WEIWEI QI, University of Alberta
Noise-induced transient dynamics

Many complex processes exhibit transient dynamics - intriguing or important dynamical behaviors over a relatively long but finite time period. A fundamental issue is to understand transient dynamics of different mechanisms. In this talk, we focus on a class of randomly perturbed processes arising in population dynamics where species only persist over finite time periods and go to extinction in the long run. To capture such transient persistent dynamics, we use quasi-stationary distributions (QSDs) and study their noise-vanishing asymptotic. Special attention will be paid to essential differences between models with and without environmental noises. The talk ends up with some discussions.