1154-92-2093 **Katharine Gurski*** (kgurski@howard.edu), Department of Mathematics, Howard University, Washington, DC 20059. *Analysis of the Seasonal Threshold Number Calculation for Malaria.* Preliminary report.

Mathematical epidemiological models exhibit threshold dynamics characterized by the basic reproduction number, R_0. However, when the model is time-periodic due to seasonality, the dynamics of the system are described by a threshold number, T_0 that only reduces to the biological reproduction number when time dependence is removed. In this talk we will discuss to Posny and Wang's 2014 model that transforms the operator eigenvalue problem for the threshold number into a matrix eigenvalue problem. We will present modifications to the threshold number calculation and bounds on the error. The threshold number calculations will be presented in the context of a seasonal malaria problem with parasites sensitive and resistant to drug intervention. (Received September 17, 2019)