Hunter Stufflebeam

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Abstract

I am a sixth year PhD student at The University of Pennsylvania under the supervision of Davi Máximo. My primary interests lie in geometry and analysis — especially in geometric partial differential equations and geometric measure theory. I was previously an undergraduate at The University of Texas at Austin, where my advisers were Francesco Maggi and Salvatore Stuvard.

I am on the academic postdoc market during the fall of 2024.

Personal Information

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

Education

The University of Pennsylvania, PhD in Mathematics   Aug 2019 – current

- **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

Graduate Fellow for Inclusive and Equitable Teaching, UPenn   Aug 2024 – May 2025

- Developed and led teaching workshops with the Center for Excellence in Teaching, Learning, and Innovation (CETLI).
- Developed and taught a course on pedagogy for graduate students and postdocs in STEM fields.

J.A. Shohat Memorial Fellowship, UPenn   Aug 2020 – May 2021

Bob Williams Scholar, UT Austin   Spring 2019

- Nominated by the Department of Mathematics

Eva Woods Stevenson Unrestricted Endowed Presidential Scholarship, UT Austin   Spring 2018

- Nominated by the Department of Mathematics

College of Natural Sciences Book Award, UT Austin   Spring 2018

- Awarded to 20 students in the College of Natural Sciences. Nominated by Francesco Maggi.

Distinguished College Scholar, UT Austin   Spring 2017, 2018, 2019

- For ranking in the top 4% of the class in the College of Natural Sciences.

Publications and Preprints

Width Stability of Rotationally Symmetric Metrics   Sept 2024

Joint with Paul Sweeney Jr.

ArXiv 2409.13646.   *Submitted and in review.*

Stability of Convex Spheres   Dec 2023

Joint with Davi Máximo.

ArXiv 2312.13995.   *Submitted and in review.*

Stability of Convex Disks	Jan 2023

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

Invited Talks

Joint Mathematics Meeting: Special Session on Metric Geometry and Topology	Jan 2025
• Stability Theorems for Spheres	
Lehigh Geometry Seminar	Nov 2024
• Width Stability of the Three Sphere	
Carnegie Mellon University Graduate/Postdoc Seminar	Nov 2024
• Stability Theorems for Spheres	
Convergence or Scalar Curvature (COSC) Seminar	Oct 2024
• Width Stability of the Three Sphere	
NC State Geometry and Topology Seminar	Sep 2024
• 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	
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	

Organized Conferences

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

Teaching

Lead 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 in the Directed Reading Program ([DRP](DRP)).	**Univ. of Penn.**

- Falconer's Conjecture — Fall 2024
- Riemannian Geometry and General Relativity — Fall 2023
- Riemannian Geometry — Spring 2022
- The Black-Scholes Equation — Fall 2021
- Ergodic Theory and Economics — Spring 2021
- Topics in Dynamical Systems — Fall 2020

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

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

Departmental Talks

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