

**Meeting:** 1003, Atlanta, Georgia, MAA CP M1, MAA Session on Environmental Mathematics and the Interdisciplinary

1003-M1-207      **Jennifer M. Switkes\*** (jmswitkes@csupomona.edu), Mathematics Department, Cal Poly Pomona, 3801 W. Temple Ave., Pomona, CA 91768. *A Modified Discrete SIR Model.*

The classic starting point for the modeling of epidemics in animal or human populations, the SIR model provides an excellent opportunity for calculus students to experience mathematical modeling, to simulate a non-linear system of differential equations, to build extensions of the model, and to look at the connection between continuous and discrete dynamical systems. I will describe a modified discrete SIR model that takes into account the “age” structure of the population of infected individuals. I will present simulations of the standard and modified SIR model using an Excel spreadsheet in order to demonstrate the kinds of investigations and extensions calculus students might pursue. (Received August 27, 2004)