Consortium for Active Teaching (GCAT), Davidson College, Davidson, NC (July 2010)
- [9] Visual Analytics and its Applications, Reconnect Conference 2009, Center for Discrete Mathematics and Theoretical Computer Science (DIMACS), Piscataway, NJ (August 2009)
- [10] Research Experiences for Undergraduate Faculty, American Institute of Mathematics (AIM), Palo Alto, CA (July 2009)
- [11] Classroom Assessment Techniques, Eykamp Center for Teaching Excellence, University of Evansville, Evansville, IN (January 2009)
- [12] National Science Foundation Day, Butler University, Indianapolis, IN (October 2007)
- [13] Nonlinear Dynamics of Calcium in Living Organisms, Santa Fe, NM (March 2000)
- [14] Short Course on Mathematics and Molecular Biology, Program in Mathematics and Molecular Biology (PMMB), University of California, Berkeley, CA (June 1998)

Conferences Invited to Attend.

- [1] Frontiers in Climate and Earth System Modeling: Advancing the Science, Geophysical Fluid Dynamics Laboratory (GFDL) Science Symposium, Princeton, NJ (May 2013)
- [2] 2012 STEM Women of Color Conclave, Washington, DC (June 2012)

- [3] 2011 STEM Women of Color Conclave, Atlanta, GA (June 2011)
- [4] 2010 STEM Women of Color Conclave, Washington, DC (June 2010)

Professional Associations.

American Mathematical Society (AMS)
 Association for Women in Mathematics (AWM)
 Mathematical Association of America (MAA)
 National Association of Mathematicians (NAM)
 Society for Industrial and Applied Mathematics (SIAM)
 Society for Mathematical Biology (SMB)

TEACHING EXPERIENCE

Howard University.

Department of Mathematics, Washington, DC (August 2011 - Present)

- Taught College Algebra I, Calculus I, Calculus II, Differential Equations, Numerical Analysis, and Mathematical Biology.
- Created and developed an undergraduate/graduate course: Mathematical Biology (Spring 2012).
- Group project advisor for Freshman Seminar (Fall 2011 and 2012).
- Enhanced learning with writing projects and mathematical applications. Utilized the software FreeMat, Notepad++, Octave, L^AT_EX, MATLAB, and Sage, and TI-84. Employed MyMathLab and WebAssign for online homework and class demonstrations.

The EDGE Program.

Florida Agricultural and Mechanical University, Tallahassee, FL (June 2011)

- Taught an introduction to graduate-level Analysis.
- The EDGE (Enhancing Diversity in Graduate Education) Program strengthens the ability of women and minority students to successfully complete graduate programs in the mathematical sciences.

University of Evansville.

Department of Mathematics, Evansville, IN (August 2005 - May 2011)

- Taught Mathematical Ideas, College Algebra, Survey of Calculus, Mathematics for Elementary Teachers, Calculus I with Precalculus Review, Calculus II, Calculus III, Differential Equations, Foundations of Geometry, Numerical Methods, and Senior Seminar: Mathematical Modeling.
- Developed and taught topics courses:
 - Mathematical Modeling in Synthetic Biology (Fall 2010)
 - Co-taught with Dr. Joyce Stamm, Department of Biology, University of Evansville
 - Mathematical Modeling in Biology: SIR Models (Spring 2009)
 - Modeling the Tacoma Narrows Bridge (Fall 2006)
- Developed and taught discussion course entitled *African American Experience: Law and Society* (Spring 2008).
- Led a module on Geometry and a module on sequences and series in a Problem Solving Seminar to help high school and college students prepare for the American High School Math Exam (October 2009, January 2010, November 2010).
- Enhanced learning with writing projects and mathematical applications. Utilized TI-84, Derive, Excel and MATLAB.
- Teacher Preparation

- Worked with interns as they completed the mathematics department's internship requirements, reviewed videotapes with students, conducted on-site observations of their teaching, and provided student with a written evaluation.
- Supervised Internship/Student Teachers at Bosse High School (Spring 2008, Fall 2009, Fall 2010)
- Supervised Student at Glenwood Middle School, Transition to Teaching Program (Fall 2006)

Ivy Tech Community College.

