1135-VF-1676 **Jacquelyn L Rische*** (jrische@marymount.edu). *Dispersal and the spread of language with frequency-dependent fitness.* Preliminary report.

In this talk, we will look at mathematical modeling of language using computer simulations. We develop a model for a population where language does not exist. We assume that the ability to speak appears in the population as a genetic mutation. Using this model, we study how individuals with language spread through the population of individuals without language. To study how the language group will grow, we focus on the effects of talking and movement. If two individuals with language are next to each other on the grid, they can communicate. We consider their ability to talk to be advantageous, giving them a higher fitness. Individuals are also able to move around on the grid and reproduce within a certain radius, called the jump radius. We are particularly interested in how the jump radius affects the time it takes for the individuals with language to invade the population, and we find that this depends on the shape of the grid. (Received September 24, 2017)