

INFO	MathDwight The Bronx, NY	dwright@mathdwright.com mathdwright.com
Foci	Black youth and family  Representation theory as a practice in equity  Representation theory as a study of superalgebras	
EDUCATION	<b>The University of Texas at Arlington</b> , Arlington, TX Ph.D., Mathematics, May 2020 <i>Bases of infinite-dimensional representations of orthosymplectic Lie superalgebras</i> Advisor: Dimitar Grantcharov  <b>The Florida State University</b> , Tallahassee, FL M.S., Pure Mathematics, May 2014  <b>Florida A&amp;M University</b> , Tallahassee, FL B.S., Mathematics, April 2012	
EMPLOYMENT	Postdoc Research Associate NSF ECR-EHR Core Research Grant Studying Successful Doctoral Students in Mathematics from Underrepresented Groups <b>Iowa State University</b> , Ames, IA Supervisor: Michael Young Research Mentor: Jonas T. Hartwig	2020 – 2021
	Postdoctoral Research Advisor Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP) (virtual) <b>Mathematical Sciences Research Institute</b> , Berkeley, CA Research Director: Pamela E. Harris Lead Organizer: Rebecca Garcia	2021
DISTINCTIONS	<i>The University of Texas at Arlington</i> Graduate Assistance in Areas of National Need (GAANN) Fellow Outstanding GAANN Student, Department of Mathematics Peer Mentor Award, Department of Mathematics	2017 – 2020 2020 2018

<sup>†</sup>Students, as best you can, please keep an updated record of your work, your service, your projects, etc. Store your vita on your website—email me if you want some help starting. I tracked down the current CV template, which is one of several documents available at this site.

*American Mathematical Society*

Joint Mathematics Meetings Travel Grant 2019

International Congress of Mathematicians Travel Grant 2018

## COMMUNICATION

## ★INVITED

**Research Articles in Mathematics**

1. (*Accepted in Theoretical and Mathematical Physics*; Joint with J. Hartwig) Diagonal reduction algebra for  $\mathfrak{osp}(1|2)$ .  
Preprint: <https://arxiv.org/abs/2106.04380>
2. (*In preparation*) A note on the standard oscillator representation of  $\mathfrak{osp}(1|2)$ .  
Preview: Decomposition of  $\mathfrak{osp}(1|2)$ -module  $\mathbb{C}[x] \otimes \mathbb{C}^{1|2}$  as a special case
3. (*In preparation*; Joint with J. Hartwig) Ghost center and representations of the diagonal reduction algebra of  $\mathfrak{osp}(1|2)$ .  
Preview: Description of ghost center; classification of finite-dimensional irreps
4. (*In preparation*; Joint with J. Hartwig) Differential Reduction Algebra of  $\mathfrak{osp}(1|2n)$ .  
Preview: Relations for reduction algebras defined through Weyl (super)algebras
5. (*In preparation*; Joint with D. Grantcharov) Bases of infinite-dimensional tensor product representations of  $\mathfrak{osp}(1|2n)$ .  
Preview: New infinite-dimensional  $\mathfrak{osp}(1|2n)$ -modules; decomposition problem

**Research in Education**

6. (*Presenter: Sarah Sword*; Joint with Michael Young, Carl Westine, Aris Winger, Maya Bartel, Christian McRoberts, Simone Sisneros-Thiry, Miriam Gates, Pamela E. Harris) [Studying Successful Doctoral Students in Mathematics from Underrepresented Groups](#). Transforming Institutions 2021 Virtual Conference.

**Writings on the Discipline**

7. (*Submitted*) People Over Math: A Co-created Principle for Successful Research Communities. Joint with faculty authors: Rebecca Garcia, Pamela E. Harris; Graduate student authors: J. Carlos Martínez Mori and Casandra Monroe; Undergraduate student authors: Tomás Aguilar-Fraga, Yasmin Aguillon, Daniel Alofameni Quiñonez, Dylan Alvarenga, Aalliyah Celestine, Parneet Gill, Imhotep Hogan, Jakeyl Johnson, Kobe Lawson-Chavanu, Lina Liu, Aaron Ortiz, Lauren Quesada, Cynthia Marie Rivera Sánchez, Christopher Soto, Camelle Tieu, Dirk Tolson III, Jacob van der Leeuw, Pamela Vargas.
8. ★ The International Congress of Mathematicians: A Math Conference for Everybody<sup>†</sup>. (2018, Winter). *NAM Newsletter*.

