

## Daniel Weser

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CONTACT INFORMATION	weser@unc.edu tarheels.live/weser/	
RESEARCH INTERESTS	Geometric analysis, geometric measure theory, partial differential equations	
ACADEMIC APPOINTMENTS	<b>Department of Mathematics, University of North Carolina at Chapel Hill</b> Postdoctoral research associate	Fall 2023-present
EDUCATION	<b>Department of Mathematics, University of Texas at Austin</b> Ph.D. in Mathematics Advisor: Francesco Maggi	Summer 2023
	<b>Department of Economics, Arizona State University</b> B.S. in Economics with Minor in Mathematics	Spring 2016
PUBLISHED PAPERS	<b>A Liouville type theorem for ancient Lagrangian mean curvature flows</b> with A. Bhattacharya and M. Warren <i>Communications in Partial Differential Equations</i> (2025)	
	<b>A Heintze-Karcher inequality with free boundaries and applications to capillarity theory</b> with M.G. Delgadino <i>Journal of Functional Analysis</i> (2024)	
TEACHING EXPERIENCE	<b>Instructor, University of North Carolina at Chapel Hill</b> First semester Differential Equations Second semester Differential Equations First semester Differential Equations Second semester Differential Equations	Spring 2025 Fall 2024 Spring 2024 Fall 2023
	<b>Teaching Assistant, RTG Analysis of PDE Summer Program 2021</b> <i>Introduction to the Calculus of Variations and Gradient Flows</i>	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>	Summer 2018
	<b>Recitation Instructor, Arizona State University</b> Intermediate Microeconomic Theory	Spring 2016

HONORS AND AWARDS	<b>Provost's Graduate Excellence Fellowship</b> , UT Austin	2017-2022
	<b>Roger L. Faith Outstanding Honors Thesis Award</b> , ASU	2016
	<b>Presidential Scholar</b> , ASU	2011-2016
SERVICE	<b>DEI Committee, UNC Chapel Hill</b> Member	Spring 2024-present
	<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-Spring 2023
	<b>Junior Analysis Seminar, UT Austin</b> Organizer	Fall 2019-Spring 2020
	<b>GMT Reading Seminar, UT Austin</b> Organizer	Spring 2019
OUTREACH	<b>Directed Reading Program, UT Austin</b> Mentored undergraduate students in reading projects on partial differential equations, calculus of variations, differential geometry, calculus on manifolds, measure theory, and graph theory	Fall 2018-Spring 2023
	<b>Mathematicians of Color Alliance of Texas, UT Austin</b> Regularly volunteered and gave two introductory lectures for an undergraduate audience: <i>The mathematics of Vivienne Malone-Mayes</i> <i>An introduction to the work of Wilfrid Gangbo</i>	Fall 2020-Fall 2021 Sep. 2021 Nov. 2020
INVITED TALKS	Geometry and Topology Seminar, North Carolina State University (Oct. 2023)	
	Geometric Analysis Seminar, Yale University (Mar. 2023)	
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 (Apr. 2019)

“Viscosity techniques in geometric variational problems,” Junior Analysis Seminar, University of Texas at Austin (Nov. 2018)

“An introduction to varifolds,” Junior Analysis Seminar, University of Texas at Austin (Apr. 2018)

“Pedestrian Dynamics with Decision Making Processes,” PDE Seminar, Arizona State University (April 2017)

CONFERENCE  
ATTENDANCE

*Recent progress on geometric analysis and Riemannian geometry*, Simons Laufer Mathematical Sciences Institute (Oct. 2024)

*Optimal Transport and Dynamics*, Casa Matemática Oaxaca (Aug. 2024)

*Joint Mathematics Meeting*, Boston (Jan. 2023)

*Rutgers Geometric Analysis Conference*, Rutgers University (May 2022)

*Hot Topics: Regularity Theory for Minimal Surfaces and Mean Curvature Flow [Virtual]*, Mathematical Sciences Research Institute (March 2022)

*Texas Differential Equations Conference*, University of Texas at Austin (Mar. 2020)

*Joint Mathematics Meeting*, Denver (Jan. 2020)

*Convex integration in PDEs, geometry, and variational calculus*, Banff International Research Station (Aug. 2019)

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

*Workshop on mean curvature and regularity*, Institute for Advanced Study (Nov. 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 (Sep. 2017)

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

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