








Department of Mathematics, Morgan State University, 1700 E Cold Spring Lane, Baltimore, MD 21251
      

Appointments (since PhD)

Professoriate

- 2023–curr **Tenure-track Assistant Professor**, Morgan State University ← HBCU Faculty.
2022–2023 **Visiting Assistant Professor**, Pomona College.

Non-professoriate

- 2025–2025 **Faculty Research Fellow**, Alliance for Scholarship, Collaboration, Engagement, Networking, and Development (ASCEND). Yale University.
2024–2025 **Writing Coach**, consultant to the IBM–HBCU Quantum Center via PRISSEM Academic Services, LLC.
2022–2022 **Facilitator**, Math Leaders 4 Racial Justice via the Charles A. Dana Center.
2020–2021 **Postdoc Research Associate (National Science Foundation (NSF) Grant EES–1920753)**, Iowa State University. Supervisor/PI: Michael Young.
2021–2021 **Postdoctoral Research Advisor**, Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP). Supervisors: Rebecca E. García & Pamela E. Harris.

Education

- 2016–2020 **PhD in Mathematics**, The University of Texas at Arlington. Advisor: Dimitar Grantcharov. [Dissertation](#).
2012–2014 **MS in Pure Mathematics**, The Florida State University.
2008–2012 **BS in Mathematics**, Florida A&M University ← HBCU Alumnus.

Research/Service/Teaching Summary: 2023–Present

Research

Co-author names: |alphabetical order within vertical bars|; **pre-baccalaureate/pre-doctoral** by date of submission.

Articles in Mathematics

- 2025 **Symplectic differential reduction algebras and skew-affine generalized Weyl algebras.**
[SIGMA](#), arXiv: [2403.15968](#).
|Hartwig, JT; Williams II, DA|.
- 2024 **Action of $\mathfrak{osp}(1|2n)$ on polynomials tensor $\mathbb{C}^{0|2n}$** (submitted).
arXiv: [2408.12324](#).
[Williams II, DA](#).
- 2024 **Interval and ℓ -interval rational parking functions.**
[Discrete Math. Theor. Comput. Sci.](#), arXiv: [2311.14055](#).
|Aguilar-Fraga, T; Elder, J; Garcia, RE; Hadaway, KP; Harris, PE; Harry, KJ; Hogan, IB; Johnson, J; Kretschmann, J; Lawson-Chavanu, K; Martínez Mori, JC; Monroe, CD; Quiñonez, D; Tolson III, D; [Williams II, DA](#)|.
- 2023 **On parking functions and the Tower of Hanoi.**
[Amer. Math. Monthly](#), arXiv: [2206.00541](#).
|Aguillon, Y; Alvarenga, D; Harris, PE; Kotapati, S; Martínez Mori, JC; Monroe, CD; Saylor, Z; Tieu, C; [Williams II, DA](#)|.
- 2023 **Ghost center and representations of the diagonal reduction algebra of $\mathfrak{osp}(1|2)$.**
[J. Geom. Phys.](#), arXiv: [2203.08068](#).
|Hartwig, JT; [Williams II, DA](#)|.

Articles in Education

- 2024 **Humanizing proof-based mathematics instruction through experiences reading rich proofs and mathematician stories** (submitted).
| [Contreras, N](#); [Dawkins, PC](#); [Guajardo, LR](#); [Harris, PE](#); [Lew, KM](#); [Melhuish, KM](#); [Roh, KH](#); [Williams II, DA](#); [Winger, A](#) |.
- 2024 **Diverse storylines of entering the mathematics professoriate** (submitted).
[Melhuish, KM](#); [Guajardo, LR](#); [Lew, KM](#); | [Dawkins, PC](#); [Diaz-Lopez, A](#); [Garcia, RE](#); [Harris, PE](#); [Jones, E](#); [Patel, P](#); [Roh, KH](#); [Walker, S](#); [Williams II, DA](#); [Winger, A](#) |.
- 2024 **Opposing dimensions in mathematicians' counter narratives written for undergraduate students.**
[Proceedings \(PDF\)](#) of the 26th Conference on Research on Undergraduate Mathematics.
[Melhuish, KM](#); [Guajardo, LR](#); [Contreras, N](#); | [Dawkins, PC](#); [Diaz-Lopez, A](#); [Garcia, RE](#); [Lew, KM](#); [Harris, PE](#); [Roh, KH](#); [Walker, S](#); [Williams II, DA](#); [Winger, A](#) |. [Citation note: Shanise Walker \(Clark Atlanta\); Pamela E. Harris \(University of Wisconsin-Milwaukee\).](#)

Grant Activity

- 2024 **NSF 23-598: Excellence in Research: Super representation theory, quantum spaces, and algebra maps** (Pending). PI: [Williams II, DA](#).

Service

[Acronyms for professional organizations](#): American Mathematical Society (AMS); Mathematical Association of America (MAA); National Association of Mathematicians (NAM).

Community

Committee: Maryland Statewide Math Group. **K-12 Education**: Baltimore City Community Based Mathematics Project (Lead: Whitney Johnson; utilized the game SET).

Profession

Committees: Inclusivity Prize (MAA); Nominations Subcommittee (Chair, NAM). **Conference/Seminar Organizer**: [Fresh Researchers in Algebra, Combinatorics, and Topology Active Learning Seminar \(FRACTALS\)](#); [AMS Spring Eastern Sectional \(Howard University\) Special Session](#). **Memberships**: AMS; MAA; NAM (Lifetime). **Referee**: Communications in Algebra.

University

Committees: Actuarial Science (Department-special); Graduate Comprehensive Exam (Department-standing); Graduate Curriculum (Department-standing). **Student-facing**: MATH Club advising (undergraduate); Mathematical writing and \LaTeX daily log designer (graduate/undergraduate); POWER (Black Male Initiative) mentor (School of Computer, Mathematical, and Natural Sciences).

Teaching

Advising

Academic: Major advisor (Morgan State University). **Professional Development**: Mathematical writing and \LaTeX daily log facilitator. **Undergraduate Research**: Abhinav Poudel (Morgan State University); Irmak Bukey (Pomona College, senior thesis); Andrew Shannon (Pomona College, senior thesis); [Summer Undergraduate Math Research at Yale \(SUMRY\) 2025 Project Mentor/Leader](#).

Enrichment

Conferencing: MAA Introduction to Accessibility for Mathematics; Morgan Institute for Strategic Teaching. **Certification**: Quality Matters Rubric Update Seventh Edition (RU) 2023.

Instruction

Morgan State University: [Graduate](#): MATH 505 Abstract Algebra I; MATH 506 Abstract Algebra II.
[Undergraduate](#): MATH 413 Algebraic Structures I; MATH 431 Mathematical Theory of Statistics I; MATH 432 Mathematical Theory of Statistics II; MATH 450 Senior Seminar. **Pomona College**: [Undergraduate](#): MATH 032 PO Calculus III; MATH 171 PO Abstract Algebra I; MATH 199 IRPO Independent Research: Intro to Manim via Combinatorics (and Algebra).