

Joseph K. Miller

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Positions

Szegő Assistant Professor	Stanford University	2024 –
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Education

Ph.D. in Mathematics <i>Advisor: Nataša Pavlović</i>	University of Texas, Austin	2018-2024
B.S. in Mathematics <i>With Honors</i>	University of California, Los Angeles	2015-2018

Publications & Preprints

- I. Ampatzoglou, J. K. Miller, N. Pavlović, M. Tasković.** Inhomogeneous wave kinetic equation and its hierarchy in polynomially weighted spaces. *ArXiv*. (2024).
- I. Ampatzoglou, J. K. Miller, N. Pavlović, M. Tasković.** On the global in time existence and uniqueness of solutions to the Boltzmann hierarchy. *ArXiv*. (2024).
- E. Cárdenas, J. K. Miller, N. Pavlović.** On the Effective Dynamics of Bose-Fermi Mixtures. *ArXiv*. (2023).
- J. K. Miller, A. R. Nahmod, N. Pavlović, M. Rosenzweig, G. Staffilani.** A Rigorous Derivation of the Hamiltonian Structure for the Vlasov Equation. *Forum of Mathematics, Sigma*, 11, e77. (2023).
- I. Ampatzoglou, J. K. Miller, N. Pavlović.** A Rigorous Derivation of a Boltzmann System for a Mixture of Hard-Sphere Gases. *SIAM Journal on Mathematical Analysis*, 54(2). (2022).
- J. Lyons, J. K. Miller.** The Derivative of a Solution to a Second Order Parameter Dependent Boundary Value Problem with a Non-Local Integral Boundary Condition. *Journal of Mathematical and Statistical Science*, 2015(2). (2015).

Awards and Grants

Frank Gerth III Teaching Excellence Award, University of Texas - Austin	May, 2023.
Leibniz Graduate Student Grant, Oberwolfach Research Institute for Mathematics	May, 2022.
Early Career AMS-NSF-Simons-ICM Travel Grant, AMS	January, 2022.
ICERM Visiting Scholar, ICERM and Brown University	Fall, 2021.
RTG Graduate Fellowship, NSF (DMS-1840314) & University of Texas - Austin	2021-2022.
Provost's Graduate Excellence Fellowship, University of Texas - Austin	2018-2023.
REU, UCLA Department of Mathematics	Summer, 2017.

Conference and Seminar Presentations

AMS Special Section: Recent Developments in PDEs and Related Areas.	January 11th, 2025.
AMS Special Section: Advances in Nonlinear Dispersive and Kinetic Equations.	January 10th, 2025.
USC, CAMS Colloquium.	October 28th, 2024.
Penn State, PDE Seminar.	September 18th, 2024.
UC Berkeley, Nonlinear PDEs Summer School.	June 12th-14th, 2024.
UMass - Amherst, Analysis Seminar.	April 17th, 2024.
Texas A&M, Texas Analysis and Mathematical Physics Symposium.	February 9th-11th, 2024.
Monash University, Conference on Nonlinear dispersive and wave equations.	December 10th-15th, 2023.
City University of New York, Harmonic Analysis and PDE seminar.	December 1st, 2023.
Kansas State University, 19th Prairie Analysis Seminar.	November 3rd-4th, 2023.
Imperial College London, Stability and dynamics in fluid mechanics and kinetic theory.	July 10th-14th, 2023.
MIT, NSF Focused Research Group (#2052789).	November 19th, 2022.
Emory University, Analysis Seminar.	September 15th, 2022.
Summer School on Methods and Models of Kinetic Theory in Pesaro, Italy.	June 12th-18th, 2022.
Oberwolfach, Deterministic Dynamics and Randomness in PDE.	May 22nd-28th, 2022.
ICERM, Semester on Hamiltonian Methods in Dispersive and Wave Evolution Equations.	Fall, 2021.
Institut d'Etudes Scientifiques de Cargèse, School on Mathematical Fluid Dynamics.	August 13th-21st, 2021.
University of Texas - Austin, Texas Analysis and Mathematical Physics Symposium.	April 9th-11th, 2021.
University of Kentucky, Ohio River Analysis Meeting.	March 20th-21st, 2021.
University of California, Davis, Student-Run Analysis & PDE Seminar.	February 25th, 2021.
University of Bremen, Nonlinear Dynamics in Quantum Mechanics.	October 1st-2nd, 2020.

Teaching Experience

Principal Instructor	Math171, Stanford University	Fall, 2024.
Principal Instructor	Real Analysis Prelim Bootcamp, UT - Austin	Summer, 2024.
Teaching Assistant	M361K, UT - Austin	Spring, 2022.
Workshop Assistant	RTG Workshop on Analysis & PDEs, UT - Austin	Summer, 2021.
Principal Instructor	Real Analysis Prelim Bootcamp, UT - Austin	Summer, 2020.
Undergraduate Mentor	Directed Reading Projects, UT - Austin	Fall, 2020 - Spring, 2021.
Teaching Assistant	Los Angeles Math Circle, UCLA	Fall, 2017 - Spring, 2018.