1125-92-2059 **Emma J Talis*** (emma.talis1@marist.edu), **Ondrej Maxian** and **Anna Neufeld**.

Understanding Zika Dynamics: Sex, Mosquitoes, and Gender.

The Zika virus (ZIKV) has captured worldwide attention with the ongoing epidemic in South America and its link to severe birth defects, most notably microcephaly. ZIKV is spread to humans through a combination of vector and sexual transmission, but the relative contribution of these transmission routes to the overall epidemic remains largely unknown. Furthermore, a disparity in the reported number of infections between males and females has been observed. We develop a mathematical model that describes the transmission dynamics of ZIKV to determine the processes driving the observed epidemic patterns. Our model reveals a 7% contribution of sexual transmission to the basic reproductive number, R_0. This contribution is too minor to independently sustain an outbreak but suggests that vector transmission is the main driver of the ongoing epidemic. We also find a minor, yet statistically significant, difference in the mean number of cases in males and females, both at the peak of the epidemic and at equilibrium. While this suggests an intrinsic disparity between males and females, the differences do not account for the vastly greater number of reported cases for females, indicative of a large reporting bias. (Received September 19, 2016)