

# WEIHONG XU

weihong@vt.edu  $\diamond$  <https://weihong-xu.github.io/>

## RESEARCH INTERESTS

---

Algebraic geometry and combinatorics.

## EMPLOYMENT

---

Postdoctoral Associate, Virginia Tech, Mentor: Leonardo Mihalcea

Oct 2022 –

## EDUCATION

---

Ph.D. Mathematics, Rutgers University, Advisor: Anders Buch

Sept 2017 – Oct 2022

M.S. Mathematics, Courant Institute

Sept 2014 – May 2016

B.S. Theoretical and Applied Mechanics, Peking University

Sept 2010 – July 2014

## PUBLICATIONS AND PREPRINTS

---

1. Quantum K Whitney relations for incidence varieties (with W. Gu, L. Mihalcea, E. Sharpe, and H. Zhang), *in preparation*.
2. Quantum K theory rings of partial flag manifolds (with W. Gu, L. Mihalcea, E. Sharpe, and H. Zhang), *in preparation*.
3. The isomorphism problem for cominuscle Schubert varieties (with E. Richmond and M. Tarigradschi), *submitted*, arxiv: 2302.11642.
4. The isomorphism problem for Grassmannian Schubert varieties (with M. Tarigradschi), *to appear in Journal of Algebra*, arXiv: 2205.12814.
5. Quantum  $K$ -theory of Incidence Varieties, *submitted*, arXiv: 2112.13036.
6. On an equivalence of divisors on  $\overline{M}_{0,n}$  from Gromov–Witten theory and conformal blocks (with L. Chen et al.), *Transformation Groups* (2022), arXiv: 2107.00174.

## CONFERENCE AND SEMINAR TALKS

---

AMS Special Session on Representation theory and flag varieties, the University at Buffalo (SUNY)	Sept 2023
Algebra/Topology Seminar, the University at Albany (SUNY), Albany	Sept 2023
Schubert conference, UIUC	June 2023
International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC) ( <i>poster</i> )	July 2023
Equivariant Schubert calculus and beyond, the University of Ottawa	June 2023
Women in Algebra and Combinatorics, the University at Albany (SUNY)	Apr 2023
Algebra, Geometry and Combinatorics Day (AlGeCom), Loyola University ( <i>poster</i> )	Apr 2023
University of British Columbia Discrete Math Seminar	Mar 2023
Canadian Western Algebraic Geometry Symposium, Simon Fraser University ( <i>poster</i> )	Mar 2023
Geometric Representation Theory and Quantum Topology workshop, Paris Cité University	Dec 2022
University of British Columbia Algebraic Geometry Seminar	Nov 2022
MIT-Harvard-MSR Combinatorics Seminar, MIT	Oct 2022
AMS Special Session on Combinatorial Algebraic Geometry	Oct 2022

Virginia Tech Algebra Seminar	Sept 2022
Algebraic Geometry Northeastern Series, Rutgers University ( <i>poster</i> )	May 2022
Schubert Seminar	Mar 2022
Versailles Saint-Quentin-en-Yvelines University Seminars AG	Feb 2022
Rutgers University Algebra Seminar	Jan 2022
ICERM Geometry and Combinatorics from Root Systems workshop	Mar 2021
ICERM Sage/Oscar Days for Combinatorial Algebraic Geometry workshop	Feb 2021
American Graduate Student Algebraic Geometry Seminar (AGSAGS)	Dec 2020

## TEACHING

---

### Virginia Tech, Instructor

Modern Algebra	Fall 2023
Introduction to Linear Algebra	Spring 2023

### ICERM, Teaching Assistant

Combinatorial Algebraic Geometry Introductory Workshop ( <i>online</i> )	Feb 2021
--	----------

### Rutgers University, Instructor

Introductory Linear Algebra ( <i>online</i> )	Summer 2020
---	-------------

### Rutgers University, Teaching Assistant

Special Pre-enrollment Program for New Graduate Students ( <i>online</i> )	Aug 2020
Differential Equations for Engineering and Physics	Spring 2020
Calculus I Math/Physics (Honors)	Fall 2019
Graduate Algebra I	Fall 2018

### Johns Hopkins Center for Talented Youth, Teaching Assistant

Inductive and Deductive Reasoning ( <i>for 5th and 6th graders</i> )	Summer 2017
--	-------------

### New York University, Recitation Leader

Great Ideas in Math	Fall 2015
---------------------	-----------

## SERVICE AND MENTORING

---

Co-instructor, Blacksburg Math Circle	Feb 2023
Math Department Liaison, Rutgers Overseas Semester Program	Aug 2020 – Dec 2021
Co-organizer, Graduate Student and Postdoc Seminar,	
ICERM Combinatorial Algebraic Geometry Semester Program	Spring 2021
Discussion Leader, International Teaching Assistant Orientation, Rutgers University	Aug 2019
Graduate Mentor, undergraduate research on Schubert calculus (REU), Rutgers University	Summer 2018

## HONORS AND AWARDS

---

Rutgers University School of Arts and Sciences Graduate Fellowship	Spring 2021
Rutgers University Janice Pattwell Annual Mathematics Fellowship	2020
Rutgers University TA/GA Professional Development Fund	2018