

CHERESE WINSTEAD

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EDUCATION

- PhD** Doctor of Philosophy (Ph.D.) in Analytical Chemistry May 2002
Virginia Polytechnic Institute & State University (Virginia Tech), Blacksburg, VA
Dissertation: "Extractant Impregnated Membranes for Cr(III) and Cr(VI) employing tricaprilmethylammonium chloride (Aliquat-336) and di-(2-ethylhexyl) phosphoric acid (DEHPA)"
Committee: Drs. Gary Long (Chair), Harold McNair (Co-Chair)
- MS** Hampton University, Analytical Chemistry May 1997
Thesis: "Sorption-Desorption Ion Exchange Mechanisms of Heavy Metal Uptake"
Advisor: Dr. Isai Urasa
- BS** Delaware State University, Department of Chemistry May 1995

HONORS AND AWARDS

- LEAD 21 Fellow** 2019-2020
This program seeks to develop leaders in land grant institutions and their strategic partners who link research, academics, and extension in order to lead more effectively in an increasingly complex leadership environment.
- Vice President Research Choice Award, College of Mathematics Natural Science, and Technology** 2012
This award recognizes scholarly research and/or creative activity engagement with collaborators or participants from other disciplines, institutions, campuses, private industry, or the general public.
- Fellow, Quality Education for Minorities (QEM) Network HBCU-UP Leadership Development Institute (LDI)** 2009
This aim of this program was to enhance the leadership and research capabilities of STEM junior faculty from underrepresented minority groups and build a community of emerging leaders in STEM at HBCUs
- Research Opportunity Award, The Pennsylvania State University** 2009
This program supports PUI faculty research, and allows faculty to work as visiting scientists at research-intensive organizations where they collaborate with other NSF-supported investigators

RESEARCH EXPERIENCE

Dissertation: Doctor of Philosophy (Ph.D.) in Analytical Chemistry 2002
Virginia Polytechnic Institute & State University (Virginia Tech), Blacksburg, VA
Advisor: Dr. Gary Long

- An innovative sampling technique employing extractant impregnated membranes was developed for the selective sorption and stabilization of specific oxidation states of chromium.
- Novel polymer-based selective ion traps employing the extractants tricaprilmethylammonium chloride (Aliquat-336) and di-(2-ethylhexyl) phosphoric acid (DEHPA) were used for the selective removal and enrichment of the anionic forms of Cr(VI) and cationic forms of Cr(III), respectively.

Thesis: Master of Science (M.S.) in Analytical Chemistry 1997
Hampton University, Hampton, VA

- A novel method for the removal of heavy metals from contaminated matrices were investigated exploiting ion exchange mechanisms.
- The exchangeable fraction of heavy metals was studied by monitoring the sorption-desorption processes which dictate the heavy metal uptake of contaminated sites as well as the concomitant release of calcium.

The Pennsylvania State University, State College, PA May-Aug 2009
Research Opportunity Award, Harry Allcock, Ph.D.

- Investigated synthesis and characterization of poly(dichlorophosphazene) prepared by melt ring-opening polymerization of the hexachlorocyclotriphosphazene. Poly[bis(2-hydroxyethyl-methacrylate)-phosphazene] and poly[(2-hydroxyethyl-methacrylate)-graft-poly(lactic-acid)-phosphazene] obtained by nucleophilic condensation reactions. The properties of the synthesized copolymers were assessed by FTIR, ¹H-NMR and ³¹P-NMR, thermal analysis (DSC-TGA), and electron microscopy (SEM).

PROFESSIONAL EXPERIENCE

Dean, College of Agriculture, Science & Technology (CAST) 2021- Present
Full Professor, Delaware State University, Dover, DE (2008-)

Academic Dean in the College of Agriculture, Science & Technology (CAST) at a public historically black college & university that offers baccalaureate and graduate degrees to over 5,000 students. Provided administrative leadership and managerial supervision for 9 academic departments, five doctoral degree programs, an institute and two centers. Transitional leadership position that reports to the Provost and Executive Offices with direct relationships to University Senior Executive members: Associate Vice Presidents, Chief Academic Officers, Chief Enrollment Officers, Chief Student Success Officers, Chief Enrollment Officers and Director of Admissions. Provided tactical support for the implementation of DSUs priority Strategic Initiatives. Cultivated strategic institutional partnerships that broadened the programmatic reach of the College. Supported student effectiveness and strategic enrollment planning process; identified strategic opportunities for

development to advance DSUs academic priorities. Served as a key liaison with College units to support the implementation of the Center for Global Equity Inclusion & Civil Rights. Collaborated with members of the Provost's Leadership Team and Presidents Office on all strategic initiatives to maximize academic effectiveness and impact. Shaped the College's external relationships with community stakeholders from state and city government, educational institutions, service providers, allied health professions, and civic organizations. Leadership and management portfolio of over 860 students and over 120 faculty/staff members.

