

Department of Applied and Computational Mathematics and Statistics Colloquium

Qing Nie


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will give a lecture entitled:

Noise Attenuation and Robustness in Cell Signaling and Patterning

Abstract

Noises and stochastic effects usually exist in every biological system due to many intrinsic and extrinsic factors. In this talk, I will discuss strategies and principles for noise attenuation and robustness to genetic or/and environmental perturbations in cell signaling and embryonic patterning. In one case, I will introduce a critical quantity that dictates capability of attenuating temporal noises in feedback systems. In another case, I will show that noises in signal transduction actually enable reduction of stochastic effects in spatial patterns. In addition, I will present several new experimental data in yeast cells and zebrafish embryo that support our modeling and computational predictions.



**Monday, February 27, 2012
4:00 p.m. to 5:00 p.m.
127 Hayes-Healy Center**