

Curriculum Vita

Name: Jason S. Matthews
Address: Howard University
Department of Chemistry
525 College Street, N.W.
Washington D.C. 20059

Tel: (202) 250-6391
Cell: (301) 455-9229
e-mail: jsmatthews@howard.edu
<https://profiles.howard.edu/jason-matthews>

Education:

Ph.D., Organic Chemistry, Georgia Institute of Technology, Spring 1999.
Design and Synthesis of Volatile Compounds for CVD of Electronic Materials.
B.S., Chemistry (ACS), Howard University, May 1994.

Research Interests: Organometallic Chemistry, Catalysis, MOCVD, Materials Chemistry, Biomaterials

Honors and Awards

Union Carbide Special Recognition Award (SRA) Dec. 2000.
Union Carbide Stock Award (EOG), Aug. 2000.
Molecular Design Institute Fellow, 1997 – 1999.
Presidents Fellowship, GIT, 1994 – 1998.

Professional Experience:

Associate Professor, August 2006 – present.
Assistant Professor, January 2001 – July 2006
Department Executive committee, Director of Graduate Studies, NSD Chair
Howard University, Washington, D.C. 20059
Department of Chemistry

- Instruct students in Organic Chemistry and Physical Organic Chemistry
- Synthetic organometallic chemistry for applications in catalysis and the preparation of electronic materials.
- Synthesis and development of phosphorus based cross-linkers for Hemoglobin.
- Manage 15-20 MS and PhD students in the department of chemistry.

Senior Chemist, June 1999 – January 2001.
Union Carbide Corporation, Charleston, WV.
Catalyst Skill Center, Research and Development Department.

- Synthesis, evaluation and development of transition metal catalysts for use in the preparation of polyester monomers.
- Development of transfer hydrogenation and direct olefin hydration catalyst technology.

Publications

1. W.S. Rees, Jr., O. Just, S. L. Castro, and J. S. Matthews "Synthesis and Magnetic and Structural Characterization of the First Homoleptic Lanthanide β -Ketoiminate," *Inorg. Chem.*, **2000**, 39, 3736.
2. J. S. Matthews, and W.S. Rees, Jr., "Group 2 Element Precursors for the Chemical Vapor Deposition of Electronic Materials," *Advances in Inorganic Chemistry*, Vol. 50; Academic Press, **2000**; pp. 173-192.
3. J. S. Matthews, O. Just, B. Obi-Johnson, and W.S. Rees, Jr., "CVD of MgO from a Mg(β -ketoiminate)₂: Preparation, Characterization, and Utilization of an Intramolecularly Stabilized, Highly Volatile, Thermally Robust Precursor," *Chem. Vap. Deposition*, **2000**, 6, 129.
4. O. Just, B. Obi-Johnson, J.S. Matthews, D.M. Levermore, T. Jones, and W.S. Rees, Jr., "Design, Synthesis and Characterization of Precursors for Chemical Vapor Deposition of Oxide-Based Electronic Materials," *Materials Research Society Symposium Proceedings*, **2000**, 606, 3.
5. T. S. Ouattara, R. Butcher and J. S. Matthews, "Synthesis and Characterization of bis[4-N-(cyclohexylimino)-2-pentanonato]magnesium(II)," *J. Coord. Chem.*, **2005**, 58, 461.

