

## **Sonya L. Caston Good, Ph.D.**

### **Appointment**

Texas Southern University  
College of Science Engineering and Technology  
Department of Chemistry  
1300 Cleburne Street  
Houston, TX 77004  
(713) 313-1914  
sonya.good@tsu.edu

### **Terminal Degree**

Received Doctor of Philosophy on May 18, 2001

### **Education**

Louisiana State University-Baton Rouge, LA	1994-2001
Doctor of Philosophy in Analytical Chemistry, May 18, 2001	
Research Advisor: Robin L. McCarley	
Title: The Study of Characteristics and Use of Thin Metals on Modified Glass Substrates	
Jackson State University-Jackson, MS	1989-1993
Bachelor of Science in Chemistry; ACS, December 1993	
Research Advisor: Jeffrey D. Zubkowski	

### **Teaching Interest**

Quantitative Analysis Lecture, Quantitative Analysis Laboratory, and General Chemistry Lecture

### **Research Interest**

Investigate conductive properties of thin films on the nanoscopic scale using spectroscopy, microscopy and cyclic voltammetry; develop nanosized electrodes and nanoparticles; enhance solid surfaces for better functionality; modify functional groups nanoparticles or nanocomposites; address environmental and biological concerns using nanocomposites or nanodevices

### **Professional Employment**

Texas Southern University-Houston	2013 to present
Professor of Chemistry	
Faculty Responsibilities: Lectured general chemistry and assisted in common general chemistry lecture final exam; lectured quantitative analysis and laboratory to science majors; prepared exams, quizzes, and notes for each lecture; served as advisor and co-advisor for TSU Student Affiliate Chapter of ACS and NOBCChE, respectively; participated on committee for General Chemistry lectures; and administered Comp Examinations for graduating Chemistry majors	

Faculty Research Responsibilities: Advising graduate student in Environmental Toxicology Program, Researched improvements in wound healing using modified cellulose substrates and separations of carbohydrates and analyzed water quality

Dillard University-New Orleans, LA 2004-2005, 2006-2013

Associate Professor of Chemistry

Faculty Responsibilities: Lectured general chemistry and laboratory to science majors; established laboratory experiments; lectured instrumental analysis and selected topics courses to chemistry majors; prepared exams, quizzes, and notes for each lecture; served as advisor for Chemistry Club, ACS, and NOBCCHE; and participated on committee for NSF HBCU-UP to develop training, courses, and research for academic advancement of students in STEM disciplines

Faculty Research Responsibilities: Researched improvements in wound healing using modified cellulose substrates and separations of carbohydrates

Jackson State University-Jackson, MS 2005-2006

Visiting Assistant Professor of Chemistry

Lectured general chemistry and laboratory and university success courses to science majors; established laboratory experiments; lectured on laboratory techniques and prepared exams, quizzes, and notes for each lecture

United States Department of Agriculture-New Orleans, LA 2001-2004

Research Chemist/Post-Doctoral Research

Researched enzymatic activity using chromophores on modified cotton; prepared assays to observe kinetics of elastase; used peptide synthesizer to make substrates; collaborated with other scientists and research associates on research ideas and goals of the project; presented research at several scientific conferences; published papers

Dillard University-New Orleans, LA 2003-2004

Adjunct Professor

Lectured general chemistry course to science majors; prepared exams, quizzes, and notes

Southern University at New Orleans- New Orleans, LA 2002

Adjunct Professor

Lectured general chemistry and general chemistry laboratory courses to non-science majors; supervised students in laboratory; prepared exams, quizzes, and notes

Louisiana State University 1994-2001

Graduate Student/Graduate Research

Conducted electrochemical experiments using nanoscopic Au band electrodes; studied thin metals using scanning force microscopy; synthesized NVOC on glass to pattern Au; prepared papers and presentations related to research work; conferred with colleagues and professors for ideas regarding research

Louisiana State University 1994, 1998-2001  
Teaching Assistant/Graduate Teaching  
Prepared labs for students to perform experiments; demonstrated how to use instruments in analytical labs such as FT-IR, HPLC, UV-Vis, GC-MS, GC and AA; demonstrated how to write laboratory reports

Jackson State University 1990-1993  
Research Student/Undergraduate Research  
Analyzed the structure of sec.-Octyl Hydrogen Phthalate using X-ray diffraction; synthesized the M and L salts of OHP; prepared reports and presentations related to research; responsible for training new research students on using glassware and instruments in the lab

Upjohn Company-Kalamazoo, MI Summer 1993  
Summer Intern/Undergraduate Experience  
Researched gelation in steroids using fluorescence and circular dichroism; collaborated with other scientists and research associates on research ideas and goals of the company; presented research to group and company

Delta State University-Cleveland, MS Summer 1992  
Summer Research Student/Undergraduate Research  
Studied X-ray powder diffraction and determined the percent of pyrite analyzed from the resid samples; prepared a paper and presentation for results accomplished; collaborated with University of Southern Mississippi-Chemistry Department for other ideas and goals for the project

Princeton University-Princeton, NJ Summer 1991  
Summer Research Student/Undergraduate Research  
Studied helium atoms absorbed on Au(111), NaCl(001), and C(111) surfaces and how the atoms were arranged on surfaces; prepared presentations and reports based on modeling the He atoms on surfaces

### **Faculty Research**

NASA-Glenn Research Center-Cleveland Summer 2017  
Faculty Fellow  
Fabricated Carbon/Copper surfaces using hot press and evaluating its structural, thermal and electrical properties for future applications in NASA Aeronautics Program.

