

Joseph Miller

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Education

University of Texas - Austin

Ph.D. Student

2018 –

5 year program in mathematics

University of California - Los Angeles

B.S.

2015 – 2018

Completed with departmental honors in mathematics

Publications and Preprints

- [1] I. Ampatzoglou, J. K. Miller, and N. Pavlović. Rigorous derivation of a multiatomic boltzmann equation from hard spheres. *In Preparation*, 2019.
- [2] J. Lyons and J. Miller. The derivative of a solution to a second order parameter dependent boundary value problem with a nonlocal integral boundary condition. *Journal of Mathematical and Statistical Science*, 1(2), 2015.

Awards

Provost's Graduate Excellence Fellowship

University of Texas - Austin

2018

Provides 5 years of financial support with 3 years of full financial support without teaching duties.

VIGRE REU

University of California - Los Angeles

2017

NSF funded summer project to conduct research in pure mathematics.

Experience

University of Texas - Austin

Directed Reading Project Mentor

2019 –

Mentored an undergraduate student to study an advanced topic in mathematics, culminating in a student presentation.

Los Angeles Math Circle

Assistant Instructor

2017 – 2018

Created problem sets and guided discussions alongside graduate students at UCLA to introduce high school students to advanced topics in mathematics.

University of California - Los Angeles

Grader

2016 – 2017

Graded homework assignments for mathematics classes including upper division linear algebra and multivariable calculus.

Conferences Attended

ENS de Lyon: Scaling Limits in Kinetic Theory	<i>September 30th - October 4th, 2019</i>
UT Austin: Fitting Smooth Functions to Data	<i>August 5th - August 9th, 2019</i>
Universitat de Barcelona: Barcelona Analysis Conference	<i>June 25th - June 28th, 2019</i>
ESSAM: Mathematical Aspects of Fluid Flows	<i>May 26th - May 31st, 2019</i>

Presentations

- **University of Texas at Austin:** Junior Analysis Seminar [A Rigorous Derivation of a Boltzmann Equation for Mixtures - February 28th, 2020]
- **University of Texas at Austin:** Junior Analysis Seminar [On Neural Networks and Their Relation to Particle Systems - December 6th, 2019]
- **University of Texas at Austin:** Junior Analysis Seminar [Hard spheres and Boltzmann - April 19th, 2019]
- **University of Texas at Austin:** Junior Analysis Seminar [Localization in Phase-Space and Applications to Some PDEs - November 30th, 2018]

Graduate Course List

University of Texas - Austin

2018 –

Weak Solutions (P. Isett), Supervised Reading Course (P. Isett), Mathematics of Deep Learning (R. Tsai), Supervised Reading Course (Thomas Chen), PDE I (F. Maggi), Geometric Harmonic Maps (S. Stuvard), Probability II (S. Mihai), Fluid Mechanics (A. Vasseur), Supervised Reading Course (N. Pavlović), Applied Mathematics I (I. Gamba), Probability I (G. Žitković)

Passed Preliminary Exams: Analysis I, Probability I, Applied I, and Applied II.

University of California - Los Angeles

2015 – 2018

Topics in Complex Analysis (T. Tao), Complex Analysis II (J. Garnett), Complex Analysis I (J. Garnett), Topics in Real Analysis (T. Tao), Real Analysis II (J. Garnett), Real Analysis I (J. Garnett)

Languages

English: Native

Mandarin: Proficient