

## **CURRICULUM VITAE**

**ALLISON C. AUGUSTUS-WALLACE, PhD, MS, MNS**

**Current Title:** Associate Professor – Research

**Business Address:** Louisiana State University Health Sciences Center – New Orleans  
Office of Diversity and Community Engagement  
Medical Education Building  
1901 Perdido Street  
Room 3101B  
New Orleans, LA 70112-2822

**Business Phone and Fax:** Phone: 504-568-3044  
Fax: 504-568-6319

**Business E-mail:** [awall1@lsuhsc.edu](mailto:awall1@lsuhsc.edu)

**Home Address:** 21 Camden Court  
Mandeville, LA 70471

**Cellular Telephone:** 504-722-8010

**Birthdate and Birthplace:** January 2, 1971  
Baton Rouge, Louisiana

**Spouse & Children:** Hugh Victor Wallace, III, M.Ed., M.H.A.  
(3 stepchildren and 2 stepchildren-in-law, 3 grand-stepchildren)

**Citizenship:** United States

**Education:**

<b>Undergraduate:</b>	Louisiana State University and A & M College Baton Rouge, Louisiana Bachelor of Science in biochemistry (Minors: zoology and political science)	1989-1994
<b>Graduate:</b>	Louisiana State University and A & M College Baton Rouge, Louisiana Master of Natural Science in biochemistry	1995-1997
	University of New Orleans New Orleans, Louisiana Master of Science in healthcare management (public health/epidemiology)	2000-2003

LSU Health Sciences Center – New Orleans  
School of Graduate Studies  
Department of Biochemistry and Molecular Biology  
New Orleans, Louisiana  
Doctoral Studies  
(Interrupted due to Hurricane Katrina)

2004-2005

University of Nevada, Las Vegas  
Department of Chemistry  
Las Vegas, Nevada  
Doctoral Studies  
(Interrupted due to death of research advisor)

2006-2009

LSU Health Sciences Center – New Orleans  
School of Graduate Studies  
Department of Biochemistry and Molecular Biology  
New Orleans, Louisiana  
Doctor of Philosophy

2010-2014

**Educational  
Fellowships:**

Award: Faculty Predoctoral Fellowship Award  
Sponsor(s): Ruth L. Kirschstein National Research  
Service/National Institutes of Health/  
National Institute of General Medical  
Sciences/Minority Access to Research  
Careers  
Title: Basic fibroblast growth factor (FGF-2)  
induces a pro-angiogenic response  
through the PAF receptor (the  
molecular switch for angiogenesis),  
which results in the activation of STAT3  
transcription factor, which leads to the  
upregulation of MMP14  
Award #: F-34-GM75615-01  
Amount: \$200,000 (\$40,000/year)  
Period: 5 years

2005

*This fellowship was awarded under the direction of Dr. Jay D. Hunt, III. It required that its recipient exhibit professional skills by developing and submitting a written proposal of the dissertation research project in the form of an NIH PHS 395 format. Due to Dr. Hunt's departure from LSUHSC – NO, I reapplied for this award with Dr. Arthur L. Haas, III, for project modification.*

Award: Faculty Predoctoral Fellowship Award 2005  
Sponsor(s): Ruth L. Kirschstein National Research Service/National Institutes of Health/National Institute of General Medical Sciences/Minority Access to Research Careers  
Title: Up-regulatory Metabolic Shifts and E1 Kinetics  
Award #: F-34-GM75615-01  
Amount: \$200,000 (\$40,000/year)  
Period: 5 years

*This fellowship was re-awarded under the direction of Dr. Arthur L. Haas, III. Although the funding was relinquished due to Hurricane Katrina, per the NIH/NIGMS I remain a faculty predoctoral fellow.*

Award: Diversity Graduate Student Supplemental Award 2009-2011  
Sponsor(s): National Institutes of Health/National Institute of General Medical Sciences  
Award #: 3R01GM034009-24S1  
Amount: \$99,323  
Period: 2 years

*Awarded to Dr. Arthur L. Haas, III, for my doctoral training.*

**Certifications:**

Trained Facilitator of Entering Research 2020-2025  
 The Wisconsin Institute for Science Education and Community Engagement (WISCIENCE) at the University of Wisconsin-Madison, with the Center for the Improvement Mentored Experiences in Research (CIMER).

***Purpose:*** To improve research mentoring relationships and learning experiences for trainees through the development, implementation, and study of evidence-based and culturally-responsive interventions. This initiative builds upon previous work funded by the National Science Foundation, Howard Hughes Medical Institute, and National Institutes of Health.

American Heart Association: Basic Life Support 2016-2018  
 Provider: Basic Life Support (CPR and AED Program) 2018-2020  
 eCard code: **185507988648**

Collaborative Institutional Training Initiative (CITI) Program 2017-2020  
 • Social & Behavioral Research – Basic/Refresher

- Curriculum Group
- Course Learner Group
- 1-Basic Course (Stage)

Collaborative Institutional Training Initiative (CITI) Program 2020-2023

- Social & Behavioral Research – Basic/Refresher
  - Curriculum Group
  - Course Learner Group
- Stage 2-Refresher Course/Group 2

Collaborative Institutional Training Initiative (CITI) Program 2020-2023

- Social, Behavioral, and Education (SBE) Sciences (RCR)
  - Responsible Conduct of Research
- 1-Basic Course (Stage)

Louisiana Board of Regents 2022  
 LSU – Baton Rouge  
 Graduate Certificate in Teaching in the Healthcare Professions (pending approval)

**Academic, Professional, and Research Appointments:**

Graduate Student Intern 1/Regulations Development 1995-1996  
 Louisiana State Department of Environmental Quality  
 Baton Rouge, Louisiana

Accession Laboratory Technician 2 1996-1997  
 Louisiana Reference Laboratory  
 Baton Rouge General Medical Center  
 Baton Rouge, Louisiana

Research and Development Laboratory Scientist 1997-1998  
 Tech 2000/Grant Chemical-Ferro Corporation  
 Baton Rouge, Louisiana

Laboratory Scientist 2, Volatile Organic Compounds Specialist 1998-1999  
 Louisiana State Department of Health and Hospitals  
 New Orleans, Louisiana

Faculty, Instructional Assistant – Biology 1999-2000  
 Faculty, Instructor of Biology 2000-2005  
 Dillard University  
 Department of Biology  
 New Orleans, Louisiana

Adjunct Faculty, Biology Instructor	1999-2000
Faculty, Instructor of Biology	2009-2010
Delgado Community College	
Department of Science and Mathematics	
New Orleans, Louisiana	
Assistant Professor – Research	2014-2019
Director, Program Development Research and Undergraduate Pipeline Programs for Diversity	
Louisiana State University School of Medicine	
Department of Medicine & Office of Diversity & Community Engagement	
New Orleans, Louisiana	
Associate Professor – Research	2019-present
Director, Undergraduate Academic Pipeline Programs for Diversity	
Louisiana State University School of Medicine	
Department of Medicine & Office of Diversity & Community Engagement	
New Orleans, Louisiana	

**Membership in Professional Organizations:**

- |   |              |
|---|--------------|
| • LSU Minority Student Pre-Professional Society                       | 1989-1991    |
| • American Chemical Society   | 1990-1994    |
| • American Association for the Advancement of Science                 | 2000-present |
| • NIH Women of Color Research Network                                 | 2012-present |
| • Association of Women in Science (Southern Louisiana/LSUHSC Chapter) | 2012-present |
| ○ Treasurer and Executive Board Member                                | 2016-2017    |
| • American Public Health Association                                  | 2012-present |
| • American Society for Biochemistry and Molecular Biology             | 2017-present |
| • AAMC, Group on Diversity and Inclusion                              | 2018-present |
| • National Association of Diversity Officers in Higher Education      | 2020-present |

**Awards and Honors:**

- |  |              |
|--|--------------|
| • Dillard University Outstanding Faculty Participation<br>for greatest number of service hours supplied towards tutorial services<br>National Science Foundation<br>Louis Stokes Louisiana Alliance for Minority Participation (NSF LS-LAMP) | 2001-2002    |
| • Sigma Iota Epsilon healthcare management honor society   | 2001-present |
| • Dillard University Outstanding Faculty Participation<br>for greatest number of service hours supplied towards tutorial services<br>NSF LS-LAMP   | 2002-2003    |
| • Southeastern Louisiana Girl Scouts of America Service Recognition Award  | 2003         |
| • Dillard University Outstanding Faculty Participation<br>for greatest number of service hours supplied towards tutorial services<br>NSF LS-LAMP   | 2003-2004    |

- Beta Beta Beta National Biological Honor Society 2003-present
- Dillard University Outstanding Faculty Participation 2004-2005  
for greatest number of service hours supplied towards tutorial services  
NSF LS-LAMP
- Golden Key International Honour Society 2008-present
- Participant (nominated and selected) 2017  
National Science Foundation/National Science Board Listening Session  
Underrepresented Minorities and Women:  
Opportunities and Challenges in STEM
- Nomination 2018-2020  
Outstanding Service to the Community  
LSUHSC-New Orleans, SOM Faculty Assembly
- Certificate of Recognition for providing Student Educational Opportunity 2019  
Florida State University Career Center

