Ruoxi Li

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Thackeray Hall, Pittsburgh, PA

Education

2019–25*	**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 spaces and moduli stacks of Higgs bundles and bundles with connections. Recently, I am also interested in character varieties.

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 and Presentations

Mar. 2025	Motivic classes of varieties and stacks with applications to Higgs bundles, Arithmetic Seminar, Binghamton, NY, March 4th, 2025.
Nov. 2024	Motivic classes of varieties and stacks with applications to Higgs bundles Part II, Graduate Student Seminar, Pittsburgh, PA, Novermber 22nd, 2024.
Nov. 2024	Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, Western Algebraic Geometry Symposium, Tucson, AZ, November 16-17th, 2024. Poster Session.
Nov. 2024	Motivic classes in finite characteristic with applications to Higgs bundles and bundles with connections, Algebraic Geometry Northeastern Series, Hanover, NH, November 8-10th, 2024. Poster Session.
Oct. 2024	Motivic classes of varieties and stacks with applications to Higgs bundles, BUGCAT Conference, Binghamton, NY, October 26-27th, 2024. 20 mins Talk.
Oct. 2024	Motivic classes of varieties and stacks with applications to Higgs bundles Part I, Graduate Student Seminar, Pittsburgh, PA, October 18th, 2024.

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* Expected.

Sept. 2024	Motivic classes of varieties and stacks with applications to Higgs bundles, Algebraic Groups and the Geometric Langlands Program Seminar, Pittsburgh, PA, September 24th, 2024.
Aug. 2024	Motivic classes of stacks in finite characteristic and applications to stacks of Higgs bundles and bundles with connections, Richmond Geometry Meeting, Richmond, VA, August 12-14th, 2024. Poster Session.
July 2020	Moduli of Vector Bundles, Online Seminar by students, July-November, 2020.

Teaching Experiences

University of Pittsburgh

Instructor

MATH 0290	Differential Equations, SU 2024

Teaching Assistant

MATH 0120	Business Calculus, FA 2020, 2021
MATH 0220	Analytic Geometry & Calculus 1, SP 2021, 2022, 2024
MATH 0230	Analytic Geometry & Calculus 2, SP 2021, 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: March 7, 2025