6. J. S. Matthews, T. S. Ouattara and R. J. Butcher, "bis[4-N(butylimino)-2-pentanonato]magnesium(II)," *Acta. Cryst. E.*, **2005**, E61, m2598 - m2600.
7. Jason S. Matthews, Tantiboro S. Ouattara and Raymond J. Butcher, "Bis[4-(N-1-ethylpropylimino)pentan-2-onato]zinc(II)," *Acta. Cryst. E.*, **2006**, E62, m867-m869.
8. Jason S. Matthews, Olamide O. Onakoya, Tantiboro S. Ouattara and Raymond J. Butcher, "Synthesis and characterization of zinc AP-MOCVD precursors and their utility in the growth of ZnO," *Dalton Transactions*, **2006**, 31, 3806-3811.
9. Olamide O. Onakoya, K.O. Johnson, R. J. Butcher and J.S. Matthews, "bis[Methyl (3-propylamino) but-2-enoato] Zinc," *Acta. Cryst. E.*, **2012**, E67, m1692.
10. Jordan Holmes, Keneshia O. Johnson, B. Zhang, Howard Katz and Jason S. Matthews, "Chemical Vapor-deposition of ZnO films from β -ketoimines and Conversion to Semiconducting and Conducting Oxides," *Appl. Organometal. Chem.*, **2012**, 26, 267-272.
11. T.W. Kassa, N. Zhang, A.F. Palmer & J.S. Matthews, "Design, synthesis, and activity of 2,3-diphosphoglycerate analogs as allosteric modulators of hemoglobin O₂ affinity," *Artificial Cells, Nanomedicine, and Biotechnology*, 41:2, 109-115, **2013**.
12. O.O. Gbemigun, R.J. Butcher, and Jason S. Matthews, "Synthesis and Structural Characterization of β -Enaminoester Zinc Complexes," *Journal of Chemical Crystallography*, **2019**.
13. K.O. Johnson, H. Burgess, R.J. Butcher, and Jason S. Matthews, "Synthesis and Structural Characterization of β -Enaminoamide Zinc Complexes," *Journal of Chemical Crystallography*, 51(2), 251-256, **2021**.
14. K.O. Johnson, A. Brown, G. Farris, A. Starks, R.J. Butcher, and Jason S. Matthews, "Distorted zinc coordination polyhedra in bis (1-ethoxy-2-[[2-methoxyethyl] imino] methyl) propan-1-olato) zinc, a possible CVD precursor for zinc oxide thin films," *Acta Crystallographica Section E: Crystallographic Communications*, 78(3), **2022**.
15. Nyesa A. Enakaya, Aniah Jefferson, Danielle Chew-Martinez and Jason S. Matthews, "Design, Synthesis, and Evaluation of Allosteric Effectors for Hemoglobin," *Accts. of Chemical Research*, <https://doi.org/10.1021/acs.accounts.2c00590> **2023**.
16. Nyesa A. Enakaya, Tanmay Salvi, Taylor Weatherly, Pedro Cabrales, Andre F. Palmer, and Jason S. Matthews, "Synthesis and assessment of 5-hydroxymethyl furfural derivatives as allosteric effectors of hemoglobin and anti-sickling agents" *in preparation*

Presentations

1. J. S. Matthews and F. Ayorinde, "Mass Spectrometric and NMR Analysis of Vernonia oil and its derivatives," National Science Foundation Diversity Conference, March 1994, Washington DC.
2. J. S. Matthews, K. Dippel, U. Lay and W. S. Rees, Jr., "The Design and Synthesis of Multidentate Ether and Amine Substituted Cyclopentadienes for Group 2 Organometallics," Georgia Institute of Technology, Molecular Design Institute Kick-Off Meeting, November 1995, Atlanta, GA.
3. J. S. Matthews and W. S. Rees, Jr., "An Exploration of the Ligand Encapsulation Motif of Vapor Pressure Control: Design and Synthesis of Multidentate Amine-Substituted Cyclopentadienes for Use with Barium," Florida Advanced Materials Chemistry Conference, March 1996, Palm Coast, FL.
4. J. S. Matthews and W. S. Rees, Jr., "The Synthesis and Characterization of Lewis Base Stabilized Group 2 Organometallic Compounds," Florida Advanced Materials Chemistry Conference, March 1997, Palm Coast, FL.
5. J. S. Matthews and W. S. Rees, Jr., "The Design and Synthesis of Barium Precursors for Use in the Preparation of Superconducting Metal-oxides," Georgia Institute of Technology, Molecular Design Institute Second Annual Meeting, April 1998, Atlanta GA.
6. J. S. Matthews, "Design and Synthesis of Volatile Compounds For Use in the Fabrication of Electronic Materials," Arizona Chemical Company-International Paper, November 1998, Panama City Beach, FL
7. J. S. Matthews, "Design and Synthesis of Volatile Compounds for Use in the Fabrication of Electronic Materials," Union Carbide Corporation, December 1998, Charleston, WV.
8. J. S. Matthews and W. S. Rees, Jr., "Chemical Vapor Deposition of MgO," Ninth Biennial Workshop on Organometallic Vapor Phase Epitaxy, May 1999, Ponte Vedra Beach, FL.