## **TEACHING EXPERIENCE, AND RESPONSIBILITIES**

### **Overview:**

My teaching experience, inclusive of curriculum development and grant-proposal creation and development, began over twenty years ago at Dillard University in New Orleans, Louisiana, and continues to serve as the foundation of my current role. My overarching administrative function at LSU is to promote diversity, equity, and inclusion (**DEI**), which I do as a faculty member in the School of Medicine's (**SOM**) Office of Diversity and Community Engagement (**ODCE**), formerly the Office of Minority Health and Education. This position affords me leadership opportunities to promote DEI, in the Schools of Medicine and Graduate Studies, and at the institutional level via three primary vehicles: (1.) grant acquisition, which includes significant curriculum and pipeline-program development for students from underrepresented and underserved backgrounds; (2.) interprofessional education; (3) leadership roles and memberships of various school and institutional committees to promote the DEI enterprise. Specific to the ODCE, I am responsible for the creation, development, coordination, and implementation of current and future educational pipeline programs and operations for DEI. This involves data collection, analysis, and reporting related to institutional diversity metrics for medical education, graduate medical education, and faculty. My work on the pipeline programs is an integral part of diversity recruitment in the School of Medicine. This affords me the opportunity to serve as the liaison between our office and Louisiana undergraduate institutions. In addition, I aid SOM student retention as the former co-director of our Incoming Medical School Students Pre-matriculation Program, for which I continue to provide Biochemistry instruction. In our School of Graduate Studies (**SGS**), I develop and facilitate undergraduate and graduate educational pipeline programs for the recruitment of underrepresented students interested in attending graduate school and/or medical school. In addition, Dr. Moerschbaecher appointed me to serve as a member of his Graduate Advisory Committee; in this capacity, I serve as a representative of alumni affairs for the SGS and of diversity affairs for the SOM and the SGS. In my current role, I am fortunate enough to have broken new

ground in the advancement of diversity, equity, and inclusivity on our campus; moreover, this position is a continuously developing one that provides opportunities for further growth and leadership as new institutional needs arise.

### Course/Program Directorships:

- Program Developer 2014-present  
Undergraduate Pipeline Programs for Diversity  
Office of Diversity and Community Engagement (ODCE)  
LSU School of Medicine

*In this role, I am responsible for the coordination and implementation of current and future ODCE programs and operations, which involves data collection, analysis, and reporting related to institutional diversity metrics for medical education, graduate medical education, and faculty, as well as the planning and evaluation of programs, projects, and services. Additionally, as the director and liaison between the ODCE and Louisiana undergraduate institutions, I create, develop, and facilitate undergraduate pipeline programs for the recruitment and retention of underserved/underrepresented minority students interested in attending medical school. Furthermore, I participate in the development and implementation of diversity-related medical-education curriculum.*

- Director 2015-2018  
Co-director 2018-2019  
Incoming Medical Student Pre-matriculation Program  
Office of Diversity and Community Engagement (ODCE)  
LSU School of Medicine

*Housed in our School of Medicine's ODCE, this well-established program has been under my direction since the spring/summer of 2015. In this capacity, I have the following responsibilities:*

- 1. Researched similar programs, developed and implemented a cohesive curriculum based on the new LSU School of Medicine medical-school curriculum;*
- 2. Created, developed, and implemented a student contract based on Family Educational Rights and Privacy Act (FERPA) regulations to track incoming medical students' academic progress;*
- 3. Instruct the Biochemistry Course: Provide lectures on how to learn and study biochemistry, including enzyme kinetics (Michaelis-Menten concepts), metabolism, and clinical application of biochemistry;*
- 4. Research and assess other U.S. medical school pre-matriculation programs to continue the development and growth of our own. Currently developing this research into a publication;*
- 5. Coordinate curriculum instruction, program colleagues' instructional materials, including usage of Moodle; campus facilities classroom reservations; and student IDs, parking, and housing for our incoming L1 medical school students.*

- Executive Project/Program Director 2016-2018  
Co-Principal Investigator 2017-2018  
Summer Health Professions Education Program (SHPEP)  
LSU Schools of Medicine, Dentistry, and Public Health

*I researched and created the programmatic proposal for this Robert Wood Johnson Foundation grant. This grant required reapplication every year, and I was responsible for writing both the original proposal and the reapplication, both of which were funded. This included developing the curriculum for the program, which was implemented in 2017. I continue to lead the ongoing development thereof, as well as that of the overall program.*

- Co-Program Director 2016-present  
NSF-Research Exposures for Undergraduates Program (REU)  
LSUHSC-New Orleans, School of Graduate Studies
- Co-Program Director 2017-present  
NIH-NIGMS-Post-baccalaureate Research Education Program (PREP)  
LSUHSC-New Orleans, School of Graduate Studies
- Creator-Facilitator 2018-present  
Diversity, Inclusion, and Equity Workshop for Graduate Students  
LSUHSC-New Orleans, Professional Development Workshop
- Executive Project/Program Director 2019-present  
Tiger Scholars Undergraduate Summer Academic Enrichment Program  
LSUHSC-New Orleans, School of Medicine

*I created and developed this undergraduate summer academic enrichment program, including its curriculum, to replace to the Robert Wood Johnson Foundation, SHPEP. Currently, this program is funded by the SOM, Dean's Office; external funds are being sought actively.*

**Curriculum Development/Implementation:**

- Pre-Dental School Program Curriculum 2001-2005  
Dillard University

*As chair of the Dental School Placement Committee and a pre-Dental School advisor, I led the research into the program development and spearheaded the creation, development, and implementation of a cohesive program curriculum based on the curricula of other dental schools.*

- Incoming Medical Student Pre-matriculation Program 2015-present

LSU School of Medicine

*See the description above.*

- Summer Health Professions Education Program Curriculum 2016-2018  
LSU Schools of Medicine, Dentistry, and Public Health

*See the description above.*

- Co-Program Director 2016-present  
NSF-Research Exposures for Undergraduates Program (**REU**)  
LSUHSC-New Orleans, School of Graduate Studies

*Responsibilities include Programmatic Curriculum Development.*

- Co-Program Director 2017-present  
NIH-NIGMS-Post-baccalaureate Research Education Program (**PREP**)  
LSUHSC-New Orleans, School of Graduate Studies
- Co-Course Director, **INTER 100** and **INTER 101** 2018-present  
NIH-NIGMS-Post-baccalaureate Research Education Program (**PREP**)  
LSUHSC-New Orleans, School of Graduate Studies

*Responsibilities include Programmatic Curriculum Development with direct development of PREP scholars' specific courses beginning 2019.*

- Co-Course Director, Foundations in Neuroscience 2020-present  
NIH-NINDS and the National Eye Institute: Enhancing Neuroscience Diversity  
through Undergraduate Research Education (**ENDURE**)  
LSUHSC-New Orleans, SOM, Office of Diversity & Community Engagement (ODCE) &  
School of Graduate Studies

*Responsibilities include Programmatic Curriculum Development with direct development of ENDURE scholars' specific courses beginning 2020.*

### **Formal Course Responsibilities:**

- Instructional Assistant, Biology 1999-2000  
Instructor of Biology 2000-2005  
Dillard University  
New Orleans, Louisiana
  - Undergraduate biology lectures and labs (majors and non-majors)  
Biology 111, 111L, 112, 112L, 101
  - Undergraduate anatomy and physiology lectures and labs  
Biology 201, 201L, 202, 202L

- Undergraduate biology senior seminar  
Biology 411, 412
- Graduate Assistant (Ph.D. student) 2006-2008  
University of Nevada, Las Vegas  
Las Vegas, Nevada
  - Undergraduate organic chemistry laboratory  
Chemistry 241L, 242L
  - Undergraduate biochemistry laboratory  
Chemistry 472L
- Instructor of Biology 1999-2000 and  
2009-2010  
Delgado Community College  
New Orleans, Louisiana
  - Undergraduate biology lectures and labs (majors and non-majors)  
Biology 141, 142, 143, 144
  - Undergraduate nutrition  
Biology 114
- Graduate Assistant (Ph.D. student) 2010  
LSU School of Graduate Studies  
New Orleans, Louisiana
  - Graduate biochemistry lectures on nucleic acid metabolism  
Biochemistry 201
- Assistant Professor – Research  
LSU School of Medicine  
New Orleans, Louisiana
  - Lecturer on concept maps in biochemistry 2015  
Medical Biochemistry
  - Lecturer on biochemistry 2015-present  
Pre-matriculation Program for incoming medical students
  - Case-study Facilitator 2016, 2017  
Interprofessional Education Day  
Center for Interprofessional Education and Collaborative Practice
  - Instructor 2016-2018  
Scientific Critical Reading, Thinking, and Analysis  
Summer Health Professions Education Program

*I designed and created this course, in which I taught students the active, critical-reading skills necessary for improved critical analysis, reading comprehension, quantitative reasoning, and study skills in the basic sciences and quantitative-analysis subjects. In each basic-science and quantitative subject the students take thereafter, the instructors reinforce the applicability of these skill sets to the particular subject and to all academic subjects, thereby improving individual student performance and self-efficacy.*

- Facilitator 2017-present  
Interprofessional Education TEAM-UP Program

*This program groups students from all six of the schools in the Health Sciences Center to foster interaction and learning for how their respective future careers intersect. As a facilitator therein, I work with two groups at a time for a two-year period.*

- Co-Course Director, **INTER 100** and **INTER 101** 2018-present  
NIH-NIGMS- Post-baccalaureate Research Education Program (**PREP**)  
LSUHSC-New Orleans, School of Graduate Studies

*Responsibilities include programmatic curriculum development of PREP specific courses.*

- Associate Professor-Research 2019-present
  - Co-Course Director, **INTER 100** and **INTER 101**  
NIH-NIGMS- Post-baccalaureate Research Education Program (**PREP**)  
LSUHSC-New Orleans, School of Graduate Studies

