

Abstract Submitted  
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**Emergence of traveling waves in the spreading of dengue fever**

SIMONE BIANCO, ANDREA FAATZ, The College of William and Mary, DEREK CUMMINGS, Johns Hopkins Bloomberg School of Public Health, LEAH SHAW, The College of William and Mary — Dengue fever is a multistrain mosquito-borne subtropical disease that exhibits complex oscillatory outbreaks. Epidemiological data from Thailand displays traveling waves of infection originating in Bangkok, the largest population center (Cummings et al., *Nature* 427: 344, 2004). We present a multistrain metapopulation model in which traveling wave like behavior results from migration coupling between heterogeneous regions. The region with the highest effective person-to-person contact rate leads the dynamics. A stochastic version of the model will also be presented.

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