

James Madison University
Mathematics Colloquium

Modeling Emerging Influenzas: Fort Dix 1976

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7:45 pm

Room 031, Burruss Hall

Abstract

The emergence of potentially pandemic strains of influenza is a major public health threat. Recent work using computational simulations has shown that emerging influenza strains can be contained if they have certain dynamic properties, but we know little about what an emerging virus would look like. The 1976 outbreak of H1N1 “Swine Flu” at the Fort Dix Army base provides an ideal opportunity to characterize such an emerging virus.

In this talk I will present the general mathematical models and properties that are used to characterize the spread of influenza and other infectious diseases. I will give a detailed account of the process by which my colleagues and I modeled the outbreak at Fort Dix in 1976, and what we learned about the virus that was responsible for the outbreak. Finally, I will place this outbreak in the context of current concerns over the emergence of pandemic flu derived from the H5N1 strain of avian influenza.