Chair, Department of Chemistry 2014- Present
Associate Professor, Delaware State University, Dover, DE (2008-)

Assisted the Dean/Provost and other units of higher administration through the budget and planning process, scheduling, program plans and estimates of resources needed to carry out department functions. Provided system-wide leadership in furthering Administration's academic priorities and campus efforts to improve access, retention, and success of all students. Member of the Dean's Executive Leadership Team and serve as the principal for chemistry initiatives related to research, teaching, and service including program development, accreditation, outreach and revenue-generating activity with Administration partners, Chief Academic Officers and College Deans/Associate Deans. This collaboration includes the Offices of Student Services and the Student Success representing University Centers, Comprehensive Colleges including Agricultural, Science and Technology, Early College High School (ECHS), and Community Colleges to advise on critical issues that advance student centric priorities. Represented the Department to administration and external constituencies. Acted as an administrator of the department in accomplishing necessary managerial tasks. Monitored the daily progress in the areas of teaching, research, and service goals as set out in the departmental strategic goals. Leadership and research management portfolio include an operational budget of more than \$18 million.

Major Accomplishments

- Secured external funding (NSF, DoD, NIH, EPA) for the Department (over \$18 million)
- Assisted MoU agreement with USAID towards the establishment of a joint institute (Center for Global Equity Inclusion & Civil Rights).
 - Established revenue generating activity water quality lab supported by the EPA as well as hemp analytical lab.
 - Established education collaborative partnerships to widen curriculum and enhance faculty and student's educational teaching and research experiences (Drexel University, University of Delaware Materials Science & Engineering).

Manager, Research & Development Laboratory (Analytical Division) 2003-2008
Whitford Worldwide, Chester, PA

Senior Level Manager at fluorochemical company with over 154 employees. Implemented the corporate vision to formally globalize the analytical lab; developed specific company-wide strategies that fostered international partnerships; led strategic planning and lab development and initiatives that promoted the objectives of Headquarters. Provided

leadership and worldwide laboratory coordination with executive team; maintained laboratory compliance, and supervised team of doctoral research scientists. Elevated the company's international presence in analytical testing through laboratory equipment acquisitions, internal and external relationships, and collaborations.

Major Accomplishments

- Supervised analytical projects of over 6 Ph.D. scientists. Investigated the presence of perfluorinated chemicals (PFCs) in consumer articles of manufacture.
- Presented analytical reports and findings of new and existing product lines.
- Managed the analytical database of product performance.
- Presented yearly progress reports at worldwide meetings.
- Assisted quality control and manufacturing in the maintenance and troubleshooting of production lines.

TEACHING EXPERIENCE

- **Associate Professor**, Department of Chemistry 2008- Present
Delaware State University, Dover, DE
 - Taught undergraduate general chemistry courses averaging 90 students per semester, covering the following topics: periodic table, stoichiometry, dimensional analysis, thermodynamics, etc,
 - Taught graduate polymer chemistry course averaging 8 students per semester, covering the following topics: routes of polymer synthesis, thermodynamics, characterization, processing & applications
 - Assisted in development of DESU Materials Chemistry concentration
 - Developed Chemistry PharmD 3+3 program
 - Chair of the Department External Review Committee conducted by the Middle States Commission of Higher Education
 - Annual Reports to the American Chemical Society in the maintenance of ACS Accreditation

Institution	Course	Title (Lecture/ Lab)	Role	Year
DESU	CHEM 469/569	Polymer Chemistry	Professor	2019
DESU	CHEM 202	Forensic Chemistry	Professor	2010-
DESU	CHEM 462/562	Chemical Toxicology	Team-taught	2017-
DESU	CHEM 406/511	Materials Chemistry	Professor	2016-
DESU	CHEM 191	University Seminar	Professor	2012-
DESU	CHEM 101/102	General Chemistry	Professor	2008-2012
DESU	CHEM 202	Forensic Chemistry	Professor	2009-2012
DESU	CHEM 362	Forensic Toxicology	Professor	2009

