Hunter Stufflebeam

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Abstract

I am a J.J. Sylvester Assistant Professor in mathematics at Johns Hopkins University. My primary interests lie in geometry and analysis — especially in geometric partial differential equations and geometric measure theory. I received my Ph.D. from the University of Pennsylvania in 2025 under the supervision of Davi Máximo, and I was previously an undergraduate at The University of Texas at Austin where my advisers were Francesco Maggi and Salvatore Stuvard.

Personal Information

- Citizenship: US Citizen
- Languages: English (native), Spanish (Intermediate).

Education and Employment

Johns Hopkins University, J.J. Sylvester Assistant Professor — Aug 2025 – current
- **Mentor:** Chikako Mese

The University of Pennsylvania, PhD in Mathematics — Aug 2019 – May 2025
- **Advisor:** Davi Máximo
- **Dissertation Title:** Almost-Rigidity and the Geometric Analysis of Lower Curvature Bounds

The University of Texas at Austin, BS in Mathematics — Aug 2015 – May 2019
- Highest Honors with Special Departmental Honors in Mathematics. GPA: 4.0/4.0.
- **Advisors:** Francesco Maggi and Salvatore Stuvard
- **Honors Thesis Title:** Allard Type Regularity Theorems for Rectifiable Varifolds

Academic Awards and Fellowships

Professor Joel Dean Excellence in Teaching Award, JHU — 2025-2026
Graduate Fellow for Inclusive and Equitable Teaching, UPenn — Aug 2024 – May 2025
Good Teaching Award (Math 1080), UPenn — Spring 2024
J.A. Shohat Memorial Fellowship, UPenn — Aug 2020 – May 2021
Bob Williams Scholar, UT Austin — Spring 2019
Eva Woods Stevenson Unrestricted Endowed Presidential Scholarship, UT Austin — Spring 2018
College of Natural Sciences Book Award, UT Austin — Spring 2018
Distinguished College Scholar, UT Austin — Spring 2017, 2018, 2019

Publications and Preprints

Width Stability of Three-Manifolds — 2026
Preprint available upon request.

Almost-Rigidity and the Geometric Analysis of Lower Curvature Bounds — 2025
(Ph.D. Thesis)

Width Stability of Rotationally Symmetric Metrics — 2024
Joint with Paul Sweeney Jr.
ArXiv 2409.13646. Published in *J. Geom. Anal. Volume 35, Issue 8, 2025.*

Stability of Convex Spheres — 2024
Joint with Davi Máximo.
ArXiv 2312.13995. Published in *Int. Math. Res. Not. Issue 1, Jan 2025*.

Stability of Convex Disks Jan 2023

ArXiv 2301.13130. Published in *Calc. Var. and PDEs No. 244, 20, 2023.*

Talks and Conferences

As Organizer:

AMS Special Session: Geometric Inequalities, Convergence, and Scalar Curvature) at the JMM in Chicago, IL. Jan 2027

Gender Minorities in Topology and Related Areas Konference (GeMTraK) at U-Penn. Apr 2024

As Invited Conference Speaker:

Joint Mathematics Meetings: Special Session on Recent Trends in Metric Geometry and Topology Jan 2027

- Width Stability of Three Manifolds

Oberwolfach Workshop on Moduli Theory in Differential Geometry and Analysis Jan 2027

Geometric Problems in PDEs at the CMS Winter Session in Montréal Dec 2026

- Width Stability of Three Manifolds

Modern Techniques in Riemannian Geometry at the Instituto de Matemáticas at UNAM Jul 2026

- Almost-Rigidity and the Volume Spectrum

AMS Eastern Sectional at Boston College: Special Session on Metric, Analytic, and Classical Methods in Differential Geometry Mar 2026

- Almost-Rigidity and the Volume Spectrum

Workshop on Curvature and Global Shape at Universität Münster Aug 2025

- Stability Theorems for Spheres

Convergence or Scalar Curvature (COSC) Workshop July 2025

- Stability Theorems for Spheres

Joint Mathematics Meeting in Seattle: Special Session on Metric Geometry and Topology Jan 2025

- Stability Theorems for Spheres

Temple Graduate Student Conference in Algebra, Geometry, and Topology May 2024

- Stability of Convex Spheres, and Other Almost-Rigidity Problems

Temple Graduate Student Conference in Algebra, Geometry, and Topology May 2023

- The Min-Oo Conjecture, Toponogov's Theorem, and Almost-Rigidity Problems

Brown Workshop on Differential Geometry Mar 2023

- Stability of Convex Disks

As Invited Seminar Speaker:

Convergence or Scalar Curvature (COSC) Seminar Apr 2026

- Almost-Rigidity and the Volume Spectrum

University of Chicago Geometry Seminar Apr 2025

- Stability Theorems for Spheres

Johns Hopkins Geometry Seminar Apr 2025

- Stability Theorems for Spheres

Michigan State Geometry Seminar Mar 2025
- Stability Theorems for Spheres

Rutgers Geometric Analysis Seminar Dec 2024
- Stability Theorems for Spheres

Lehigh Geometry Seminar Nov 2024
- Stability Theorems for Spheres

Convergence or Scalar Curvature (COSC) Seminar Nov 2024
- Stability Theorems for Spheres

