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Degrees:

B.S. Mathematics, Pennsylvania State University, 2005.

Ph.D. Mathematics, Princeton University, 2009.

Advisor: Gang Tian; Thesis: Ricci Solitons and Collapsed Spaces.

Employment:

Massachusetts Institute of Technology, Moore Instructor, 2009–2012.

Massachusetts Institute of Technology, Assistant Professor, 2012–2013.

Northwestern University, Associate Professor, 2013–2015.

Northwestern University, Professor, 2015-

Northwestern University, Kenneth F. Burgess Professor of Mathematics, 2015–2024

Institute for Advanced Study, Professor of Mathematics 2024-

Honours:

Princeton Centennial Fellowship, 2008–2009.

ICM 2014 Section Speaker, Geometry.

Sloan Fellow, 2014.

Kenneth F. Burgess Professor of Mathematics, 2015-.

Fellow of the American Mathematical Society, 2017.

New Horizons Prize in Mathematics, 2017.

Minerva Distinguished Visitor at Princeton, 2018.

Simons Investigator, 2023.

ICBS Frontiers of Science Award, 2024.

Fermat Prize in Mathematics, 2024.

Member of the National Academy of Sciences, 2024.

ICBS Frontiers of Science Award, 2025.

Select Publications

Energy Identity for Stationary Harmonic Maps (w/ Valtorta), preprint (2024).

Fundamental Groups and the Milnor Conjecture (w/ Brué and Semola), **Annals of Mathematics** 201 (2025), no. 1, 225–289.

Boundary regularity and stability for spaces with Ricci bounded below (w/ E. Brue and D. Semola), **Inventiones**, Vol 228 (2022), 539–686.

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Characterizations of Bounded Ricci Curvature on Smooth and NonSmooth Spaces preprint, 2013.

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Fukaya-Yamaguchi Conjecture in Dimension Four (w/ Brué and Semola) preprint (2025).

Rectifiable Reifenberg and uniform positivity under almost Calibrations (w/ Edelen and Valtorta), preprint (2024).

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Lower Ricci Curvature and Nonexistence of Manifold Structure (w/ Hupp and Wang), **Geometry and Topoloy** 29(2025), no. 1, 443–477.

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Convergence and Regularity of Manifolds with Scalar Curvature and Entropy Lower Bounds (w/ M.C. Lee and R. Neumayer), Prospectives in Scalar Curvature, Chapter 3, World Scientific Publishing 2022.

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