Program Development Forensic Chemistry

Developed B.S. program in Forensic Chemistry offering training in the theories and practical aspects of chemistry, with a focus on analytical techniques, and contributes to the development of both the practical aspects of forensic practice, as well as the training of future forensic practitioners. This program also meets the requirements for certification by the American Chemical Society, and fully prepares students to enter a professional career not only in forensic science but also in analytical chemistry, with direct relevance to any prospective employment positions requiring the precision and performance associated with forensic chemistry techniques.

Program Development Forensic Chemistry

Developed a unique joint effort between the DSU Department of Chemistry and University of Maryland Eastern Shore (UMES) and Howard University School of Pharmacy. The overall goal of this 3+3 program is to provide students with a baccalaureate training in chemistry and drug discovery in 3 years. After completion of the B.S. degree, pre-pharmacy students pursue the Pharm.D. degree for an additional 3 years by conducting core courses and research rotations with faculty. Pre-Pharmacy students apply for admissions for the PharmD graduate programs at UMES/Howard in their 3rd year.

Virginia Tech, Blacksburg, VA

Aug 1997 to May 2002

Teaching Assistant, Department of Chemistry

- Taught undergraduate General Chemistry Labs (101,102) averaging 120 students per semester, covering the following topics: titration, stoichiometry, dimensional analysis, thermodynamics, etc.
- Assisted quizzes, exams, and homework
- Coordinated grading and assessment of lab reports

RESEARCH FOCI

Research interests lie in the synthesis and surface modification of nanoscale systems. Our research is focused on the ‘tunable’ features of nanomaterials which can be compositionally controlled. Current studies are focused on the unique presence of nitrogen vacancy centers in nanodiamonds and ND application to catalysis in energy applications. Functionalized NDs are incorporated in nanosheet networks (NSN) to be employed in organic reactions for biomass conversion. These novel ND-NSN catalysts are being studied for their superior catalytic properties as compared to mesoporous silica nanomaterials. Additional studies are focused on the utilization of MXene composites in energy storage and optoelectronics. MXene composites are employed in intrinsically conductive polymers (ICPs) to enhance capacitance, energy storage, and optoelectronic properties.

TECHNICAL

- Chromatography: Analytical and preparative scale HPLC and GC, including troubleshooting on numerous platforms and software packages (Chemstation, Empower, Chromeleon). Reversed and normal phase, ion- exchange.
- Mass Spectrometry: MS, MS/MS (dual tandem) GC and LC

- Spectroscopy: Use of both Varian and Bruker Nuclear Magnetic Resonance (NMR) instrumentation and software, running and interpreting 1D and 2D NMR, Atomic Absorption (AA), Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES), Fourier Transform Infrared Spectroscopy (FTIR), (NMR), X-ray Photoelectron Spectroscopy (XPS), X-ray Diffraction (XRD).
- Microscopy: Scanning Electron Microscopy (SEM), Atomic Force Microscopy (SEM), Transmission Electron Microscopy (TEM), Confocal Laser Scanning Microscopy (CLSM), Focused Ion Beam Microscopy (FIB)
- Thermal: Differential Scanning Calorimetry (DSC), Thermal Gravimetric Analysis (TGA).

PUBLICATIONS

Winstead, C., Milligan, K., Lott L., Hyppolite L., Review: Biomimetic nanofibers in the ex vivo expansion of cord blood-derived hematopoietic stem cells. *Medical Research Archives*, [S.l.], v. 8, n. 7, july 2020. ISSN 2375-1924. doi: <https://doi.org/10.18103/mra.v8i7.2080>.

K. Milligan; C. Winstead, C; J. Smith, Preparation and physicochemical characterization of chitosan nanoparticles for controlled delivery of oxytocin, *International Journal of Pharmaceutical Sciences and Research*, 9 (4), 1430-1440, 2018.

Pushpika Katugampola, C. Winstead, Rheology and Thermal Studies of Stearoyl Chitosan Varying the Degree of Substitution, *Journal of Polymer and Textile Engineering*, 4 (1), pp 22-29, 2017.

