1044-92-50 **Linda J.S. Allen*** (linda.j.allen@ttu.edu), Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042, and **Amy Ekanayake**. *Comparing the Dynamics of Stochastic Population Models.* Preliminary report.

The dynamics of two stochastic population modeling formats, continuous time Markov chains and stochastic differential equations, are compared. Differential equations for the mean, variance, and higher order moments of the two types of stochastic models are derived. It is shown that the first two moment differential equations for the two stochastic models agree but that the moment differential equations do not form a closed system. Numerical simulations for metapopulation models illustrate cases where the two types of stochastic models agree and disagree. (Received August 06, 2008)