

## Daniel Weser

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CONTACT INFORMATION	dweser@math.utexas.edu ma.utexas.edu/users/dweser	
RESEARCH INTERESTS	Geometric analysis, geometric measure theory, partial differential equations	
EDUCATION	<b>Department of Mathematics, University of Texas at Austin</b> Ph.D. in Mathematics Advisor: Francesco Maggi	Exp. Spring 2023
	<b>Department of Economics, Arizona State University</b> B.S. in Economics with Minor in Mathematics	2016
PAPERS	<b>A Heintze-Karcher inequality with free boundaries and applications to capillarity theory</b> with M.G. Delgadino. Submitted, preprint available at <a href="https://arxiv.org/abs/2210.16376">arXiv:2210.16376</a> .	
	<b>On stability estimates for almost-CMC hypersurfaces with bubbling</b> <i>In preparation.</i>	
TEACHING EXPERIENCE	<b>Teaching Assistant, RTG Analysis of PDE Summer Program 2021</b> <i>Introduction to the Calculus of Variations and Gradient Flows</i> Co-ran week-long discussion and problem sections for early year graduate student attendees of Francesco Maggi's introductory lectures	May 2021
	<b>Teaching Assistant, University of Texas at Austin</b> Differential Equations Integral Calculus	Spring 2020 Fall 2019
	<b>Summer Mini Course leader</b> <i>Geometric analysis</i> Taught a week-long mini course for graduate students as part of UT's Summer Mini Course program	Summer 2018
	<b>Recitation Instructor, Arizona State University</b> Intermediate Microeconomic Theory	Spring 2016
HONORS AND AWARDS	<b>Provost's Graduate Excellence Fellowship, UT Austin</b> <b>Roger L. Faith Outstanding Honors Thesis Award, ASU</b> <b>Presidential Scholar, ASU</b>	2017-2022 2016 2011-2016
OUTREACH	<b>Directed Reading Program, UT Austin</b> Mentored undergraduate students in reading projects on partial differential equations, differential geometry, calculus on manifolds, measure theory, and graph theory	Fall 2018-present

	<b>Mathematicians of Color Alliance of Texas, UT Austin</b>	Fall 2020-Fall 2021
	Regularly volunteered and gave two introductory lectures for an undergraduate audience:	
	<i>The mathematics of Vivienne Malone-Mayes</i>	Sep. 2021
	<i>An introduction to the work of Wilfrid Gangbo</i>	Nov. 2020
SERVICE	<b>Mathematicians of Color Alliance of Texas, UT Austin</b>	
	Co-founder and co-organizer	Fall 2020-Fall 2021
	Invited Wilfrid Gangbo as inaugural <i>Distinguished Mathematician of Color Colloquium Series</i> speaker	Fall 2020
	<b>Directed Reading Program, UT Austin</b>	
	Head organizer	Fall 2021-Spring 2022
	Co-organizer	Fall 2018-present
	<b>Junior Analysis Seminar, UT Austin</b>	
	Organizer	Fall 2019-Spring 2020
	<b>GMT Reading Seminar, UT Austin</b>	
	Organizer	Spring 2019
CONTRIBUTED TALKS	“A PDEs approach to geometric variational problems,” Junior Analysis Seminar, University of Texas at Austin (Feb. 2022)	
	“PDEs on manifolds part II,” Junior Analysis Seminar, University of Texas at Austin (Nov. 2021)	
	“An introduction to the theory of (embedded) constant mean curvature hypersurfaces,” Junior Analysis Seminar, University of Texas at Austin (Feb. 2021)	
	“A brief introduction to PDEs on manifolds,” Junior Analysis Seminar, University of Texas at Austin (Sep. 2020)	
	“The min-max construction of minimal surfaces,” Junior Geometry Seminar, University of Texas at Austin (Nov. 2019)	
	“An introduction to geometric variational problems,” Junior Analysis Seminar, University of Texas at Austin (April 2019)	
	“Viscosity techniques in geometric variational problems,” Junior Analysis Seminar, University of Texas at Austin (November 2018)	
	“An introduction to varifolds,” Junior Analysis Seminar, University of Texas at Austin (April 2018)	
	“Pedestrian Dynamics with Decision Making Processes,” PDE Seminar, Arizona State University (April 2017)	
CONFERENCE ATTENDANCE	<i>Rutgers Geometric Analysis Conference</i> , Rutgers (May 2022)	
	<i>Hot Topics: Regularity Theory for Minimal Surfaces and Mean Curvature Flow [Virtual]</i> , Mathematical Sciences Research Institute (March 2022)	
	<i>Texas Differential Equations Conference</i> , University of Texas at Austin (March 2020)	
	<i>Convex integration in PDEs, geometry, and variational calculus</i> , Banff International Research Station (August 2019)	

*On nonlinear PDEs and their applications*, University of Texas at Austin (March 2019)

*Workshop on mean curvature and regularity*, Institute for Advanced Study (November 2018)

*16th school on interactions between dynamical systems and partial differential equations*, Centre de Recerca Matemàtica (June 2018)

*Kinetic Equations: Modeling, Analysis and Numerics*, University of Texas at Austin (September 2017)

*Dynamics and Geometry From High Dimensional Data*, Carnegie Mellon University (March 2017)

*Transport Phenomena in Collective Dynamics: From Micro to Social Hydrodynamics*, ETH-Zurich (November 2016)