Xiaolong Bia, Shoujun Yuan, Xiaojun Pan, C. Winstead, Qiquan Wang. Comparison, association, and risk assessment of phthalates. *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering*. Volume 50, Issue 14, 2015. <http://www.tandfonline.com/doi/full/10.1080/10934529.2015.1074482>.

P. Katugampola, C. Winstead, Rheological behavior and thermal stability of palmitoyl chitosan varying the degree of substitution, *International Journal of Pharmaceutical Science Invention*, 3(11), pp.24-32, 2014

P. Katugampola, C. Winstead, A. Adeleke, Thermal Stability of carboxymethyl chitosan varying the degree of substitution, *International Journal of Pharmaceutical Science Invention*, 3:5, pp 42-48, 2014

Pushpika Katugampola, C. Winstead. Rheological behavior and thermal stability of palmitoyl chitosan varying the degree of substitution. *International Journal of Pharmaceutical Science Invention (IJPSI)*. Volume 3, Issue 11, 2014. [http://www.ijpsi.org/Papers/Vol3\(11\)/D0311024032.pdf](http://www.ijpsi.org/Papers/Vol3(11)/D0311024032.pdf)

Conference Papers in Review

Winstead, C. and Lott, L. "Compositional Programming of Group IV Semiconductor Nanomaterials Toward Rationally-Designed Optoelectronic Properties," Proceedings of Materials Research Society (MRS), Nov. 28- Dec. 4, 2020.

PRESENTATIONS AND INVITED LECTURES

Winstead, C., "Fate and Transport of Per- fluoroalkyl Substances (PFAs)," Environmental Protection Agency (EPA) Headquarters, Region 3, Regional Program Meeting, Philadelphia, PA, April 5, 2018.

L. Lott, C. Winstead, An Investigation into the Aggregation Phenomena of Nanodiamonds, 256th American Chemical Society (ACS) National Meeting, Surface & Colloid Division, Sci-Mix (Invited), August 19-23, Boston, MA 2018.

L. Hyppolite, C. Winstead, Biopolymer Functionalized Liposomes for Enhanced Dispersion Stability of Nanovesicles, 256th American Chemical Society (ACS) National Meeting, Surface & Colloid Division, Sci-Mix (Invited), August 19-23, 2018, Boston, MA 2018.

L. Lott, C. Winstead, "Synthesis and Characterization of Nanodiamonds Functionalized with Amine and Carboxyl Groups," ERN Conference, February 21-23, Washington, DC, 2017.

Winstead, C, L. Lott, American Chemical Society (ACS) National Meeting, Advanced Materials, Technologies, & Processes, April 2-6th, 2017, San Francisco, CA (C. Winstead)

Winstead, C, L. Lott, American Chemical Society (ACS) Regional Meeting, Theme: Chemistry's Impact on the Global Economy, Aug. 20-24th, 2017, Washington, DC (Invited Sci-Mix)

Winstead, C, American Chemical Society (ACS) 253rd National Meeting, Aug 21-25, 2016, Philadelphia, PA

Winstead, C, American Chemical Society (ACS) 252nd National Meeting, Theme: Innovation from Discovery to Application, August 16 - 20, 2015, Boston, MA

Winstead, C.; Katugumpola, Pushpika. Rheological and Structural Studies of Carboxymethyl Derivatives of Chitosan, Time of Polymers International Meeting, AIP Conference Proceeding, Vol. 1599, p290, Ischia, Italy, June 21-26, 2014. (Oral)

Adeleke, Ayobami, Winstead, C., Chemical Modification of Chitosan via Carboxylation: Nanofibrous Constructs, Annual Biomedical Research Conference for Minority Students (ABRCMS), Nov. 13-16, Nashville, TN, 2013

Winstead, C., American Chemical Society (ACS) National Meeting, August 21 - 25, 2012, Philadelphia, PA, Theme: Materials for Health & Medicine

Smith, Jasmine; Winstead, C., Acyl Derivatives of Chitosan. Annual Biomedical Research Conference for Minority Student, (ABRCMS), Nov 7-10, San Jose CA, 2012

Winstead, C., Milligan, Kim. Nanoencapsulation of Oxytocin using Ionic Gelation," NanoMedicine International Conference, Nov 3-5, Shenzhen, China, 2011 (Invited Talk)

