YIHUI LIANG

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EDUCATION

Purdue University 2016 - Present
Doctor of Philosophy, Mathematics Advisor: Giulio Caviglia
Ph.D. Candidate Estimated Graduation: 2022
University of California, Los Angeles 2012 - 2016
Bachelor of Science, Mathematics

AREA OF INTEREST

Commutative algebra and its computational aspects.

AWARDS

- Purdue **Shreeram Abhyankar** award for outstanding thesis work in the area of Commutative Algebra, $1500 for 2019-2020.
- **Purdue Research Foundation (PRF)** for my proposal entitled: *"Degree bounds for Gröbner bases of ideals and modules, Stilman's Conjecture and explicit Stillman bounds for all degrees, and Fauguere's F5 algorithm"*, $35,337 for 2020-2021.
- Purdue Graduate School Summer Research Grants for Summer 2019.

PUBLICATIONS

- *Degree bounds for Gröbner bases of modules*, Journal of Symbolic Computation, 111:27-43, 2022, doi:10.1016/j.jsc.2021.11.003.

PREPRINTS

- *Explicit Stillman bounds for all degrees*, available on my webpage.
- *Regularity bound of radical of ideal*, available on my webpage.

INVITED TALKS

- AMS Sectional Meeting, Combinatorial Techniques in Commutative Algebra, March 26-27 2022, at Purdue University.
- Purdue Commutative algebra seminar, March 25 2021, at Purdue University.
- AMS Fall Eastern Sectional Meeting, October 3–4 2020, virtually at Pennsylvania State University.

POSTER PRESENTATIONS

- Thematic Program in Commutative Algebra and its Interaction with Algebraic Geometry, organized by MSRI, June 3-21 2019 at University of Notre Dame. I have been awarded full support by the MSRI.
- KUMUNU 2019, September 21-22 at University of Nebraska-Lincoln.

OTHER CONFERENCES ATTENDED

- Graduate Workshop in Commutative Algebra for Women and Mathematicians of Other Minority Genders, April 12-14 2019 at University of Minnesota.
- MSRI summer program, Combinatorial and DG-Algebra Techniques for Free Resolutions, 2020, at Tianjin, China. The conference was canceled due to Covid-19.

TEACHING EXPERIENCE

- **Teaching assistant of MA16020 Impact** Spring 2020. Plane Analytic Geometry and Calculus 2. Techniques of integration; infinite series, convergence tests; differentiation and integration of functions of several variables; maxima and minima, optimization; differential equations and initial value problems; matrices, determinants, eigenvalues and eigenvectors. Applications.
- **Teaching assistant of MA16600** Fall 2016 and Spring 2018. Analytic Geometry and Calculus 2. Vectors in two and three dimension, techniques of integration, infinite series, polar coordinates, surfaces in three dimensions.
- **Teaching assistant of MA26100** Fall 2018. Multivariate Calculus. Lanes, lines, and curves in three dimensions. Differential calculus of several variables; multiple integrals. Introduction to vector calculus.