

1106-92-1661

Abba Gumel* (agumel@asu.edu), ECA 347, Tempe, AZ, and **Folashade Augusto** and **Paul Parham**. *Mathematical Assessment of the Role of Temperature Variations on Malaria Transmission Dynamics.*

Climate drivers, such as temperature, rainfall, vapor pressure, humidity etc., are known to influence the incidence of vector-borne diseases. This talk focusses on the use of mathematical modeling and analysis to assess the impact of variations in temperature on the transmission dynamics of malaria, the most prevalent human vector-borne disease. Relevant data (temperature, epidemiological, ecological and demographic) from some malaria-endemic regions will be used to parametrize the resulting non-autonomous deterministic system of non-linear differential equations. It is shown that malaria incidence increases for increasing temperature until a certain temperature threshold is reached, above which the incidence declines. (Received September 14, 2014)