Samuel, Shani; Winstead, C., α -tocopherol encapsulation using β -lactoglobulin. 43rd American Chemical Society (ACS) Mid-Atlantic Regional Meeting (MARM), University of Maryland, Baltimore County, May 31 - June 2, 2012 (Poster)

Winstead, C. 42nd American Chemical Society ACS Mid-Atlantic Regional Meeting (MARM), University of Maryland, College Park, May 21-24, 2011 (Poster)

Winstead, C. " Microencapsulation of Pesticides using Alginate and Poly-L-lysine (PLL) Biopolymer Carriers, " American Chemical Society (ACS) Meeting (SERMACS) Richmond, VA Oct 25-28, 2011 (Poster)

Winstead, C.; Guess, Shakera, Microencapsulation of Gentamicin Sulphate via Spray Drying. 61st Southeastern Regional 43rd American Chemical Society (ACS) Meeting (SERMACS) Puerto Rico Convention Center, San Juan, Puerto Rico, Oct 21 - 24, 2009. (Oral)

Winstead, C.; Guess, Shakera. Microencapsulation of Gentamicin Sulphate. 41st American Chemical Society ACS Mid-Atlantic Regional Meeting (MARM), Wilmington, DE, April 10-13, 2010. (Poster)

Winstead, C., Influence of Industry in Graduate School and Career Paths. Bridge to the Doctorate Retreat, University of Delaware, College of Maritime Studies, Virden Center, Lewes, Delaware (2010) (Keynote Speaker, Invited Talk)

Winstead, C., 238th National Meeting, American Chemical Society, Washington, D.C., August 16, 2009.

GRANTS FUNDED

PI, USDA Center of Excellence in Emerging Technologies (Grant #2022-38427-37379)
\$2,000,000

PI, National Science Foundation Partnership for Research and Education in Materials (PREM) (NSF Award # 2122158) \$799,999 PI

PI, EPA Source Reduction Assistance Grant Program (SRA), "A Sustainable Approach for Water and Energy Resource Conservation (We ReCon) in Chemical Manufacturing" (2020-2022), \$45,713.00 (active)

PI, Department of Defense (DoD HBCU/MI) Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions Equipment/Instrumentation, "Chemical and Electrical Properties Mapping by Nano FT-IR" \$495,700.00 PI (completed)

PI, Department Of Defense (DoD HBCU/MI) Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions, "Compositional Programming of Group IV Semiconductor Nanomaterials Toward Rationally-Designed Optoelectronic Properties" \$590,037.00, Grant Award W911NF-18-1-0471 (active)

PI, NSF RISE: "Advanced Nanomaterials for Energy Research Applications (ANERA)," HRD Centers for Research Excellence in Science & Technology, National Science Foundation (NSF), PI \$999,246 (9/2015-8/2019). Award #1458980 (completed)

Key Personnel, HBCU-UP "Transforming Education through Active Learning (TEAL)" Education in Human Resources (EHR), \$1,800,000 (9/2017-8/2022) (active)

Co-PI, NIH COBRE "Expansion of Hematopoietic Stem Cells (HPSCs) on Multilayer Nanofiber Scaffolds," National Institute of Health (NIH) Dupont Nemours \$10,200,000 (2014-2019). Award #P20GM109021 (completed)

Co-PI, NSF NOYCE "Delaware State University Scholarships for Teachers in Mathematics & Science" National Science Foundation (NSF) \$1,199,999 (2012-2017). Award # 1240010 (completed)

Co-PI, NSF DSU S-STEM "Delaware Scholarships for Undergraduates in Science, Technology, Engineering, and Mathematics," National Science Foundation (NSF) \$600,000 (2013-2018). Award # 0965893 (completed)

Key Personnel, Center for Research and Education in Optical Sciences and Applications (CREOSA) & Optical Science Center for Applied Research (OSCAR) National Science Foundation (NSF), \$5,000,000 (completed)

Co-PI, "MARC U*STAR: A Vehicle for Institutional Change" National Institute of Health (NIH), \$2,500,000 (Completed)

PI, Delaware NASA Space Grant Consortium "Chemical and Polymer Functionalization of Nanodiamonds" \$50,000 2011-2012 (Completed)

