

## Academic Positions

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### UC Irvine

*Associate Professor & Chancellor's Fellow*

2024 - Pres.

### UC Irvine

*Assistant Professor*

2021 - 2024

### Princeton University

*Instructor & NSF Postdoctoral Fellow*

Fall 2018 - Spring 2021

### Mathematical Sciences Research Institute – Berkeley, CA

*Postdoc Research Member*

Spring 2019

### Massachusetts Institute of Technology

*NSF Postdoctoral Fellow*

Fall 2017- Spring 2018

## Visiting Positions

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### University of Sydney

*Visiting Researcher at the Sydney Mathematical Research Institute*

Summer 22

## Education

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### Brown University

*Ph.D. Mathematics*

2017

### Stony Brook University

*B.S. Mathematics*

2012

## Publications and Preprints

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25. Chow and cohomology rings of moduli stacks of plane quartics. (with Donggun Lee). *Submitted*.
24. Hassett–Keel program in genus four. (with Kristin DeVleming, Yuchen Liu, and Xiaowei Wang). *Submitted*.
23. The algebraic Green–Griffiths–Lang conjecture for complements of very general pairs of divisors. (with Amos Turchet and Wern Yeong). *Submitted*.
22. Boundedness results for families of non-canonically polarized projective varieties. (with Behrouz Taji). **Journal für die reine und angewandte Mathematik (Crelles Journal)**, vol. 2026, no. 831, 2026, pp. 233-260.
21. Moduli of boundary polarized Calabi-Yau pairs. (with Dori Bejleri, Harold Blum, Kristin DeVleming, Giovanni Inchiostro, Yuchen Liu, and Xiaowei Wang). *Submitted*.
20. Wall crossing for moduli of stable log varieties (with Dori Bejleri, Giovanni Inchiostro, and Zsolt Patakfalvi). **Annals of Mathematics**, (2) 198(2): 825-866 (2023).
19. K-stability and birational models of moduli of quartic K3 surfaces (with Kristin DeVleming and Yuchen Liu). **Inventiones Mathematicae**, 232(2023), no.2, 471–552.
18. Smoothability of relative stable maps to stacky curves (with Dori Bejleri), **Épijournal de Géométrie**

**Algébrique**, Vol 7, February 2023.

17. Moduli of curves on a quadric surface and K3 surfaces (with Kristin DeVleming and Yuchen Liu). **Journal of the Institute of Mathematics of Jussieu**, 22(2023), no.3, 1251–1291.
16. Hyperbolicity of varieties of log general type (with Amos Turchet). **Arithmetic geometry of logarithmic pairs and hyperbolicity of moduli spaces – hyperbolicity in Montréal**, 197-247, CRM Short Courses, Springer, Cham, 2020.
15. Moduli of double covers and degree one del Pezzo surfaces (with Dori Bejleri). **European Journal of Mathematics**, 7, 557-569 (2021).
14. Wall crossings for K-moduli spaces of plane curves (with Kristin DeVleming and Yuchen Liu). **Proceedings of the London Mathematical Society**, 128, no. 6 (2024).
13. Compact moduli of elliptic K3 surfaces (with Dori Bejleri). **Geometry & Topology**, 27(5):1891–1946, 2023. .
12. The Erdős-Ulam problem, Lang’s conjecture, and uniformity (with Lucas Braune and Amos Turchet). **Bulletin of the London Mathematical Society**, 52 issue 6, 1053-1063 (2020).
11. Hyperbolicity and uniformity of varieties of log general type (with Kristin DeVleming and Amos Turchet). **International Mathematics Research Notices**, Vol 2022, 4, 2532-2581 (2022).
10. Moduli of degree one del Pezzo surfaces (with Dori Bejleri). **Mathematische Annalen**, 384, 1-31 (2022).
9. Enumerating Hassett’s wall and chamber decomposition of the moduli space of weighted stable curves (with Connor Dubé, Daniel Gershenson, Elaine Hou) **Experimental Mathematics**, Vol 29 (2020) 36-53.
8. Moduli of weighted stable elliptic surfaces and invariance of log plurigenera (with Dori Bejleri). **Proceedings of the London Mathematical Society**, 122: 617-677 (2021).
7. Moduli of fibered surface pairs from twisted stable maps (with Dori Bejleri). **Mathematische Annalen** Vol 374 (2019) 1007-1032.
6. Log canonical models of elliptic surfaces (with Dori Bejleri). **Advances in Mathematics** Vol 320 (2017) 210-243.
5. Bounding heights uniformly in families of hyperbolic varieties (with Ariyan Javanpeykar). **New York Journal of Mathematics** Volume 23 (2017) 1791-1808.
4. A generic slice of the moduli space of line arrangements (with Patricio Gallardo). **Algebra and Number Theory**, 12-4 (2018), 751–778.
3. A fibered power theorem for varieties of log general type (with Amos Turchet). **Algebra and Number Theory**, 10-7 (2016), 1581–1600.
2. Twisted derived equivalence and rational points on K3 surfaces (with K. Dasaratha, A. Perry, R. Zhou). **Brauer groups and obstruction problems: Moduli and arithmetic**.

