

1077-34-603

Maria C.A. Leite* (Maria.Leite@utoledo.edu), **Xiangming Xiao** and **Meijun Zhu**.

Climate-driven dynamics of seasonal influenza in the tropical regions. Preliminary report.

The seasonal dynamics of influenza in the tropical and subtropical regions are not well documented and less defined (Viboud et al., 2006). We introduce a novel approach to analyze seasonal dynamics and inter-annual fluctuation of influenza transmission in Hong-Kong during 1990 - 2009. I will discuss mathematical epidemiological models, which incorporate three ecology-based response functions of influenza virus and human to air temperature and specific humidity. Also, I will discuss our numerical simulation results obtained when the mathematical models are driven by monthly air temperature and specific humidity data from the NCEP Re-Analysis data set. Interestingly, our model reproduce the reported double peaks of influenza A cases in Hong-Kong: one winter peak and one summer peak. (Received September 08, 2011)