Dwight Anderson Williams II, PhD (he/his)

Dwight.WilliamsII@morgan.edu

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

⌗ | ○ | ℊ | ⓘ | ℝ⁶ | Ψ | Z

Professional Appointments (post-PhD)

2023–curr **Assistant Professor**, Morgan State University.

2022–2023 **Visiting Assistant Professor**, Pomona College.

2022–2022 **Facilitator**, Math Leaders 4 Racial Justice.

2020–2021 **Postdoc Research Associate**, Iowa State University. Supervisor: Michael Young.

2021–2021 **Postdoctoral Research Advisor**, Mathematical Sciences Research Institute Undergraduate Program. Supervisors: Rebecca E. Garcia & Pamela E. Harris.

Education

2016–2020 **PhD in Mathematics**, The University of Texas at Arlington. Advisor: Dimitar Grantcharov.

2012–2014 **MS in Pure Mathematics**, The Florida State University.

2008–2012 **BS in Mathematics**, Florida A&M University.

Recent Research

Co-author names: alphabetical in mathematics; **pre-baccalaureate**/*pre-doctoral* by date of submission.

Articles in Mathematics

2024 **Symplectic differential reduction algebras and skew-affine generalized Weyl algebras** (submitted).
arXiv: 2403.15968. SIGMA, arXiv: 2403.15968.
Hartwig, JT; Williams II, DA.

2023 **Interval and ℓ-interval rational parking functions** (submitted).
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**.
American Mathematical Monthly. DOI: 10.1080/00029890.2023.2206311.
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** $\mathfrak{osp}(1|2)$.
Journal of Geometry and Physics. DOI: 10.1016/j.geomphys.2023.104788.
Hartwig, JT; Williams II, DA.

2022 **Diagonal reduction algebra for** $\mathfrak{osp}(1|2)$.
Theoretical and Mathematical Physics. DOI: 10.1134/S0040577922020015 (for Russian version)
Hartwig, JT; Williams II, DA.

Articles in Education

2024 **Opposing Dimensions in Mathematicians' Counter Narratives Written for Undergraduate Students**.
Research in Undergraduate Mathematics Education 26th Annual Conference. Proceedings (in press).
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.

Talks

March 2024	"Reduction (Super)algebras", Algebra Seminar (online), UW-Milwaukee
March 2024	"Lie superalgebras, representation theory, and mathematical physics", Colloquium (online), Morgan State University
February 2024	"Laplace's equation, Dirac's equation, and algebraic methods", AMS UTA Seminar (online), The University of Texas at Arlington
November 2023	"Extremal Equations & Algebraic Methods", Early Career Math Colloquium (online)

Exposition

2022 **People Over Math: A Co-created Principle for Successful Research Communities**.
MAA FOCUS. Digital edition.
Garcia, RE; Harris, PE; Williams II, DA; *Martínez Mori, JC*; *Monroe, CD*; **Aguilar-Fraga, T**; **Aguillon, Y**; **Alofamoni Quiñonez, D**; **Alvarenga, D**; **Celestine, A**; **Gill, P**; **Hogan, IB**; **Johnson, J**; **Lawson-Chavanu, K**; **Liu, L**; **Ortiz, A**; **Quesada, L**; **Rivera Sánchez, CM**; **Soto, C**; **Tieu, C**; **Tolson III, D**; **van der Leeuw, J**; **Vargas, P**.

Instructor of Record

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.

Pomona College

Undergraduate: MATH PO 032 Calculs III, MATH 101 PO Introduction to Analysis, MATH 171 PO Abstract Algebra I.

The University of Texas at Arlington

Undergraduate: MATH 1302 College Algebra, MATH 1316 Mathematics for Economics and Business Analysis, MATH 1421 Preparation for Calculus, MATH 2326 Calculus III, MATH 3330 Introduction to Matrics & Linear Algebra.

Advising

Undergrad

2024–curr	Twymun Safford, Angeluis Sayavongsa-Vaughn. Morgan State University. *MANIM+MATH+MENTORING*.
2023–2023	Irmak Bukey, Gisele Umutoni. Pomona College. Manim (reduction algebras, trees, proofs).
2022–2023	Irmak Bukey, Pomona College. Senior Thesis: Reduction Algebras: Verifying Solutions to Laplace's Equation.
2022–2023	Andrew Shannon, Pomona College. Senior Thesis: The Diffie-Hellman Problem in Lie Algebras Revisited.
2021–2021	Aaron Ortiz, Lauren J. Quesada, Cynthia Marie Rivera Sánchez. Mathematical Sciences Research Institute Undergraduate Program. Research Report: The defective parking space.
2021–2021	Tomás Aguilar-Fraga, Kobe Lawson-Chavanu, Dirk Tolson III. Mathematical Sciences Research Institute Undergraduate Program. Research Report: ℓ-Interval parking functions.

Sample of Service

Committee	Actuarial Science (Dept.-special), Graduate Comprehensive Exam (Dept.-standing), Graduate Curriculum (Dept.-standing), Math Affinity Group (Statewide/University).
Membership	AMS, MAA, NAM.
Mentor	POWER (Black Male Initiative).
Organizer	Active learning seminars, AMS Special Sessions.

Referee   Communications in Algebra.