

Meeting: 1003, Atlanta, Georgia, AMS CP 1

1003-65-748 **M. Mahbubur Rahman*** (rahman@mathpost.asu.edu), M. Mahbubur Rahman, Department of Mathematics and Statistics, Arizona State University, Tempe, AZ 85287-1804. *Numerical Approximations of Stochastic Differential Equation and its Application to Mathematical Neurosciences.*

This paper extends the results of synaptically generated wave propagation through a network of connected excitatory neurons to a continuous model, defined by a Fredholm Volterra integro-differential equation, which includes memory effects of the past in the propagation. Stochastic approximation and numerical simulations are discussed. (Received September 29, 2004)