1145-VN-1553 **Kathleen Storey*** (storeyk@umich.edu) and **Trachette Jackson**. *Modeling oncolytic viral therapy and the complex dynamics of innate and adaptive immunity.*

Oncolytic viral therapy is emerging as a promising strategy for treating cancer. The immune response to the oncolytic virus plays a critical role in treatment effectiveness, but uncertainty remains regarding the circumstances under which the immune system assists in eliminating tumor cells or inhibits treatment by clearing infected cells. In this work, we develop an ODE model that incorporates an innate immune response with a transition to an adaptive immune response to oncolytic viral therapy using the Herpes Simplex Virus. We compare the efficacy of treatment in this setting with models that incorporate the adaptive immune response alone in order to gain insight into the complex interactions between oncolytic viruses and the immune system. We explore various OV dosing strategies alone and also investigate the impact of combining oncolytic viral therapy with other types of immunotherapies. (Received September 23, 2018)