Jessica Lin* (jessica@math.wisc.edu), 480 Lincoln Dr., Department of Mathematics, Madison, WI 53703-2463, and Andrej Zlatos. Stochastic Homogenization of Reaction-Diffusion Equations.

We consider heterogeneous reaction-diffusion equations in stationary-ergodic media with both ignition and KPP-type nonlinearities. Under certain hypotheses on the environment, we prove the existence of asymptotic, deterministic speeds of propagation for solutions with both spark-like and front-like initial data. This leads to a general stochastic homogenization result which shows that on average, the large-scale large-time behavior is governed by a deterministic Hamilton-Jacobi equation modeling front propagation. This talk is based on joint work with Andrej Zlatos. (Received August 26, 2016)