

CURRICULUM VITAE

RICK DANNER

1. EDUCATION AND EMPLOYMENT

- Ph.D., Algebraic Combinatorics (in progress), University of Vermont August 2020 – present
- M.S., Mathematics, University of Vermont August 2020 – May 2023
- M.A., Mathematics, California State University, Sacramento August 2010 – May 2015
- B.A., Mathematics, California State University, Chico August 1999 – May 2003

2. TEACHING EXPERIENCE

Course Instructor.

- University of Vermont, Burlington, VT Fall 2021 – Fall 2022
Courses taught: Fundamentals of Calculus 1

Grader.

- University of Vermont, Burlington, VT Spring 2022 – present
Courses graded: Matroids and Polytopes (graduate level), Graph Theory (graduate level), First Semester Analysis

Lecturer.

- Butte Community College, Chico, CA Fall 2012 – Spring 2021
Courses taught: Prealgebra, Beginning Algebra, Intermediate Algebra, College Algebra, Trigonometry
- California State University, Chico, CA Fall 2012 – Spring 2020
Courses taught: Trigonometry, Precalculus, Calculus I, Calculus II, Calculus III, Differential Equations

Substitute Teacher.

- Chico Unified School District, Grades 7–12 Fall 2008 – Spring 2012
- Marysville Unified School District, Grades 7–12 Fall 2008 – Spring 2012
- Yuba City Unified School District, Grades 7–12 Fall 2008 – Spring 2012

3. PUBLICATIONS AND PREPRINTS

- *Planar Ternary Graphs, Flag Spheres, and Delannoy Polynomials* with M. Bayer, T. Holleben, M. Kramer, and Y. Yang, (2025). *arXiv:2509.21705*.
- *Convex Geometry of Building Sets* with S. Backman, (2024). *arXiv:2403.05514*.
- *Tropical Geometry of coRado Matroids* with C. Buchanan, (2024). *arXiv:2402.04186*.

4. SELECTED TALKS

- Homology, Cohomology, and the Cup and Cap Products, Graduate Student Seminar at UVM, Burlington, VT Fall 2025
- Convex Geometries of Building Sets (invited), Washington University Combinatorics Seminar, St. Louis, MO Spring 2025
- Convex Geometries of Building Sets, Binghamton University Graduate Combinatorics, Algebra, and Topology Conference (BUGCAT), Binghamton, NY Fall 2024
- Modern Algebra in Geometry and Topology, MathCounts at University of Vermont, Burlington, VT Feb 2025
- Convex Geometries of Building Sets, Chico State Colloquium, Chico, CA Fall 2024
- The Motivic Zeta Function of a Matroid, Chico State Number Theory Seminar, Chico, CA Fall 2024

- The Motivic Zeta Function of a Matroid, Combinatorics Seminar at UVM, Burlington, VT Fall 2024
- Convex Geometries of Building Sets (invited), Combinatorics Seminar at Dartmouth, Hanover, NH Fall 2024
- Convex Geometries of Building Sets, Combinatorics Seminar at UVM, Burlington, VT Fall 2024
- Convex Geometries of Building Sets, Workshop on (Mostly) Matroids, IBS Science Culture Center, Daejeon, South Korea Summer 2024
- Tropical Geometry of Rado Matroids, Graduate Student Seminar at UVM, Burlington, VT Fall 2023
- An Introduction to Spectral Sequences, UVM Graduate Student Seminar, Burlington, VT Spring 2023
- Co-Rado Matroids and the Chow Ring of a Matroid, UVM Combinatorics Seminar, Burlington, VT Spring 2023
- Toric Varieties and the Combinatorial Chow Ring, unQVNTS at UVM, Burlington, VT Fall 2022
- Analogies between Topology and Number Theory, UVM Graduate Student Seminar, Burlington, VT Spring 2022
- Homology of the Klein Bottle, UVM Graduate Student Seminar, Burlington, VT Spring 2022
- Stark Conjectures for CM Elliptic Curves over Number Fields, CSU Chico Number Theory Seminar, Chico, CA Spring 2019
- Modular Curves as Riemann Surfaces, Chico Topology Conference, Chico, CA Spring 2016
- An Introduction to the Generalized Riemann Integral, UC Davis Student-Run Seminar, Davis, CA Spring 2004

5. SERVICE

- Member, Dean Search Committee, College of Engineering and Mathematical Sciences (only graduate-student member) Oct 2025 – present
- Participant, UVM–Industry Roundtable on Aligning Education with AI Workforce Needs (with the Provost, Interim Dean, and industry leaders) Nov 6, 2025
- Co-organizer of the Second Annual UVM–Dartmouth Math Day April 27, 2025
- Co-organizer of the UVM Combinatorics Seminar Fall 2024 – present
- Co-organizer of unQVNTS (un-Quebec Vermont Number Theory Seminar) Fall 2022 – Spring 2023

6. CONFERENCES AND SEMINARS ATTENDED

- New York Combinatorics Day, The Graduate Center (CUNY), Manhattan, NY March 21, 2025
Presented a poster on the convex geometry of building sets.
- Upstate Number Theory Conference, Union College, Schenectady, NY Oct 23–24, 2021
- Algebraic Geometry Northeastern Series (AGNES), Boston College Mar 15–17, 2024
- Graduate Research Workshop in Combinatorics (GRWC), University of Wisconsin–Milwaukee, Milwaukee, WI May 19–31, 2024
Participated in a collaborative research workshop.
- VIII Encuentro Colombiano de Combinatoria (ECCO) and CIMPA Research School: Bridges between Algebra and Combinatorics, Universidad del Cauca, Popayán, Colombia Jun 17–28, 2024
Presented a poster on the convex geometry of building sets.
- Summer School in Algebraic Combinatorics, Max Planck Institute, Leipzig, Germany Jul 15–19, 2024
- Formal Power Series and Algebraic Combinatorics (FPSAC), Ruhr–Universität Bochum, Bochum, Germany Jul 22–26, 2024
- Workshop on (Mostly) Matroids, IBS Science Culture Center, Daejeon, South Korea Aug 19–23, 2024
- Geometry of Matroids Workshop, Institute for Advanced Study (IAS), Princeton, NJ Oct 21–25, 2024
- Algebraic Geometry Northeastern Series (AGNES), Dartmouth College, Hanover, NH Nov 8–10, 2024

7. PROFESSIONAL DEVELOPMENT

- IMA Math-to-Industry Boot Camp, Institute for Mathematics and its Applications (IMA) Summer 2025
Virtual training program including technical and professional skills training, team projects, and career advice. Received a \$3,000 stipend upon successful completion.

8. FELLOWSHIPS AND AWARDS

- Floyd English Scholarship, Chico State University
Recipient: 1999–2001: \$10,000; 2002: \$5,000; 2003: \$5,000.