

Talithia D. Williams

CONTACT INFORMATION

Department of Mathematics
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EDUCATION

Rice University, Houston, Texas

Ph.D., Statistics - January 2008

- Dissertation Topic: "Real-time Bias Estimation in Radar Rainfall: A Dynamic Spatio-temporal Model"

M.A., Statistics, September, 2006

Howard University, Washington, District of Columbia

M.S., Mathematics, May, 2002

Spelman College, Atlanta, Georgia

B.S., Mathematics, Physics - minor, May, 2000

ACADEMIC EXPERIENCE

Harvey Mudd College, Claremont, California

Assistant Professor of Mathematics

July 2008 - current

Rice University, Houston, Texas

Lecturer

August 2007 - June 2008

Responsibilities include research and teaching an Introduction to Statistics course cross-listed with the Economics department and an Applied Probability and Statistics course for engineering students. Solely responsible for course content, curriculum development, and assessment.

Assistant Instructor

January - May 2005, 2006, 2007

Co-taught graduate level course for the Professional Master of Science Program in Environmental Analysis and Decision Making. Shared responsibility for lectures, exams, homework assignments, and grades.

- Stat 685 Qualitative Environmental Decision Making.

Head Laboratory Instructor

August - December, 2004

Shared administrative responsibilities with faculty instructor and oversaw graduate student teaching assistants and graders.

- Stat 280 Introduction to Statistics.

Teaching Assistant

August - December, 2003

Graded homework, conducted weekly lab exercises, and held weekly office hours.

- Stat 310 Probability and Statistics.

Pomona College, Pomona, California

Graduate Mentor - Enhancing Diversity in Graduate Education (EDGE)

June, 2003

Conducted problem sessions in Abstract Algebra and Real Analysis. Mentored women entering graduate programs in mathematics and statistics.

Howard University, Washington, District of Columbia

Teaching Assistant

August - December, 2001

Held weekly review sessions, graded homework and tests for a class of over 200 students. Reinforced concepts from class and assisted students with problem solving.

- Math 100 College Algebra, Fall 2001.

Bryn Mawr College, Philadelphia, Pennsylvania

Enhancing Diversity in Graduate Education (EDGE) Scholar

June, 2000

Selected to participate in a summer preparatory program designed for women going into graduate school in the mathematical or statistical sciences. Attended short courses in Abstract Algebra, Real Analysis, Linear Algebra, and Topology.

PROFESSIONAL
EXPERIENCE

Sion Capital, LLC, Houston, Texas

Consultant

July, 2006

Carried out ozone data analysis consulting project, including exploratory data analysis of ozone by various city location quadrants and time of year.

NASA Johnson Space Center, Houston, Texas

Research Scientist

June - August 2004

Created probabilistic and statistical models using knowledge of system architecture and failure data to perform a risk analysis of Space Orbiter system reliability.

National Security Agency, Fort Meade, Maryland

Research Scientist

May - August 2001

Top Secret Security Clearance - Classified Research

NASA Jet Propulsion Laboratory, Pasadena, California

Summer Intern

May - August 1997,1998,1999

Designed and engineered an LED power control switch for the Loihi Underwater Probe. Tested the effectiveness of various high concentration hydrogen peroxide solutions in disinfecting cultures of Ecoli to produce a solution designed to sterilize the exterior of a Europa thermal probe.

PUBLICATIONS

Susan Lewallen, MD; Talithia D. Williams, PhD; Alyssa Dray; Brian C. Stock, BSc; Wanjiku Mathenge, MD; Joseph Oye, MD; John Nkurikiye, FCOPhth(SA); Kahaki Kimani, MD; Andreas Mller, PhD; Paul Courtright, DrPH. "Estimating Incidence of Vision-Reducing Cataract in Africa: A New Model With Implications for Program Targets", Archives of Ophthalmology. 2010; 128 (12) : 1584-1589.

Alyssa Dray; Talithia D. Williams, "Improving Cataract Surgical Rates in Africa through Incidence Estimation", Statistics in Medicine, (currently be revised to incorporate reviewer comments).

INVITED TALKS

February 2011 "Lies, Damned Lies, and Statistics; The Misapplication of Statistics in Everyday Life", California State University San Bernardino Mathematics Colloquium

November 2010 "Lies, Damned Lies, and Statistics; The Misapplication of Statistics in Everyday Life", Morehouse College Mathematics Colloquium

October 2010 "Improving Cataract Surgical Rates in Africa through Incidence Estimation", University of California at Riverside Statistics Colloquium

October 2010 "Lies, Damned Lies, and Statistics; The Misapplication of Statistics in Everyday

Life”National Academy of Sciences Distinctive Voices at the Beckman Center, University of California at Irvine.

