

Matt Larson

CONTACT INFORMATION 6 Comstock Circle, Apt 418A
Stanford, CA USA 94305
Citizenship: United States

EDUCATION **Stanford University**
PhD in Mathematics, 2019 – present

Yale University
M.S. in Mathematics, B.S. in Mathematics, 2019
Honors: Phi Beta Kappa, *magna cum laude*, distinction in the major

RESEARCH PAPERS *Intersection theory of polymatroid* (with C. Eur), submitted.

K-rings of wonderful varieties and matroids (with S. Li, S. Payne, and N. Proudfoot), submitted.

Signed permutohedra, delta-matroids, and beyond (with C. Eur, A. Fink, and H. Spink), submitted.

The local motivic monodromy conjecture for simplicial nondegenerate singularities (with S. Payne and A. Stapledon), submitted.

Stellahedral geometry of matroids (with C. Eur and J. Huh), submitted.

The Bergman fan of a polymatroid (with C. Crowley, J. Huh, C. Simpson, and B. Wang), submitted.

Resolutions of local face modules, functoriality, and vanishing of local h -vectors (with S. Payne and A. Stapledon). To appear in *Algebr. Comb.*

The Arakelov-Zhang pairing and Julia sets (with A. Bridy), Proc. Amer. Math. Soc. 149 (2021), 3699-3713.

Inverse problems for minimal complements and maximal supplements (with N. Alon and N. Kravitz), J. Number Theory 223 (2021), 307-324.

Unions of Random Trees and Applications (with A. James, D. Montealegre, and A. Salmon), Disc. Math. 344 (2021). 13pp.

Power maps in finite groups, Integers 19 (2019). #A58, 15pp.

OTHER WRITINGS *Theorem of the base* (with R. Cheng, L. Ji, and N. Olander). To appear in *SPEC: Stacks Project Expository Collection*.

INVITED TALKS *Bergman fans of polymatroids*, Fields matroid seminar, online. (April 2023)

Stellahedral geometry of matroids, KTH combinatorics seminar, online. (November 2022)

The local motivic monodromy conjecture for simplicial nondegenerate singularities, Brown algebraic geometry seminar, Providence. (November 2022)

Algebraic geometry of delta-matroids, Matroids Day, Madison. (November 2022)

The local motivic monodromy conjecture for simplicial nondegenerate singularities, Stanford algebraic geometry seminar, Stanford. (October 2022)

Stellahedral geometry of matroids, University of Western Ontario geometry and combinatorics seminar, online. (October 2022)

Algebraic geometry of delta-matroids, Fall Eastern Sectional Meeting, Amherst. (October 2022)

Nonvanishing criteria for local h -polynomials, Fall South Sectional Meeting, El Paso. (September 2022)

TEACHING

Stanford University

Spring 2020 Course assistant for Modules and Groups Representations

Fall 2019 Course assistant for Applied Linear Algebra

Yale University

Fall 2017 - Spring 2019 Peer tutor for Vector Calculus and Linear Algebra I and II

HONORS AND AWARDS

2020 NDSEG Fellowship

2019 DeForest Prize

2018 Chess International Master

2018 Anthony Stanley Prize

2017 Benjamin F. Barge Prize

2016 Chess FIDE Master

2015 National Merit Scholar

SERVICE

Stanford directed reading project mentor (2022-present)

Organizer of Stanford student algebraic geometry seminar (2020-present)

Contributor to the Stacks project

Member of Yale math department's undergraduate student advisory committee (2018-2019)

Reviewer for MathSciNet

RELEVANT SKILLS

Languages: English, Spanish (working proficiency)

Experience programming in Sage, Python, and Perl