Stanford University
Departments of Mathematics and Statistics

PROBABILITY SEMINAR

4:15pm, Monday, October 20, 2014
Sequoia Hall Room 200
Cookies served at 3:45pm, 1st floor Lounge.

Speaker: Yu Gu
Department of Mathematics,
Stanford University

Title: A two-scale expansion for equations with random coefficients:
A probabilistic approach

Abstract:
Recently, quantitative stochastic homogenization of operators in divergence form has wit-nessed important progress, starting from the work of Gloria and Otto. Our goal is to go beyond the error bound and further analyze the statistical fluctuations around the homog-enized limit. Using a probabilistic representation, the Kipnis–Varadhan method applied to diffusion in random environment, and a quantitative martingale central limit theorem, we show the rescaled fluctuation converges in distribution to a stationary corrector.

This is joint work with Jean-Christophe Mourrat.