Tulane University-New Orleans, LA Summer 2010  
Visiting Professor  
Synthesized transitional platinum dithiolene complexes; analyzed synthesis using electrochemical methods, IR, NMR, TLC and other chemical instrumentation to determine its properties and verify the synthesis

University of New Orleans Summer 2007  
Visiting Professor

Investigated photodegradation of toluene derivatives with Au/TiO<sub>2</sub> nanoparticles; degraded samples with solar simulator; analyzed samples with HPLC and UV-Vis; collaborated with undergraduate and graduate students and professors to reach research goals

University of Nebraska Medical Center-Omaha, NE Summer 2006  
Visiting Professor

Investigated wound healing using linear and rounded collagen matrices; prepared cell cultures; observed how INTy inhibited wound healing on laboratory rats; prepared oral presentation of research work; collaborated with colleagues and professors to reach research goals

University of Minnesota-Minneapolis, MN Summer 2006  
Visiting Professor and Research Mentor

Modified Germanium nanoparticles to increase conductivity, control electron hopping, increase interaction with hydrophilic components; characterized synthesized Ge nanoparticles with FT-IR, UV, TEM; prepared poster and oral presentations of research work; collaborated with undergraduate and graduate students and professors to reach research goals

### **Service**

- Volunteer for aftercare program at Chinese Community Center 2019
- Campus Coordinator for Women of Color STEM Conference; 2018
- COSET Promotion and Tenure Representative 2017-2018
- Board Member of South Union CDC; 2015-2017
- Committee Member of TSU General Education Subcommittee; 2015
- Volunteer for South Union CDC -The STEM Foundation; 2014 to present
- ACS Science Coach; 2014 to present
- Undergraduate Faculty Advisor for Enactus; 2014 to present
- Research Mentor for the Undergraduate Research Program; A Preliminary Study: Surface Modification of Cellulose, Brandon Lathom; Summer 2014
- Undergraduate Faculty Advisor for American Chemical Society Student Affiliates Chapter at TSU; 2013 to present
- Undergraduate Faculty Advisor for Enactus Chapter at TSU; 2013 to present

### **Honors/Awards**

- ACS Women Chemists of Color Summit Travel Award 2010
- Phi Eta Sigma National Honor Society; inducted 2010
- 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
- Analytical Chemistry Teacher Assistant of the Year 1998-99
- Phi Lambda Upsilon Honor Society; treasurer 1998-99
- Delta Sigma Theta Scholar 1997
- NOBCCChE Member of the Year – Student Chapter Award 1997
- Louisiana Board of Regents Fellow 1994-98
- cum laude graduate 1993
- Who's Who Among American Colleges and Universities 1993

### **Professional Activities**

- American Chemical Society- Member-At-Large 2004-05; peer mentor chairperson 1998-99
- National Organization for the Professional Advancement of Black Chemists and Chemical Engineer- New Orleans Chapter President 2002-04; Public Relations Chair 2004-05

### **Faculty Development**

- Women of Color STEM Conference, Uniting Women in STEM, Detroit, MI October 11-13, 018
- Active Learning Initiative in Analytical Chemistry Regional workshop, Southwestern University, Georgetown, TX September 15-16, 2017
- Approaches for Engaging Students in Analytical Chemistry Courses Seminar, 251st ACS National Meeting and Exposition, San Diego, CA March 13-17, 2016
- Active Learning in Analytical Chemistry Workshop, Analytical Sciences Digital Library, Spelman College, Atlanta, GA June 26-28 2014
- COACHing Strong Women in the Art of Strategic Persuasion, COACH Workshop/ACS, New Orleans, LA April 6, 2013
- Workshop on Materials Characterization, PerkinElmer, Baton Rouge, LA March 26, 2013
- Minority Serving Institutions Research Partnership Consortium Regional Conference, Dillard University, New Orleans, LA November 15-16, 2012
- National Science Foundation Major Research Instrumentation Program Proposal Development and Evaluation Workshop, Quality Education For Minorities (QEM) Network, Baltimore, MD November 2-3, 2012
- 2011 CAREER Award Regional Forum, Louisiana State University, Baton Rouge, LA November 8-9, 2011
- NSF HBCU Workshop, Xavier University, New Orleans, LA January 24, 2011
- Grant Winners Workshop by Robert Porter, Ph. D., The Office of Research and Sponsored Programs, Dillard University January 5-6 2011
- Women Chemists of Color Summit, ACS, Boston, MA August 24, 2010
- HBCU-UP Student Professional Development Workshop, Quality Education For Minorities (QEM) Network, New Orleans, LA June 6-7, 2008
- Minority Serving Institutions Research Partnership Conference, Dillard University, New Orleans, LA May 12-14, 2008

