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While doing my undergraduate degree, I was able to take advantage of several programs, (Research Experience for Undergraduates (REU)). There was one REU that really sparked my interest in research, and that was the Mathematical and Theoretical Biology Institute (MTBI) at Cornell University. During my participation at MTBI, I became fascinated by the breadth and depth of the spectrum of mathematical biology. Participating in MTBI made me realize I want to continue exploring the areas of mathematical biology.

I have participated in MTBI for three summers now. I have worked on several projects. One project in particular dealt with analyzing the effect of implementing ring vaccination as a control measure for the spread of Foot-and-Mouth disease. Foot-and-Mouth disease (FMD) is a highly infectious illness of livestock and a serious economic threat. In this study we consider a spatial model that incorporated ring vaccination and isolation as a control measure for the dispersal of the epidemic. We found an upper and lower bound of the basic reproductive number for the spatial model in terms of our parameters. Through numerical simulations we were able to show that ring vaccination is effective in controlling the epidemic. We validated our results by using the dataset based on the 2001 FMD epidemic in Uruguay. Another project dealt with looking at obesity as an epidemic. Fast-food is partly to blame for the increased numbers of obesity and overweight since it has become a prominent feature to the US population's diet. The aim of the project was to study the role of peer-pressure to induce fast-food consumption and the effects of it on the individual's weight by exploring epidemiological models. We also explored the impact of a quitting class in the dynamics of our models. Furthermore, statistical data analysis was employed to study the relation of demographic factors and weight.

Currently, I am a third year PhD student at Arizona State University, working under Dr. Carlos Castillo-Chavez. I am finishing up my exams and looking for a dissertation topic. Here at ASU, I have been able to take courses that have helped expand my knowledge base in mathematical biology and relating fields. Attending the conference would be extremely beneficial for me, since I am in the beginning stages of putting together a project, the comments, advice and even guidance from experts in epidemiological modeling would greatly benefit my research. The workshop will provide me with a great opportunity to see what other people are working on, gain topic ideas that can be translated into research topic that could be continued at my home institution, and maybe allow for future collaborations with other researchers.