

**Abstract:**

The Zika Virus (ZIKV) is an arbovirus that is spread by mosquitoes of the *Aedes* genus and causes mild fever-like symptoms. It is also strongly associated with Microcephaly, a condition that affects the development of the brain of a fetus. With the recent emergence of Zika in Brazil, we developed an agent based model to track mosquitoes, locals and tourists throughout the 18 days of the 2016 Olympics in Rio de Janeiro in order to determine how the Olympics would affect the spread of the virus. The disease states of each individual were tracked throughout each simulation. There are many unknowns regarding the spread and prevalence of Zika, and as many as 80% of infected individuals are not aware of their infectious status. We therefore discuss results of experiments where several parameters were varied, including the rate at which mosquitoes successfully bite humans, the percent of initially infected mosquitoes, the size of the human population, and the size of the mosquito population. From these experiments we offer projections on the possible severity of Zika spread throughout the Olympics.