*Responsibilities include programmatic curriculum development of PREP specific courses.*

- Co-Course Director, Foundations in Neuroscience 2020-present  
NIH-NINDS and the National Eye Institute: Enhancing Neuroscience Diversity through Undergraduate Research Education (ENDURE)  
LSUHSC-New Orleans, SOM, Office of Diversity & Community Engagement (ODCE) & School of Graduate Studies

*Responsibilities include Programmatic Curriculum Development with direct development of ENDURE scholars' specific courses beginning 2020.*

- **House Faculty** 2020-present  
Clinical Skills Integration (CSI) 101 and 200  
School of Medicine

#### **Departmental/Interdisciplinary Teaching Conferences:**

- Facilitator 2001, 2002,  
2004, 2005  
Effective Teaching, Course Syllabi, and Curriculum Development Seminars

## Dillard University Professional Development Workshops

*These workshops focused on key aspects of faculty development. I presented workshops on the use of Bloom's Taxonomy of Educational Objectives, Bloom's list of verbs for use in stating performance objectives, and curriculum development for improved student performance on standardized examinations and post-baccalaureate placement.*

- Co-Creator and Co-Facilitator 2018-present  
Diversity Training Workshop for Graduate Faculty and Students  
LSUHSC-New Orleans  
New Orleans, Louisiana
- Facilitator 2019  
Race around the Table: Equity Discussions  
Race and Equity-Campaign for Equity-New Orleans  
LSUHSC-New Orleans  
New Orleans, Louisiana
- Creator & Co-Facilitator 2020  
Creating an Inclusive Environment in the Laboratory  
SOM, Office of Diversity and Community Engagement  
LSUHSC-New Orleans  
New Orleans, Louisiana
- Co-Creator & Co-Facilitator (Postponed due to the ongoing COVID-19 Pandemic) 2020  
Innovative Institutional Partnerships for Faculty Engagement and Structural Racism  
AAMC, Group on Diversity and Inclusion Professional Development Conference  
Miami, FL
- Creator & Co-Facilitator 2020  
Creating an Inclusive Academic Environments in Medicine  
Health Equity Curriculum, Faculty Development  
SOM, Offices of Undergraduate Medical Education and the Diversity and Community  
Engagement  
LSUHSC-New Orleans  
New Orleans, Louisiana

## **Undergraduate, Medical, or Graduate Students Advised/Mentored:**

- Previous undergraduate students: >200 1999-2005  
Dillard University
- Previous undergraduate student 2001-2002  
Dillard University
  - TaQuan Etheridge

*As part of my role as an NSF LS-LAMP research advisor, I participated in a faculty/student collaboration with this student. The research project was entitled Crystallization of Anthracene.*

- Current undergraduate students: >50 2015-present

*As part of the ODCE, I advise and mentor undergraduate students from various partner institutions, including LSU, Southern University (Baton Rouge and New Orleans), Loyola University, Tulane University, Dillard University, and Xavier University.*

- NIH-NIGMS- Post-baccalaureate Research Education Program (**PREP**) Scholars 2018-present

2018-2019 Cohort

- Ashley Williams (UAB Graduate Student, 2019; transferred to LSUHSC-NO, School of Graduate Studies, Fall 2020)
- Jocelyn Knowing (UNO, MS Student 2019)
- Paula Datri (LSUHSC-NO, LCRC Research Assistant 2019)
- Shekinah Hernandez (NYU, Non-Degree Coursework 2019)

2019-2020 Cohort

- Chelsea Callicoatte (Research Associate in California; preparing Graduate School application, Fall 2020)
- Shana Littleton (University of Michigan)
- Diego Vargas (University of Colorado at Boulder)
- Anita Waye (University of Chicago)

2020-2021 Cohort

- Sheldon Davis (Angela Martin Amedee, PhD's Lab)
- Zari McCullers (Tiffany Will, PhD's Lab)
- Diego Torres Martinez (Liz Simon Peter, PhD's Lab)
- Roshaun Mitchell-Cleveland (Scott Edwards, PhD's Lab)
- Allison Norman (Martin Ronis, PhD's Lab)

- Medical students: >30 2015-present

- *The students I work with in this capacity are all former participants of our Pre-matriculation Program.*

- Medical students: >30 2020-present

- *Clinical Integration Skills (CSI) 101 & 200*

- Graduate students 2012-present

- Mazvita Maziveyi, PhD, Biochemistry and Molecular Biology 2012-2018
- Shannan Washington, PhD, Pharmacology 2012-2018
- Cierra Singleton, PhD candidate, Genetics 2013-present
- Dominique Smith, MS, Biomedical Sciences 2015-2017

- Samuel C. Okpechi, PhD Candidate, Biochemistry and Molecular Biology 2017-present

*Mentorship of these students was/is part of our pipelining program to increase diversity at LSUHSC-NO.*

### **Invited Presentations & Seminars for Academic Pipeline Development for Diversity:**

1. Title: Concept Maps in Biochemistry  
Venue: Medical Biochemistry course  
LSU School of Medicine  
Location: New Orleans, Louisiana  
Date: August 2015
2. Title: How to Develop a Competitive Academic Portfolio  
Venue: Loyola University  
Location: New Orleans, Louisiana  
Date: October 2015
3. Title: How to Develop a Competitive Academic Portfolio  
Venue: Timbuktu Academy  
Southern University – Baton Rouge  
Location: Baton Rouge, Louisiana  
Date: January 2016
4. Title: How to Develop a Competitive Academic Portfolio  
Venue: Ochsner Health System STAR Program  
Location: New Orleans, Louisiana  
Date: July 2016
5. Title: How to Develop a Competitive Academic Portfolio  
Venue: University of New Orleans  
Location: New Orleans, Louisiana  
Date: September 2016
6. Title: How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Xavier University of Louisiana  
Location: New Orleans, Louisiana  
Date: September 2016
7. Title: How to Develop a Competitive Academic Portfolio  
Venue: Minority Student Pre-Professional Society  
Louisiana State University  
Location: Baton Rouge, Louisiana  
Date: September 2016
8. Title: How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Loyola University  
Location: New Orleans, Louisiana  
Date: September 2016

9. Title: Summer Health Professions Education Program (SHPEP)  
Venue: Webinar with Spelman College  
Location: New Orleans, Louisiana  
Date: November 2016
10. Title: Summer Health Professions Education Program (SHPEP) and  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: January 2017
11. Title: Summer Health Professions Education Program (SHPEP) and  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Louisiana State University  
Location: Baton Rouge, Louisiana  
Date: September 2017
12. Title: Personal Statement Development Workshop (sole facilitator)  
Venue: NIH XULA-BUILD Invited Speakers Series  
Location: New Orleans, Louisiana  
Date: September 2017
13. Title: Undergraduate Research Program Directors' Round Table (panelist)  
Venue: NIH XULA-BUILD Speakers' Series: Career in Academia  
Location: New Orleans, Louisiana  
Date: October 2017
14. Title: Summer Health Professions Education Program (SHPEP) and  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southeastern University Louisiana University  
Location: Hammond, Louisiana  
Date: October 2017
15. Title: Summer Health Professions Education Program (SHPEP) and  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: November 2017
16. Title: Summer Health Professions Education Program (SHPEP) and  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southern University at New Orleans  
Location: New Orleans, Louisiana  
Date: November 2017
17. Title: LSUHSC-NO Academic Pipeline Programs for Diversity  
Venue: LSU Undergraduate Research Day  
Location: Baton Rouge, Louisiana

- Date: November 2017
18. Title: Summer Health Professions Education Program (SHPEP) and How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University School of Public Health  
Location: New Orleans, Louisiana  
Date: January 2018
19. Title: SHPEP/Research Experiences for Undergraduates (REU)/Post-baccalaureate Research Education Program (PREP) Joint Presentation  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: February 2018
20. Title: SHPEP/REU/PREP Joint Presentation for Diversity  
Venue: University of New Orleans  
Location: New Orleans, Louisiana  
Date: February 2018
21. Title: Summer Health Professions Education Program (SHPEP) and How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: February 2018
22. Title: SHPEP/REU/PREP Joint Presentation for Diversity  
Venue: Timbuktu Academy and NSF LS-LAMP Scholars  
Southern University A & M College  
Location: Baton Rouge, Louisiana  
Date: February 2018
23. Title: LSUHSC-NO SOM, ODCE, and SGS Programs Presentation and How to Develop a Competitive Academic Portfolio  
Venue: Minority Access for Research Careers Students (MARC)  
Dillard University  
Location: New Orleans, Louisiana  
Date: March 2018
24. Title: Curriculum Vitae Workshop (sole facilitator)  
Venue: NIH XULA-BUILD Invited Speakers Series  
Xavier University  
Location: New Orleans, Louisiana  
Date: March 2018
25. Title: Resume/Curriculum Vitae and Personal Statement Development Workshop (invited speaker and sole facilitator)  
Venue: Student National Medical Association (SNMA) Pre-Day  
LSUHSC-NO Human Development Center  
Location: New Orleans, Louisiana  
Date: April 2018 (\*\*NOTE: Unable to attend due to severe weather.)

