

Research interests: Algebraic Geometry, Combinatorics, Tropical Geometry.

EMPLOYMENT

Institute for Advanced Study, Member 2023–2025
Mentor: June Huh.

EDUCATION

Brown University, Ph.D. in Mathematics 2019–2023
Advisor: Melody Chan.

Yale University, M.Sc. in Mathematics 2017–2019
Lang Fellow.

Harvey Mudd College, B.Sc. in Mathematics with Honors and Distinction 2013–2017
Advisor: Dagan Karp.

PUBLICATIONS

***K*-rings of wonderful varieties and matroids**
with Matt Larson, Sam Payne, Nicholas Proudfoot.
Advances in Mathematics **441**. (2024)

Equivariant log-concavity of independence sequences of claw-free graphs
Séminaire Lotharingien de Combinatoire **89B**. (2023)

Wonderful compactifications and rational curves with cyclic action
with Emily Clader, Chiara Damiolini, Rohini Ramadas.
Forum of Mathematics, Sigma **11**. (2022)

Equivariant log-concavity of graph matchings
Algebraic Combinatorics **6(3)**. (2023)

Permutohedral complexes and rational curves with cyclic action
with Emily Clader, Chiara Damiolini, Daoji Huang, Rohini Ramadas.
manuscripta mathematica. (2022)

Intersecting psi-classes on tropical Hassett spaces
with Marvin Anas Hahn.
Combinatorial Theory **2(3)**. (2022)

Relative Bott–Samelson varieties
La Matematica **2**. (2023)

Topology of tropical moduli spaces of weighted stable curves in higher genus

with Siddarth Kannan, Stefano Serpente, Claudia Yun.

Advances in Geometry, **23**(3). (2023)

Chow ring of heavy/light Hassett spaces via tropical geometry

with Siddarth Kannan, Dagan Karp.

Journal of Combinatorial Theory, Series A **178C**. (2021)

PREPRINTS

Multimatroids and rational curves with cyclic action

with Emily Clader, Chiara Damiolini, Christopher Eur, Daoji Huang.

arXiv:2311.09314.

Kapranov degrees

with Joshua Brakensiek, Christopher Eur, Matt Larson.

arXiv 2308.12285.

FELLOWSHIPS, GRANTS AND AWARDS

NSF Grant DMS-1926686	2023–2024
Coline M. Makepeace Fellowship, Brown University	2021–2022
Robert Willets Carle Scholarship, Yale University	2018–2019
Kenneth and Mary Wang Fellowship, Yale University	2017–2018
Lang Fellowship, Department of Mathematics, Yale University	2017–2019
Harvey S. Mudd Merit Award (annually), Harvey Mudd College	2013–2017
Yu Yuen Kit So International Scholarship, Harvey Mudd College	2013–2017
Dean’s List, Harvey Mudd College (all semesters)	2013–2017
China National Linguistics Olympiad 3rd Place	2013
China National Linguistics Olympiad Team 2nd Place	2013

INVITED TALKS

Workshop on “ <i>Moduli spaces of curves, moduli spaces of graphs and graph complexes</i> ” ETH Zürich, Switzerland	Sep 2024
Workshop on “ <i>Combinatorics and Moduli Spaces of Curves</i> ” Banff International Research Station, Canada	Jul 2024
Workshop on “ <i>Matroid Theory</i> ” Suzhou University, Suzhou, China	Jul 2024
Workshop on “ <i>Arrangements, Matroids and Logarithmic Vector Fields</i> ”, Oberwolfach, Germany	Jun 2024
<i>Algebra Seminar</i> Tufts University	Apr 2024
<i>Algebraic Geometry Seminar</i> Columbia University	Apr 2024
“ <i>What is...?</i> ” Seminar Institute for Advanced Study	Mar 2024

<i>Mathematical Conversations</i> Institute for Advanced Study	Mar 2024
<i>Combinatorics Seminar (online)</i> University of Minnesota	Feb 2024
<i>F₁ World Seminar (online)</i>	Jan 2024
Special Session on “ <i>Combinatorial perspectives on algebraic curves and their moduli</i> ” Joint Mathematics Meetings, San Francisco, USA	Jan 2024
Preparatory Lectures for <i>Chow Lectures</i> Max Planck Institute, Leipzig, Germany	Oct 2023
Workshop on “ <i>Curves: Algebraic, Tropical, and Logarithmic</i> ” Banff International Research Station, Canada	Aug 2023
<i>The 35th Formal Power Series and Algebraic Combinatorics (FPSAC 2023)</i> University of California, Davis	Jul 2023
Workshop on “ <i>GEMS in Combinatorics</i> ” American Institute of Mathematics, USA	Mar 2023
Workshop on “ <i>Algebraic Aspects of Matroids</i> ” Banff, Canada Banff International Research Station, Canada	Mar 2023
Lecture series on “ <i>Growing up in Sciences</i> ” Bowdoin College	Feb 2023
Association of Women in Mathematics Student Seminar (online) University of Pittsburgh	Feb 2023
<i>Combinatorics Seminar</i> University of Michigan	Feb 2023
<i>Matroid Seminar (online)</i> Fields Institute	Dec 2022
<i>Algebra and Algebraic Geometry Seminar</i> University of Washington	Nov 2022
<i>MIT-Harvard-MSR Combinatorics Seminar</i> Harvard University	Nov 2022
AMS Special Session on “ <i>Combinatorial Algebraic Geometry</i> ” University of Massachusetts, Amherst	Oct 2022
<i>AWM Research Symposium</i> University of Minnesota	Jun 2022
<i>RATCOW Seminar</i> University of Oregon	Jun 2022
<i>BATMOBILE</i> Brown University	Jun 2022
<i>Combinatorial and Nonlinear Day</i> Brown University	Apr 2022
<i>Joint Mathematics Meetings AWM Special Session (online)</i>	Apr 2022
<i>Canadian Math Society: Combinatorics and Geometry of Moduli Spaces (online)</i>	Dec 2021
<i>Front Range Algebraic Geometry and Number Theory</i> Colorado State University	Sep 2021
<i>SIAM Conference on Applied Algebraic Geometry (online)</i>	Aug 2021
<i>Moduli Across the Pandemic (online)</i>	Apr 2021
<i>Tropical Geometry in Frankfurt (TGiF) Seminar (online)</i>	Apr 2021
AMS Spring Eastern Sectional Meeting on “ <i>Moduli of Curves</i> ” (online)	Mar 2021

