

Lena Ji

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Research Interests Birational geometry, algebraic geometry in characteristic $p > 0$, commutative algebra

Appointments **University of Michigan**, Ann Arbor, MI August 2021–present
Assistant Professor and Research Fellow (RTG)

Education **Princeton University**, Princeton, NJ September 2016–May 2021
PhD in Mathematics
Advisor: János Kollár
Thesis: Topics on algebraic varieties in characteristic p

University of California, Berkeley, Berkeley, CA January–May 2019
Exchange Scholar
Sponsor: David Eisenbud

Columbia University, New York, NY September 2012–May 2016
B.A. in Mathematics with Honors, *summa cum laude*
Senior thesis advisor: Johan de Jong

Publications and Preprints

- Lena Ji. The Noether–Lefschetz theorem in arbitrary characteristic. Preprint available at [arXiv:2107.12962](https://arxiv.org/abs/2107.12962)
- Lena Ji and Joe Waldron. [Structure of geometrically non-reduced varieties](#). *Transactions of the American Mathematical Society*, Volume 374, Number 12 (2021), 8333–8363.
- Sarah Fleming, Lena Ji, S. Loepp, Peter McDonald, Nina Pande, and David Schwein. [Completely controlling the dimensions of formal fiber rings at prime ideals of small height](#). *Journal of Commutative Algebra*, Volume 11, Number 3 (2019), 363–388.
- Sarah Fleming, Lena Ji, S. Loepp, Peter McDonald, Nina Pande, and David Schwein. [Controlling the dimensions of formal fibers of a unique factorization domain at the height one prime ideals](#). *Journal of Commutative Algebra*, Volume 10, Number 4 (2018), 475–498.

Awards

- NSF Graduate Research Fellowship Program (2018–2021)
- Princeton University Presidents Fellowship (2016)
- (Junior) Phi Beta Kappa – top 2% of Columbia College’s graduating class (2016)

Invited Talks

- Northwestern University Algebraic Geometry Seminar. Virtual, November 2021.
- Ohio State University Algebraic Geometry Seminar. Virtual, November 2021.
- AGNES Showcase. Virtual, October 2021.
- University of Michigan Algebraic Geometry Seminar. Ann Arbor, MI, Sept 2021.
- Stanford University Algebraic Geometry Seminar. Virtual, June 2021.
- Western Algebraic Geometry Symposium. Virtual, April 2021.
- University of Utah Algebraic Geometry Seminar. Virtual, February 2021.
- Yale University Algebra and Number Theory Seminar. Virtual, February 2021.
- University of Michigan Algebraic Geometry Seminar. Virtual, November 2020.
- Princeton University Algebraic Geometry Seminar. Virtual, November 2020.
- AMS Fall Eastern Sectional Meeting, Special Session on Algebraic Singularities in Arbitrary Characteristic. Virtual, October 2020
- Johns Hopkins Algebraic Geometry Seminar. Baltimore, MD, April 2020. (Postponed due to COVID-19.)
- Joint Mathematics Meetings, AMS Special Session on Commutative Algebra: Research for Undergraduate and Early Graduate Students. Atlanta, GA, January 2017.

Teaching Experience

Instructor, University of Michigan September 2021–present
• Math 115 (Calculus I): two sections in Fall 2021

Assistantship in Instruction, Princeton University September–December 2018
• Taught Numbers, Equations, and Proofs (MAT214) with Chris Skinner

Teaching Assistant, Columbia University January 2014–May 2016
• Review sessions, office hours, and grading for Linear Algebra (V2010), Modern Algebra I (W4041), Modern Algebra II (W4042)

Activities

- Co-organizer of American Graduate Student Algebraic Geometry Seminar, Virtual seminar (2020–2021)
- Co-organizer of Noetherian Ring (women in math) and Noetherian Ring lecture series, Princeton University (2019–2021)
- Group leader for Mentoring Möbius, Princeton University (2016–2021)
- Maintain REU application information and help website for undergraduates <http://www-personal.umich.edu/~lenaji/reus/> (2017–present)
- Co-organizer of Princeton Mathematics Department Friday Social (2018–2020)
- Co-organizer of Princeton Mathematics Graduate Student Seminar (2017–2018)
- MathReach Volunteer: teaching enrichment math at STEMCivics Charter School in Ewing, NJ (2017–2018)
- Women in Stem Leadership Council, Princeton University (2016–2018)
- Co-organizer of Undergraduate Math Society, Columbia University (2015–2016)
- Contributor to the Stacks Project, <http://stacks.math.columbia.edu>

Last updated: November 2021.