

Carl Lian

CONTACT INFORMATION

Last updated: August 31, 2019

Department of Mathematics, Columbia University
2990 Broadway, Office 408
New York, NY 10027

E-mail:
clian@math.columbia.edu

RESEARCH INTERESTS

Algebraic geometry: moduli of curves, Brill-Noether Theory, limit linear series, syzygies, enumerative geometry, interpolation problems

EDUCATION

Columbia University in the City of New York, New York, NY

Ph.D., May 2020 (expected)

M.Phil., May 2019

M.A., May 2017

Advisor: A. J. de Jong

Massachusetts Institute of Technology, Cambridge, MA

S.B., Mathematics (minor in Music), June 2015

AWARDS

- Phi Beta Kappa, 2015
- NSF Graduate Research Fellowship, 2015
- Barry M. Goldwater Scholarship, 2014
- Putnam Mathematical Competition Honorable Mention (26th place), 2013
- USA Mathematical Olympiad Honorable Mention (T-13th place), 2010

RESEARCH ARTICLES

- Enumerating pencils with moving ramification on curves, [arXiv 1907.09087](#) [[math.AG](#)]
- The class of the d -elliptic locus in genus 2, [arXiv 1907.08991](#) [[math.AG](#)]
- (with J. Alman and B. Tran) Circular Planar Electrical Networks: Posets and Positivity. *J. Combinatorial Theory, Ser. A* 132, 58-101 (2015).
- Representations of Cherednik Algebras Associated to Symmetric and Dihedral Groups in Positive Characteristic. [arxiv 1207.0182](#) [[math.RT](#)].

TALKS

- Rutgers Algebra Seminar, November 2019
- UIC Algebraic Geometry Seminar, November 2019
- Summer School on Moduli of Curves, ICTP, June 2018
- Harvard Baby Algebraic Geometry Seminar, May 2016
- 18 talks in learning seminars on algebraic geometry and number theory at Columbia, 2015 – present

UNIVERSITY TEACHING

- TA for Commutative Algebra, Fall 2019, Columbia (Instructor: Johan de Jong)
- Instructor for Calculus 1, Summer 2019, Columbia
- TA for Arithmetic and Algebraic Geometry, Spring 2019 (Instructor: Johan de Jong)
- Instructor for Calculus 1, Fall 2018, Columbia
- TA for Calculus 1, Summer 2018, Columbia (Instructor: Shuai Wang)
- TA for Calculus 1, Fall 2017, Columbia (Instructor: Dusa McDuff)
- TA for Calculus 1, Fall 2016, Columbia (Instructor: Dusa McDuff)
- TA for Algebraic Combinatorics, Spring 2014, MIT (Instructor: Jonathan Novak)

- OTHER TEACHING
- Columbia Mathematics REU, Mentor (Summer 2016)
 - MathROOTS, Mentor (Summer 2015)
 - PRIMES-USA, Mentor (2015)
 - PRIMES Circle, Mentor (2013)
 - Mathematical Olympiad Summer Program, Grader (2012); Head Grader (2014)
- SERVICE AND ORGANIZATIONAL ACTIVITIES
- Learning Seminar on Moduli of Sheaves, Fall 2017, Columbia
 - Seminar on Classic Papers in Algebraic Geometry, Summer 2017, Columbia
 - Learning Seminar on the Decomposition Theorem, Spring 2017, Columbia
 - Learning Seminar on Hodge Theory in Positive Characteristic, Fall 2016, Columbia
 - Museum of Mathematics: Proofreader for Varsity Math, 2015-2016
 - Harvard-MIT Undergraduate Mathematics Symposium, February 2015
 - Student Colloquium for Undergraduates in Mathematics, Spring/Fall 2014, MIT
 - Harvard-MIT Mathematics Tournament: Tournament Director 2014 – 15; Problem Czar, 2011 – 13
- CONFERENCES
- Facets of Algebraic Geometry, University of Michigan, October 2019
 - AGNES, Boston College, September 2019
 - Winter School on Enumerative Geometry and Modular Forms, Goethe-Universität, February 2019
 - AGNES, Brown University, October 2018
 - Summer School on Moduli Spaces of Curves, ICTP, June 2018
 - Birational Geometry of Hypersurfaces, Gargnano del Garda, March 2018
 - Enumerative Geometry Beyond Numbers Introductory Workshop, MSRI, January 2018
 - AGNES, Northeastern University, October 2017
 - Stacks Project Workshop, University of Michigan, August 2017
 - Winter School on Perfectoid Spaces, University of Arizona, March 2017
 - AGNES, Yale University, April 2016
 - Mini-School on Invariants of Singularities, Stony Brook University, December 2015
 - AGNES, Brown University, October 2015
- CITIZENSHIP
- USA