NC State Geometry and Topology Seminar Sep 2024
- Stability Theorems for Spheres

CUNY Geometric Analysis Seminar Mar 2023
- Stability of Convex Disks

UPenn Geometry Seminar Mar 2023
- Stability of Convex Disks

Australian Geometric PDE Seminar Oct 2022
- Stability of Convex Disks

Teaching

Lecturer **Johns Hopkins Univ.**
- AS 110.416 (Honors Real Analysis II) Spring 2026
- AS 110.109 (Calculus II: For the Physical Sciences and Engineering) Fall 2026
- AS.110.427 (The Calculus of Variations) Spring 2026
- AS.110.211 (Honors Multivariable Calculus) Spring 2026
- AS 110.109 (Calculus II: For the Physical Sciences and Engineering) Fall 2025

Lecturer **Univ. of Penn.**
- Math 2410 (Intro to PDEs) Summer 2024
- Math 241 (Intro to PDEs) Summer 2023

Graduate Teaching Assistant **Univ. of Penn.**
- Math 1080 (Mathematics of Change Pt. II) Fall 2024
- Math 1080 (Mathematics of Change Pt. II) Spring 2024
- Math 4250 (Advanced PDEs) Spring 2023
- Math 241 (Intro to PDEs) Spring 2022
- Math 240E (Linear Algebra and ODEs for Engineers) Fall 2021
- Math 609 (Graduate Real and Functional Analysis) Spring 2021
- Math 240 (Linear Algebra and ODEs) Fall 2020

Learning Assistant **UT Austin**
- Undergraduate TA for *all* UT Austin calculus courses. Fall 2018

Undergraduate Grader **UT Austin**
- M361: Complex Analysis Fall 2018
- M325K-H: Honors Discrete Math Spring 2018
- M362K: Probability I Fall 2017

Peer Led Undergraduate Study (PLUS Tutoring) **UT Austin**
- M427J: Honors ODEs and Linear Algebra Spring 2016

Service

Mentoring of Undergraduates — **Johns Hopkins Univ.**

- Sabrina Jia, in Riemannian geometry (now a math PhD. student at Louisiana State Univ.) — Spring 2026
- Thanh Tran, in differential topology (currently an undergraduate at Johns Hopkins Univ.) — Summer 2026

Mentoring in the Directed Reading Program (DRP). — **Univ. of Penn.**

- Fluid Dynamics and the Navier-Stokes Equations — Spring 2025
- Falconer's Conjecture — Fall 2024
- Riemannian Geometry and General Relativity — Fall 2023
- Curve Shortening Flow — Fall 2022
- Riemannian Geometry — Spring 2022
- The Black-Scholes Equation — Fall 2021
- Ergodic Theory and Economics — Spring 2021
- Topics in Dynamical Systems — Fall 2020

JHU Math Dept. Open Forum on AI Policy — **Johns Hopkins Univ.**

- Chairperson, along with Zihui Zhao and Alvaro Belmonte. — Fall 2026

Anonymous Journal Referee

- Quaestiones Mathematicae
- Mathematische Annalen

Organizer of the UPenn Graduate Math Pizza Seminar — **2020-2021**

UPenn Graduate Student "Buddy" Mentoring Program — **Fall 2020**

Departmental Talks

Geometric Analysis Learning Seminars — **Johns Hopkins Univ.**

- The Harmonic Map Heat Flow and Eells-Sampson-Hartman's Existence Theorem — Jan 2026
- Donaldson's Existence Theorem for Twisted Harmonic Maps — Nov 2025
- Petersen's Eigenvalue Pinching Theorem — Oct 2025

Graduate Pizza Seminar — **Univ. of Penn.**

- Primes, Irreducibility, and the Fundamental Group (a sneaky talk on Geometrization) — Apr 2024
- Geometry at Penn, a talk for prospective students — Feb 2024
- Soap Bubbles and Geometry, a talk for prospective students — Feb 2023
- "(Dont Fear) The Reaper or: How I Learned to Stop Worrying (About the Topology) and Love the Geometry" (a curve shortening flow talk) — Feb 2022
- A History of Soviet Mathematics — Nov 2019

"Secret" Geometry Seminar — **Univ. of Penn.**

- The Ricci Min-Oo Conjecture, and Possible Extensions — Oct 2021

Geometric Analysis Seminar — **Univ. of Penn.**

- The d_p Convergence and Almost-Rigidity — Oct 2021

Graduate Geometry Seminar — **Univ. of Penn.**

- Curvature Bounds and Geometric Stability — Oct 2021
- Convergence of Tori with Almost Non-negative Scalar Curvature — Apr 2021
- The Yamabe Problem — Feb 2021
- The Isoperimetric Problem in Metric Spaces — Oct 2020
- The Isoperimetric Inequality on a Minimal Submanifold of Euclidean Space — Sep 2019

Park City Math Institute: Experimental Math Lab — **Park City, UT**

- The Courant Nodal Domain Theorem and the 2-Torus — Jul 2018

Geometric Measure Theory Seminar — **UT Austin**

- Allard's Regularity Theorem — Mar 2019

UT Austin Math Club — **UT Austin**

- A Four Part Lecture Series on Differential Geometry and Topology — Feb 2019
- A Primer on Geometric Measure Theory and Variational Problems — Dec 2018
- Dr. Levi Civita or: How I Learned to Stop Worrying and Love Torsion Free Connections. — Apr 2018

Directed Reading Program Symposium — **UT Austin**

- The Fourier Multiplier Problem for the Ball — Apr 2018
- Poking Fun at Surfaces, and How to Perturb your Manifolds — Apr 2017
- Dr. Levi Civita or: How I Learned to Stop Worrying and Love Torsion Free Connections. — Apr 2018

Other Activities

Principal Bass Trombonist

- University of Pennsylvania Symphony Orchestra (PSO) — 2019-2025
- University of Texas at Austin: University Orchestra (UTUO) — 2015-2019