Math Program, Evansville, IN (Summer 2007)

- Taught Intermediate Algebra.

The College of New Rochelle.

Department of Mathematics, New Rochelle, NY (September 2003 - August 2005)

- Taught Intermediate Algebra, Quantitative Reasoning, College Mathematics, Elementary Statistics, Precalculus/Elementary Functions, Calculus I, Calculus II, Differential Equations, Geometry, Discrete Mathematics, and Numerical Analysis. Enhanced learning with TI-83 and MATLAB.
- Restructured the math major, minor and basic education curricula. Coordinated the math instructors and courses. Modified math placement standards and created placement exam. Participated in developing and supervising the math tutoring program. Assisted in creating a new math computer lab.

Duke University.

Department of Mathematics, Durham, NC (September 2001 - August 2003)

- Taught Laboratory Calculus I and Differential Equations.
- *Program Co-Coordinator*, Summer Program in Mathematical Biology (Summer 2002)
 - Taught introductory programming in MATLAB and L^AT_EX, advised program participants, and invited and coordinated speakers to give presentations of mathematical applications to biology.

University of Connecticut.

Department of Mathematics, Storrs, CT (September 1996 - August 2001)

- *Teaching Assistant* (September 1996 - August 2001)
 - Taught Algebra and Trigonometry, Elementary Discrete Math, Math for Business & Economics, Calculus for Business & Economics, Introductory Calculus I, and Calculus I.
- *Instructor*, Project 3000 by 2000 (Summer 2000)
 - Designed and taught extensive pre-collegiate math course with biological applications for minority students in the health professions. Students learned computational methods that included Maple and designing personal web pages.
- *Research Mentor*, UConn Mentor Connection (July 2000)
 - Independently prepared a research project for high school student. The student learned MATLAB, applied Euler's formula to systems of differential equations, and created a PowerPoint poster presentation of her work.
- *Instructor*, Center for Academic Programs (Summer 1997 and 1998)
 - Taught College Math and Problem Solving as part of a TRIO program. TRIO is a federally and state funded initiative which is designed to help students overcome class, social, and cultural barriers to higher education.

SERVICE

Service to the Department and University.

- At-large Council Member, Faculty Senate, Howard University (Fall 2013 - Spring 2016)
- Organizer, undergraduate and graduate student participation in the SIAM/MAA Fourth Mid-Atlantic Regional Applied Mathematics Student Conference, Shippensburg University, Shippensburg, PA (April 2013)
- Organizer, visit of the fifth grade class from Harmony Hills Elementary School to Howard University (April 2013)
 - With Vernon R. Morris from the Department of Chemistry, Howard University, we gave a talk entitled *Mathematics Awareness Month at Howard University: Mathematics of Sustainability*
- Member, Hiring Committee, Department of Mathematics, Howard University (Fall 2012 - Spring 2013)
- Member, Curriculum Committee, Department of Mathematics, Howard University (Fall 2012 - present)
- Member, Calculus Reform Committee, Department of Mathematics, Howard University (Fall 2012 - present)
- Member, Advisory Committee for the *The Howard University Critical Mass Project: Increasing the Numbers of African Americans Receiving Doctoral Degrees in Nuclear Physics*, Howard University (Fall 2012 - present)
- Member, Interdisciplinary Studies Program Task Force, College of Arts and Sciences, Howard University (Fall 2012 - present)
- Affiliated Faculty, Cybersecurity Research Center, Howard University (February 2012 - present)
- Institute Partner Representative for Department of Mathematics, Howard University, MBI Partner Meeting, Mathematical Biosciences Institute (MBI) (February 2012)
- Co-organizer, Holiday Celebration, Department of Mathematics, Howard University (December 2011)
- Member, Connections Working Group, University Strategic Plan, University of Evansville (Fall 2010 - Spring 2011)
- Member, General Education Subcommittee, University of Evansville (Fall 2010 - Spring 2011)
- Member, Human Relations Committee, University of Evansville (Fall 2009 - Spring 2011)
- Coordinator of a university-wide colloquium *African American Presence in Science* by Dr. Ronald Mickens of Clark Atlanta University; sponsored by the Institute for Global Enterprise Multicultural Colleagues Invitational Lecture Series, University of Evansville (March 2009)
- High School Mathematics Recognition Banquet Committee, University of Evansville
 - Chair (Spring 2007, 2008, and 2009)
 - Member (Spring 2007 - Spring 2011)
- Webmaster, Kappa Mu Epsilon, University of Evansville (Fall 2008 - Spring 2011)
- Member, Honor Council, University of Evansville (Fall 2008 - Spring 2011)
- Member, Hiring Committee, Department of Mechanical and Civil Engineering, University of Evansville (Fall 2008 - Spring 2009)
- Member, Elementary Education Committee, Department of Mathematics, University of Evansville (Fall 2007 - Spring 2011)
- Member, Freshman Retention Committee, Department of Mathematics, University of Evansville (Fall 2007 - Spring 2008)
- Member, Hiring Committee, Department of Psychology, University of Evansville (Fall 2007 - Spring 2008)
- Coordinator of a university-wide colloquium *Beyond Stereotypes: Culture, Politics and the Hip-Hop Generation* by Dr. Jeffrey Ogbar of the University of Connecticut; sponsored by the

