

Yulia Alexandr

Updated October 22, 2021

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Research interests algebraic statistics, nonlinear algebra, convex geometry

Education **University of California, Berkeley** 2019–present
PhD in Mathematics
Advisors: Bernd Sturmfels and Serkan Hoşten

Wesleyan University Class of 2019
BA in Mathematics with High Honors
Advisor: Karen Collins
Thesis: *Combinatorial Nullstellensatz: Various Proofs, Extensions & Applications*

Awards and fellowships NSF Graduate Research Fellowship 2020
Chancellor’s Graduate Fellowship (UC Berkeley) 2019
Phi Beta Kappa (Connecticut Gamma Chapter) 2019
Rice Prize (Wesleyan University) 2019
awarded to a senior for excellence in mathematics
Rae Shortt Prize (Wesleyan University) 2018
awarded to a junior for excellence in mathematics

Publications **Logarithmic Voronoi cells**
with Alexander Heaton.
Published in *Algebraic Statistics* **12** (2021), no. 1, 75-95.

Computing a logarithmic Voronoi cell
with Alexander Heaton and Sascha Timme.
Published online at *HomotopyContinuation.jl*, 2019.

Recovering Conductances of Resistor Networks in a Punctured Disk
with Brian Burks, Sunita Chepuri, and Patricia Commins.
Under revision. Available on *arXiv*, 2019.

Deformations of the Weyl Character Formula for $SO(2n + 1, \mathbb{C})$ via Ice Models
with P. Commins, A. Embry, S. Frank, Y. Li, and A. Vetter.
Available on *arXiv*, 2018.

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

Teaching	Teaching assistant (Wesleyan University)	Fall 2018
	MATH 231: Probability Theory	
	Instructor: Han Li	
	Teaching assistant (Wesleyan University)	Spring 2018
	MATH 274: Graph Theory	
	Instructor: Karen Collins	
	Teaching assistant (Wesleyan University)	Fall 2017
	MATH 231: Probability Theory	
	Instructor: Felipe Ramírez	
Talks	<i>Logarithmic Voronoi Cells</i>	
	SFSU Algebra, Geometry, and Combinatorics Seminar	October 2021
	Berkeley Combinatorics Research Seminar	April 2021
	Nonlinear Algebra Seminar Online	April 2020
	<i>Caratheodory, Radon, and Helly theorems in convex geometry</i>	July 2021
	Minicourse on Convex Geometry at MPI MiS (Leipzig, Germany)	
	<i>Ice Models for Types A and B</i> (two talks)	October 2019
	Berkeley Combinatorics Reading Seminar	
	<i>Linear Spaces and Grassmannians</i>	June 2019
	Max Planck Institute for Mathematics in the Sciences (Leipzig, Germany)	
Skills	<i>Combinatorial Nullstellensatz</i>	January 2019
	Wesleyan University Thesis Defense	
	<i>Visibility Graphs of Staircase Polygons</i>	April 2018
	Berkeley Undergraduate Number Theory Conference	
	Programming	
	Macaulay2, SAGE, Mathematica, C, C++, \LaTeX , OCaml, SML, HTML, Python.	
	Languages	
	English (fluent), Russian (native), Hebrew (intermediate)	
	Service and outreach	
	Noetherian Ring, member, <i>UC Berkeley</i>	2019–present
	Math Club graduate school panel, panelist, <i>Wesleyan University</i>	2020
	Directed reading program (DRP), mentor, <i>UC Berkeley</i>	2020
	Unbounded Representation (URep), officer, <i>UC Berkeley</i>	2019–2020