

Assistant Professor of Chemistry

Major-Specialty: Analytical Chemistry

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Courses Taught: (CHE where course abbreviation missing)

General Chemistry and Labs (111, 112)

Physical Science and Lab (SCI 101)

Earth Sciences and Labs (SCI 203, SCI 204)

Chemical Instrumentation (401)

Selected Topics in Chemistry (402)

Research Interest:

To develop nanoscopic electrodes with detection capabilities at trace levels to improve water and soil quality utilizing nanocomposites, 2) investigate the conduction of metals adhered to solid supports and 3) modify solid supports such as textiles and polymers with chemical agents.

Teaching Interest:

My approach to educating students in chemistry consists of expanding course lectures to students learning ability using new and old concepts in the classroom, 2) applying concepts learned in chemistry lectures in the laboratory component and 3) developing students scientific writing and communication skills.

Faculty Advisor for:

Dillard University Chemical Society

Dillard Student Chapter of the American Chemical Society

Dillard Student Chapter of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE)

Professional Affiliations:

American Chemical Society

NOBCChE

Urban League – Young Professionals

Selected Presentations:

The Colorimetric Study of Human Leukocyte Elastase with Selectively Modified CLEAR-Resins, 53rd Annual Pittsburgh Conference, New Orleans, LA March 2002.

Scanning Force Microscopy Studies of Au and Ag Nucleation on 3-aminopropyltriethoxysilane, 27th Annual National Organization for Black Chemists and Chemical Engineers Conference, Miami, FL April 2000.

Selected Awards:

New Faculty Award-Career Enhancement (Dillard University) 2005

Sigma Xi, The Scientific Research Society; inducted 2004

Iota Sigma Pi National Honor Society for Women in Chemistry; inducted 2003

USDA-ARS-SRRC Performance Award 2001-04

New Hope Baptist Church Scholar 1999

Phi Lambda Upsilon Honor Society; inducted 98

Analytical Chemistry Teacher Assistant of the Year 1998-99

**Selected Publications:**

Detection of Human Neutrophil Elastase with Peptide-Bound Cross-Linked Ethoxylate Acrylate Resin Analogs, Edwards, J. Vincent; Caston-Pierre, Sonya; Bopp, Alvin F.; and Goynes, Wilton Journal of Peptide Research, 2005 (accepted June 25, 2005).

2004 Southwest Regional Meeting: "A Systematic Approach to Professional Development", Caston-Pierre, Sonya, NOBCChE NEWS OnLine, 2005, 35, 1, 9-11.

Characteristics of Nanoscopic Au Band Electrodes, Caston, Sonya L. and McCarley, Robin L. Journal of Electroanalytical Chemistry, 2002, 529, 2, 124-34.

X-ray Characterization of Resids from the Wilsonville, Alabama, Two-Stage Direct Liquefaction Facility. 1. XRD and XRF Analysis of the Illinois No. 6 Resids from Run No. 257, Wertz, David L.; Smithhart, Charles B.; and Caston, Sonya Journal of Coal Quality: CQ, 1993, 12, 36.

**Selected Grants:**

Louisiana Board of Regents Support Fund Undergraduate Enhancement Grant, Enhancing the Instrumental Analysis Laboratory for Instruction and Research, PI Sonya L. Caston; and Co-PIs Lovell Agwaramgbo; Benard Singleton; and Ruby Broadway, 2008-09, \$40,000

Louisiana Board of Regents Support Fund Undergraduate Enhancement Grant, Instructional Enhancement for General Chemistry, PI Pamela Mitchell; and Co-PIs Sonya L. Caston; and Lovell Agwaramgbo, 2008-09, \$45,000