9. Kimberly Jernigan and J. S. Matthews*, "Parallel Synthesis & Characterization of Novel β -ketoimines For Use in the Preparation of Chemical Vapor Deposition Precursors," Howard University, McNair Scholars Summer Research Conference, July 2002, Howard University, Washington D.C.
10. Angela Thomas and J. S. Matthews*, "Synthesis and FT-IR Analysis of Model Iridium Dicarbonyl Compounds for Use in Determining the Electron Donating Ability of Various β -Ketoiminate Ligands," Norfolk State University, 2nd Annual Louis Stokes Alliance for Minority Participation Conference, July 2002, Norfolk, VA.
11. Angela Thomas and J. S. Matthews*, "Synthesis and FT-IR Analysis of Model Iridium Dicarbonyl Compounds for Use in Determining the Electron Donating Ability of Various β -Ketoiminate Ligands," Science and Engineering Alliance Conference, Fall 2002, Rockville, MD.
12. Tsione Solomon and J.S. Matthews*, "Synthesis and Characterization of Novel β -Ketoiminate Catalysts for Use in the Alternating Copolymerization of CO₂ and Epoxides," Norfolk State University, 2nd Annual Louis Stokes Alliance for Minority Participation Conference, July 2002, Norfolk, VA.
13. Akida Matthews and J. S. Matthews*, "Parallel Synthesis of β -ketoimines and their use in α -olefin Polymerization Catalysis, Pfizer Diversity Conference, Pfizer inc., August 2002, Ann Arbor, Michigan.
14. Kimberly Jernigan and J. S. Matthews*, "Parallel Synthesis & Characterization of Novel β -ketoimines For Use in the Preparation of Chemical Vapor Deposition Precursors," Pennsylvania State University, McNair Scholars Summer Research Conference, August 2002, State College, PA.
15. Tsione Solomon and J.S. Matthews*, "Parallel Synthesis and Characterization of Novel β -Ketoimines for Use in the Preparation of Zinc Based Polymerization Catalysts.," Howard University, Annual Board of Governors Meeting, September 2002, Washington, DC.
16. Angela Thomas and J. S. Matthews*, "Parallel Synthesis & Characterization of Novel β -ketoimines For Use in the Preparation of Chemical Vapor Deposition Precursors," Howard University, Annual Board of Governors Meeting, September 2002, Washington, DC.
17. J. S. Matthews, "Tuning the Lewis-Acidity of Metals for Applications in Materials Chemistry," Howard University, September 2002, Washington, D.C.
18. Kimberly Jernigan and J. S. Matthews*, "Parallel Synthesis & Characterization of Novel β -ketoimines For Use in the Preparation of Chemical Vapor Deposition Precursors," Ronald E. McNair 11th Annual Conference and Graduate School Fair, McNair Scholars Summer Research Conference, November 2, 2002, Delavan, WI.
19. Tsione Solomon and J. S. Matthews*, "Parallel Synthesis and Characterization of Novel β -Ketoimines for Use in the Preparation of Zinc Based Polymerization Catalysts," Science and Engineering Alliance Conference, Fall 2002, Rockville, MD.
20. Akida G. Matthews, Tsione Solomon, Angela Thomas and Jason S. Matthews, "Parallel synthesis and characterization of β -ketoimines for applications in catalysis," 225th ACS National Meeting, New Orleans, LA, United States, March 23-27, 2003.
21. J. S. Matthews, "CVD of Electronic Materials," George Mason University, March 25, 2004, Washington, D.C.
22. T.S. Ouattara and J.S. Matthews, "Synthesis and Characterization of Magnesium and Zinc β -ketoimines for use as MOCVD Precursors," 2005 NOBCChE Meeting Orlando Florida.
23. J. S. Matthews, "Ligand Encapsulation for Vapor Pressure Enhancement of Chemical Vapor Deposition Precursors," Carnegie Mellon University, April 7, 2005, Pittsburgh, PA.
24. T.S. Ouattara and J.S. Matthews, "Design and synthesis of volatile magnesium(II) and zinc(II) β -ketoiminate complexes: MOCVD precursors of MgO and ZnO thin films," 230th ACS National Meeting, Washington DC, United States, August 28-September 1, 2005.
25. O.O. Onakoya and J.S. Matthews, "Synthesis and characterization of beta-enaminoesterate Zn complexes for the metal-organic chemical vapor deposition (MOCVD) of ZnO thin films," 230th ACS National Meeting, Washington DC, United States, August 28-September 1, 2005.
26. J. S. Matthews, β -difunctional Ligands and their Applications in Chemical Vapor Deposition and Catalysis," Howard University, September 30, 2005, Washington DC.
27. J. S. Matthews, "The Utility of β -Difunctional Ligands in Atmospheric Pressure Chemical Vapor