PI, Delaware EPSCoR RH-2 CIBER Seed "Microencapsulation of Pesticides using Alginate (AG) and Poly-L-lysine (PLL) Biopolymer Carriers," \$35,000 (Completed)

PENDING

Funding Opportunity Announcement (FOA) W911NF-19-S-0013, Research and Education Program for Historically Black Colleges and Universities/Minority-Serving Institutions (\$5,000,000) Co-PI

DMR Partnerships for Research and Education in Materials Research (PREM) program titled “Soft Matter Research & Technology & Quantum Confinement Materials” \$4,000,000 (PI)

NSF Emerging Research Centers (ERC) titled, “NSF Engineering Research Center for Molecular Manufacturing of Multilayer films (MATTER)” \$3,500,000.00 Co- PI

Office of Naval Research (ONR) N00014-20-S-F007, Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) Program (PI)

NOT FUNDED

NSF Division of Materials Research (Co-PI), titled “Electrometabolomic Modeling of Microbial Fuel Cells (MFCs) using Alternative Proton Exchange Membranes (PEMs)” totaling \$353,247. This project was not funded but was developed to study high performance nanoporous modified membranes for electrometabolomic modeling of transport processes in microbial fuel cell technology (MFC) applications.

NSF Targeted Infusion Grant (Co-PI) was submitted to NSF to strengthen the development of an accredited Forensic Chemistry & Toxicology program at Delaware State University totaling \$299,997.00

NSF MRI (Co-PI) titled “MRI: Development of a fluorescence, scattering, and absorption instrument for structural and dynamical studies of nanoparticle-biogel systems,” was submitted to the Division of Biological Infrastructure, National Science Foundation (NSF) in the amount of \$372,490. This project aim was to merge three different tools -fluorescence, scattering, and absorption- to investigate and exploit the photophysical properties of diverse nanoparticles in structured complex media non-invasively, close to single-particle level, and simultaneously.

NSF RISE proposal submitted to NSF in the amount of \$995,341.00. This proposal, though not funded, was developed to enhance and strengthen the Department of Chemistry graduate program at Delaware State University by implementing a more thematic approach in the area of sustainable chemistry.

NSF GOALI/Collaborative Research proposal (PI) submitted to NSF titled “Advanced Oxidative Processes (AOPs) for the Removal of Organic Contaminants from Industrial Wastewater” in the requested amount of \$417,250.00. This project focused on an academic-industrial collaboration that utilized sustainable approaches to industrial wastewater treatment that serve to greatly enhance the efficiency and performance of organic contaminant removal processes.

NSF NRT-INFEWS—Sensing Natural Systems (Co-PI). This proposal combined the talents of researchers and students from universities in the state of Delaware to develop environmental sensors, deploy them in the field to make appropriate measurements, and turn the reported measurements into actionable data.

NSF Innovations in Graduate Education (IGE) Program (Co-PI) in the amount of \$3,000,000.00. The proposal titled, “The Inter-Institute Graduate Education in Materials Science (I-GEMS)” aimed to develop a new graduate education model which included the establishment of a new degree program, a MS in Nanoscale Technology that features hands-on experiential learning, industrial experience, and research-based training on state-of-the-art equipment.

Delmarva Power Climate Change Investment Initiative (2c2i) (Co-PI) launched by The Exelon Foundation and Exelon Corporation was created to fund teams that focus on clean energy and environment as a key piece of their business.

DISSERTATION/THESIS ADVISOR

Lewis Lott, Delaware State University, Department of Chemistry (Ph.D., Anticipated 2021)

Lindsey Hyppolite, Delaware State University, Department of Chemistry (Ph.D., Anticipated 2021)

Joshua Patterson, Delaware State University, Department of Chemistry (Ph.D., Anticipated 2023)

Lewis Lott, Delaware State University, Department of Chemistry (M.S., 2017)

Sabine Neal, Delaware State University, Department of Chemistry (M.S., 2016)

Pushpika Katugampola, Delaware State University, Department of Chemistry (Ph.D., 2014)

K. Milligan, Delaware State University, Department of Chemistry (Ph.D., 2012)

Shani Samuel, Delaware State University, Department of Chemistry (M.S., 2012)

Shakera Guess, Delaware State University, Department of Chemistry (M.S., 2010)

As Chair/primary advisor, I have supervised and guided the research of five (5) dissertations and four (4) thesis committees and (3) ad hoc dissertation committees. In addition, I have served as committee member for over 15 dissertation/thesis in the Department of Chemistry

PROFESSIONAL TRAINING

LEAD 21

2019-2020

This program seeks to develop leaders in land grant institutions and their strategic partners who link research, academics, and extension in order to lead more effectively in an increasingly complex leadership environment.