26. Title: Summer Health Professions Education Program (SHPEP) and How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southern University at New Orleans  
Location: New Orleans, Louisiana  
Date: April 2018
27. Title: Eta Eta Chapter, Alpha Kappa Alpha Sorority, Inc. , Panel Discussion: The Challenges of Professional African-American Women  
Venue: University of New Orleans  
Location: New Orleans, Louisiana  
Date: April 2018
28. Title: LSU-Career and Professional Schools' Fair  
Venue: Louisiana State University and A & M College  
Location: Baton Rouge, Louisiana  
Date: October 2018
29. Title: NIH-BUILD Grant at XULA Liaisons' Meeting  
Venue: Xavier University at Louisiana  
Location: New Orleans, Louisiana  
Date: October 2018
30. Title: STEM NOLA at O.W. Dillion Leadership Academy  
Venue: O.W. Dillion Leadership Academy  
Location: Kentwood, Louisiana  
Date: October 2018
31. Title: How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: University of New Orleans (Alpha Epsilon Delta, Pre-Med. Honors Society)  
Location: New Orleans, Louisiana  
Date: November 2018
32. Title: How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: November 2018
33. Title: Florida State University at LSUHSC-New Orleans: How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: LSUHSC-New Orleans  
Location: New Orleans, Louisiana  
Date: November 2018
34. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Xavier University of Louisiana  
Location: New Orleans, Louisiana

- Date: January 2019
35. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: LSU (Minority Student and Pre-Professional Society (MSPPS))  
Location: Baton Rouge, Louisiana  
Date: January 2019
36. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: February 2019
37. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Xavier University of Louisiana (Center for Undergraduate Research and Graduate Opportunities (CURGO))  
Location: New Orleans, Louisiana  
Date: February 2019
38. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southeastern Louisiana University (SELA)  
Location: Hammond, Louisiana  
Date: February 2019
39. Title: SOM and SOD Tiger Scholars Undergraduate Summer Academic Enrichment Program; How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: February 2019
40. Title: How to Achieve Success in STEM and Academia as a Woman of Color  
Venue: Southern University at New Orleans (First Annual STEM Leadership Conference, Sponsored by the National Institute of Science/Beta Kappa chi Scientific Honor Society/Tri-Beta (NIS/BKX/BBB))  
Location: New Orleans, Louisiana  
Date: March 2019
41. Title: LSU Presidential Scholars Visit: Panel Discussion  
Venue: LSUHSC-New Orleans  
Location: New Orleans, Louisiana  
Date: March 2019

42. Title: College Admissions Process Program (#CAP) Closing Ceremony Speaker  
Venue: Gamma Eta Omega Chapter, Alpha Kappa Alpha Sorority, Inc.  
Location: Baton Rouge, Louisiana  
Date: June 2019
43. Title: SOM Tiger Scholars Undergraduate Summer Academic Enrichment Program;  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southeastern Louisiana University (SELA)  
Location: Hammond, Louisiana  
Date: August 2019
44. Title: SOM Tiger Scholars Undergraduate Summer Academic Enrichment Program;  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: University of New Orleans  
Location: New Orleans, LA  
Date: September 2019
45. Title: SOM Tiger Scholars Undergraduate Summer Academic Enrichment Program;  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southern University of New Orleans  
Location: New Orleans, Louisiana  
Date: September 2019
46. Title: SOM Tiger Scholars Undergraduate Summer Academic Enrichment Program;  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Xavier University of Louisiana  
Location: New Orleans, Louisiana  
Date: October 2019
47. Title: SOM Tiger Scholars Undergraduate Summer Academic Enrichment Program;  
How to Develop a Competitive Academic Portfolio and Dress Professionally  
Venue: Southeastern Louisiana University (SELA)  
Location: Hammond, Louisiana  
Date: October 2019
48. Title: Mechanistic Studies of Ubiquitin Conjugation Cycle, E3 Ligases, Nedd4.1 and  
Nedd4.2  
Venue: Department of Chemistry, Southeastern Louisiana University (SELA)  
Location: Hammond, Louisiana  
Date: October 2019
49. Title: Personal Statement Development  
Venue: Xavier University at Louisiana (XULA)  
Location: New Orleans, Louisiana  
Date: October 2019
50. Title: STEM Day at St. George's School  
Venue: St. George's School  
Location: New Orleans, Louisiana  
Date: October 2019

51. Title: LSUHSC-New Orleans Academic Pipeline and Programs Presentation for Diversity  
Venue: Southern University-New Orleans  
Location: New Orleans, Louisiana  
Date: January 2020
52. Title: Personal Statement Development and LSUHSC-New Orleans Academic Pipeline & Programs Presentation for Diversity  
Venue: Dillard University  
Location: New Orleans, Louisiana  
Date: January 2020
53. Title: LSUHSC-New Orleans Academic Pipeline and Programs Presentation  
Venue: University of New Orleans  
Location: New Orleans, Louisiana  
Date: February 2020

**Invited Facilitation of Diversity and Inclusion Workshops:**

54. Title: Diversity, Equity, and Inclusion (DEI) Professional Development: Microaggressions and Conflict Resolution  
Venue: Center of Excellence Scholars, XULA School of Pharmacy  
Location: New Orleans, Louisiana  
Date: March 2020
55. Title: Developing Inclusive Academic Environments: An Introductory Workshop Launching Awareness and Skill Building  
Venue: Research Society for Alcoholism (RSA)  
Location: New Orleans, Louisiana  
Date: June 2020 (Cancelled due the ongoing COVID-19 Pandemic)
56. Title: Developing Inclusive Academic Environments: An Introductory Workshop Launching Awareness and Skill Building  
Venue: Research Society for Alcoholism (RSA)  
Location: San Antonio, TX  
Date: June 2021 (Tentative, due to COVID-19 Pandemic)

**Provision of Ongoing Presentations**

2018-present

Improvement of Diversity Programs  
National Institutes of Health, Office of Extramural Research

**Professional Development**

- Participant Effective Teaching, Course Syllabi, and Curriculum Development Seminars Dillard University Professional Development Workshops 2001, 2002, 2004, 2005

- Fellow 2003  
 UNCF/Merck Faculty Research Program Fellow Award  
 United Negro College Fund (UNCF)/MERCK HBCU Faculty Training Program  
 Center of Excellence, Spelman College  
 Atlanta, Georgia

*I was the only woman and the only African-American selected to participate in this nationwide program that was offered to faculty at historically black colleges and universities (HBCU). This was a paid summer sabbatical that lasted for six weeks and focused on hands-on experience in a research laboratory, grantsmanship skills development, and skill enhancement in computer technology. I attended informal "Talk Teaching" sessions with biology and chemistry faculty and weekly research seminars given by visiting scientists. My final project was entitled Gas Chromatography and Mass Spectrometry Protocol Development.*
- Participant 2006  
 Professional Development Program in College Teaching  
 University of Nevada, Las Vegas (UNLV)  
 Las Vegas, Nevada

*I participated in this two-day intensive teaching workshop that was a requirement for graduate students/graduate assistants, instructors, and assistant professors to further their development of lecture delivery, as well as their proficiency in creating and developing course and student learning objectives.*
- Participant 2014  
 Title IX and Sexual Misconduct Training  
 Louisiana State University and A & M College  
 Baton Rouge, Louisiana
- Participant 2015  
 WiSE (Women in STEM Experience) Navigating the Future  
 Symposium: Celebrating Women in STEM Fields  
 University of Alabama  
 Tuscaloosa, Alabama
- Participant 2015  
 AAMC Northeast and Southern Group on Student Affairs/  
 Organization of Student Representatives Joint Regional Meeting  
 New Orleans, Louisiana
- Participant 2015  
 Concept Mapping and Question Analysis Workshop  
 LSUHSC Office of Medical Education  
 New Orleans, Louisiana

- Attendee 2015  
 Dean's Research Seminar Series  
 LSUHSC Office of Medical Education  
 New Orleans, Louisiana

*I attended two lectures, entitled "Ubiquitin/Proteasome-Dependent Regulation and HECT Ligases" and "HIV Transmission and Pathogenesis: Translational Insights from Studies Macaque Model," to ensure that I remain as current in the scientific aspects of my work as I do in the educational aspects.*
- Participant 2006  
 Cultural Competency, Diversity, and Inclusivity Seminar  
 School of Veterinary Medicine  
 Louisiana State University and A & M College  
 Baton Rouge, Louisiana
- Participant 2015  
 AAMC Minority Faculty Career Development Seminar  
 Atlanta, Georgia

*This four-day workshop was designed for junior faculty who aspire to leadership positions in academic medicine. Drs. Nelson and Maupin considered this to be an important foundation for my developing leadership role in academic medicine.*
- Attendee 2015  
 Clearing the Confusion: A Multidisciplinary Panel on Controversies in Breast Cancer Screening and Treatment  
 LSU School of Medicine  
 New Orleans, Louisiana

*As a member of the Association of Women in Science (AWIS) and the School of Medicine's Women's Affairs Committee, I attended this panel, which was sponsored by these two organizations. As a woman of color, I consider it an integral part of my work in diversity to support both people of color as well as women.*
- Participant 2015-2016  
 Grant-Writing Series  
 Office of Research Services Professional Development Series  
 LSU Health Sciences Center  
 New Orleans, Louisiana

*I participated in this series of five workshop sessions focusing on grant writing. This updated my grant-writing skills and enabled me to secure funding from sources such as the Robert Wood Johnson Foundation.*
- Participant 2015-2016  
 Curriculum-Development Workshops  
 Academy for the Advancement of Educational Scholarship

LSUHSC Office of Medical Education  
New Orleans, Louisiana

- Attendee 2015-2017  
Medicine Grand Rounds – Diversity and Cultural Competency  
LSU Department of Medicine  
New Orleans, Louisiana

- Attendee 2016  
4<sup>th</sup> Annual Quality Improvement Forum  
LSU Health Sciences Center  
New Orleans, Louisiana

- Participant 2016  
Interprofessional Education Day  
LSU Health Sciences Center  
New Orleans, Louisiana

*As the importance of interprofessional education (IEP) has been increasingly recognized, LSUHSC held a day specifically devoted to this topic. The theme of the day was IEP: Taking It to the Next Level. Since that day was held, IEP has indeed been taken to the next level at this institution; this day turned out to be the precursor for what is now the LSUHSC Center for Interprofessional Education and Collaborative Practice and the corresponding IEP curriculum, which I helped to develop as a member of the committee.*

- Participant 2016  
Grantee Award Meeting  
Summer Health Professions Education Program (formerly SMDEP)  
The Robert Wood Johnson Foundation  
Washington, D.C.

