

ASHLEIGH ADAMS

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RESEARCH INTERESTS

commutative and combinatorial algebra \diamond Stanley-Reisner theory \diamond algebraic geometry

EDUCATION

University of California, Davis *October 2020 - Present*
Ph.D. Mathematics

University of Minnesota, Twin Cities *May 2017 - May 2020*
Bachelor of Arts, Mathematics

General Assembly, New York City *January 2015 - April 2016*
Certificate
Immersive Web Development Bootcamp

University of Minnesota, Twin Cities *September 2008 - December 2014*
Bachelor of Music Performance
Vocal Performance

Hanns Eiser Hochschule für Musik, Berlin, Germany *May 2012 - May 2015*

VI: International Gesangsakademie, Hessen, Germany *June 2014-August 2014*

German Language School (GLS), Berlin, Germany *June 2012-August 2014*
German Language Goethe-Certificate C1

MATHEMATICS RELATED AWARDS AND FELLOWSHIPS

- National Science Foundation Graduate Research Fellowship *2020*
- University of Minnesota Department of Mathematics Undergraduate Travel Grant *2019*
- Outstanding Poster Award, Joint Math Meetings *2018*
- Dean's List, multiple semesters at University of Minnesota
- Outstanding Talk at Mathematics Project at Minnesota *2017*

PUBLICATIONS AND PREPRINTS

A. Adams, V. Reiner, "A colorful Hochster formula and universal parameters for face rings." Preprint, 2020; [arXiv:2006.16549](https://arxiv.org/abs/2006.16549). *Accepted by the Journal of Commutative Algebra*.

A. Adams, C. Hall, and E. Stucky, "Classifications of ℓ -Zero-Sumfree Sets." *The PUMP Journal of Undergraduate Research* **2** (2019), 179-198.

SOFTWARE DEVELOPMENT

A. Adams, RESOLUTIONSOFSTANLEYREISNERRINGS. A MACAULAY2 package (2020).

CONFERENCES - TALKS - POSTERS

TALKS:

The Complex Grassmannian and Kleinman's transversality theorem *November 2020*
Informal Algebraic Geometry Seminar, UC Davis.

A colorful Hochster formula and parameters for special face rings *October 2020*
Graduate Research Seminar, UC Davis.

- A colorful Hochster formula and universal parameters for face rings* August 2020
Graduate Online Combinatorics Colloquium (GOCC).
- Group actions on Stanley and Stanley-Reisner Rings* January 2020
AMS Contributed Paper Session on Combinatorics and Graph Theory, III
Joint Math Meetings, Denver, CO
- Group actions on Stanley and Stanley-Reisner rings* November 2019
University of Minnesota Graduate Student Combinatorics and Algebra Seminar, Minneapolis, MN
- Introduction to L^AT_EX* October 2019
University of Minnesota Math Club, Minneapolis, MN
- Simplicial Complexes of Zero-Sumfree Sets* January 2019
(poster presentation)
MAA Undergraduate Poster Session
Joint Math Meetings, Baltimore, MD
- Zero-Sumfree Sets, Hilbert Series, and Stanley-Reisner Rings* October 2018
University of Minnesota Graduate Student Combinatorics and Algebra Seminar, Minneapolis, MN
- Simplicial Complexes of Zero-free Sumsets* October 2018
University of Minnesota Undergraduate Mathematics Research Seminar, Minneapolis, MN
- Simplicial Complexes of Zero-free Sumsets* September 2018
Midwest Conference on Combinatorics and Computing (MCCC), Duluth, MN
- Simplicial Complexes of Zero-free Sumsets* August 2018
(poster presentation)
Undergraduate Research Expo, University of Minnesota, Minneapolis, MN
- Young Diagrams and Zero-Sumfree Sets* April 2018
Central States Mathematics Undergraduate Conference (CeSMUR)
University of Nebraska, Lincoln, NE
- The Catalan Numbers* March 2018
University of Minnesota Undergraduate Mathematics Research Seminar, Minneapolis, MN
- The Catalan Numbers* January 2018
Association for Women in Mathematics: Mathematics Project at Minnesota (MPM),
University of Minnesota, Minneapolis, MN

CONFERENCES/WORKSHOPS:

- ICERM: Combinatorial Algebraic Geometry Semester February-May 2021
Brown University, Remote.
- eCARs: Early Commutative Algebra Researchers June 2020
Princeton University, Remote.
- Matroids Day December 2019
University of Wisconsin, Madison, WI
- Formal Power Series and Algebraic Combinatorics (FPSAC) July 2019
University of Ljubljana, Ljubljana, Slovenia
- Mid-Atlantic Algebra, Geometry, and Combinatorics (MAAGC) Workshop May 2019
University of Pennsylvania and Drexel University, Philadelphia, PA

OUTREACH, CAMPUS INVOLVEMENT, & ACTIVITIES

- Directed Reading Program (DRP), UC Davis** *November 2020-present*
Founder, Organizer, & Mentor
Developed marketing strategy and built the website
Appropriately paired undergraduates with graduate mentors
Directed a reading on simplicial complexes with an undergraduate
- Chair of the AMS Contributed Paper Session on
Combinatorics and Graph Theory, III** *January 2020*
Joint Math Meetings, Denver Colorado
- SIAM supported outreach event, UMN** *March 2019*
Set up and tore down event at a Minneapolis high school for students with disrupted educations
Connected students with different math based interactive stations
- Taekwondo Club, UMN** *January 2018-May 2020*
- Math Club, UMN** *June 2017-May 2020*
Officer
Maintained the instagram account
Organized panels, talks, and activities for the weekly club meeting
- Math Club: Study Group, UMN** *June 2017-May 2020*
Officer: Organizer and Founder
- Social Coding Club, UMN** *September 2017-May 2018*
Designed and developed a mobile app
- Welcome to the Math Major Event, UMN** *January 2018, 2020*
Gave a talk on undergraduate research and funding opportunities
and directed readings *October 2019*
- External Review for the Department of Mathematics** *October 2019*
Panel member
University of Minnesota, Minneapolis, MN

SEMINARS & READINGS

THE UNIVERSITY OF CALIFORNIA, DAVIS:

- Directed Reading with Prof. Eugene Gorsky** *Winter 2020*
Text: *The Rising Sea* by Ravi Vakil
- Informal Algebraic Geometry Seminar** *Fall 2020*
Texts:
• *3264 and All That! Intersection Theory in Algebraic Geometry* by David Eisenbud & Joe Harris
• Notes from Lectures in Warsaw Poland on homogeneous varieties by Izzet Coskun
- Algebraic Geometry Seminar** *Fall 2020*
Organizer: Prof. Roger Casals
- Directed Reading with Prof. Eric Babson** *Summer 2020*
Topic: Frobenius Splitting

THE UNIVERSITY OF MINNESOTA, TWIN CITIES:

- Graduate Student Combinatorics and Algebra Seminar** *Fall 2017-Present*
- Combinatorics Seminar** *Spring 2018-Present*

Representation Theory Seminar

Fall 2018-Fall 2018

Commutative and Homological Algebra Seminar

Fall 2019-Present

Undergraduate Mathematics Research Seminar

Fall 2018-Spring 2018