1. Logarithmic stable toric varieties and their moduli (with Sam Molcho).  
**Algebraic Geometry** (3) 2016, 296-319.

## Grants

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**2024 - Present:** UCI Chancellor's Fellowship

**2023 - Present:** NSF grant DMS-2302550

**2020 - 2025:** NSF grant DMS-2140781 (formerly DMS-2001408)

**2017 - 2020:** NSF Postdoctoral Fellowship

## Invited Lecture Series / Minicourses / Schools

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**2026:** SL Math Graduate Summer School on Moduli of Varieties [Berkeley, CA]

**2025:** National Center for Theoretical Sciences @ National Taiwan University [Taipei, Taiwan]

**2025:** Birational Geometry and K-stability in Moduli Spaces [UQAM, Montreal, Canada]

**2021:** AGNES goes to school (mini-course on hyperbolicity in algebraic geometry)

**2018:** Geometry & arithmetic of orbifolds @ UQAM [Montreal, Canada] (Dec. 2018) – Minicourse on hyperbolicity and birational geometry of log pairs

## Conference Talks

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**2026:**

- Algebraic Geometry Workshop (SMRI – University of Sydney, Australia, Feb 2026)
- Moduli of surfaces (Joint Math Meetings, Washington D.C., Jan 2026)

**2025:**

- Moduli of surfaces and beyond (Institute for Basic Science, Daejeon – Korea; Nov 2025)
- Moduli of higher-dimensional varieties @ 2025 Summer Research Institute in Mathematics (Colorado State; July 2025)
- Moduli spaces of Algebraic Surfaces in Ann Arbor @ University of Michigan (May)
- Enumerative invariants of moduli spaces in algebraic geometry (AMS Sectional) @ Kansas Univ. (Mar)

**2024:**

- Algebraic Geometry, MATRIX, University of Melbourne – Australia (Dec)
- Moduli of K-trivial varieties, Institute for Basic Science, Daejeon – Korea (Feb)

**2023:**

- Fano varieties, their geometry and moduli, KIAS – Korea (Oct).
- Western Algebraic Geometry Symposium (WAGS), University of Washington – Seattle (Apr).
- Special month on birational geometry and singularities, University of Michigan (May).
- Arithmetic, Birational Geometry, and Moduli Spaces at Brown University (June).
- International Conference on Rationality and Hyperbolicity at Notre Dame (June).

**2022:**

- Oppenheim Lecture 2022 @ National University of Singapore – Recent Progress in Algebraic Geometry supporting lecture for Caucher Birkar.

**2021:**

- Geometry via arithmetic @ Banff

**2020:**

- Geometry and Arithmetic of Algebraic Varieties (AMS sectional) @ Penn State University (Online)

**2019:**

- Fall 2019 Algebraic Geometry Northeastern Series (AGNES) @ Boston College
- Topics on Nevanlinna Theory and Complex Hyperbolicities @ Shanghai Center for Mathematical Sciences

at Fudan University [China]

- Discrete groups and moduli @ Nagoya University [Japan]
- Diophantine Approximation and Value Distribution Theory @ UQAM [Montreal, Canada]
- Arithmetic geometry and its connections (AMS sectional) @ University of Hawaii

**2018:**

- Special session on algebraic geometry (AMS sectional) @ Portland State Univ.
- Workshop on algebraic surfaces and related topics @ Xiamen University [China]

**2016:**

- Moduli of Curves workshop @ CIMAT [Guanajuato, Mexico]

**2015:**

- Workshop on Higher Dimensional Algebraic Geometry @ IMPA [Brazil]

## Colloquium Talks

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1. Smith Colloquium at University of Kansas (Apr 2024)
2. SMRI (Sydney Math Research Institute at Uni. of Sydney) What is...? Seminar (Aug 2022)
3. University of New South Wales Pure Maths Seminar (Sydney, Australia – Aug 2022)
4. UC Irvine (Jan 2020)
5. Rice University (Dec 2019)

## Seminar Talks

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**2026:**

- Princeton University (Mar)

**2025:**

- NCTS (Taipei, Taiwan) Algebraic Geometry Seminar (Sep)

**2024:**

- University of Texas – Austin (Nov)
- Università degli Studi Roma Tre (Rome, Italy) Geometry Seminar (May)
- University of Maryland – College Park Algebraic Geometry Seminar (Mar)
- UC Irvine Graduate seminar (Feb)

**2023:**

- UCSD algebraic geometry seminar (Nov)
- UCLA algebraic geometry seminar (Mar)
- University of Washington – Seattle algebraic geometry seminar (Mar).

