

Workshop 2

SOCIAL NETWORKS

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This tutorial will provide an overview of how network theories and methods are used to understand and enable social systems. The agenda for the tutorial will be as follows:

1. A historical overview of the motivations to view social systems from a networks perspective. It will illustrate the wide range of contexts in which network theories and methods have advanced our understandings.
2. Brief introduction to the concepts of social networks, cognitive social networks, knowledge networks, cognitive knowledge networks and their relevance to 21st century organizational forms.
3. Introduction to various concepts used in network analysis: actors and attributes of actors, relations and properties of relations as well as two-mode and multidimensional networks.
4. Description of common network metrics at the actor, dyadic, triadic, sub-group, and component level. Computation of the concepts will be illustrated using social network analysis software tools.
5. Strategies for the collection of network data: traditional methods as well as recent approaches for digital harvesting of relational metadata to construct multidimensional networks
6. Multi-theoretical multilevel (MTML) model to investigate the dynamics for creating, maintaining, dissolving, and reconstituting social networks.
7. Overview of statistical methods to test MTML models: Introduction to exponential random graph modeling techniques to test hypotheses about the structure and dynamics of networks.

Biography

Noshir Contractor is the Jane S. & William J. White Professor of Behavioral Sciences in the School of Engineering, School of Communication and the Kellogg School of Management at Northwestern University, USA. He is the Director of the Science of Networks in Communities (SONIC) Research Group at Northwestern University. His research focuses on factors that lead to formation, maintenance, and dissolution of dynamically linked knowledge networks. He has published or presented over 250 research papers dealing with communication. His book titled "Theories of Communication Networks", co-authored with Peter Monge (Oxford University Press, 2003) received the Book of the Year award from the Organizational Communication Division of the National Communication Association. He is the lead developer of *IKNOW* (Inquiring Knowledge Networks On the Web), a community-ware web-based software (<http://iknow.northwestern.edu>) and *Blanche*, a program to simulate the dynamics of social networks He has also conducted workshops on the management of knowledge networks in China, Finland, India, Italy, Japan, Spain, Thailand, and the UK.