On Friday, July 5th, 2013 at 1pm in College Hall 7, Dr. Omayra Ortega will be presenting

**Efficacy of Human Papillomavirus Vaccine Evaluated Through Mathematical Modeling**

Human Papillomavirus (HPV) affects approximately six million people every year. Currently, there are over half a million people affected with HPV worldwide. With over 100 different strains identified, HPV is the most common sexually transmitted diseases. I developed a stochastic model that describes the transmission of HPV infection in both men and women. I include vaccination in the model and test different vaccination strategies using a stochastic differential equations model. Using published vaccine efficacy rates for the HPV vaccine, we find threshold vaccination levels for both men and women to reduce HPV infection in the population and speculate on cost-effectiveness of different vaccination strategies. These results emphasize the need for early detection and vaccination in BOTH genders to reduce total HPV morbidity in females.

This work will be used inform and educate the public and public officials on the transmission of HPV and the need for vaccination in both genders.