OPTIMAL CONTROL THEORY FOR PDES: APPLICATIONS IN BIOLOGY

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In this talk, I will present results of an optimal control problem for a spatiotemporal epidemic model in which the control variable appears as a vaccination term. The objective is to determine the optimal spatial placement of vaccine over a finite time period in order to minimize the infected population and costs attributed to vaccine. Theoretical results will be provided along with numerical solutions. I will focus on results related to the spread of rabies among raccoons. In addition, I will discuss current work related to optimal control theory for individual-based models.