*I participated in this three-day meeting that detailed expectations and requirements for the grant award and the program itself.*

- Participant 2017  
Grantee Award Meeting  
Summer Health Professions Education Program (formerly SMDEP)  
The Robert Wood Johnson Foundation  
Phoenix, Arizona

- Participant 2018  
AAMC Group on Diversity and Inclusion Professional Development Conference  
and 10<sup>th</sup> Anniversary Celebration  
New Orleans, Louisiana

- Participant 2018  
Race and Equity Institute (by the Propeller Group)

New Orleans, Louisiana

*This was a two-day workshop examining race, equity, and systemic racism, as well as its historic and current effects on the U.S healthcare system, education, and financial systems, and how to improve New Orleans and the state overall. I was selected to participate via the SOM Selection Committee for this initiative headed by Drs. DiCarlo, Lazarus, Maupin, McLean, and Avegno.*

- Participant 2018  
Tulane University, Race and Equity Seminar  
New Orleans, Louisiana
- Participant 2019  
Diversity, Inclusion, and Cultural Competence Training  
(Dr. Dereck. Rovaris, Sr.; LSU-Main Campus, Vice-Chancellor of Diversity and Multicultural Affairs)  
LSUHSC-New Orleans  
New Orleans, Louisiana
- Participant 2019  
Groundwater (Diversity) Seminar  
LSUHSC-New Orleans  
New Orleans, Louisiana
- Participant 2019  
SafeZone Training  
LSUHSC-New Orleans  
New Orleans, Louisiana

## **RESEARCH AND SCHOLARSHIP FOR DIVERSITY AND INCLUSION ACADEMIC PIPELINES**

### **Grants and Contracts:**

Title: NSF-Research Experiences for Underrepresented Students in Basic and Genetic Research (#1359140)  
Sponsor: National Science Foundation  
Role: Co-Investigator (Co-I)/Co-Director  
Percentage of effort: 1% (April-August)  
Funding amount: \$259,429 (annually)  
Dates: 2014-2017

*NOTE: My role began in April 2016. The project concluded and was renewed as NSF #1659752. (See below.)*

Title: **Building Infrastructure Leading to Diversity** (Awarded to Xavier University of Louisiana [XULA]) ([U54] NIH-NIGMS-UL1MD009607)  
Sponsor: NIH-NIGMS  
Role: LSUHSC-NO Institutional Liaison to the XULA-awarded BUILD Grant  
Percentage of effort: 5%

Funding amount: \$19.6 million over five years (direct and indirect costs)  
Dates: 2014-2019

*NOTE: My role began in May 2016.*

Title: Robert Wood Johnson Foundation Summer Health Professions Education Program: Interprofessional Pilot (SHPEP, formerly SMDEP)  
Sponsor: Robert Wood Johnson Foundation  
Role: Executive Project/Program Director  
Percentage of effort: 50%  
Funding amount: \$406,892 (for 15-month period; must resubmit annually for grant renewal)  
Dates: 2016-2017

*NOTE: This project is a partnership between the LSUHSC Schools of Medicine, Dentistry, and Public Health; the LSUHSC-NO Center for Interprofessional Education and Collaborative Practice; and Xavier University of New Orleans College of Pharmacy.*

Title: Robert Wood Johnson Foundation Summer Health Professions Education Program  
Sponsor: Robert Wood Johnson Foundation  
Role: Co-PI/Executive Project/Program Director  
Percentage of effort: 40%  
Funding amount: \$329,467 (for 12-month period; must resubmit annually for grant renewal)  
Dates: 2017-2018

Title: NSF-REU-Research Experiences for Underrepresented (REU) in Basic Science and Genetic Research in Basic Science and Genetic Research Experience for Underrepresented Minority Undergraduates in Genetic and Biochemical Mechanisms of Prokaryotic and Eukaryotic Organisms (#1659752)  
Sponsor: National Science Foundation  
Role: Co-Investigator (Co-I)/Co-Director  
Percentage of effort: 1% (April-August)  
Funding amount: \$259,429 (annually)  
Dates: 2017-2020

Title: Post-Baccalaureate Research Education Program (PREP) in Biomedical Sciences (#1R25GM121189-01)  
Sponsor: NIH-NIGMS  
Role: Co-Director  
Percentage of effort: N/A  
Funding amount: \$1,415,423 (annually; direct and indirect costs)  
Dates: 2017-2022

*NOTE: In partnership with Drs. Lisa Harrison-Bernard and Fern Tsien, I significantly redeveloped the fourth iteration of this proposal that led directly to its selection for NIH funding. As part of the work of this grant, I have co-developed a diversity and inclusion workshop that is uniquely focused on faculty/student interaction. Basic-science faculty, clinical faculty, and HR leadership have all participated in this workshop. Based on our discussions with*

*and support of Drs. Nelson and Moerschbaecher, we have plans to develop this further into an institution-wide program.*

Title: Inspiring Diversity to Explore the Brain in the 21st Century: The NIHND/LSUHSC-NO, Undergraduate Diversity in Neuroscience Research Experiences (AN# 4271146; R25 NIH Blueprint **ENDURE**)  
Sponsor: NIH-National Institute of Neurological Disorders and Stroke (NIHND)  
Role: PI/PD (Multi-PI Project)  
Percentage of effort: 18%  
Funding amount: \$300,000 (annually) for 5 years  
Dates: 2020-2025

Title: **Building Infrastructure Leading to Diversity II** (Awarded to Xavier University of Louisiana [XULA]) ([U54] NIH-NIGMS-UL1MD009607)  
Sponsor: NIH-NIGMS  
Role: LSUHSC-NO Institutional Liaison to the XULA-awarded BUILD Grant  
Updated Role: **Principal Investigator, as of August 3, 2020**  
Percentage of effort: 5%  
Funding amount: \$19.6 million over five years (direct and indirect costs)  
Dates: 2019-2024

Title: NSF-REU-Research Experiences for Underrepresented (REU): **Research Experience for Undergraduates in Genetic and Biochemical Mechanisms of Invertebrates and Vertebrates**  
Sponsor: National Science Foundation  
Role: Co-Primary Investigator (Co-PI)/Co-Director  
Percentage of effort: 5% (April-August)  
Funding amount: \$318,582 (annually)  
Dates: 2020-2023 (Submitting renewal, Wednesday, August 27, 2019)

#### **Non-funded Applications (last three years):**

Title: The Louisiana State University Health Sciences Center (LSUHSC) S-STEM Master's Degree scholarship Program in New Orleans, LA (Application No.: 1930510)  
Sponsor: National Science Foundation, S-STEM-Schlr Sci Tech Eng &Math, Division Of Undergraduate Education  
Role: PI/PD  
Percentage of effort: 5%  
Funding amount: \$770, 790 for five year period  
Dates: Submitted March 27, 2019

#### **Publications:**

##### Refereed Journal Articles

1. Meacham S, Karakas S, **Wallace A**, Altun F. Boron in human health: Evidence for dietary recommendations and public policies. *Open Mineral Processing J.* 2010; 3: 1-18.

2. Todaro DR <sup>†1</sup>, **Augustus-Wallace AC** <sup>†1</sup>, Klein JM <sup>†</sup>, Haas AL <sup>†#2</sup>. The mechanism of neural precursor cell expressed developmentally down-regulated 4.2/NEDD4L-catalyzed polyubiquitin chain assembly. *J Biol Chem.* 2017; 292(47): 19521-19536.
3. Todaro DR <sup>†1</sup>, **Augustus-Wallace AC** <sup>†1</sup>, Klein JM <sup>†</sup>, Haas AL <sup>†#2</sup>. Oligomerization of the Hect ubiquitin ligase NEDD4-2/NEDD4L is essential for polyubiquitin chain assembly. *J Biol Chem.* 2018; 293(47):18192-18206.
4. Gunaldo, TP, **Augustus-Wallace, A**, Goumas, A, Cheramie, T, Brisco, S, Levitzky, E. Integrating Interprofessional Education into an Academic Enrichment Program. *Health and Interprofessional Practice* 2018; 3(3).
5. Gunaldo, TP, **Augustus-Wallace, AC**, Levitsky, E, Norman Hicks, M. Chilling, D, and Goumas, A. Pre-health students define their role on an interprofessional team. *Health, Interprofessional Practice & Education* 2020: 4(1), 1-8.
6. Harrison-Bernard LM, **Augustus-Wallace AC**, Souza-Smith FM, Tsien F, Casey GP, Gunaldo TP. Knowledge gains in a professional development workshop on diversity, equity, inclusion, and implicit bias in academic. *Adv Physiol Educ.* 2020 Sep 1;44(3):286-294. doi: 10.1152/advan.00164.2019. PMID: 32484403
7. Gunaldo, TP, **Augustus-Wallace, AC**, Brisolara, K, Norman Hicks, M, Mercante, D, Zorek, JA, Chilling, D, and Synco, TM. Improving stereotypes: The impact of interprofessional education in pre-health students. *Journal: Journal of Interprofessional Care IJIC.* 2020 Article ID: IJIC 1806218
8. Moore, M, Hicks, C., Cuccia, M, Sheets, G, Tsien, F, **Augustus-Wallace, A**. Acknowledging and understanding educational injustices and inequities in the sciences: how can medical schools and health sciences centers help our communities? *AMA J of Ethics* (AAW, Corresponding author; submitted 08/2020)

#### Non-refereed

**Wallace ACA.** *Dillard University's Pre-Dental School Program Guide.* 2003-2005.

*NOTE: Led the creation and development of programmatic guidelines for use by Dillard University pre-dental students.*

#### Doctoral Dissertation

**Augustus-Wallace AC.** Mechanism of HECT Domain E3 Ligases Nedd4.1-and Nedd4.2-Catalyzed Polyubiquitin Chain Assembly. LSUHSC School of Graduate Studies, Department of Biochemistry and Molecular Biology. May 2014.

