1080-37-288 **Elena S Dimitrova*** (edimit@clemson.edu), O-303 Martin Hall, Department of Mathematical Sciences, Clemson University, Clemson, SC 29634-0975. *Modeling biological networks with functions with canalyzing properties.*

Finite dynamical systems have emerged as a prominent tool for modeling biological systems. Nested canalyzing functions, a particular class of Boolean functions, possess properties that make them especially suitable for modeling of biological networks. However, for the purpose of reverse engineering, relaxing the canalyzing requirement on some variables is necessary. In this talk, I will introduce the class of partially nested canalyzing functions and their application to studying gene regulatory networks. (Received January 30, 2012)