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<sup>†</sup>I missed the mark.

Retrieved from [http://www.nam-math.org/include/pages/files/newsletters/2018 Winter.pdf](http://www.nam-math.org/include/pages/files/newsletters/2018%20Winter.pdf)

### Video

9. ★ CPALMS Perspectives Videos (2015) *Carbon foam and geometry*. Available at: <https://www.cpalms.org/Public/PreviewResource/PerspectivesVideo/Preview/128676>

### Presentations on Community within Mathematics

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|   | 2022      |
| 10. ★ "The ABCs of Pandemic Postdoc-ing"<br>The Joint Mathematics Meetings 2022, Seattle, Washington  | Jan       |
|   | 2021      |
| 11. ★ West Virginia University<br>Student Chapter of the Association of Women in Mathematics<br>"Generations of Black Mathematicians" (virtual)   | Feb       |
|   | 2020      |
| 12. ★ American Mathematical Society<br><i>Advocating for Students of Color: There's More You Can Do</i> (virtual)<br>Joint with Pamela E. Harris, Vanessa Rivera Quiñones, Aris Winger, Michael Young | Oct – Dec |
|   | 2020      |
| 13. ★ Institute for Mathematical and Statistical Innovation<br><i>Student-led Initiatives</i> panelist<br>paraDIGMS Fall Conference (virtual)   | Nov       |
|   | 2020      |
| 14. ★ State of Iowa<br>Governor's STEM Advisory Council<br><i>Fostering Equity in the STEM Classroom</i> (virtual)<br>Joint with Pamela E. Harris, Aris Winger  | Jun – Nov |
|   | 2020      |
| 15. ★ Math SWAGGER Colloquium<br>"Defining your function" (virtual)   | Oct       |
|   | 2020      |
| 16. ★ Pomona College<br><i>Black in STEM</i> keynote  | Mar       |
|   | 2020      |
| 17. ★ Florida A&M University<br>Kemetic Mathematical Society<br><i>Research and Graduate Programs</i> (virtual)   | Feb       |
|   | 2019      |

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| 18. The University of Texas at Arlington<br>Discussions in Algebra (DinA)<br>"Incompleteness theorem:<br>a graduating graduate student's hard-knocks lessons"               | Oct |
| 19. The University of Texas at Arlington<br>Graduate Chapter of The American Mathematical Society<br>"A Noether one:<br>the lives of Malone-Mayes, Mirzakhani, and Noether" | Mar |
| 20. National Association of Mathematicians<br>Undergraduate MATHFest XXIX<br>Southern University of New Orleans<br><i>The Graduate School Experience</i> moderator          | Sep |
| 2018  |     |
| 21. ★ National Association of Mathematicians<br>Undergraduate MATHFest XXVIII<br>Spelman College<br><i>Applying to Graduate School</i> panelist                             | Sep |
| 22. The University of Texas at Arlington<br>Department of Mathematics<br>GAANN Day panelist   | Apr |
| 2017  |     |
| 23. ★ <i>Facilitated Graduate Applications Process (F-GAP)</i> panelist<br>Gulf States Math Alliance Conference,<br>The University of Texas at Arlington                    | Feb |
| 2016  |     |
| 24. ★ The University of Texas at Arlington<br>Department of Mathematics<br>GAANN Day panelist   | Apr |

### **Presentations on Theory of Mathematics**

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| 2021  |     |
| 25. ★ "Diagonal reduction algebra of $\mathfrak{osp}(1 2)$ "<br>Categorical and Combinatorial Methods in Representation Theory,<br>and Related Topics<br>Spring Western Sectional Meeting, San Francisco State University (virtual) | May |
| 26. "Reduction algebras and $\mathfrak{osp}(1 2)$ I-II"<br>Algebra and Geometry Seminar, Iowa State University (virtual)  | Apr |
| 27. ★ "Relations, parity, and super representation theory"<br>The Joint Mathematics Meetings 2021, Washington, D.C. (virtual)   | Jan |

