

*Curriculum Vitae*  
**BRETTA FELICIA KING, PHD**  
*Chemical Physicists/Educator*

**EDUCATION**

- 8/2017- 5/2019      **M.A. Education, *University of Phoenix***
- 1/2010                **B.S., Nutrition Science, Kaplan University**  
*Summa Cum Laude*
- 9/1999 – 8/2001    **National High Magnetic Field Laboratory- Tallahassee, Florida**  
***NIH Post-Doctoral Fellow***  
Mentor: Timothy A. Cross, Ph.D.  
• Utilized high field solid-state Nuclear Magnetic Resonance Spectroscopy (NMR) to study the interaction of organic pollutants and heavy metals to soil fractions (humic acids).
- 8/1999                **Ph.D., Physical Chemistry, Howard University- Washington, D.C.**  
Advisers: Professor Steven K. Pollack and Professor James W. Mack  
Dissertation Title: “The Molecular Dynamics of Cyclophosphazene Inclusion Compounds via Deuterium Nuclear Magnetic Resonance (NMR) Spectroscopy”.  
*Summa Cum Laude*
- 8/1994                **M.S., Physical Chemistry, University of Wisconsin- Madison, WI**  
Adviser: Professor Frank A. Weinhold  
AbInitio Calculations on hydrogen bonding
- 5/1992                **B.S., Chemistry, Spelman College- Atlanta, GA**  
Advisor: Professor Cornelia Gillyard  
Thesis Title: “The Synthesis and Characterization of Dioxin Compounds using FT-IR and GC-MS”  
*Magna Cum Laude with Honors*
- 03/2021      to Present      **Heritage School Foundation-Beijing China/Chicago, IL**  
*Part Time Chemistry/Physics Teacher/Curriculum Developer*  
• Teaching Online Honors, AP, IB, and Regular High school chemistry and physics to High School students from Beijing China who are interested in attending school in the USA.  
• Developing Curricula for the Online Honors, AP, IB, and Regular High School Physics Courses.  
• Teaching Physics and Chemistry (Honors and Traditional) and dual enrollment chemistry- both virtually and in person.
- 10/01/2011- 5/2012    **Kano University of Science and Technology- Wudil, Nigeria**  
*Visiting Chemistry Professor*  
• Teaching Physical Chemistry  
• Developed the teacher training seminar entitled, ‘How to Teach Science with Minimal Resources’

- 9/14/2010- 6/30/2010 **University of Malawi- Chancellor College- Zomba, Malawi**  
*Visiting Chemistry Professor*
- Training Malawian teachers to teach science without textbooks and resources
  - Training Malawian teachers to train other local teachers
  - Teaching Physical Chemistry
  - Teaching/Developing Chemistry Labs that require minimal resources
  - Developing Chemistry curriculum
  - Developing Chemistry undergraduate research projects
  - Facilitated and developed the workshop entitled, ‘Student-Centered Learning, Maximizing Student Achievement’; This workshop started off at Chancellor College, then I traveled with it to 3 other locations in Malawi; this workshop was utilized to train Malawian text book-writers, curriculum developers, teachers, professors, and college students; it demonstrated the 8 intelligences, student-centered learning techniques, as well as how to teach science without resources (the audiences participate in hands-on science demonstrations).
  - Received funding to build teacher resource centers at secondary schools in Malawi. In Malawi, most schools do not have adequate resources. For example, students usually do not have textbooks and neither do teachers. Printers, stationary, chalk, internet, computers, and other office supplies are also scarce.
  - Facilitated a workshop entitled, ‘How do we get more girls into the sciences’. This workshop was given at both secondary and primary schools to both students and teachers.
  - Facilitated a workshop on HIV/AIDs prevention.
- 4/7/2008- 2/2011 **Capella University**  
*Adjunct Professor*
- Teaching and developing an online environmental chemistry course and an online laboratory; teaching online general chemistry.
- 8/2001- 5/2005 **Spelman College, Atlanta, GA**  
*Assistant Professor*
- Responsibilities included teaching: General Chemistry Laboratory I and II, Environmental Chemistry, Introduction to Environmental Science, Environmental Science Seminar, and Soil and Atmospheric Science.
  - Developed and taught new course: Soil and Atmospheric Science.
  - Advised students/Served as laboratory manager.
  - Mentored student research projects.
  - Faculty advisor to the Spelman College Environmental Task Force; activities included: West End neighborhood Clean Up; Community Outreach- speaking to children about environmental awareness at primary/secondary schools; Fund raising for Boreholes International, an organization that drills water wells in countries that lack access to clean water.

- 2002-2003 Faculty Fellow of the Associated Colleges of the South Environmental Initiative: Responsibilities included devising activities that would raise campus environmental awareness, such as starting and maintaining the Spelman College recycling program without campus support.
- 6/2004-8/2004     **NASA Langley** Hampton, VA  
*NASA Faculty Fellow*
- Analyzed satellite data to study the concentrations of various atmospheric pollutants over various regions of the world overtime.
- 6/1992-8/1995     **NASA-Ames Research Center** Moffett Field, CA  
*NPSC Fellow*
- Worked during the summers on computational chemistry projects; used molecular dynamics programs to make predictions about chemical reactions in space.
- 8/1991-5/1992     **National Centers for Disease Control** Atlanta, GA  
*Student Intern*
- Synthesized/characterized dioxin compounds via FT-IR and GC/MS.
- 8/1990-12/1990     **Los Alamos National Laboratory** Los Alamos, NM  
*SERS Intern*
- Tested the binding of radioactive elements to clays/soil.

## HONORS/AWARDS

- IMPACT Educational Grant recipient, 2007
- Earthwatch Foundation Grant recipient for Cobb County, 2007
- NASA Faculty Fellow, 2004
- National Physical Science Consortium (NPSC) Fellowship, 1992-1999
- NOBCCHE Hercules Award, 1997
- ACS Environmental Initiative Fellowship, 2/2002- 8/2003
- ACS Student Development &Engagement Alliance Grant, 4/2003
- Faculty Fellow of the Associated Colleges of the South, 2002-2003
- International Foundation for Education and Self-help (IFESH) Teacher of the Year 2010
- Presidential Volunteer Award 2010

## PUBLICATIONS

- Brett Blanton, “Fostering Future Female African Scientists: Indispensable in the Development of African Nations” (submitted for publication to Science, Technology, Engineering, Arts and Mathematics 2-28-2012)
- James Grainger, Zheng Li, Charisse Walcott, Christopher J. Smith, Donald G. Patterson Jr., Brett King, and Cornelia Gillyard, “Isomer Identification of Monohydroxylated Polycyclic Aromatic Hydrocarbon Metabolites by Gas Chromatography/ Fourier Transform Infrared Spectroscopy and C-13 NMR Spectroscopy” Polycyclic Aromatic Compound, 22,489 (2002)

- Bretta King and Frank Weinhold, "Structure And Spectroscopy of  $(\text{HCN})_n$  Clusters: Cooperative and Electronic Delocalization Effects in CH—N Hydrogen Bonding," J. Chem. Phys. 103, 333(1995).
- B. F. King, T. C. Farrar, and F. Weinhold, "Quadrupole Coupling Constants in Linear  $(\text{HCN})_n$  Clusters: Theoretical and Experimental Evidence for Cooperativity Effects in CH--N Hydrogen Bonding," J. Chem. Phys, 103, 348 (1995).