

Invited Talk 2.3

MOBILITY PATTERNS IN EPIDEMIC MODELING: SHORT AND LONG RANGE COUPLING

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Abstract

Epidemic spread is inevitably entangled with human behavior, social contacts, and population flows among different geographical regions. The analysis of datasets which trace the activities and interactions of individuals, social patterns, and travel fluxes on global and local scales have unveiled the presence of large scale heterogeneities, self-organization and other properties typical of complex systems. The talk will define a large-scale computational approach for the study of global epidemics integrating mobility data with demographic data, and analyze the impact of complexity of mobility networks in shaping the emerging spreading scenario.

Biography

Vittoria Colizza is a Research Scientist at the Institute for Scientific Interchange (ISI) in Torino, Italy. She graduated in Physics at the University of "La Sapienza" in Rome. She received her PhD in Statistical and Biological Physics at the International School for Advanced Studies (ISAS/SISSA), Trieste, Italy and spent three years as a Research Associate with the Complex Systems Group at Indiana University, School of Informatics, Bloomington, Indiana, USA. Her research ranges from large scale epidemic models to network theory.