#### **Videos, Electronic Media, and Multimedia:**

Instructor	2014-present
Science Education Videos	
Baptist Community Ministry and Patrick F. Taylor Foundation grants	

*This is a series of 30 short videos a year aimed at K-12 science classes and featuring LSUHSC graduate students, medical students, and trainees, along with children of various ages. The films focus on experiments that are part of the science curriculum in the State of Louisiana's Department of Education. These films are currently in the process of being copyrighted and translated into Spanish.*

#### **Published Abstracts (Refereed):**

1. **Augustus-Wallace AC**, Klein JM, Haas AL. Functional characterization of Nedd4.1 and Nedd4.2 HECT domain ligases. *FASEB J.* 2010; 25(1 Supp): 519.2.
2. Todaro DR<sup>†1</sup>, **Augustus-Wallace AC**<sup>†1</sup>, Haas AL<sup>‡2</sup>. Mechanistic characterization of HECT domain ubiquitin ligase Nedd4.2. *FASEB J.* 2015; 29(1 Supp): 883.10. (1: Co-first authorship; †: Department of Biochemistry and Molecular Biology Department; 2: Correspondence; ‡: the Stanley S. Scott Cancer Center, LSUHSC-NO)
3. Todaro DR<sup>†1</sup>, **Augustus-Wallace AC**<sup>†1</sup>, Klein JM<sup>†</sup>, Haas AL<sup>‡2</sup>. Nedd4.2 is a functional oligomer exhibiting cooperative allosteric kinetics. *Biophysical J.* 2017; 112(3): 64A. (1: Co-first authorship; †: Department of Biochemistry and Molecular Biology Department; 2: Correspondence; ‡: the Stanley S. Scott Cancer Center, LSUHSC-NO)
4. Harrison-Bernard LM, **Augustus-Wallace AC**, Souza-Smith FM, Tsien F, Casey GP. Diversity training workshop for graduate faculty and students. *FASEB J.* 2018; 32(1): 773.11.
5. Harrison-Bernard LM, **Augustus-Wallace AC**, Basha M, Tsien F. Creating new graduate level courses for the postbaccalaureate research education program scholars. (Poster Presentation at the NIH NIGMS Training, Workforce Development, and Diversity Program Directors' Meeting, 2019)

#### **Presented Abstracts:**

1. Title: Boron Intakes in Humans and Potential Association with Cancer  
Authors: Meacham SL, Cizdziel JV, **Wallace ACA**, Korkmaz M, Sayli U, Carper SW, Bakirdere S, Ataman OY  
Venue: 42<sup>nd</sup> Western Regional American Chemical Society  
Location: Las Vegas, Nevada  
Date: September 2008
2. Title: Boric Acid and Focal Adhesion Kinase (FAK): A Mechanism to Induce Apoptosis in Breast and Prostate Cancer Cells (poster presentation)  
Authors: **Wallace ACA**, Meacham S, Abel-Santos E, Fiscus RR, Carper SW  
Venue: 42<sup>nd</sup> Western Regional American Chemical Society  
Medicinal Chemistry/Cancer Drug Development Section  
Location: Las Vegas, Nevada  
Date: September 2008

3. Title: Functional Characterization of Nedd4.1 and Nedd4.2 HECT Domain Ligases (poster presentation)  
Authors: **Augustus-Wallace AC**, Klein JM, Haas AL  
Venue: Experimental Biology (American Society for Biochemistry and Molecular Biology [ASBMB]) Conference  
Location: Washington, D.C.  
Date: April 2011
4. Title: A Tale of Two Enzymes: Nedd4.1 and Nedd4.2 HECT Domain Ligases (poster presentation)  
Authors: **Augustus-Wallace AC**, Klein JM, Haas AL  
Venue: Sixth International Conference  
SUMO, Ubiquitin, and UBL Proteins: Implications for Human Diseases  
Location: M.D. Anderson Medical Cancer Center  
Houston, Texas  
Date: February 2012
5. Title: Mechanistic Characterization of HECT Domain Ubiquitin Ligase Nedd4.2  
Authors: Todaro DR, **Augustus-Wallace AC** (co-first author), Haas AL  
Venue: Experimental Biology Conference (ASBMB)  
Location: Boston, Massachusetts  
Date: March-April 2015
6. Title: Genetics and health sciences education pipeline for elementary, middle, high school (K-12) and undergraduate underrepresented minorities (URM) in the sciences at Louisiana State University Health Sciences Center  
Authors: Tsien F, Moore M, Umrigar A, **Augustus-Wallace A**, Mercer D  
Venue: 66<sup>th</sup> Annual Meeting of the American Association of Human Genetics  
Location: Vancouver, Canada  
Date: October 2016
7. Title: Public Health and Science Education Pipeline at Louisiana State University Health Sciences Center (LSUHSC) for K-12 and Undergraduate Underrepresented Minorities (URMs)  
Authors: Moore M, Umrigar A, Spence M, Mercer D, Katner A, Cuccia M, **Augustus-Wallace A**, Tsien F  
Venue: LSUHSC School of Graduate Studies Research Day  
Location: New Orleans, Louisiana  
Date: November 2016
8. Title: Nedd4.2 is a Functional Oligomer Exhibiting Cooperative Allosteric Kinetics  
Authors: Todaro DR, **Augustus-Wallace AC** (co-first author), Klein JM, Haas AL  
Venue: 61<sup>st</sup> Meeting of the Biophysical Society  
Location: New Orleans, Louisiana  
Date: February 2017

9. **Title:** Outcomes of a Public Health Educational Pipeline  
**Authors:** Penas J, Moore M, Umrigar A, Adams M, Mercer D, Katner A, **Augustus-Wallace A**, Cuccia M, Tsien F  
**Venue:** LSUHSC School of Public Health Research Day  
**Location:** New Orleans, Louisiana  
**Date:** April 2018
10. **Title:** Diversity Training Workshop for Graduate Faculty and Students  
**Authors:** Harrison-Bernard LM, **Augustus-Wallace AC**, Souza-Smith FM, Tsien F, Casey GP  
**Venue:** Experimental Biology Conference  
**Location:** San Diego, California  
**Date:** April 2018

#### **Grant Peer Reviewer Responsibilities:**

- Undergraduate and Graduate Educational Grants National Science Foundation (**NSF**) 2017, 2018  
*Submitted NSF S-STEM proposal (March 27, 2019) and therefore, I could not serve as reviewer for 2019 cycle.*
- Diversity Pipeline Programs National Institutes of Health, National Institute of Neurological Diseases And Stroke (**NINDS**) 2020

#### **Editorial Peer Reviewer Responsibilities:**

- Academic Medicine 2020
- American Medical Association (AMA), Journal of Ethics 2020

#### **SERVICE ACTIVITIES**

##### **University/Institutional Service: Dillard University**

##### **Departmental Service**

- Chairperson Dental School Placement Committee 2000-2005  
*Led the creation, development, and implementation of the Pre-Dental School Program.*
- Research Advisor and Faculty/Student Tutorial Support NSF LS-LAMP 2000-2005

- Advisor 2003-2005  
Beta Beta Beta National Biological Honors' Society

School Service

- Program and Academic Advisor 2000-2005  
Pre-Dental School Program
- Senior Campus Advisor 2000-2005  
Girl Scouts of America

**University/Institutional Service: LSU Health Sciences Center – New Orleans**

School of Medicine Service

- VCAA/Title IX Representative 2014-present
- Member 2014-2019
- **Chairperson** 2019-present  
Multicultural and Diversity Affairs Committee
- Member 2014-present  
Community Outreach Committee
- Member 2014-present  
Women's Affairs Committee
- Member 2015-2019  
Subcommittee: Promotions and Compensation Equity Task Force  
Women's Affairs Committee
- Member 2016-2017  
Self-study Subcommittee 6: Competencies, Objectives, and Curricular Design  
Liaison Committee on Medical Education (LCME)
- Member 2016-present  
Bioinformatics and Genomics Program
- Member 2017-present  
Committee on Academic Standards
- Member 2018-present  
Search Committee for Assistant Dean for Faculty Development
- Member and Faculty Development-Lead 2020-present  
Health Equity Curriculum Committee  
Undergraduate Medical Education
- Faculty Assembly Delegate-Basic Sciences 2020-present

