

Sigma Xi presentation

Connectivity and Disease -- Harnessing Network Concepts to Improve Public Health

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LL 127

Abstract: Infectious diseases, human behavior, and health-related information spread via networks of physical, social, and institutional interactions. By understanding and harnessing the structure of these networks, public health agencies can more effectively monitor and control human diseases. Over the last decade, we have developed new network-based mathematical approaches for predicting the spread of infectious diseases and collaborating with public health officials worldwide to apply these methods to address public health challenges. In this seminar, I will describe how simple conceptual models have been combined with high performance computing to improve disease surveillance, forecasting and intervention.