Algebra Seminar (online)

Nov 2020

Brown University

American Graduate Student Algebraic Geometry Seminar (online)

Oct 2020

SERVICE

Referee for:

International Mathematics Research Notices

Mathematische Zeitschrift

Séminaire Lotharingien de Combinatoire

Reviewer for:

Mathematical Reviews/MathSciNet.

Organizational:

IAS School of Mathematics Monthly Women's Lunch, Co-organizer 2023–2024

IAS "What is...?" Seminar, Co-organizer 2023–2024

AMS Student Chapter at Brown University, Chair 2019–2021

Diversity and Inclusiveness Committee at Brown University, Member 2019–2020

Directed Reading Program at Brown University, Organizer 2019–2021

Directed Reading Program at Yale University, Co-organizer with Fernando Al Assal 2017–2018

Womxn in Mathematics at Yale University, Co-organizer 2018

Yale Graduate and Professional Student Senate, Senator 2017–2018

Harvey Mudd College Math Club, President 2016–2017

TEACHING

Sheridan Teaching Certificate I

Fall 2021

Brown University, Teaching Assistant

Math 90 Introduction to Calculus Spring 2023

Math 100 Calculus Part II Fall 2022

Math 100 Calculus Part II Spring 2022

Math 100 Calculus Part II Spring 2021

Math 100 Calculus Part II Fall 2020

Canada/USA Mathcamp, Mentor

Summer 2019

Introduction to Group Theory

Young tableaux and Representation Theory

Young tableaux and Combinatorics

Young tableaux and Probability

Canada/USA Mathcamp, Mentor

Summer 2018

Algebraic Number Theory

Geometric Group Theory

Introduction to Modular Forms

Tropical Plane Curves

Rational Points on Elliptic Curves

Yale University, Teaching Assistant

Math 225 Linear Algebra and Matrix Theory Fall 2018

Math 112 Single Variable Calculus Spring 2018

MENTORING

Princeton University

Cooper Kofron, *Undergraduate Thesis*

2024

Summer Undergraduate Math Research at Yale	2020
Dawit Mengesha, Robert Miranda, Brian Sun. Co-mentor: Max Kutler. <i>Topological zeta functions of matroids.</i>	
Canada/USA Mathcamp Learning Projects	Summer 2019
Ilaria Seigal. Alice Jenkins, Jeremy Zhou. <i>Schubert calculus.</i> Reed Jacobs. <i>Primes of the form $x^2 + ny^2$.</i> Simran Khunger, Rupert Li. <i>Enumerative Geometry and Young Tableaux</i> Serena An. <i>Group actions and Sylow's theorems.</i>	
Brown Mathematics Directed Reading Program	2019
Deven Carmichael, Joseph Hlavinka. <i>Ideals, Varieties and Algorithms.</i> Dominick Joo, Elliott Lehrer, Joshua Lebo. <i>Foundations of Algebraic Geometry.</i>	
Women in Sciences at Yale	2018
Alara Değirmenci.	

OUTREACH

Princeton Noetherian Rings Seminar	Apr 2024
Brown Math Slam	Apr 2023
Growing up in Sciences Lecture Series, Bowdoin College	Feb 2023
Summer Undergraduate Math Research at Yale (SUMRY) Colloquium	Jul 2020
Yale Undergraduate Mathematics Society (YUMS) Colloquium	Nov 2019
Department Undergraduate Group (DUG) Colloquium at Brown	Oct 2019

OTHER SCIENTIFIC POSITIONS

Google Research. Mountain View, CA.	Summer 2016
Research Intern. Mentors: Caroline Pantofaru, Malcolm Slaney	
Howard Hughes Medical Institute. Pomona, CA.	Summer 2014
Research Assistant. Mentor: Blerta Shtylla.	
Summer Science Program. Socorro, NM.	Summer 2012
Orbit determination of Asteroid 1998QS52 (archived at Harvard-Smithsonian Center for Astrophysics)	