TEXAS ★ STATE

MATHEMATICS

Differential Equations and Applied Math Seminar

Dr. Jessica Lin, McGill University

12-1pm September 30th, 2022

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Title: Quantitative Homogenization of the Invariant Measure for Nondivergence Form Elliptic Equations

Abstract: In this talk, I will first give an overview of stochastic homogenization for nondivergence form elliptic equations, from both the PDE perspective and the probability perspective. I will then present new quantitative homogenization results on the parabolic Green Function and large-scale averages of the unique, ergodic, mutually absolutely continuous, invariant measure. This invariant measure is a solution of the adjoint equation in doubly divergence form satisfying certain integrability conditions. Time permitting, I will present a large-scale $C^{0,1}$-regularity result for the invariant measure. This talk is based on joint work with Scott Armstrong and Benjamin Fehrman.

Interested faculty, graduate and undergraduate students are encouraged to attend.