

Meeting: 1007, Santa Barbara, California, SS 1A, Special Session on Dynamical Systems in Neuroscience

1007-92-35 **John G Milton*** (jmilton@jsd.claremont.edu), Joint Science Department, W. M. Keck
Science Center, 925 N. Mills Ave, Claremont, CA 91711. *Delays and noise in neural control.*

Noise and time delays are ubiquitous in the nervous system. This observation implies that the dynamics of neural systems should be described in terms of stochastic delay differential equations. Studies of three neural time-delayed feedback control mechanisms, namely, pupil light reflex, recurrent neural inhibition and stick balancing at the fingertip, indicate that noise has a beneficial influence on neural control. The discussion reviews this work from the perspective of identifying topics that require mathematical attention. (Received December 23, 2004)