### School of Graduate Studies Service

- Member 2010-2018  
Minority Student Recruitment Committee
- Secretary 2011-2013  
Student Government Association
- Member 2012-present  
Vice-Chairperson 2018-2020  
Co-Chairperson 2020-present  
Multicultural and Diversity Affairs Committee
- Founder 2015-present  
PhD and MD/PhD Alumni Association
- Alumni Affairs Representative 2016-present  
Diversity and Community Engagement Representative 2017-present  
Graduate Advisory Committee (GAC)
- Member 2018-2020  
Graduate Orientation Committee
- Vice-Chairperson 2018-2020  
Co-Chairperson 2020-present  
Graduate Studies Recruitment Committee
- Chairperson 2018-present  
School of Graduate Studies Open House Event Committee

*Since I serve as Vice-Chair for both of these SGS committees, this committee is composed of members from both the School of Graduate Studies (SGS) Recruitment and Multicultural & Diversity Affairs Committees. Additionally, this activity is supported/sponsored by the Schools of Graduate Studies (SGS) and Public Health (SOPH).*

### Health Sciences Center Service

- Member (LSUHSC Chapter and National) 2013-present  
Association of Women in Science
- Member 2015-present  
Curriculum Steering and Development Committee  
Center for Interprofessional Education and Collaborative Practice
- Co-chairperson 2015-2016
- Chairperson 2017-2018  
Sci-Fly Mentoring Campus Event  
Association of Women in Science

*At this campus-wide mentoring event, faculty and students from all six LSUHSC professional schools serve as mentors to visiting undergraduate students in our various summer academic and research programs.*

- Treasurer and Executive Board Member  
Association of Women in Science 2016-2017
- Chairperson  
Sci-Fly Mentoring Campus Event 2019-present

*This event is no longer supported/sponsored by the LSUHSC-New Orleans Chapter of the Association of Women in Science (AWIS). Instead, it is supported/sponsored by the School of Graduate Studies (SGS) Recruitment and Multicultural & Diversity Affairs Committees, along with the School of Medicine's (SOM) Dean's office. This activity remains a campus-wide mentoring event where faculty and students from all six LSUHSC professional schools serve as mentors to visiting undergraduate students in our various summer academic and research programs.*

**Professional/Community-Service Organization Memberships:**

- Girl Scouts of the United States of America 2000-present
  - Adult Member/Adult Educator 2000-present
  - Girl Scouts, Louisiana East 2000-present
    - Senior Campus Advisor  
Dillard University 2000-2005
    - Board of Directors 2014-2020
      - ❖ Member-At-Large 2014-2020
      - ❖ Fundraising Committee
        - Member 2014-2020
        - Co-chairperson (served with Mrs. Terrence (Stephanie) Osborne  
Cookies and Cocktails Fundraising Event 2015, 2016
        - Co-chairperson (served with Mrs. Nancy Parker Boyd)  
Cookies and Cocktails Fundraising Event 2017
        - Juliette Gordon Low Leadership Luncheon Event Planning Cmte. 2018, 2019
- Alpha Kappa Alpha Sorority, Inc. 2002-present

*“Alpha Kappa Alpha Sorority, Incorporated (AKA) is an international service organization that was founded on the campus of Howard University in Washington, D.C. in 1908. It is the oldest Greek-letter organization established by African-American college-educated women. Alpha Kappa Alpha is comprised of nearly 300,000 members in approximately 1,018 graduate and undergraduate chapters in the United States, the U.S. Virgin Islands, the Bahamas, Canada, Dubai, Germany, Japan, Liberia, and South Korea. Led by International President Dr. Glenda Baskin Glover, Alpha Kappa Alpha is often hailed as “America’s premier Greek-letter organization for African-American Women.” [www.aka1908.com](http://www.aka1908.com)*

- Rho Pi Omega Chapter 2002-2006
  - Recording Secretary 2003-2004
  - Assistant Graduate Advisor to Undergraduate Chapter 2003-2006
  - Co-chairperson Chapter Health Awareness and Promotion Committee 2003-2006
  - Vice-President 2004-2006
- Tau Iota Omega Chapter 2012-2015
  - Co-chairperson Chapter Health Awareness and Promotion Committee 2012-2015
  - Chairperson Chapter Standards Committee 2013-2015
  - Chapter Delegate South Central Regional Conference New Orleans, Louisiana 2013
  - Member Protocol Committee South Central Regional Conference New Orleans, Louisiana 2013
  - Chairperson Conference Protocol Committee Southern Louisiana Cluster Conference New Orleans, Louisiana 2013
- Alpha Beta Omega Chapter 2015-present
  - STEM/SMART Initiatives Subcommittee Chairperson ASCEND Youth Enrichment Program 2016-2018

*The ASCEND Youth Enrichment Program was the 2014-2018 signature international enrichment program of Alpha Kappa Alpha, Inc., and served to preparation of ninth through twelfth grade students for undergraduate education. As the 2016-2018 STEM/SMART Initiatives Subcommittee Chairperson, every Saturday morning during the fall and spring semesters, I led the STEM/SMART based lessons and experiments for our ninth-twelfth grade participants to prepare for undergraduate STEM/SMART majors.*

- Member 2016-2019
  - Chairperson 2018-2019
- Chapter Heart Health Awareness and Promotion Committee

*This committee is responsible for sponsoring a number of community events regarding heart health awareness. Events in which I have been directly involved in planning include Pumps & Pearls – Cardiovascular Health Awareness; The Longest Day, an event to raise awareness of Alzheimer’s Disease; a cardiovascular-awareness fair held at the NOMTAC Parade; and Pink Goes Red Day, an event to raise awareness of women’s cardiovascular health. As the 2018-2019 **Chairperson** of this committee, I continued this body of service and led our Chapter’s Pink Goes Red for a Day and GIRLTREK (organization that promotes heart health & exercise through the placement of sidewalks in New Orleans East communities) events partnered with the local American Heart Association and represented our chapter on the Pumps and Pearls Planning committee for the city-wide event that was held in downtown New Orleans at the Harrah Casino Hotel.*

- Member 2016-present
- Membership Committee
- Member-At-Large 2018-present
- GNO-ABO Foundation
- Chapter Delegate
- Regional and International Meetings 2020
- 2<sup>nd</sup> Vice-President 2020-2022
- Chairperson, Standards Committee 2020-2022

**Serendipitous Event (January 2020):** *Due to my role as a Member-at-Large on the Girl Scouts-Louisiana East (GSLE), Board of Directors, as well as a member of the Alpha Beta Omega Chapter of Alpha Kappa Alpha Sorority, Inc., I facilitated 2020 AKA-ABO sponsorship of girls from GSLE’s Greater New Orleans and New Orleans-East Troops attendance, to the ballet. This particular evening of the ballet was sponsored by the NOLA Ballet Association and The Arts! Committee of AKA, ABO, entitled, “Evening of the Star’s*

*Performance and 50<sup>th</sup> Anniversary Gala” w/featured international ballet star Glen Allen of the Alvin Alley American Dance Theater and tribute to the NOLA Icon, Allen Toussaint.*

**Community Service Activities:**

- Senior Volunteer 1993-1996  
Well-Baby Nursery  
Woman's Hospital of Baton Rouge  
Baton Rouge, Louisiana

- Liaison and Board President 2007-2008  
Imagine Schools Mountainview Science and Mathematics  
Las Vegas, Nevada

*Volunteering in this role to create and develop this charter elementary school enabled me to further my experience in writing educational grants. In addition, I testified on several occasions before the Nevada State Board of Education to justify funding.*

- Judge 2015  
Student National Medical Association Annual Medical Education Conference  
New Orleans, Louisiana

- Girl Scouts Louisiana East Fundraising Event: **Cookies and Cocktails** 2015-2017
  - Co-Chairperson (*served with Co-Chairperson Mrs. Terrence (Stephanie) Osborne*) 2015, 2016
  - Co-Chairperson (*served with Co-Chairperson Fox 8 News Anchor Mrs. Nancy Parker Boyd*) 2017

- LSUHSC Representative 2016-present  
Organizing Committee  
¿Que Pasa? Latino Festival  
Metairie, Louisiana

*My role in this event is to secure the literature from the institutional academic programs of all six LSUHSC schools and various clinics for distribution.*

- LSUHSC Co-director/Facilitator 2017, 2018  
YouthForce NOLA Career Expo  
New Orleans, Louisiana

*Coordinated and facilitated the participation of LSUHSC-NO six professional schools in presenting pipeline programs and STEM-specific career options to 2,000 high-school students from 16 Orleans Parish high schools.*

- Pumps and Pearls Heart Health Community Awareness Event Member 2015, 2016, 2017, 2018  
Heart Health Awareness and Promotion Committee  
Alpha Beta Omega Chapter, Alpha Kappa Alpha Sorority, Inc.  
New Orleans, Louisiana

- Pumps and Pearls Heart Health Community Awareness Event Chairperson 2019  
Heart Health Awareness and Promotion Committee  
Alpha Beta Omega Chapter, Alpha Kappa Alpha Sorority, Inc.  
New Orleans, Louisiana

*As Chapter Committee Chairperson, served as a member of Event Planning Committee representing our Chapter and its Heart Health Awareness Committee; facilitated event marketing through interview with Fox 8 News Anchor Mrs. Nancy Parker Boyd.*

