

## Research Interests

graph theory, combinatorics, commutative algebra

## Education

2019– **University of California, Berkeley**, *Chancellor's Doctorate Fellow (Mathematics)*.  
Berkeley, CA

Class of 2019 **Wesleyan University**, *Bachelor of Arts (High Honors in Mathematics)*.  
Middletown, CT  
Honors Thesis: “Combinatorial Nullstellensatz: Various Proofs, Extensions and Applications”  
Advised by Karen L. Collins

## Academic & Research Experience

Jun–Jul **Max Planck Institute for Mathematics in the Sciences**, *Visitor*.

2019 Leipzig, Germany  
Supervised by Bernd Sturmfels  
Project: *Logarithmic Voronoi Diagrams* (ongoing collaboration with Alexander Heaton)

Jan–May **Wesleyan University**, *NSF Research Fellow*.

2019 Middletown, CT  
Supervised by Cameron Donnay Hill  
Project: *On 3-DAP of Combinatorial Lascar Expansions*

Jun–Aug **Twin Cities REU**, *NSF Student Researcher*.

2018 University of Minnesota, MN  
Supervised by Benjamin Brubaker and Pavlo Pylyavskyy  
Projects: *Ice Models and Classical Groups* and *Resistor Networks in a Punctured Disk*

May–Aug **DIMACS/DIMATIA REU**, *NSF Student Researcher*.

2017 Rutgers University, NJ and Charles University, the Czech Republic  
Supervised by James Abello  
Project: *Visibility Graphs of Staircase Polygons*

Sep 2016– **Treespace REU**, *NSF Student Researcher*.

Feb 2017 Lehman College (CUNY), NY  
Mentored by Katherine St. John and Megan Owen  
Project: *Recovering the Closure of Rooted Triples*

## Teaching

Fall 2018 **Probability Theory**, *Teaching Assistant*.

Wesleyan University, CT  
Instructor: Han Li

Spring 2018 **Graph Theory**, *Teaching Assistant*.

Wesleyan University, CT  
Instructor: Karen L. Collins

Fall 2017 **Probability Theory**, *Teaching Assistant*.

Wesleyan University, CT  
Instructor: Felipe Ramírez

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## Talks & Lectures

- June 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

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## Awards & Fellowships

- 2019 Chancellor's Graduate Fellowship  
UC Berkeley, CA  
Phi Beta Kappa  
Connecticut Gamma Chapter  
Rice Prize (awarded to a senior for excellence in mathematics)  
Wesleyan University, CT
- 2018 Rae Shortt Prize (awarded to a junior for excellence in mathematics)  
Wesleyan University, CT

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## Workshops & Conferences Attended

- 2019 Workshop on Classical and Quantum Integrable Systems at Euler International Mathematical Institute in Saint Petersburg, Russia;  
Summer School on Randomness and Learning in Non-Linear Algebra at MPI Leipzig;  
Workshop on Applied Algebra at TU Braunschweig, Germany;  
Discrete Math Day at U Mass, Amherst;
- 2017 GROW Conference at Northwestern University;  
WIMIN (Women in Math) at Smith College;  
DIMATIA Program at Charles University, the Czech Republic;  
Midsummer Combinatorial Workshop at Charles University, the Czech Republic;  
SAMSI Optimization Workshop.

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## Languages

- Programming C++,  $\text{\LaTeX}$ , OCaml, SML, HTML, Python
- Spoken Russian (native), English (fluent), Hebrew (beginner)

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## Publications and Preprints

- [1] with Alex Heaton and Sascha Timme. *Computing a Logarithmic Voronoi Cell*. Published on the [HomotopyContinuation.jl](#) website, 2019.
- [2] with Brian Burks, Sunita Chepuri, and Patricia Commins. *Recovering Conductances of Resistor Networks in a Punctured Disk*. Submitted, 2019. arXiv: [1812.01517](#)
- [3] with Patricia Commins, Alexandra Embry, Sylvia Frank, Yutong Li, and Alexander Vetter. *Deformations of the Weyl Character Formula for  $SO(2n+1, \mathbb{C})$  via Ice Models*. In preparation, 2018. arXiv: [1811.11879](#)
- [4] with Kayla Cummings and Edgar Jaramillo Rodriguez. *Growth of Meandric Numbers*. Transcription in DIMACS-DIMATIA REU booklet (pp. 33-36), 2017.