

GWYNETH MORELAND

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EMPLOYMENT

UIC

Research Assistant Professor

August 2023 - Present

EDUCATION

Harvard University

Ph.D. in Mathematics

Advisor: Joe Harris

May 2023

University of Michigan

B.S. in Honors Mathematics

April 2017

Citizenship: United States citizen

PAPERS

G. Moreland *On the effective \mathcal{E} nef cones of the Chow ring of the Hilbert scheme of three points in \mathbb{P}^3 .* Submitted.

M. Brandt, J. Bruce, M. Chan, M. Melo, G. Moreland, C. Wolfe *On the top-weight rational cohomology of A_g .* Geometry & Topology. (2024).

[arXiv:2012.02892](#)

J. DeWitt, K. Ford, E. Goldstein, S. J. Miller, G. Moreland, E. Palsson, S. Senger, *Dimensional lower bounds for Falconer type incidence and point configuration theorems.* JAMA. (2019).

[arXiv:1612.00539](#)

S. Gastineau and G. Moreland, *A binomial Laurent phenomenon algebra associated to the complete graph.* J. Algebr Comb (2017).

[arXiv:1506.01416](#)

M. Asada, E. Fourakis, E. Goldstein, S. Manski, N. McNew, S. J. Miller, G. Moreland, *Subsets of $\mathbb{F}_q[x]$ free of 3-Term geometric progressions.* Finite Fields Appl (2017).

[arXiv:1512.01932](#)

G. Moreland and M. Zieve, *Some Diophantine equations related to positive-rank elliptic curves.*

[arXiv:1304.1442](#)

HONORS

AMS-Simons Travel Grant

July 2024

NSF GRFP Fellowship

March 2017

Alice T. Schafer Prize - Honorable Mention

November 2016

Barry M. Goldwater Scholarship

March 2016

UM Math Dept: Alumni Scholarship	March 2016
UM Math Dept: William LeVeque Award in Number Theory	March 2016
UM Math Dept: Jack McLaughlin Award in Algebra	April 2015
UM Math Dept: Evelyn O. Bychinsky Award	April 2014

SERVICE

UIC Algebraic Geometry Seminar co-organizer	Spring 2024
UIC Undergraduate Math Symposium volunteer	Nov 2023
Teaching Undergraduate Mathematics panelist	November 2021, April 2021
· Answered questions as part of a panel for early graduate students to ask advice from experienced teaching fellows.	
Women in Math/Real Representations Lunch	December 2018-September 2021
· Co-organizer for the Women in Math lunch, which then expanded to the Real Representations lunch, an outreach social event for underrepresented groups in mathematics.	
Math Includes	September 2020 - May 2021
· Mentored a group of 4 undergraduates as part of Math Includes, a diversity and outreach initiative in the Harvard Math Department	
Baby Algebraic Geometry Learning Seminar	Fall 2019
· Co-organized and spoke at BAGeLS, a seminar aimed at teaching Hodge theory to a wide audience.	
Society of Undergraduate Math Students	September 2013 - April 2017
· Volunteer, as well as co-president in last 3 years.	

TEACHING

Instructor	August 2023 - Present
· Taught Calc III, active-learning Intro to Proofs, and second semester graduate algebraic geometry at UIC.	
Pedagogy Fellow	September 2022 - May 2023
· Assisted in running the Harvard math department's teaching training course for first year graduate students. Also in charge of aiding with other pedagogy needs in the math department.	
Teaching Fellow	Fall 2019, Fall 2021
· Taught Math 1b (second semester calculus) twice at Harvard. Responsible for lecture, office hours, student meetings, and exam grading.	

TALKS

Positive cycles on Hilbert schemes of points, AMS Spring Central Sectional Meeting, March 29, 2025.

Positive cycles on Hilbert schemes of points, UIUC Algebraic Geometry Seminar. Nov 14, 2023.

Nef and effective cones of the Hilbert scheme of 3 points in \mathbb{P}^3 , UWaterloo Geometry and Topology Seminar. April 13, 2023.

Nef and effective cones of the Hilbert scheme of 3 points in \mathbb{P}^3 , UIC Algebraic Geometry Seminar. March 6, 2023.

On the Hilbert scheme of 3 points in \mathbb{P}^3 , Special Session on Combinatorial AG, AMS NE Sectional. October 2, 2022.

Top Weight Cohomology of A_g , American Grad Student AG Seminar. November 23, 2020.

Top Weight Cohomology of A_g , Harvard-MIT AG Seminar. November 17, 2020.

Low-Lying Zeros of Families of L-Functions, Young Mathematicians Conference. August 23, 2015.

Quaternionic Ramsey Theory, Young Mathematicians Conference. August 22, 2015.

Product Laurent Phenomenon Algebras, Young Mathematicians Conference. August 23, 2014.

UNDERGRADUATE RESEARCH EXPERIENCE

University of Chicago REU	June 2016 - August 2016
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SMALL REU	June 2015 - August 2015
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University of Michigan REU	May 2014 - September 2014
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Number Theory Research	December 2012 - December 2013
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· (with Michael Zieve at University of Michigan)

EXPOSITORIES

G. Moreland, *Class field theory for number fields and complex multiplication*.

math.uchicago.edu/~may/REU2016/REUPapers/Moreland.pdf