Nicholas Cazet

Ph.D. Candidate, Mathematics Department at University of California, Davis

nccazet@ucdavis.edu
www.cazet.net

Research Interests

Low-dimensional topology: knot theory, quandle cocycle invariant, trisections of 4-manifolds, measure homology.

Education

September 2019 - Present	**University of California at Davis** Ph.D. in Mathematics Advisor: Jennifer Schultens
September 2013 - June 2017	**Santa Clara University** B.S. in Mathematics, summa cum laude

Employment

September 2019 - Present	**University of California at Davis** Associate Instructor and Teaching Assistant
August 2017 - January 2019	**San Jose State University**, San Jose, CA Teaching Associate
September 2014 - July 2017	**Santa Clara University**, Santa Clara, CA Research Assistant, Tutor, and Grader

Papers

9. N. Cazet, *Quandles with one non-trivial column*, (arXiv:2303.15815)

8. N. Cazet, *Stable irreducibility via the symmetric quandle cocycle invariant*, (arXiv:2212.09218)

7. Y. Bao, A. Benveniste, M. Campisi, N. Cazet, A. Goh, J. Liu, and E. Sherman, *Bounds in the simple hexagonal lattice and classification of 11-stick knots*, (arXiv:2211.00687)

6. N. Cazet, *The shadow quandle cocycle invariant of knotoids*, (arXiv:2207.02330)

5. N. Cazet, *The stick number of rail arcs*, J. Knot Theory Ramif. (2023)

4. N. Cazet, *On the triple point number of surface-links in Yoshikawa's table*, J. Knot Theory Ramif. (2023)

3. N. Cazet, *Surface-link families with arbitrarily large triple point number*, Topol. Appl. (2022), vol. 319, 108234

2. M. Campisi, N. Cazet, D. Crncevic, T. Fellman, P. Kessler, N. Rieke, V. Srivastava, and L. Torres, *Vertex distortion detects the unknot*, J. Knot Theory Ramif. (2022), vol. 30, no. 11, 2250074

1. M. Campisi and N. Cazet, *Vertex distortion of lattice knots*, J. Knot Theory Ramif. (2021), vol. 30, no.07, 2150043

Awards and Honors

- Dean's Summer Graduate Fellowship (Summer 2022)

- UC Davis Graduate Summer Fellowship (Summer 2020)

- Graduate Equity Fellowship, San Jose State University (September 2018)

- Bertha Kalm Scholarship, San Jose State University (August 2018)

- Valedictorian Nomination, Santa Clara University (June 2017)

- Dean's List, Santa Clara University (January 2014 - June 2017)

- Pennello Research Grant, Santa Clara University (April 2016)

Talks

- Trisectors Workshop, Lightning Talk, UC Davis (June 2023)

- Moab Topology Conference, Utah State University Moab (May 2023)

- Log Cabin Conference on Concordance and Knotted Surfaces, Sedona (Virtual) (March 2023)

- Student-Run Research Seminar, UC Davis (March 2023)

- Math/Stats Colloquium, San Jose State University (February 2023)

- BIRS: Topology in Dimension 4.5 (October 2022)

- Geometric Topology Grad and Postdoc Seminar, Virtual (October 2022)

- Student-Run Research Seminar, UC Davis (October 2022)

- Workshop in Geometric Topology, Virtual (June 2022)

- Chico Topology Conference, Chico State University (April 2022)

- Graduate Student Topology and Geometry Conference, Georgia Tech (Virtual) (April 2022)

- JMM, Algebraic Topology and Knot Theory, Virtual (January 2022)

- Mathematics Department Colloquium, Santa Clara University (November 2021)

- Student-Run Research Seminar, UC Davis (November 2021)

- Student-Run Research Seminar, UC Davis (September 2021)

- Tech Topology Summer School, Lightning Talk, Virtual (July 2021)

- Student-Run Research Seminar, UC Davis (May 2021)

- Graduate Student Topology and Geometry Conference, Virtual (April 2021)

- Graduate Online Anything Topology Series # 2, Virtual (June 2020)

- Student-Run Research Seminar, UC Davis (April 2020)

