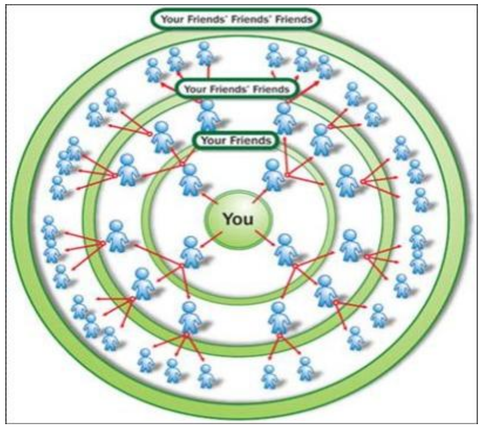
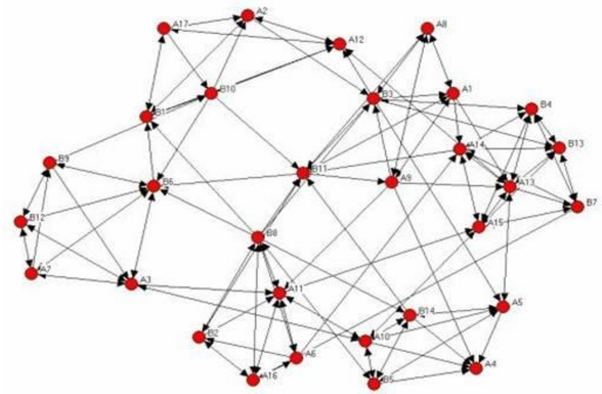
Statistical Changes

Program Objectives:

Develop statistical methods to model longitudinal networks, detect change over time, and measure the impact of ergodicity on longitudinal network analysis. Detecting dynamic changes over time from an Social Network Analysis perspective, may signal an underlying change within an organization



$$P(A|B) = \frac{P(B|A)\,P(A)}{P(B)}$$



Milestones:

- Bayesian classifiers will be explored for their ability to detect changes in a network over time.
- The performance of these newly proposed methods are compared to demonstrate their probability to detect changes of varying types and magnitudes.
- This new approach will be demonstrated on multiple different real-world data sets, as well as simulated data.

Collaborators:

Sponsor: Army Research Office

Principal Investigator: Major Ian McCulloh, Ph.D., Department of Behavioral Sciences and Leadership, West Point

- Dr. Kate Coronges, Department of Behavioral Sciences and Leadership, West Point

Network Science Center
West Point