- American Chemical Society – 235<sup>th</sup> National Meeting and Exposition, Ernest N. Morial Convention Center, New Orleans, LA April 6-10, 2008
- Faculty Resource Network presents *The Molecules of Life: A National Dissemination Conference*, National Science Foundation, Atlanta, GA March 14-15, 2008
- National Science Foundation Day, Tulane University, New Orleans, LA January 26, 2007

## Publications

Redox-Active Metallodithiolene Groups Separated by Insulating Tetrakisphosphinobenzene Spacers, Arumugam, Kuppuswamy; Selvachandran, Malathy; Obanda, Antony; Shaw, Mohamed C.; Chandrasekaran, Perumalreddy; **Caston Good, Sonya L.**; Mague, Joel T.; Sproules, Stephen; Donahue, James P. *Inorganic Chemistry* 2018, **57**, 7, 4023-4038  
DOI: 10.1021/acs.inorgchem.8b00201

Assessing the East Bay of Galveston Bay, Texas for Coliform Bacteria in Recreational Water, Quach, T.; Colon, L.; Akinrinlola, A.; Bell, J.; **Good, S.** *Open Journal of Marine Science* 2016, **6**, 472-481

Citrate-Linked Keto- and Aldo-Hexose Monosaccharide Cellulose Conjugates Demonstrate Selective Human Neutrophil Elastase-Lowering Activity in Cotton Dressings, Edwards, Judson V.; **Caston-Pierre, Sonya** *Journal of Functional Biomaterials*, 2013, **4**, 59-73

A Bio-Sensor for Human Neutrophil Elastase Employs Peptide-p-Nitroanilide Cellulose Conjugates, Edwards, J. Vincent; **Caston-Pierre, Sonya**; Howley, Phyllis; Condon, Brian; Arnold, Judy *Sensor Letters*, 2008, **6**, 4, 518-523

New Uses for Immobilized Enzymes & Substrates on Cotton & Cellulose Fibers, J.Vincent Edwards, Abdul J. Ullah, Kandan Sethumadhavan, Sarah Batiste, Patricia Bel-Berger, Terri Von Hoven, Wilton R. Goynes, Brian Condon, and **Sonya Caston Pierre**, American Chemical Society Symposium Series: Industrial Application of Enzymes on Carbohydrate-Based Material, 2007, **972**, 171-185

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, **66**, 4, 160-168

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

### **Presentations**

**Scanning Force Microscopy Studies of Au Films Vapor-Deposited on APS/Glass Substrates**, 37th Annual National Organization for Black Chemists and Chemical Engineers Conference, Atlanta, GA April 2010

**The Colorimetric Study of Human Leukocyte Elastase with Selectively Modified CLEAR-Resins**, 53<sup>rd</sup> 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

**Investigative Studies of Au Nanoscopic Band Electrodes**, 25<sup>th</sup> Annual National Conference of the National Organization for Black Chemists and Chemical Engineers, Detroit, MI April 1998

**Investigation of Au Nanoscopic Band Electrodes and Au Thickness Studies**, 49<sup>th</sup> Annual Pittsburgh Conference, New Orleans, LA March 1998

**Electrochemical Studies at Nanoscopic Band Electrodes**, 48<sup>th</sup> Annual Pittsburgh Conference, Atlanta, GA March 1997

**Electrochemical Studies at Au Nanoband Electrodes**, 23<sup>rd</sup> Annual National Conference of the National Organization of Black Chemists and Chemical Engineers, Detroit, MI April 1996

### **Grants**

Texas Southern University Seed Grant, Integrating Undergraduate Research in **Quantitative Analysis Laboratory (URQuant): A Pilot Project**, PI **Sonya Good**, 2016, **\$10,000**

Louisiana Board of Regents Support Fund Undergraduate Enhancement Grant, **Enhancing the Analytical Chemistry and Instrumental Analysis Lecture and Laboratory Experience**, PI **Sonya L. Caston**, 2010-11, **\$30,000**

Louisiana Board of Regents Support Fund Undergraduate Enhancement Grant, **Enhancing the Instrumental Analysis Laboratory for Instruction and Research**, PI **Sonya L. Caston**, 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**

Shell Exploration & Production Company Mini-Grant, **NO-NOBCCHE's Fun Science Day**, 2003

American Chemical Society Mini-grant, **Mentoring the Successors of Chemistry** in Baton Rouge local section, 1998-99