- Institute for Global Enterprise Multicultural Colleagues Invitational Lecture Series, University of Evansville (February 2007)
- Advisor, Black Student Union, University of Evansville (Fall 2006 - Summer 2009)
 - Timer, Bike Race, University of Evansville (Spring 2006, 2007, 2008, 2009)
 - Member, Institutional Diversity Committee, University of Evansville (Fall 2006)
 - Member, Retention Committee, University of Evansville (Fall 2006 - Fall 2007)
 - Admission to Teacher Education Interviews, University of Evansville (March 2006 - Spring 2011)
 - Member, Hiring Committee, Department of Mechanical and Civil Engineering, University of Evansville (Fall 2006 - Spring 2007)
 - Member, Project Kaleidoscope (PKAL) Committee, University of Evansville (Fall 2005 - Spring 2006)
 - Member, Faculty Development Committee, The College of New Rochelle (2004 - 2005)
 - Advisor, Students in Science and Math, The College of New Rochelle (2003 - 2004)
 - Organizer, Math/Bio Lunch Talks, Duke University (Fall 2002)
 - President, Black Graduate Student Association, University of Connecticut (1997 - 1998)
 - Senator, Graduate Student Senate, University of Connecticut (1997 - 1998)

Service to the Discipline.

- Referee, Journal of Difference Equations and Applications (June 2013)
- Senior Faculty Associate, OSSE Capstone Math-Science Partnership, Capstone Institute at Howard University in collaboration with public chartered middle schools in the District of Columbia (Fall 2012 - present)
- Referee, Mathematics and Computers in Simulation (December 2012)
- Referee, Computers and Mathematics with Applications (December 2012)
- Co-organizer, Applied Mathematics Seminar, Department of Mathematics, Howard University (Fall 2011 - present)
- Member, Interdisciplinary Studies Committee, College of Arts and Sciences, Howard University (Fall 2012 - present)
- Member, Differential Equations Study Group for the *CUPM 2015 Curriculum Guide*, Committee on the Undergraduate Program in Mathematics (CUPM), Mathematical Association of American (MAA) (January 2012 - present)
- Editorial Board Member, *JP Journal of Fixed Point Theory and Applications* (June 2011 - present)
- Review Panelist, National Science Foundation
 - Division of Undergraduate Education (2010, 2011, 2013)
 - Division of Human Resource Development (2010)
 - Division of Mathematical Sciences (2013)
- Manuscript Reviewer, Taylor and Francis Group (January 2011)
- Judge, Undergraduate Student Poster Session, Mathematical Association of America (January 2010)
- Member, Visioning Committee, Infinite Possibilities Conference 2010 (March 2009)
- Reviewer for Scholarships, Richard Tapia Celebration of Diversity in Computing 2009 Conference (Fall 2008 - Spring 2009)
- Visiting Lecturer, Mathematical Biosciences Institute (Fall 2009 - present)
 - http://www.mbi.osu.edu/about/vlp_lecturers/washington.html
- Undergraduate Mentor, National Alliance for Doctoral Studies in Mathematics (Fall 2009 - present)
 - <http://www.mathalliance.org/Profiles.asp?sort=FAC-WashiTalith>

- Coordinator, Cox Dedication Ceremony, Liberty Baptist Church, Evansville, IN (November 2006)

Service to the Local Community.

