1077-92-335   **Qing Nie***, Department of Mathematics, University of California, Irvine, Irvine, CA 92617. *Noise Attenuation in Biological Systems.*

In this talk, we will first introduce a new quantity defined as Signed Activation Time (SAT), which is found to be critical in determining noise attenuation capability of a feedback system. We will next study how noise amplification rates of several biological examples may depend on SAT and investigate strategies for noise attenuation in systems involving both extra-cellular and intra-cellular components. In particular, we will study boundary sharpening during zebrafish embryonic development. (Received August 23, 2011)