- Deposition and Catalysis,” Morgan State University, February 10, 2006, Baltimore, MD.
28. Ouattara, Tantiboro S., Onakoya, Ola O., Matthews, Jason S. “Parallel synthesis of zinc and magnesium alkoxy β -difunctional ligands and their effect on CO₂ incorporation in the copolymerization of CO₂ with epoxides,” 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006.
 29. Hercules, William, Matthews, Jason S., Harkless, John A. W. “Computational study of the charge distribution and bond strengths of β -difunctional complexes,” 232nd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006.
 30. J.S. Matthews and O.O. Onakoya, “ β -difunctional ligands for the APMOCVD of ZnO,” 34th NOBCChE Annual Conference, Orlando, FL, USA April 1-7, 2007.
 31. J.S. Matthews, “Novel Single Source Precursors for the APMOCVD of ZnO,” Georgia Institute of Technology, Atlanta, GA, April 18, 2007.
 32. Felicia McClary and Jason Matthews, “Precursors for Use in the Fabrication of Metal Oxides and Metal Nitrides,” 236th ACS National Meeting, Philadelphia, PA, United States, Aug. 17-21, 2008.
 33. Tigist Kassa and Jason Matthews, “Synthesis of Novel Hemoglobin Crosslinkers Based on 2,3-Biphosphoglycerate,” 236th ACS National Meeting, Philadelphia, PA, United States, Aug. 17-21, 2008.
 34. Tigist Kassa and Jason S. Matthews, “Design and Synthesis of Novel Phosphonate Analogs of 2,3-Diphosphoglycerate as Hemoglobin Modifier,” XIII International Symposium on Blood Substitutes and Oxygen Therapeutics, Boston, Massachusetts., July 2011.
 35. Courtney Cunningham and Jason S. Matthews, “The Design and Synthesis of Novel Hemoglobin Cross Linkers for use as Blood Substitutes,” Massachusetts Institute of Technology (M.I.T.) June 19-21, 2011.
 36. Keneshia O. Johnson, Jordan Holmes, Bo Zhang, Howard E. Katz, Jason S. Matthews, “Synthesis and characterization of zinc β -ketoiminates and their use as MOCVD precursors”, ACS-MARM, University of Maryland College Park, USA May 21-24, 2011.
 37. Keneshia O. Johnson, Jordan Holmes, Bo Zhang, Howard E. Katz, Jason S. Matthews, “Zn bis β -difunctional complexes for the growth of ZnO thin films via metal organic chemical vapor deposition (MOCVD) for applications in microelectronics”, NOBCChE 38th Annual Meeting, Houston TX, April 19-22, 2011.
 38. Keneshia O. Johnson, Jordan Holmes, Bo Zhang, Howard E. Katz, Jason S. Matthews, “ZnO precursors for applications in microelectronics”. NSF-PREM Annual Meeting, Palmas de Mar, Humacao Puerto Rico, March 10-11, 2011.
 39. Oluwaseun Falola and Jason Matthews, “Evaluation of Zinc Based MOF for CO₂ Sequestration,” 43rd ACS-MARM Meeting, Baltimore, MD, United States, May. 31, 2012.
 40. Keneshia Johnson and J.S. Matthews, “Synthesis and Characterization of Magnesium and Zinc β -ketoiminates for use as MOCVD Precursors,” 2012 NOBCChE Meeting, Washington DC.
 41. Oluwaseun Falola and J.S. Matthews, “Synthesis and Characterization of Magnesium and Zinc β -ketoiminates for use as MOCVD Precursors,” 39th Annual NOBCChE Meeting, Washington DC, United States, September 24, 2012.
 42. Oluwaseun Falola, and J.S Matthews. “Further investigation of zinc based metal organic framework for CO₂ sequestration,” ACS Regional meeting, MARM 2012; University of Maryland, Baltimore; May 2012.
 43. Oluwaseun Falola and J.S Matthews, “Evaluation of zinc based metal organic framework for CO₂ sequestration,” Howard University Graduate School Symposium, April 2012.
 44. Brendan McMurtry, Crawford Taylor and Jason S. Matthews, “Growth of MoS₂ Atomic Layers,” NNIN Convocation, The Georgia Institute of Technology, August 11-14, 2013.
 45. John Cha, Paul Sabilla, Nicolas Garcia and Jason S. Matthews, “Progress Towards Molybdenum Disulfide Nanomaterials,” Cornell University, August 11-14, 2013.
 46. Nicolas Garcia, Paul Sabilla, John Cha and Jason S. Matthews, “Exfoliation and Synthesis of Molybdenum Disulfide Films,” Cornell University, August 11-14, 2013.
 47. Jason S. Matthews, “Novel Low-Cost and Environmentally-Friendly Synthesis of Core-Shell Structured Micro-Particles for Fossil Energy Applications,” DOE-NETL Kickoff Meeting, September 23, 2013.
 48. Jason S. Matthews Abu Kamara and Cheng Chung, “Synthesis of Core-Shell Structured Micro-Particles for Fossil Energy,” DOE-NETL Research Review Meeting, Pittsburgh, PA, May 15,

