

Fanxin Wu

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Education

PhD in Mathematics

Rutgers University, May 2026 (expected)

University of Illinois at Chicago, August 2021-May 2022

MS in Mathematics

University of Illinois Urbana-Champaign, May 2021

BS in Pure and Applied Mathematics

Beijing Normal University, May 2019

Exchange study at University of Helsinki, Fall 2018

Research Interests

I am primarily interested in set theory, more specifically infinite combinatorics. I am also interested in descriptive set theory and its relation to other fields, especially geometry and topology.

Publications

- *Two-cardinal Kurepa Hypotheses*, Fanxin Wu, preprint
- *Diamond principles and Tukey-top ultrafilters on a countable set*, Tom Benhamou and Fanxin Wu, submitted

Talks

- *TBA*. Logic and Computation Seminar, University of Pennsylvania (upcoming)
- *Two-cardinal Kurepa Hypotheses*. MAMLS conference, lightning talk session, September 2025
- *Diamond on Omega*. Rutgers Logic Seminar, March 2024
- *Calculus IV*. UIC Louise Hay Logic Seminar, March 2022
- *Weak Mordell Theorem*. UIC Graduate Number Theory Seminar, December 2021

Teaching Experience

Lecturer

Rutgers University, Summer 2024

Lecturer for Calculus III. Created own course notes, quizzes and exams.

Teaching Assistant

Rutgers University, 2022-2025

Recitation instructor for the following courses.

- Calculus I for the life and social sciences
- Calculus II for the Mathematical and Physical Sciences
- Differential Equations for Engineering and Physics

Teaching Assistant

University of Illinois at Chicago, 2021-2022

Led discussion sessions helped design course material for the following courses.

- College Algebra

- Calculus I

Graduate Student Tutor

University of Illinois Urbana-Champaign, 2019 - 2020

Volunteer tutor. Helped students who were affected by the online teaching format during the COVID-19 pandemic with their coursework.

Mentoring

Mentored undergraduate students at Rutgers University in reading or research projects.

Independent Study

with Sean LeClair, Spring 2025

ω_1 -Random Graphs

Directed Reading Program

with Sean LeClair, Spring 2024

The Undecidability of Hilbert's Tenth Problem

Directed Reading Program

with Hasan Kunukcu, Spring 2023

An Overview of Kaplansky's Set Theory and Metric Spaces

Other Service

Rutgers Graduate Student Pizza Seminar, organizer

Fall 2023 - Spring 2024

Graduate Operated Set Theory Seminar, organizer

Fall 2023 - Spring 2024