- Invited Speaker, *Overcoming the Odds* (February 2011)
 - Benjamin Bosse High School, Evansville, IN
 - Academy for Innovative Studies, Evansville, IN
- Coordinator, *Family Jazz Celebration* featuring the Spelman College Jazz Ensemble in collaboration with the Memorial Community Development Corporation, Evansville, IN (March 2008)
 - This event raised funds that benefited the Memorial Child Care Center, Carver Community Day Care Center and Joshua Academy Charter School.
- Presenter for Black History Month Celebration, Memorial Baptist Church, Evansville, IN
 - *He Saw The Best In Me* (February 2011)
 - *Never Would Have Made It* (February 2010)
 - *“O” is for Opportunity* (February 2009)
 - *What Will Your Legacy Be?* (February 2008)
- Chair and Founder, *Stepping Up*, Youth College Preparation Program, Evansville, IN (August 2007 and 2008)
 - *Stepping Up* promotes positive youth development by preparing students in grades 5-12 for postsecondary education, career exploration and personal development. Through workshops and sessions tailored to students’ education levels, minority youth in the Evansville area gain a sense of excitement and confidence to pursue advanced degrees.
- Assisted with organizing the Infinite Scholar Annual College/Scholarship Fair, Evansville, IN (October 2007, 2008, 2009, and 2010)
 - This fair targets African and Latin Americans, and provides them the financial means and guidance to further their education.
- Helped initiate and judge at Joshua Academy Science Fair (May 2006)
- Member, NAACP Fundraising Banquet Committee, Evansville, IN (Fall 2006 and 2007)
 - Emcee for NAACP Fundraising Banquet, Evansville, IN (October 2006)
- Read books to entire second grade class, Harper Elementary School, Evansville, IN (October 2006)
- Vice-President, Parent Teacher Association, Harper Elementary School, Evansville, IN (Fall 2006 - Spring 2008)
- Public Law 221 Committee at Harper Elementary School (Fall 2005 - present)
- Started and helped supervise after school Hip Hop Club at Harper Elementary School; class was taught by a student from the University of Evansville (Fall 2005 - Spring 2006)
- Started after school Theatre Club at Harper Elementary School that is run by students from the University of Evansville (Fall 2005)

Advisory Boards.

- *Faculty Consultant*, The Digital Humanities Laboratory, University of Evansville (Spring 2011 - present)
- *Diversity Advisory Committee*, Society for Industrial and Applied Mathematics (January 2011 - present)
- *Board of Directors*, National Association of Mathematicians (January 2010 - July 2012)
- *Board of Directors*, YMCA of Southwestern Indiana, Evansville, IN (2008 - 2011)
- *Board of Directors*, Memorial Community Development Corporation, Evansville, IN (2007 - present)

- *Steering Committee*, Southwest Indiana College Access, Evansville, IN (2007 - 2011)
- *Minority Advisory Committee to the School Board*, Evansville-Vanderburgh School Corporation, Evansville, IN (February 2008 - September 2008)

ADDITIONAL INFORMATION

- Born in January of 1974 in Frankfort, Indiana, United States of America
- Basketball Coach, Eighth, Ninth, and Tenth Grade Girls Team, City of Rockville Department of Recreation & Parks, Rockville, MD (Spring 2013)
- Soccer Coach, Fourth and Fifth Grade Co-Ed Team, City of Rockville Department of Recreation & Parks, Rockville, MD (Fall 2011 and Fall 2012)
- Basketball Coach, Third and Fourth Grade Girls Team, Montgomery County Department of Recreation, MD (Winter 2012-2013)
- Sunday School Teacher, First and Second Grades, Memorial Baptist Church, Evansville, IN (Fall 2010 - Summer 2011)
- Candidate for School Board, Evansville-Vanderburgh School Corporation (Fall 2006)
- Familiar with MATLAB, Octave, L^AT_EX, Maple, Derive, Excel, FrontPage, HTML, and TI-84
- Enjoys running, group exercise, camping, and public speaking
- Fluent in Spanish