

Myeonhu Kim

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RESEARCH INTERESTS

Algebraic geometry, commutative algebra.

In particular: Theory of singularities in positive and mixed characteristics.

More broadly: Birational geometry and the minimal model program, moduli theory, non-archimedean analytic geometry.

EDUCATION

Princeton University, Princeton, NJ 2020–present

Ph.D. in Mathematics (expected May 2027)

Advisors: János Kollár, Jakub Witaszek

On leave 2023–2025 for the compulsory military service in South Korea.

Columbia University, New York, NY 2016–2020

B.A. in Mathematics, *summa cum laude*

EMPLOYMENT

Northwestern University, Evanston, IL 2025–present

Visiting Predoctoral Fellow

RESEARCH

- *A Kunz-type theorem for quasi- F -singularities*, in preparation.
- *The Witt–Hilbert–Kunz multiplicity and the relative quasi- F -rational signature*, in preparation.

TALKS

- “The Witt–Hilbert–Kunz multiplicity and the relative quasi- F -rational signature”, Northwestern University Algebraic Geometry Seminar, Northwestern University. October 2026.
- “A Kunz-type theorem for quasi- F -singularities”, Graduate Algebraic Geometry Seminar, Northwestern University. October 2026.
- “Noetherian F -finite schemes have a dualizing complex”, Graduate Algebraic Geometry Seminar, Northwestern University. May 2026.
- “Singularities in mixed characteristic”, Informal Algebraic Geometry Oberseminar, Northwestern University. February 2026.

- “Singularities in positive characteristic”, Informal Algebraic Geometry Oberseminar, Northwestern University. December 2025.
- “The category of Frobenius modules”, Reading Group on Positive Characteristic Riemann-Hilbert Correspondence, Northwestern University. October 2025.
- 9 talks in the Moduli and Stacks Learning Seminar, Princeton University. February 2023–August 2023.
- 5 talks in the Reading Seminar on K-stability, Princeton University. August 2022–January 2023.
- “The F -signature function on the ample cone”, Preprint Seminar, Princeton University. November 2022.
- “Calculating cohomology over the infinitesimal site”, Workshop on Crystalline Cohomology, Princeton University. November 2022.
- “Anti-pluricanonical systems on Fano varieties: Effective Birationality I”, Minimal Model Program Learning Seminar, online. August 2022.
- “Boundedness of varieties of general type: Boundedness of Moduli”, Minimal Model Program Learning Seminar, online. May 2022.
- “Algebraic threefolds of general type with small volume”, Preprint Seminar, Princeton University. April 2022.
- “Newton-Okounkov bodies and Picard numbers on surfaces”, Preprint Seminar, Princeton University. November 2021.

TEACHING

Preceptor at Princeton

- Linear Algebra and Applications (MAT 202) Spring 2023
- Multivariable Calculus (MAT 201) Fall 2022

Grader at Princeton

- One-Variable Calculus with Proofs (MAT 210) Fall 2025
- Applied Algebra (MAT 340) Fall 2025
- Honors Linear Algebra (MAT 217) Spring 2022
- Calculus I (MAT 103) Fall 2021

Teaching Assistant at Columbia

- Algebraic Curves (MATH GU4045) Spring 2020
- Modern Algebra II (MATH GU4042) Fall 2019
- Representations of Finite Groups (MATH GU4044) Spring 2019
- Modern Algebra II (MATH GU4042) Fall 2018
- Honors Math A (MATH UN1207) Fall 2017

MENTORING

Twoples

2025–2026

- Mentored undergraduate students during the Fall 2025 and Spring 2026 semesters in commutative algebra and algebraic geometry

AWARDS & HONORS

Junior Phi Beta Kappa, Columbia College (top 2%)	2020
N2, Putnam Competition	2019
Honorable Mention, Putnam Competition	2016, 2017, 2018
Van Amringe Mathematical Prize, Columbia College	2018, 2019
Finalist of Korean IMO team selection (top 13)	2014
Silver Award, Asia Pacific Math Olympiad	2014
Award of Excellence, Final Korean Math Olympiad	2012, 2014

OTHER EXPERIENCES

Referee for Michigan Mathematical Journal	
Organizer of Moduli and Stacks Learning Seminar (online)	Feb 2023–Aug 2023
Problem proposer and grader in MMATHS	2017–2019

OTHER INFORMATION

Languages: English (fluent), Korean (native).
Citizenship: Republic of Korea (South Korea).