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|   | 2020 |
| 28. "From Lie algebras to Lie superalgebras I-II<br>Algebra and Geometry Seminar, Iowa State University (virtual)   | Oct  |
| 29. "Bases of infinite-dimensional representations<br>of orthosymplectic Lie superalgebras"<br>Dissertation Defense, The University of Texas at Arlington                           | Apr  |
| 30. ★ "It looks like calculus: Lie superalgebras acting on polynomials<br>in commuting and anti-commuting variables"<br>Colloquium, California State Polytechnic University, Pomona | Mar  |
| 31. ★ "Finding bases of new infinite dimensional representations of<br>$\mathfrak{osp}(1 2n)$ "<br>Algebra/Number Theory/Combinatorics Seminar, Claremont Colleges                  | Mar  |
| 32. ★ "Basis of an infinite-dimensional tensor product representation<br>of $\mathfrak{osp}(1 2n)$ "<br>The Joint Mathematics Meetings 2020, Denver, Colorado                       | Jan  |
|   | 2019 |
| 33. ★ "Infinite-dimensional tensor product representations<br>of $\mathfrak{osp}(1 2n)$ and $\mathfrak{gl}(2n)$ "<br>Algebra and Geometry Seminar, Iowa State University            | Dec  |
| 34. ★ "Bases of infinite-dimensional tensor product representations<br>of $\mathfrak{osp}(1 2n)$ "<br>Representation Theory Seminar, Baylor University                              | Nov  |
| 35. ★ "Basis of an infinite-dimensional tensor product representation<br>of $\mathfrak{osp}(1 2n)$ "<br>Algebra Seminar, University of North Texas                                  | Oct  |
| 36. "Super Black Magic"<br>Graduate Algebra Symposium, Texas A&M University   | Oct  |
| 37. ★ "Keeping up with the signs:<br>examples of Lie superalgebras and their representations"<br>Colloquium, Sam Houston State University   | Mar  |
| 38. "Infinite-dimensional representations of $\mathfrak{osp}(1 2n)$ "<br>Southwest Local Algebra Meeting, The University of Texas at El Paso  | Feb  |
|   | 2018 |
| 39. "Infinite-dimensional representations of $\mathfrak{osp}(1 2n)$ "<br>Blackwell-Tapia Conference, ICERM  | Nov  |
| 40. "Tensor product representations of $\mathfrak{osp}(1 2n)$ ",<br>Discussions in Algebra (DinA), The University of Texas at Arlington   | Nov  |

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| 41. "Angles of Andy... simple roots"                                | Apr  |
| Discussions in Algebra (DinA), The University of Texas at Arlington |      |
| 42. "Gelfand-Tsetlin subalgebras"                                   | Mar  |
| Discussions in Algebra (DinA), The University of Texas at Arlington |      |
|   | 2017 |
| 43. "Supermathematics..."   | Oct  |
| UNT UTA OU Algebra Symposium, University of Oklahoma                |      |
| 44. "Superalgebras"   | Oct  |
| Discussions in Algebra (DinA), The University of Texas at Arlington |      |
| 45. "Magmas, loops, and other not-quite groups"                     | Apr  |
| UNT UTA OU Algebra Symposium, The University of Texas at Arlington  |      |
| 46. "Solutions to Hungerford exercises on Hom and Duality"          | Feb  |
| Discussions in Algebra (DinA), The University of Texas at Arlington |      |
|   | 2016 |
| 47. "Survey of algebraic objects"                                   | Oct  |
| Discussions in Algebra (DinA), The University of Texas at Arlington |      |
|   | 2013 |
| 48. "A complex investigation of Pythagorean triples"                | Nov  |
| Complex Analysis Seminar, The Florida State University              |      |
|   | 2011 |
| 49. "Cyclotomy and representation Theory"                           | Jul  |
| Iowa Summer Research Symposium, University of Iowa                  |      |

## TEACHING

### Instructor of Record

- o The University of Texas at Arlington  
Summer 2017 – Fall 2017 & Fall 2018 – Spring 2020  
Courses: Business Calculus, Calculus III (2 sections), College Algebra (Pilot), Linear Algebra (2 sections), Preparation for Calculus
- o Florida A&M University  
Fall 2015 – Spring 2016  
Courses: Business Calculus (4 sections), Intermediate Algebra (2 sections)