Quality Education for Minorities (QEM) Network HBCU-UP Leadership Development Institute (LDI)

2009

This aim of this program was to enhance the leadership and research capabilities of STEM junior faculty from underrepresented minority groups and build a community of emerging leaders in STEM at HBCUs

PROFESSIONAL AFFILIATIONS

Member, Materials Research Society (2020- Present)

Affiliate, The Pennsylvania State University (PSU) Materials Characterization Lab (MCL) (2010- Present)

Member, American Chemical Society (2008- Present)

Member, Society of Toxicology (2019-)

PROFESSIONAL SERVICE

SERVICE TO THE SCIENTIFIC COMMUNITY

Member, Science Coalition (Delaware Department of Education) (2011-2013)
Advisory Board Member, MRSEC, University of Delaware (2020-)
Advisory Board Member, NRT, University of Delaware (2020-)
Associate Director, Delaware NASA Space Grant Consortium (2013-)
Board Member, Reach Academy (2014-2016)
Louis Stokes Alliance Minority Participation (LSAMP), Judge (2010-)
Panel Reviewer, National Science Foundation, NSF HBCU-UP TIP (2020)
Panel Reviewer, National Science Foundation, NSF HBCU-UP TIP (2016)
Peer Reviewer, International Journal of NanoMedicine (2012-)
Panel Reviewer, National Science Foundation (NSF-REU) (2012-)
Panel Reviewer, National Science Foundation (MRI-DMR) (2011-)
Panel Reviewer, National Science Foundation (NSF-REU) (2012-)
Panel Reviewer, National Science Foundation (MRI-DMR) (2011-)
Panel Reviewer, National Science Foundation, NOYCE
Ad Hoc Reviewer, National Science Foundation (2020)
Advisor, Society of Toxicology (2019-)

SERVICE TO THE UNIVERSITY

President Search Committee, Delaware State University (2019)
Advisory Board Member, McNair Scholars Program (2012)
Faculty Senate Dept. Representative, Delaware State University (2008-2011)
Executive Board Member, MARC U*Star, Delaware State University, (2010-)
Advisory Board Member, Delaware State University's Science and Mathematics Initiative for Learning Enrichment (HBCU-UP SMILE) (2010-)
Bernard Harris ExxonMobil Summer Science Camp, Delaware State University (2009)
Girls Exploration in Mathematics and Science (GEMS), Delaware State University (2009)
Provost Search Committee, Delaware State University (2010)
MARC U*Star, Delaware State University, (2010-2015)

SERVICE TO THE DEPARTMENT

Chair, Chemistry Curriculum Committee, Delaware State University (2008-2011)
Gamma Sigma Upsilon Chemistry Honor Society, Advisor (2018-
American Chemical Society (ACS) local Student Chapter. Advisor
National Organization for the Professional Advancement of Black Chemists and Chemical
Engineers (NOBCChE), Advisor (2019-
Program Director, Forensic Chemistry, Delaware State University (2008-2011)
Graduate Committee, Member
Graduate Program Director, Department of Chemistry
Department External Program Review conducted by the Middle States Commission on
Higher Education, Committee Chair
ACS Department Periodic Review, Committee Chair (2013)

COMMUNITY SERVICE

Science Olympiad (2009)
Young Chemists Society (YCS), President (2008-)
Delaware for the Advancement of Science (DAAS), (2008-)
Helping Young People Excel (H.Y.P.E) (2008-)
Girls in STEM, Philadelphia, PA (2019)

REFERENCES

Harry L. Williams, Ed.D., President & CEO of the Thurgood Marshall College Fund
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Fax: 202.652.2934

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E-mail: athompson1@ncat.edu

Dr. Thomas Epps, Ph.D., Distinguished Professor
Director of the Center for Research in Soft matter & Polymers and the Thomas and Kipp
Gutshall Professor of Chemical & Biomolecular Engineering at the University of Delaware
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