

Yulia Alexandr

Updated December 30, 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 polytopes for discrete linear models**
Submitted. Available on [arXiv](#), 2021.

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

Logarithmic Voronoi Cells

SFSU Algebra, Geometry, and Combinatorics Seminar

October 2021

Berkeley Combinatorics Research Seminar

April 2021

Nonlinear Algebra Seminar Online

April 2020

Caratheodory, Radon, and Helly theorems in convex geometry

July 2021

Minicourse on Convex Geometry at MPI MiS (Leipzig, Germany)

Ice Models for Types A and B (two talks)

October 2019

Berkeley Combinatorics Reading Seminar

Linear Spaces and Grassmannians

June 2019

Max Planck Institute for Mathematics in the Sciences (Leipzig, Germany)

Combinatorial Nullstellensatz

January 2019

Wesleyan University Thesis Defense

Visibility Graphs of Staircase Polygons

April 2018

Berkeley Undergraduate Number Theory Conference

Skills

Programming

Macaulay2, SAGE, Mathematica, C, C++, \LaTeX , OCaml, SML, HTML, Python.

Languages

English (fluent), Russian (native), Hebrew (intermediate)

Service and outreach

STEMinst club, invited speaker, *Berkeley High School*

Nov 2021

Noetherian Ring, member, *UC Berkeley*

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