- 2014.
49. A.B. Kamara, "Novel low cost environmentally friendly synthesis of core shell micro particles for fossil energy applications". 41st NOBCChE Annual Conference, September 23-26, 2014. New Orleans, LA.
 50. Abu Kamara and Jason Matthews, "Novel Low-Cost and Environmentally – Friendly Synthesis of Core-Shell Structured Micro-Particles for Fossil Energy Applications," DOE-NETL Research Review, Pittsburgh PA, April 27-30, 2015.
 51. Nyesa Enakaya and Jason S. Matthews, "The Synthesis and Assessment of 5-HMF Derivatives for the Treatment of Sickle Cell Disease," 265th ACS National Meeting, Indianapolis, Indiana, United States, March 24-28, 2023.
 52. Aniah Jefferson, Brooklynn Harris, Danielle Chew-Martinez and Jason S. Matthews, "Synthesis and Assessment of 5-HMF Derivatives as Allosteric Effectors of Hemoglobin and Anti-Sickling Agents," 265th ACS National Meeting, Indianapolis, Indiana, United States, March 24-28, 2023.

Graduate Students:

Tantiboro Ouattara, PhD. Chemistry 2005

Olamide Onakoya, Ph.D. Chemistry 2006

Tigist Kassa, Ph.D. Chemistry 2013

Keneshia Johnson, Ph.D. Chemistry 2014

Oluwaseun Falola, Ph.D. Chemistry 2016

Abu Kamara, Ph.D. Chemistry 2017

Nyesa Enakaya, Ph.D. Chemistry 2023

Total number of post-doctoral fellows: 0

Total number of doctoral students graduated: 7

Courtney Cunningham, MS Chemistry 2012

Total number of masters students graduated: 1

<u>Research Associates</u>	<u>Year</u>	<u>Current</u>
<u>Undergraduates</u>		
Ms. Ife Rodney	Summer 2001	HU Med. School
Ms. Shari Madkins	Fall 2001	U. Mich. Pub. Hlth
Ms. Akida Matthews	Spring 2002 – Spring 2004	DCPS Science Teacher
Ms. Tsione Solomon	Spring 2002-Fall 2002	QC Mgr. Anheuser-Busch
Ms. Dorothy Suebang	Spring 2002	HU Pharmacy School
Dr. Angela Thomas	Spring 2002 – Spring 2004	VP GE Healthcare
Mr. Alex Alo	Summer 2002	Chemical Technician
Ms. Kimberly Jernigan	Summer 2002	Medical Doctor
Ms. Melat Tes	Summer 2003	University of MD
Ms. Aspen Steib	Spring 2004	CNN
Ms. Randi Bridges	Spring 2004 – Spring 2006	Pharmacist
Ms. Alina Anyette	Summer 2006	Smith College
Ms. Natasha Gill	Fall 2006-Spring 2007	Johnson and Johnson
Ms. Oluwatomi Oluwatola	Spring 2006-2009	Medical Doctor
Mr. Shawn Munroe	Fall 2007-Spring 2008	Medical Doctor
Mr. Andrew Wilson	Fall 2007-Spring 2008	Cambridge U Grad. Sch
Ms. Constance Bezangeng	Summer 2008	University of MD
