

Meeting: 1006, Lubbock, Texas, SS 10A, Special Session on Extinction, Periodicity, and Chaos in Population and Epidemic Models

1006-92-47 **Robert K McCormack*** (rmccorma@math.ttu.edu), Department of Mathematics and Statistics, Texas Tech University, Mail Stop 1042, Lubbock, TX 79416, and **Linda J. S. Allen.** *Disease Emergence in Multihost Epidemic Models.* Preliminary report.

A general epidemic model is formulated for a pathogen that can infect k different hosts. The basic reproduction number is determined for the the general model. Then, a two-host SIS epidemic model is studied in detail. Conditions for the global stability of an endemic equilibrium are stated. It is shown that a disease can be maintained in a multihost system even though it cannot be maintained by a single host. (Received January 26, 2005)