**2022:**

- UC Santa Barbara Geometry & Arithmetic seminar (May)
- UC Irvine Differential Geometry Seminar (Mar)
- Utah Algebraic Geometry seminar (Mar)

**2021:**

- UC Davis algebraic geometry seminar
- ZAG (Zoom algebraic geometry) seminar
- Unicamp (Brazil) AG seminar

**2020:**

- University of Illinois – Chicago, Algebraic Geometry Seminar (Feb)

**2019:**

- Northwestern Algebraic Geometry Seminar (April)

**2018:**

- Princeton Algebraic Geometry Seminar (September)

- UCLA Algebra Seminar (June)
- UC Santa Barbara Algebraic Geometry Seminar (June)
- Stony Brook Algebraic Geometry Seminar (April)

#### 2017:

- University of Massachusetts (Amherst) Algebraic Geometry Seminar (Nov.)
- UC San Diego Algebraic Geometry Seminar (Nov.)
- University of Washington (Seattle) Algebra Seminar (Oct.)
- Washington University (St. Louis) Algebraic Geometry Seminar (Sep.)
- Princeton University Algebraic Geometry Seminar (Feb.)
- Yale Algebraic Geometry Seminar (Jan.)
- Brown Algebraic Geometry Seminar (Jan.)

#### 2016:

- New York University Algebraic Geometry Seminar (Nov.)
- Harvard/MIT Algebraic Geometry Seminar (Nov.)
- Yale Number Theory Seminar (Nov.)
- University of Washington (Seattle) Algebra Seminar (Oct.)
- EPFL (Lausanne) Algebraic Geometry Seminar (Sep.)

#### 2015:

- University of Georgia Algebraic Geometry Seminar (Oct.)
- Brown University Algebraic Geometry Seminar (Oct.)
- Chalmers University (Sweden) Algebraic Geometry Seminar (Mar.)

## Mentoring

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**Summer 25:** Graduate Student Bootcamp Mentor @ 2025 Summer Research Institute in Algebraic Geometry

**Winter 24, Spring 25:** Math 199 – Reading courses in algebraic geometry

**Summer 2017:** SUMRY (Summer Research for Yale Undergraduates) Mentor – Mentored 3 Yale Undergraduates on an algebraic geometry research project. (resulted in a published paper in **Exper. Math.**) One student now in the math Ph.D. program at UC Berkeley

## Outreach Activities

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**Feb 2024:** Guest lecturer at MATHCOUNTS – gave public lecture to Orange County middle school students and their teachers/parents

**Jan 2023:** EmpowHer – led a two hour hands on math activity at Godinez High School in Santa Ana.

**Jan 2022 - Present :** Faculty Mentor for Math CEO high school program – outreach program in Southern California

**Mar 2022:** Orange County Science & Engineering Fair Judge (Final round, Math and related fields)

**Mar 2022:** Orange County Science & Engineering Fair Judge (Seniors, Math & Computers division)

**Summer 2018, 2019:** Special lecturer for the SIMUW program at the University of Washington (high school summer math program)

## Conference Organization

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**January 2025:** Perspectives on Moduli in Algebraic Geometry @ The Brin Center – University of Maryland

**June 2023:** Arithmetic, Birational Geometry, and Moduli Spaces @ Brown University

**February 2023:** Explicit higher dimensional moduli @ Banff

**Fall 2018:** Organizer of Workshop in algebraic geometry @ Princeton

**2016-2018:** Co-organizer BATMOBYLE conference (Brown & Yale Tropical Geometry)

## **Service**

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**F 25 - Pres.:** UC Irvine Graduate Council

**F 25 - S 26:** School of Physical Sciences Visiting Fellowship Selection Committee

**F 25 - S 26:** Outreach Committee, Colloquium/Distinguished Visitor Committee

**F 24 - S 25:** Outreach Committee, Thorp Chair Hiring Committee, & Normal Merit Committee

**F 23 - S 24:** Library & Communications Committees

**F 23 - S 24:** Completed Faculty Mentoring Academy @ UCI

**Spring 24:** Professor Seminar speaker for undergraduate math club

**Fall 21, Winter 24:** Coffee/Lunch with a Math Professor

**Fall 23 / Winter 24:** Applied & Computational Math BS Task Force

**Spring 22 - Pres.:** Served on around 10 advancement and thesis committees at UCI, and externally

**Fall 21, Spring 22, Summer 23, Fall 23:** Algebra Qualifying exam committee member

**F 22 - S 23:** Presidential Postdoctoral Fellow committee & Outreach committees

**F 21 - S 22:** Inclusive excellence and Grad Studies committees

## **Awards**

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**2019:** Stony Brook University Honors College Commencement Speaker & Alumni Recognition Award

**2017:** Joukowski Outstanding Dissertation Prize (Given to 1 PhD graduate in the physical sciences)

**2017:** Outstanding Teaching Award – Brown Department of Mathematics

Last updated: May 2026