

Ruoxi Li
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Thackeray Hall, Pittsburgh, PA

Education

2019–26* **Ph.D.**, University of Pittsburgh, (Advisor: [Prof. Roman Fedorov](#))
2016–18 **M.S.**, University of Illinois Urbana-Champaign
2012–16 **B.S.**, Nankai University

Research Interests

My research focuses on algebraic geometry and representation theory. More specifically, I am interested in moduli stacks of Higgs bundles and bundles with connections and character varieties. Recently, I am also interested in moduli spaces of quiver representations.

Publications and preprints

2024 Explicit formulas for mixed Hodge polynomials of character varieties of nilpotent groups, with [Rahul Singh](#), [arXiv: 2410.10008](#).
2025 Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections. In Preparation.

Projects

2022– (With [Roman Fedorov](#)), Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections.
2024– (With [Sergey Mozgovoy](#), [Markus Reineke](#) and [Rahul Singh](#)), Motives of moduli spaces of stable quiver representations.

Talks

May 2025 Motivic classes of varieties and stacks with applications to Higgs bundles, [GTA Philadelphia](#), Temple University. 30 mins Talk.
Mar. 2025 Motivic classes of varieties and stacks with applications to Higgs bundles, [Arithmetic Seminar](#), Binghamton University.
Nov. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part II, [Graduate Student Seminar](#), University of Pittsburgh.
Nov. 2024 Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Western Algebraic Geometry Symposium](#), University of Arizona. Poster Session.
Nov. 2024 Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, [Algebraic Geometry Northeastern Series](#), Dartmouth College. Poster Session.
Oct. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [BUGCAT Conference](#), Binghamton University. 20 mins Talk.

* Expected.

- Oct. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles Part I, [Graduate Student Seminar](#), University of Pittsburgh.
- Sept. 2024 Motivic classes of varieties and stacks with applications to Higgs bundles, [Algebraic Groups and the Geometric Langlands Program Seminar](#), University of Pittsburgh.
- Aug. 2024 Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections, [Richmond Geometry Meeting](#), Virginia Commonwealth University. Poster Session.
- July 2020 Moduli of vector bundles, Online Seminar by students.

Teaching Experiences

University of Pittsburgh

Instructor

MATH 0290 Differential Equations, SU 2024

Teaching Assistant

MATH 0120 Business Calculus, FA 2020, 2021, SU 2025
 MATH 0220 Analytic Geometry & Calculus 1, SP 2021, 2022, 2024
 MATH 0230 Analytic Geometry & Calculus 2, SP 2021, 2025, SU 2021, FA 2021, 2022
 MATH 0413 Intro Theoretical Mathematics, SU 2021
 MATH 0420 Intro Theory 1-Variable Calculus, SP 2023
 MATH 0430 Intro Abstract Algebraic Systems, SP 2023, 2024

Grader

MATH 0290 Differential Equations, FA 2024
 MATH 0400 Finite Mathematics, SP 2021
 MATH 1020 Applied Elementary Number Theory, FA 2022, 2023
 MATH 1050 Combinatorial Mathematics, FA 2022, 2023
 MATH 1470 Partial Differential Equations 1, FA 2021

Academic Service

2024– Referee, [Pittsburgh Interdisciplinary Mathematics Review](#)

Honors and Awards

2019 Arts & Sciences Graduate Fellowship, University of Pittsburgh
 2012 Freshman's Second Prize Scholarship, Nankai University

Last updated: June 2, 2025