

1135-92-3045 **Zhisheng Shuai*** (shuai@ucf.edu), Department of Mathematics, University of Central Florida, Orlando, FL 32816. *Coupled Infectious Disease Models via Asymmetric Movements*. Preliminary report.

Many recent outbreaks and spatial spread of infectious diseases have been influenced by human movement over air, sea and land transport networks, and/or anthropogenic-induced pathogen/vector movement. These spatial movements in heterogeneous environments and networks are often asymmetric (biased). The effects of asymmetric movement versus symmetric movement will be investigated using several epidemiological models from the literature. These investigations provide a better understanding of disease transmission and control in the real life application. (Received September 26, 2017)