- GIRLTREK Complete Streets Rally at Eastshore Playground (New Orleans East) 2019  
Event (Partnered guests of the American Heart Association)  
Chairperson  
Heart Health Awareness and Promotion Committee  
Alpha Beta Omega Chapter, Alpha Kappa Alpha Sorority, Inc.  
New Orleans, Louisiana

*Led committee in our participation at this event; distributed American Heart Association heart health and healthy dietary habit brochures to event participants and community residents.*

- Juliette Gordon Low Leadership Luncheon Planning Committee 2018, 2019  
Member  
Board of Directors and Fundraiser Committee  
Girl Scouts Louisiana East  
New Orleans, Louisiana

- Caregivers' Luncheon Planning Committee 2019  
Member  
Alpha Beta Omega Chapter, Alpha Kappa Alpha Sorority, Inc.  
New Orleans, Louisiana

*Community event created and held to recognize members of our community caring for their long-sick and disabled family members and friends.*

- Inspiring Girls to pursue careers in Science, Technology, Engineering & Math (STEM) Mentor 2020  
American Heart Association's STEM goes RED Presented by Entergy  
New Orleans, Louisiana

*A day-long community event created by the American Heart association and sponsored by Entergy to expose high school girls to careers in Science, Technology, Engineering & Math (STEM). I served as a mentor and panelist for the event held January 16, 2020.*

- Facilitator: Opportunity for Girl Scouts to attend the ballet with members of Alpha Kappa Alpha, Sorority, Inc. (Alpha Beta Omega Chapter) 2020

***Serendipitous Event:*** Due to my role as a Member-at-Large on the Girl Scouts-Louisiana East (GSLE), Board of Directors, as well as a member of the Alpha Beta Omega Chapter of Alpha Kappa Alpha Sorority, Inc., I facilitated 2020 AKA-ABO sponsorship of girls from GSLE's Greater New Orleans and New Orleans-East Troops attendance, to the ballet. The January 25, 2020 evening of the ballet was sponsored by the NOLA Ballet Association and The Arts! Committee of AKA, ABO, entitled, "Evening of the Star's Performance and 50<sup>th</sup> Anniversary Gala" w/featured international ballet star Glen Allen of the Alvin Alley American Dance Theater and tribute to the NOLA Icon, Allen Toussaint.

## APPENDIX: RESEARCH NARRATIVE/PERSONAL CONTRIBUTIONS TO SCIENCE

### **2004-2005**

My initial dissertation research project consisted of studying angiogenesis and the transcriptional activation of matrix metalloproteinase 14 (MMP14). My research proposal was to determine the second messengers involved in the early events of angiogenesis that led to the progression of tumor formation. The hypothesis was that the angiogenic response occurred through the expression of FGF-2, which caused PAF, a potent lipid second messenger, to activate, thus resulting in the activation of both signal transducers and transcription activators. I believed that this activation led to the upregulation of MMP14, performed ultimately by STAT3 phosphorylation. Thereby, the goal was to determine if STAT3 phosphorylation inhibition resulted in the inhibition of FGF-2 mediated upregulation of MMP14. I hypothesized that this step would be a significant site for therapeutic treatment. I submitted this dissertation research proposal in the fall of 2004 under the sponsorship of my dissertation research professor at the time, Dr. Jay D. Hunt, under the program announcement PAR-03-048. As a result, I was awarded the Ruth L. Kirschstein National Research Service Award, Faculty Predoctoral Individual Fellowship (Award Number: F-34-GM75615-01), which provided \$200,000 over five years. These monies funded my five-year sabbatical from Dillard University to complete my education. This work was disrupted due to Dr. Hunt's leaving LSUHSC-NO for other professional opportunities.

### **2005-2006**

As a result of Dr. Hunt's departure from the institution, I began studying with dissertation research professor/sponsor, Dr. Arthur L. Haas, III, then and present chairperson of the Biochemistry and Molecular Biology Department in the LSUHSC-NO School of Graduate Studies. The change in mentorship shifted my research focus to understanding the mechanism of enzyme kinetics and the ubiquitin conjugation cycle. Therefore, my research proposal, which was to focus on the up-regulation and metabolic shifts of E1 kinetics, was resubmitted under the program announcement PAR-03-048 for support by the Ruth L. Kirschstein National Research Service Award, Faculty

Predocctoral Individual Fellowship. As a result, I was awarded the Ruth L. Kirschstein National Research Service Award, Faculty Predocctoral Individual Fellowship a second time (Award Number: F-34-GM75615-01), for the same time period and award amount. Unfortunately, I had to relinquish this funding and project due to Hurricane Katrina and the necessity of relocating out of state.

## 2006-2009

Then I transferred from the LSUHSC doctoral program in biochemistry and molecular biology into the doctoral program in chemistry at the University of Nevada, Las Vegas. While there, I studied under dissertation research professor/mentor Dr. Stephen W. Carper. As a result, my research focused on determining a mechanism to induce apoptosis in breast and prostate cancer cells. The ability of boric acid (BA) to induce apoptosis, but not necrosis, had been reported by several investigators in DU-145 prostate cancer cells, which we also confirmed in ZR-75-1 breast cancer cells using fluorescent microscopy. Additional FAK ELISA studies confirmed that BA inhibited the appearance of active, phosphorylated focal adhesion kinase, known as pFAK, both in ZR-75-1 and DU-145 cell lines. Although these studies were ultimately interrupted by the death of Dr. Carper in the fall of 2007 during my transition to doctoral candidacy, I attempted to continue these studies, which included the preliminary development of a definitive methodology for the use of flow cytometry to confirm these findings. Additionally, I provided a poster presentation during the 2008 American Chemical Society Meeting. In 2010, after I returned to the biochemistry and molecular biology doctoral program at LSU Health Sciences Center – New Orleans, I published components of this work with the colleagues listed in the publication:

### Poster Presentations

- a. Meacham SL, Cizdziel JV, **Wallace AC**, Korkmaz M, Sayli U, Carper SW. (2008) Boron intakes in humans and potential association with cancer. (Abstract presented at 42nd Western Regional American Chemical Society: Medicinal Chemistry – Cancer Drug Development, Las Vegas, Nevada, September 23-27, 2008)
- b. **Wallace ACA**, Meacham S, Abel-Santos E, Fiscus RR, Carper SW. (2008) Boric Acid and Focal Adhesion Kinase (FAK): A Mechanism to Induce Apoptosis in Breast and Prostate Cancer Cells (Poster presented at the 42nd Western Regional American Chemical Society Medicinal Chemistry – Cancer Drug Development; Las Vegas, Nevada, September 23-27, 2008)

### Manuscript (Peer-reviewed)

- c. Meacham S, Karakas S, **Wallace A**, Altun F. (2010) Boron in Human Health: Evidence for Dietary Recommendations and Public Policies. *Open Mineral Processing J.* 3: 1-18.

## 2010-2014

The central hypothesis of my completed dissertation project, under dissertation research professor/mentor Dr. Arthur L. Haas, III, proposed that the structure function features of E6AP, archetype of the HECT domain E3 ligase superfamily, were/are conserved in Nedd4.1 and Nedd4.2, attributing for their ability to regulate the 26S proteasome and to conjugate ubiquitin to target proteins. Ultimately, the project study highlighted another important challenge in the ubiquitin conjugation field: understanding the E2-E3 transthiolation reaction and polyubiquitin chain formation. To expand our understanding of the ubiquitin conjugation system, this study utilized biochemically-based functional kinetic assays to investigate polyubiquitin chain assembly, which at its basis is E2-E3 transthiolation. This study confirmed that, like E6AP, Nedd4.1 and Nedd4.2 possess two E2~ubiquitin thioester binding sites for polyubiquitin chain assembly. However,

unlike E6AP, which possesses a cognate E2 (UbcH7), both Nedd4.1 and Nedd4.2 exhibit broad E2 carrier protein specificity, with selectivity for the Ubc4/5 clade. This characteristic allows for these ligases to function without the necessity of specific E2 carrier protein availability. Furthermore, these studies indicated that Nedd4.2 is oligomeric in its full catalytic form. Also, Nedd4.1 and Nedd4.2 are able to assemble Lys63-linked chains that can be free, unconjugated, or conjugated. Additionally, Nedd4.1 may possess a chain specificity switch in its full catalytic form that can be manipulated. Finally, Nedd4.2 exhibited greater affinity for the Ubc5B-ubiquitin thioester in the presence of the external target substrate GST-FLAG-ENaC  $\beta$  subunit, demonstrating a two-substrate random-addition mechanism. These are the first mechanistic studies of Nedd4.1 and Nedd4.2. Their findings will allow greater insight for future drug design aimed at treating diseases that arise from Nedd4.1 and Nedd4.2.

#### Doctoral Dissertation

Mechanism of HECT Domain E3 Ligases Nedd4.1- and Nedd4.2-Catalyzed Polyubiquitin Chain Assembly, Louisiana State University Health Sciences Center, School of Graduate Studies, Department of Biochemistry and Molecular Biology, May 2014.

#### Manuscripts (Peer-reviewed)

Todaro DR, **Augustus-Wallace AC** (co-first author), Klein JM, Haas AL. The mechanism of neural precursor cell expressed developmentally down-regulated 4.2/NEDD4L-catalyzed polyubiquitin chain assembly. *J Biol Chem.* 2017; 292(47):19521-19536.

Todaro DR, **Augustus-Wallace AC** (co-first author), Klein JM †, Haas AL. Oligomerization of the Hect ubiquitin ligase NEDD4-2/NEDD4L is essential for polyubiquitin chain assembly. *J Biol Chem.* 2018; 293(47):18192-18206.