SDM 2014 Workshop on
Mining Networks and Graphs: A BigData Analytics Challenge
URL: http://staff.vbi.vt.edu/maleq/MNG2014/
Philadelphia, April 24-26, 2014

Call for Papers

Real-world applications give rise to networks that are unstructured and often comprise of multiple-networks. Furthermore, they support multiple dynamical processes that shape the network over time. Network science refers to the broad discipline that seeks to understand the underlying principles that govern the synthesis, analysis and co-evolution of networks.

The workshop will focus on processing large networks. Such networks can be directed as well as undirected, they can be labeled or unlabeled or they can be weighted or unweighted. Furthermore, network of networks is also of interest. Specific scientific topics of interest to the meeting include but are not restricted to: mining for patterns of interest in the networks, efficient exact and approximation algorithms that are either sequential or parallel for analyzing network properties. Recent methods for processing large networks such as map-reduce based frameworks, database techniques for processing networks. A particular topic of interest is to couple structural properties of networks to the dynamics over networks, e.g. contagions.

The full-day workshop will feature: 2 invited talks, a session to showcase tools and systems individuals have developed in this area, contributed talks and short session on open problems and directions for future research. Papers that describe original and ongoing research as well as describe systems and tools are solicited.

Important Dates:
Submissions due: January 10, 2014
Notification: January 31, 2014
Camera Ready versions: February 7, 2014

Meeting: Co-located with SIAM Data Mining 2014, http://www.siam.org/meetings/sdm14/, Philadelphia, April 24-26th

Workshop Chairs:
Madhav Marathe (Virginia Tech)
Ali Pinar (Sandia National Laboratories)

Program Committee:
Srinivas Aluru (Georgia Tech)
Tanya Berger-Wolf (University of Illinois at Chicago)
Seshadri Comandur (Sandia National Laboratories)
Tina Eliassi-Rad (Rutgers University)
David Gleich (Purdue University)
Jeong-Hyon Hwang (SUNY Albany)
Maleq Khan (Virginia Tech)
Ravi Kumar (Google, Inc.)
Kamesh Madduri (Penn State)
Srinivasan Parthasarathy (The Ohio State University)

Aditya Prakash (Virginia Tech)
Michael Szell SENSEable (City Laboratory, MIT)
Alex Vespignani (Northeastern University)
Stanley Wasserman (Indiana University)

Papers are invited on topics including, but not limited to, the following:

- Network Analytics
  - Sequential, parallel distributed methods for computing structural properties of networks
  - Bigdata and Networks
  - Parallel and distributed simulations of contagion processes over networks
  - Provable algorithms, rigorous heuristics for structural and dynamic analysis of networks
  - Empirical analysis of methods
- Network Contagion, control and optimization
  - diffusion of information, innovations, ideas, beliefs over networks
  - emergence of norms,
  - interventions to prevent contagion
  - influence maximization
  - Inference of network structure, contagions and pathways
- Game Theory in Social Networks and Social Contagion
  - influence maximization
  - influence blocking maximization game
  - other game-theoretic approaches
- Network Modeling
  - exponential random graph models
  - stochastic actor models
  - network evolution models, etc.
- Practical applications of Networks
  - Real-world applications of networks in health, marketing, online media.
  - Case studies in social behavioral and economic sciences
  - Description of large-scale systems to address network science problems