

Research Interests

combinatorics, nonlinear algebra, algebraic statistics

Education

2019– **University of California, Berkeley**, *Ph.D. in Mathematics (expected)*.

Class of 2019 **Wesleyan University**, *B.A. in Mathematics (High Honors)*.

Honors Thesis: “Combinatorial Nullstellensatz: Various Proofs, Extensions and Applications”

Advised by Karen L. Collins

Publications & Preprints

2020 *Logarithmic Voronoi Cells* (with Alexander Heaton). Submitted, 2020. arXiv: [2006.09431](https://arxiv.org/abs/2006.09431)

2019 *Computing a Logarithmic Voronoi Cell* (with Alexander Heaton and Sascha Timme). Published on the [HomotopyContinuation.jl](https://homotopycontinuation.jl) website, 2019.

2019 *Recovering Conductances of Resistor Networks in a Punctured Disk* (with Brian Burks, Sunita Chepuri, and Patricia Commins). Submitted, 2019. arXiv: [1812.01517](https://arxiv.org/abs/1812.01517)

2018 *Deformations of the Weyl Character Formula for $SO(2n+1, \mathbb{C})$ via Ice Models* (with Patricia Commins, Alexandra Embry, Sylvia Frank, Yutong Li, and Alexander Vetter.). arXiv: [1811.11879](https://arxiv.org/abs/1811.11879)

2017 *Growth of Meandric Numbers* (with Kayla Cummings and Edgar Jaramillo Rodriguez). Transcription in DIMACS-DIMATIA REU booklet (pp. 33-36).

Talks

Apr 2020 *Logarithmic Voronoi Cells*
Nonlinear Algebra Seminar Online

Oct 2019 *Ice Models for Type A* (two talks)
Berkeley Combinatorics Reading Seminar

Jun 2019 *Linear Spaces and Grassmannians*
Max Planck Institute for Mathematics in the Sciences (Leipzig, Germany)

Jan 2019 *Combinatorial Nullstellensatz: Various Proofs, Extensions and Applications*
Wesleyan University Thesis Defense

Apr 2018 *Visibility Graphs of Staircase Polygons*
Berkeley Undergraduate Number Theory Conference

Awards & Fellowships

2020 NSF Graduate Research Fellowship

2019 Chancellor’s Graduate Fellowship (UC Berkeley)

Phi Beta Kappa (Connecticut Gamma Chapter)

Rice Prize (Wesleyan University)

awarded to a senior for excellence in mathematics

2018 Rae Shortt Prize (Wesleyan University)
awarded to a junior for excellence in mathematics

Teaching

Fall 2018 **Probability Theory**, *Teaching Assistant*.
Instructor: Han Li (Wesleyan University)

Spring 2018 **Graph Theory**, *Teaching Assistant*.
Instructor: Karen L. Collins (Wesleyan University)

Fall 2017 **Probability Theory**, *Teaching Assistant*.
Instructor: Felipe Ramírez (Wesleyan University)

Workshops & Conferences

2020 Nonlinear Algebra Seminar Online

2019 Workshop on Classical and Quantum Integrable Systems (St. Petersburg, Russia)
Summer School on Randomness and Learning in Nonlinear Algebra (MPI MiS)
Workshop on Applied Algebra (TU Braunschweig, Germany)
Discrete Math Day (U Mass Amherst)

2017 Graduate Opportunities for Women (Northwestern University)
Women in Math (Smith College)
Midsummer Combinatorial Workshop (Charles University, Czechia)
SAMSI Optimization Workshop

Languages

Programming C++, L^AT_EX, OCaml, SML, HTML, Python, Sage
Spoken Russian, English, Hebrew

Service

2019- Noetherian Ring, member, *UC Berkeley*

Sep 2020 Math Club graduate school panel, panelist, *Wesleyan University* (online)

Spring 2020 Directed reading program (DRP), mentor, *UC Berkeley*

2019-2020 Unbounded Representation (URep), member, *UC Berkeley*