Applied Mathematics Seminar

Dr. Jordan Pellett – GVSU Math

Friday, March 20 1-1:50pm

MAK A-2-610 (PCS) or via zoom (request password from ortizron at gvsu dot edu)

Mathematical Modeling of Malaria

Abstract: Malaria is a vector-borne disease caused by *Plasmodium* parasites transmitted to humans through the bite of an infected *Anopheles* mosquito. Despite advancements in mathematical modeling and malaria control efforts, the complex dynamics of the malaria parasite, combined with drug treatment resistance and compliance challenges, have allowed malaria to remain a significant public health concern. Within the human host, parasite dynamics involve several life stages, including an asexual replication stage associated with symptom onset and a sexual stage responsible for human-to-mosquito transmission. In this talk, we explore two within-host differential equation models. The first model includes time-dependent drug dynamics and is used to assess the impact of treatment on the probability of human-to-mosquito transmission. The second model presents a more flexible modeling framework, relaxing distribution assumptions on the waiting times between within-host life cycle stages.

Applied Math Seminar- Pizza RSVP

More info: http://bit.ly/applied-math-seminar

**Hosted by the Mathematics Department, GVSU