Ms. Constance Trower	Summer 2008	
Ms. Faith Ann Brown	Spring 2007- Spring 2009	VA Hospital Res Ctr
Ms. Rachel Clarke	Spring 2009-Fall 2009	Asst. Prof FIU
Ms. Dominique Knox	Summer 2010	Dentist
Ms. Camille Stanton	Summer 2010	Genentech
Mr. Jordan Holmes (U)	Summer 2008-Summer 2010	V. Tech. Grad Sch
Ms. Afia Wilson (U)	Spring 2011	Medical School
Ms. Channel Boyd	Spring 2012	USUHS Med School
Ms. Ciara Snipes	Summer 2012	Wise High School
Mr. Brendan McMurtry (REU)	Summer 2013	UMBC

Mr. Nicholas Garcia	Summer 2013	Gallaudet University
Mr. John Cha	Summer 2013	Gallaudet University
Mr. Alvan Hurley	Fall 2014 – Spring 2015	Ambra Healthcare
Ms. Alyssa Buchannan	Spring 2013–Spring 2015	Deloitte
Mr. Trevor Wright	Spring 2014–Spring 2015	LSU PhD Prog.
Ms. Ayza Croskey	Fall 2018 – Spring 2020	U. of Mich. PhD prog.
Ms. Shelby Peterkin	Fall 2018 – Fall2019	Purdue PhD prog.
Ms. Adesua Ojeifoh (U)	Summer 2012	Chem. Eng
Ms. Amal Hutchinson	Fall 2019 – Spring 2020	Howard U Medical School
Ms. Bria Crear	Fall 2019- Spring 2020	Temple U Medical School
Ms. Jasmine Anderson	Fall 2021 – Fall 2022	
Ms. Aniah Jefferson	Fall 2021 – current	UT Southwestern Medical Sch.
Ms. Ashanti Miller	Fall 2021 – current	
Ms. D’Lyssa Bailey	Fall 2021 – current	
Ms. Brooklyn Harris	Fall 2021 – current	
Ms. Lauren Lowe	Fall 2021 – Spring 2022	University of MD PhD
Ms Danielle Chew-Martinez	Fall 2022 – current	Columbia Medical School
Ms. Ashlyan Baker	Fall 2021 – Spring 2022	Rice U Chem PhD prog
Ms. Siara Davis	Fall 2021 – Spring 2022	
Ms. Natalie Fort	Fall 2023	
Ms. Breonna Pippens	Spring 2023 – current	
Ms. Kennedy Chastang	Spring 2023 – current	
Ms. Fiona Williams	Spring 2023 – current	
Ms. Maya Johnson	Spring 2023 - current	

Graduate Students

Olamide Onakoya, PhD	Summer 2001-Spring 2007	Bayer Material Science (Senior Chemist)
Tantiboro Ouattara, PhD	Winter 2002 – Spring 2006	Brewer Science, MO (Senior Chemist)
Tigist Kassa, PhD	Summer 2007-Spring 2012	FDA, White Oak MD (Research Scientist)
Courtney Cunningham, MS	Spring 2009- Spring 2012	EKA Chem, Bahamas (Chemist)
Keneshia Johnson, PhD	Fall 2008- Spring 2013	Alabama A&M Univ (Asst. Prof.)
Oluwaseun Falola, PhD	Fall 2009- Spring 2015	EPA (Regulatory Chemist)
Abu Kamara, PhD	Fall 2013- Spring 2017	South Carolina State U. (Asst. Prof.)
Nyesa Enakaya, PhD	Fall 2017- May 2023	Trinity Washington University (Asst. Prof.)
Jaden Rouse	Spring 2023 -	