### Seminar Designer

- o Iowa State University  
Fall 2020 – Spring 2021  
Seminars: Graduate Algebra (*The Reunion*), Post-baccalaureate (*PB Party*)

**Guest Lecturer**

- o The University of Texas at Arlington  
Courses: Abstract Algebra (Graduate), Contemporary Mathematics, Lie Algebras (Graduate), Number Theory

**Teaching Assistant**

- o The University of Texas at Arlington  
Fall 2016 – Spring 2017 & Spring 2018  
Course: Preparation for Calculus (6 sections)
- o The Florida State University  
Fall 2012 – Spring 2014  
Courses: Analytic Trigonometry (11 sections), Calculus for Business (8 sections), College Algebra (11 sections), Precalculus Algebra (5 sections)

**Grader**

- o The University of Texas at Arlington  
Spring 2018 & Spring 2019  
Course: Linear Algebra

SERVICE  
(SINCE 2011)

**Organizer***Black in Math Week on Twitter*

- You should know the other co-organizers and their work:  
Anna Gifty, Marissa Loving, Omayra Ortega, Candice Price, Noelle Sawyer, Angela Tabiri, Michole Washington

*Hidden NORMS (Webinar): Navigating Obstructive Rules in the Mathematical Sciences*

- You should know the other co-organizers and their work:  
Kimberley Haddaway, Pamela E. Harris, Daniel E. Qin, Vanessa Rivera Quiñones

*American Mathematical Society*

- Special Session on Superalgebras, Quantum Groups, and Related Topics
- Founding president of UTA Graduate Chapter and website creator
- Graduate Student Seminar

*Visitors/Speakers (institution at time of visit)*

- Mayowa Awe (Lockheed Martin)
- Edray Goins (Purdue University)
- Mark Jackson (Raytheon)
- Craig J. Sutton (Dartmouth College)
- Talitha Washington (Howard University & National Science Foundation)

*Discussions in Algebra (DinA)*

- Scheduled speakers for DinA at The University of Texas at Arlington

*Grad2Grad*



- Created and coordinated a peer-to-peer studying collaborative for graduate Linear Algebra and Analysis

### K-12 Mentor

#### *Mid-Cities Math Circle (MC)<sup>2</sup>*

- Promoted problem solving and mathematical fun amongst youth
- R. Frank Nims Middle School (Tallahassee, FL)*
- Created STEM lesson plans and taught 15 eighth graders on Saturday mornings

### Undergraduate Advisor and Mentor

#### *National Association of Mathematicians (NAM)*

- Served as NAM Undergraduate MATHFest oral presentation judge
- Florida-Georgia Louis Stokes Alliance for Minority Participation (LSAMP)*
- Adapted program as a recognized student organization (RSO) at The Florida State University
- Mentored 30 undergraduates from underrepresented backgrounds in scientific fields

### Committee Member

#### *Social Action Committee*

- Responded to community issues and campus climate via the Black Faculty and Staff Association of Iowa State

#### *Mathematics Faculty Search Committee*

- Represented students in evaluating candidates for faculty positions in the Department of Mathematics at Florida A&M University

### Local Volunteer

#### *Dallas-Fort Worth Metroplex*

- UT Arlington Calculus Bowl set-up crew member and pizza server
- Forth Worth Regional Science Fair safety inspector

## MEMBERSHIPS

American Mathematical Society<sup>††</sup>

National Association of Mathematicians

## SKILLS

### Coding & Computing

Active Projects:  $\LaTeX$

Past Experiences: Access, APL, C, Excel, Maple, MATLAB

### Networking & Team Building

Active Sample: Co-organizing Black education research reading group

Past Experiences: HCASC captain

### Relating

Active Sample: Mentoring undergraduates (math and non-math majors)

Past Experiences: Interviewer

### Resiliency

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<sup>††</sup>The AMS possess professional gravity, yet I'm not sure what my engagement with the organization should be—who is benefiting and at what cost? I'm still contemplating my role.



Active Sample: Publishing as unemployed researcher, Black in America  
Past Experiences: Undergraduate 0.8 semester GPA → PhD