1139-00-691 **L. Bourouiba*** (lbouro@mit.edu). *Disease transmission.*

The mechanisms governing the transfer of pathogens between infected and non-infected members of a population are critical in shaping the outcome of an epidemic. Despite major efforts aimed at the mathematical modeling and mitigation of infectious diseases, the fundamental mechanisms of pathogen spreading for most infectious diseases remain poorly understood. Drawing upon clinical data, fluid experiments and multi-scale mathematical modeling I will discuss the dynamics of transmission of various pathogens through the lens of fundamental fluid fragmentation and instability dynamics. (Received February 20, 2018)