Curriculum Vitae - Charlie Wu
charliewu.math@gmail.com

Education

PhD in Mathematics, University of Toronto (2021 - Present)

- Supervised by Daniel Litt

Research Interests

- Algebraic Geometry, Monodromy, (Non-Abelian) Hodge Theory

Publications and Preprints

1. Wu, Charlie, "Minimal Energy Local Systems on Curves," arXiv:2503.19250

Talks

- *Minimal Energy Local Systems on Curves* - Feburary 2025, University of Toronto Algebraic Geometry Seminar
- *Non-Abelian Hodge Theory and Complex Variations of Hodge Structure* - August 2024, Elden Elmanto's Summer Seminar
- *Six Functor Formalisms* - July 2024, Étale Cohomology Seminar
- *Intro to Higgs Bundles and Non-Abelian Hodge Theory* - June 2024, Non-Abelian Hodge Theory Learning Seminar
- *Étale fundamental groups* - May 2024, Étale Cohomology Seminar
- *Special Unitary Local Systems on the Riemann Sphere* - Dec 2023, Lightning Talk at the Monodromy and Its Applications Conference (Nick Katz's 80th Birthday Conference)
- *Why an Engineer Can Draw Better Than You* - Nov 2023, University of Toronto Graduate Student Seminar
- *Counting Curves and Gromov-Witten Invariants* - Oct 2023, University of Toronto Graduate Student Algebraic Geometry Seminar
- *Character Varieties* - Feb 2023, Rigid Local Systems Seminar
- *Unique Ergodicity* - Feb 2021, Talk for MAT477 (Seminar in Mathematics)
- *Hyperbolic Systems* - April 2021, Talk for MAT477 (Seminar in Mathematics)
- *Symplectic Toric Manifolds* - April 2021, Final Project for MAT1344 (Introduction to Symplectic Geometry)

Teaching Experience

Teaching Assistant at the University of Toronto

- MAT135 (Calculus 1A) - Sept 2018 - Dec 2018, Sept 2021 to Dec, Sept 2022 - Dec 2022
- MAT136 (Calculus 1B) - Jan 2019 to Apr 2019
- MAT137 (Calculus with Proofs) - May 2022 - Aug 2022
- MAT223 (Linear Algebra I) - Sept 2019 to Apr 2020
- MAT224 (Linear Algebra II) - Sept 2023 - Present
- MAT237 (Multivariable Calculus with Proofs) - May 2023 - Aug 2023
- MAT334 (Complex Variables) - Sept 2022 to May 2022, Sept 2023 - May 2024, Sept 2024 - Present
- MAT344 (Introduction to Combinatorics) - September 2021 to Dec 2021
- APM346 (Partial Differential Equations) - Jan 2022 - Apr 2022

Service

Organized Learning Seminar on Non-Abelian Hodge Theory

- June 2024 - August 2024.

Mentor to First Year Graduate Students

- Sept 2023 to May 2024
- Met with and gave advice about core courses, qualifying exams, finding an advisor, etc.

Vice-President of Social Affairs, University of Toronto Mathematics Union

- September 2020 to May 2021
- Organized social events for mathematics students

Other

United States Citizen