SIR using Gillespie's discrete event model $(\beta = 1.01e+00, \gamma = 1.00e-01, \mu = 5.50e-04, I_0 = 5.00e-02)$ 0.50 0.45 0.40 time extinct (%) 0.20 0.15 -0.10 20000 40000 60000 80000 100000 population size N_{pop}