

1116-60-1589      **Elizabeth Skubak Wolf\*** ([ewolf@saintmarys.edu](mailto:ewolf@saintmarys.edu)). *Computing Sensitivities in Discrete Stochastic Reaction Networks with Delay*. Preliminary report.

Continuous time Markov chains have recently become widely used in biochemistry as models for intracellular mechanisms such as the transcription and translation of DNA or genetic switching. These models are also applicable in many other fields, such as ecology or epidemiology. For many of these applications, one may wish to incorporate delay into the model; for example, several recent studies have shown that the time it takes for DNA transcription to be completed once initiated is not negligible in the dynamics of the network.

In this talk I will describe an efficient method to solve for the expectations of desired quantities in these models and their sensitivities to model parameters. (Received September 20, 2015)