1044-92-43   **Maia Martcheva*** (`maia@math.ufl.edu`), Department of Mathematics, Little Hall 358, University of Florida, Gainesville, FL 32611. *Evolutionary consequences of predation for pathogens in prey.*

In this talk I discuss the impact of predation on the coexistence and competitive exclusion of pathogen strains in the prey. Two types of predator are considered — a generalist and a specialist. For each type of predator we assume that the predator can discriminate among susceptible and infected with each strain prey. The two strains will competitively exclude each other in the absence of predation with the strain with the larger reproduction number persisting. If a generalist predator preys discriminantly and the disease is fatal, then, depending on the predation level, a switch in the dominant pathogen may occur. Thus, for some predation levels the first strain may persist while for other predation levels the second strain may persist. Furthermore, a specialist predator preying discriminantly may mediate the coexistence of the two strains for generic values of the reproduction numbers. Although in most cases increasing predation reduces the disease load in the prey, when predation leads to coexistence, it may also lead to *increase* in the the disease load. (Received August 04, 2008)