

NORTHWESTERN INSTITUTE ON COMPLEX SYSTEMS PRESENTS

Wednesdays

@NICO



Feel Sick? Follow the Money!
New Perspectives on Global Mobility & Disease Dynamics



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Wednesday, September 24, 2008

Chambers Hall, 600 Foster Street, Lower Level Classroom

12:00 – 1:00 PM

Human mobility in our globalised world has reached a complexity and volume of unprecedented degree. More than 60 million people travel billions of kilometres on more than 2 million international flights each week. Hundreds of millions of people commute on a complex web of highways and railroads most of which operate at their maximum capacity.

Human mobility is responsible for the geographical spread of emergent human infectious diseases and plays a key role in human mediated bioinvasion, the dominant factor in the global biodiversity crisis. I will report on the recent discovery of scaling laws in global human traffic (obtained from online bill-tracking at www.wheresgeorge.com) and mathematical models that can account for it. I will present a complex network perspective on multi-scale human traffic networks, report on their statistical properties and show that they can be used to identify geographically coherent communities that only vaguely resemble those provided by geopolitical ones and that provide an operational segmentation of maps into a hierarchical set of regions and boundaries. I will briefly talk about European transportation networks, geocaching and trackable items.

NICO Coffee Hour will follow for questions, networking, and collaboration.

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