Proposals Funded

Proposal	Amount	yrs	Status
(GaTech) Facilitating Careers in Engineering and Science (FACES) Career Initiation Grant (2001) PI	\$20,000 (\$20,000)	2	funded
(Howard U.) Tuning the Lewis Acidity of Metal Centers via Ligand Modification for Applications in Catalysis and Electronic Materials (2001) PI	\$50,000 (\$50,000)	2	funded
(Pfizer) Undergraduate Research Program at Howard U (2002-2004) Co-PI	\$24,000.00 (\$24,000)	2	funded
(NSF) MRI: Acquisition of a Gas Chromatograph-Mass Spectrometer to Support Training and Research at Howard (2004) Co-PI	\$90,386	1	funded
(Howard U.) Fund for Academic Excellence; A Proposal for Enhancement of Teaching to Improve Chemical Education at Howard University (2005) Co-PI	\$6000	1	funded
NSF , “X-ray Diffraction for Research and Teaching.”, <i>(submitted 1/27/06) Co-I</i>	\$374,480	2	funded
(NSF) , “Howard/Hopkins/Prince Georges Community College – Partnership for Research and Education in Materials (PREM),” <i>(submitted 12/12/05) Co-I</i>	\$2,905,612 (\$300,000)	5	funded
(NSF) , “Howard/Hopkins/Prince Georges Community College – Partnership for Reduced Dimensional Materials (PRDM),” <i>(submitted 10/25/11) Co-I</i>	\$3,494,783 (\$300,000)	5	funded
(DOE) “Novel Low-Cost and Environmentally-Friendly Synthesis of Core-Shell Structured Micro-Particles for Fossil Energy Applications” (submitted 2/4/2013) PI	\$200,000	3	funded
(NIST) “Professional Research Experience Program – Material Measurement Laboratory (PREP-MML)” (submitted 6/1/2012) Co-PI	\$1,490,000	3	funded
(HCSC) – HUPUMMP PI (submitted 1/19/2019)	\$1,500,000	5	funded
(DOW Chemical) DOW-SURE co-PI (submitted 8/2021)	\$255,000	4	funded

Community Service

Faculty Advisor ACS Student Affiliates 2001-2013

Advisory Committee member for the Banneker Institute for Science and Technology (2004-2008)

Science Fair Judge: Community Academy Public Charter School

Head Coach for the Prince George Boys and Girls Club Basketball team (2008-13)

Head Coach for the Prince George Boys and Girls Club Baseball team (2008-13)

Educational Testing Service (PRAXIS Chemistry exam) 2008-2012

Educational Testing Service (GRE Chemistry Exam) 2009-2013

University and Chemistry Service

COAS-NSD Secretary 2005-2006

ACS Student Affiliates Advisor 2006-2013

Session Chair WBHR-LSAMP Undergraduate Research Conference (Sept. 11, 2001)
Advisory Board for 'In Chemistry' Magazine (2002-2003)
Graduate School APT Chair 2020
Graduate School Dean search committee
Graduate School grievance committee (2021)
COAS NSD Chair (2022-2024)

Journal Reviewer

Metallurgical Coatings and Thin Films
Journal of Materials Research
Monatshefte für Chemie

Proposal Reviewer

National Science Foundation proposal reviewer (March 2002)
American Chemical Society Peer Review Panelist (May 2002)
National Science Foundation proposal reviewer (November 2002)
National Science Foundation proposal reviewer (February 2003)
American Chemical Society PRF Reviewer (April 2003)
National Science Foundation MRI Panelist (May 2003)
National Science Foundation proposal reviewer (August 2003)
National Science Foundation proposal reviewer (December 2003)
Field Reviewer - NRL/ASEE Postdoctoral Fellowship Program (Feb 2007)
Reviewer – NSF Proposal Reviewer (March 2007)
Reviewer – NSF Proposal Reviewer (October 2007)
Reviewer – NSF Proposal Reviewer (October 2008)
Reviewer – NSF Proposal Reviewer (January 2009)
Reviewer – NSF Proposal Reviewer (March 2009)
American Chemical Society PRF reviewer (August 2011)
Reviewer -National Science Foundation Synthesis Panel (November 2011)
Reviewer – NSF HBCU-UP Panel Reviewer (December 2021)
ORAU-GEM Fellowship Reviewer (December 2022)