

1135-D1-1650 **Timothy D Comar*** (tcomar@ben.edu). *The Dynamics of Pulse Vaccination Models for the Spread of Disease.*

This talk focuses on preparing students for research in developing and analyzing pulse vaccination epidemic models using impulsive differential equations. We discuss how students can be prepared for such studies either through course work or independent mentoring. Skills students need to develop include reading journal articles, programming in MATLAB, working with data, model development, and mathematical skills. We discuss how to manage a group of several undergraduate research students of varying levels of experience. We conclude by highlighting some research projects, including the development and analysis of an age-structured pulse vaccination model for HPV. In particular, we draw conclusions the impacts on the spread of HPV in the the population if some individuals receive less than the typical, full three-dose vaccination regimen (Received September 24, 2017)