- Pi Mu Epsilon Colloquium, Santa Clara University (October 2019)

- LG&TBQ, Lightning Talk, University of Michigan (June 2019)

- AMS Sectional Meeting, Early Graduate Student Session, San Francisco State University (October 2018)

Conferences Attended

- ICERM: Tangled in Knot Theory (May 2023)

- Topology Festival, Cornell University (May 2023)

- Winter School in Singularities and Low-Dimensional Topology, Rényi Institute (Virtual) (January 2023)

- Nearly Carbon Neutral Geometric Topology Conference, Virtual (October 2022)

- SYNC Early Career Workshop, UC Davis (August 2022)

- Trisectors Workshop, Western Washington University (June 2022)

- Topology Festival, Cornell University (May 2022)

- LGBTQ+ Math Day, The Fields Institute, Virtual (November 2021)

- CMO Workshop: Knots, Surfaces and 3-manifolds, Virtual (June 2021)

- Nearly Carbon Neutral Geometric Topology Conference, Virtual (June 2021)

- Diversity in STEM Conference, Letters and Sciences Representative, UC Davis (May 2021)

- Trisectors Workshop, Virtual (June 2021)

- Graduate Student Conference in Algebra, Geometry, and Topology, Virtual (May 2021)

- Topology Students Workshop, Virtual (July 2020)

- Low-dimensional Topology and its Interactions with Symplectic Geometry, Princeton University (June 2018)

- NSF/RTG Summer Program in Low-Dimensional Topology and Symplectic Geometry at Princeton University (June 2018).

- Bay Area Discrete Math Day, Santa Clara University (April 2018)

Professional Activities

- Polymath Jr., Graduate Mentor for Undergraduate Research (Summer 2021, 2022)

- Diversity in STEM Conference, UC Davis Letters and Sciences Representative (May 2021)

- Graduate Student Association Representative, UC Davis (2020-2021)

- Directed Reading Program, UC Davis Mathematics Department (2020-2021)

- Phi Kappa Phi, San Jose State University (February 2018)

- Pi Mu Epsilon of Santa Clara University, President (January 2016 - December 2017)

- Santa Clara University Mathematics Society, Treasurer (September 2013 - June 2017)

Teaching Experience at UT Austin Summer Minicourses

- Introduction to Surface-Knots and Quandles (July 2022)

Teaching Experience at UC Davis

Instructor of Record

- Math 298: Group Study (Quandle Theoretic Knot Invariants) (Spring 2023)

- Math 298: Group Study (Knotting in Low-Dimensional Topology) (Winter 2023)

- Math 21A: Calculus I (Summer 2021)

Teaching Assistant: Seminar lecture, grading, office hour, and proctoring.

- Math 145: Combinatorics (Spring 2023)

- Math 108: Intro. to Abstract Mathematics (Winter 2023)

- Math 145: Combinatorics (Fall 2022 x 2)

- Math 108: Intro. to Abstract Mathematics (Winter 2022 x 2)

- Math 21A: Calculus I (Fall 2022 x 2)

- Math 21C: Calculus III (Spring 2021 x 2)

- Math 21B: Calculus II (Winter 2021 x 2)

- Math 21B: Calculus II (Fall 2020 x 2)

- Math 16B: Short Calculus II (Spring 2020 x 2)

- Math 21B: Calculus II (Winter 2020 x 2)

- Math 21A: Calculus I (Fall 2020 x 2).

Teaching Experience at San Jose State University

Instructor of Record

- Math 19: Precalculus (Fall 2018)

- Math 30W: Calculus I Workshop (Spring 2018 x 2)

- Math 19: Precalculus (Spring 2018)

- Math 30W: Calculus I Workshop (Fall 2017 x 2)

- Math 19: Precalculus (Fall 2017)

- Math 31W: Calculus II Workshop (Fall 2018 x 2)

Employment at Santa Clara University

Research Assistant: Research project in nonstandard measure theory.

Tutor: University hired tutor and volunteer tutor for the mathematics department.

Grader: Homework grader for abstract algebra and calculus courses.