

Xingyu Cheng
xcheng1@unc.edu
(317)-965-0515

Education

University of North Carolina at Chapel Hill 2021—Present
PhD Mathematics
Advisor: Prakash Belkale

Purdue University, West Lafayette, IN 2017—2021
BS Mathematics (Honors)

Publications

2. **Linking number of monotonic cycles in random book embeddings of complete graphs** (joint with Yasmin Aguillon, Eric Burkholder, Spencer Eddins, Emma Harrell, Kenji Kozai, Elijah Leake, Pedro Morales). To appear in *J. Knot Theory Ramif.*. <https://arxiv.org/abs/2301.02082>
1. **The Mean Sum of Squared Linking Numbers of Random Piecewise-Linear Embeddings of K_n** (joint with Yasmin Aguillon, Spencer Eddins, Pedro Morales). Submitted. Preprint available upon request.

Conferences attended

- **SLMATH/MSRI Summer School Commutative Algebra and its Interaction with Algebraic Geometry**, Notre Dame University, Summer 2023.
- **Georgia Algebraic Geometry Symposium**, University of Georgia, 2023.
- **Summer 2020 Indiana REU Conference**, Indiana University, 2020.
Talk given: ‘Extensions of the uniform random polygon model’ (joint talk with Pedro Morales).

Teaching

Fall 2022

Course taught:

- Math 110 College Algebra

Recitations lead:

- Math 231H Calculus I Honors
- Math 110L Recitation for College Algebra

Spring 2022

Recitations lead:

- Math 233 Multivariable Calculus

Fall 2021

Recitation lead:

- Math 233 Multivariable Calculus

Service

Tea Time Coordinator

2023—2024

Directed Reading Program

From <https://math.unc.edu/undergraduate/opportunities/>: “The Directed Reading Program (DRP) pairs undergraduate students with graduate student mentors for semester-long independent study projects. It is an opportunity for motivated students to get one-on-one mentorship as they learn about a math topic of their interest but is out of the scope of the courses offered at UNC.”

- **Spring 2023:** with Aryan Kokkanti, ‘Foundations of Knot Theory.’
- **Fall 2022:** with Marleigh Purgar-Mcdonald, ‘Hilbert Nullstellensatz, Affine Varieties and Ideals.’