September 2010 SACNAS (Society for the Advancement of Chicanos and native American in the Science) - September 2010

February 2010 “Calculating Target Cataract Surgical Rates for Africa” Hypatian Seminar, University of California Santa Barbara

January 2010 “Estimation of Incidence from Prevalence in Bilateral Cataract” Joint Mathematics Meetings, National Association of Mathematicians Recent Ph.D. Speaker

October 2009 “Epidemiological Modeling of the Cataract Surgical Rate for Africa” Statistics, Operations Research, Mathematical Sciences Seminar, Claremont College Consortium

February 2009 “Estimation of Rainfall: A Dynamic Space-time Model” Mathematics Colloquium Speaker, University of California San Bernadino

February 2009 “Stand and Deliver - The Importance of Mentoring for Women in Science” SUMS Seminar, Harvey Mudd College

October 2007 ”A Space-Time Model for Rainfall Estimation” Richard Tapia Conference for Diversity in Computing - 3rd place winner graduate poster presentation

October 2007 ”Real-Time Estimation of Rainfall: A Dynamic Space Time Model” SACNAS Society for Advancement of Chicanos and Native Americans Conference

August 2004. Statistics Short Course, AGEP program of University of Maryland Baltimore County, Baltimore, Maryland, Invited Lecturer

CONTRIBUTED
PRESENTATIONS

Williams, Talithia D. June 2007. “A Spatio-Temporal Model for Bias Estimation in Radar Rainfall Data”, Southern Regional Conference of Statisticians. Richmond, Virginia, Best Poster

Williams, Talithia D. May 2007. “A Space-Time Model for Bias Estimation in Radar Rainfall Data”, Severe Storm Prediction, Education, and Evacuation from Disaster Conference. Rice University, Houston, Texas, Poster

Williams, Talithia D. November 2006. “How to Succeed in Graduate School”, Louis Stokes Alliance for Minority Participation. Texas Southern University, Houston, Texas, Panel Speaker

Williams, Talithia D. October 2006. “Outlier Detection for Monitoring and Sensor Networks”, Army Conference on Applied Statistics, Research Triangle Park, North Carolina. Contributed Talk

Daniel, Talithia. June 2004. “Multi-component Part Type Failure Modeling of Space Orbiters”, Society of Industrial and Applied Mathematics Conference, Portland, Oregon, Contributed Talk

Daniel, Talithia. June 2004. “Studying the Failure of Part Type on Space Orbiters”, Enhancing Diversity in Graduate Education Symposium, Atlanta, Georgia, Poster

Daniel, Talithia. June 2004. “Simulation studies of the Statistical Reliability of Space Systems”, Conference of African American Research Mathematicians, Berkeley, California. Poster. Won Award for Best Model

Daniel, Talithia. October 2001. “How Mentoring and Role Models Serve our Students”, Richard

Tapia Celebration of Diversity in Computing. Houston, Texas. Panel Speaker

HONORS AND AWARDS

Richard Tapia Conference for Diversity in Computing, 3rd place Research Presentation award, October 2007

Clint Miller III Best Poster Award, Southern Regional Conference of Statisticians, June 2007

National Science Foundation AGEP Fellow, 2000 - 2007

Selected to attend the NSF ADVANCE Faculty Success Workshop, 2007.

Selected as one of 55 attendees from a group of over 730 applicants to participate in the NSF ADVANCE Workshop, 2006.

NASA Harriett G. Jenkins Predoctoral Fellow, 2002 - 2004

Alfred P. Sloan Fellowship, 2001 - 2002

Minority Graduate Education Program Fellowship, Howard University, 2000 - 2002

Who's Who Among American Colleges and Universities, 1999, 2000

NASA Women in Science and Engineering Scholar, 1996 - 2000

Sigma Pi Sigma, National Physics Honor Society, 1999

Mortar Board, National Senior Honor Society, 1999

Pi Mu Epsilon, National Math Honor Society - President, 1999

Spelman College MIE Science Day - Best Oral Presentation in Physics, 1999

ORGANIZED CONFERENCES

"Envisioning a World of new Possibilities" conference for African American middle and high school girls, Harvey Mudd College, March 2011

"Broadening Participation in the Mathematical Sciences", HMC Mathematics Conference, Harvey Mudd College, February 2011

SERVICE

Adjunct Faculty Member Claremont Graduate University School of Mathematical Sciences

Appointed an Affiliate Faculty member in the Intercollegiate Department of Black Studies at Scripps College

Spring Future Achievers in Science and Technology (FAST) program for minority prospective students

Member of the Assessment Committee

Organized the 2011 HMC Mathematics Conference "Broadening Participation in the Mathematical Sciences"

Participated on the "Faith and Failures" panel

COMPUTER SKILLS

- Statistical Packages: R, S-Plus, WinBUGS; some experience with SAS.
- Applications: \LaTeX , common Windows database, spreadsheet, and presentation software
- Operating Systems: Windows.