

A social network based surveillance and spatio-temporal visualization tool

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SIMID is a tool for simulation of the spread of infectious disease that is based on random network models. It enables spatio-temporal visualization of the dynamics of influenza outbreaks and it is implemented within the R and GIS frameworks. The key advantage of SIMID is that it allows not only for the construction of a possible scenario for the spread of an infectious disease but also for the assessment of mitigation strategies, variation and uncertainty in disease parameters and randomness in the progression of an outbreak. We illustrate SIMID by application to an influenza epidemic simulation in a population constructed to resemble the Region of Peel, Ontario, Canada. In this talk we also discuss the extensions that can be done to SIMID in order to introduce important atmospheric variables, such as temperature and pollution, which can have important influence on the infectious process.

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