John D. Wiltshire-Gordon

CONTACT

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Mathematics and Statistics
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INTERESTS

Representation theory of categories, configuration spaces, computer algebra

ACADEMIC POSITIONS

Williams College

Visiting Assistant Professor, Fall 2020 - Summer 2021

University of Wisconsin

Honorary Fellow, Fall 2019 - Summer 2020
Van Vleck Visiting Assistant Professor, Spring 2017 - Summer 2019
Supervisor: Jordan S. Ellenberg

ICERM

Semester postdoctoral researcher, Fall 2016
Program: "Topology in motion"

EDUCATION

University of Michigan

Ph.D. May 2016. "Representation theory of combinatorial categories"
Advisor: David E. Speyer

University of Chicago

B.A. in Mathematics, June 2011

PAPERS

Configuration spaces of axis-aligned boxes with Maya Banks. In preparation.

On the tails of FI-modules with Peter Patzt. arXiv:1909.09729, September 2019.

Configuration space of a product. arXiv:1808.08894, August 2018.

On computing the eventual behavior of an FI-module over the rational numbers. arXiv:1808.07803 Math. Comp. 89 (2020), no. 326, 2985–3001.

Models for configuration space in a simplicial complex. arXiv:1706.06626, *Colloq. Math.* 155 (2019), no. 1, 127–139.

Specht Polytopes and Specht Matroids with Alexander Woo and Magdalena Zajaczkowska. arXiv:1701.05277, January 2017. *Combinatorial algebraic geometry*, 201–228, Fields Inst. Commun.

Algebraic structures on cohomology of configuration spaces of manifolds with flows with Jordan S. Ellenberg. arXiv:1508.02430, August 2015.

Categories of Dimension Zero arXiv:1508.04107. *Proc. Amer. Math. Soc.* 147 (2019), no. 1, 35–50.

Uniformly presented vector spaces arXiv:1406.0786, June 2014.

Word-induced measures on compact groups with Gene S. Kopp. arXiv:1102.4353 Unpublished.

Robust coin flipping with Gene S. Kopp. arXiv:1009.4188. Advances in cryptology—EUROCRYPT 2012, 172–194, *Lecture Notes in Comput. Sci.*, 7237, Springer, Heidelberg, 2012.

Teaching

University of Michigan

Fall	2012	Calculus 115
Winter	2013	Calculus 115

University of Wisconsin

Fall	2017	Combinatorics 475
Spring	2018	Collaborative Undergraduate Research Lab 490
Fall	2018	Graduate Algebra 741

Williams College

Fall	2020	Intro to Computer Algebra 391
Fall	2020	Representation theory 456
Spring	2021	Linear algebra
Spring	2021	Linear algebra (second section)

Mentorship

- During the 2015-2016 academic year, I mentored an undergraduate student. Under my guidance, he proved a result that appeared in the Journal of Algebra: Andrew Gitlin. *New examples of dimension zero categories.* arXiv:1709.06971. *J. Algebra*, 505:271–278, 2018.
- Fall of 2016, I was selected as a student mentor for the Fields Institute session "Combinatorial algebraic geometry."
- During the 2018-2019 academic year, I began a collaboration with a first-year graduate student named Maya Banks. This work is still in progress.
- Summer 2019, I was a TA for the MSRI summer school "Representation Stability"

Honors

2011–2014	NSF Graduate Research Fellow
2015–2016	Rackham Predoctoral Fellow
2016	Wirt & Mary Cornwell Prize