Social Network Analysis Theory and Applications
Essex Summer School

SEMINARS: Theory and applications
1. Model or metaphor? SNA between method and paradigm.
2. Ego networks: The role of agency in social structure.
4. Networks of economic action: The relevance to innovation dissemination.
5. Organisations and hierarchies: The relevance of formal structure.
6. Organisational behaviour: The relevance of network dependent collective norms.
7. Social movements and relational ties.
8. Social capital and civic community as a network effect.

LAB SESSIONS: Methods and research platforms
A. A software platform for SNA descriptive statistics: UCINET
B. Graphics with NETDRAW and employing UCINET for advanced statistical analysis.
C. Large data sets and positional analysis: PAJEK
D. Simulation of networks and network evolution: SIENA
E. Conducting network surveys and network snowballing.
F. Position and name Generator surveys.
G. Data validity and issues with network boundaries.
H. Analysing affiliation networks.
I. Employing SNA to identify organisational efficiency gains.
J. SNA & method triangulation.

Course Objectives
This module is aimed at postgraduate researchers and practitioners in the social and political sciences. It is intended as an intermediary workshop for those having attained an elementary understanding of the theory and methods of Social Network Analysis (SNA). The course of SNA at the Essex Summer School would be a great starting point for those not familiar with the field.

In this module we will:
- develop the theoretical concepts underlying valid network analysis,
- develop methodological tools for the analysis of networks in social science research,
- develop methodological innovations for the testing of hypotheses employing SNA,
- demonstrate a number of different statistical packages that will allow for the analysis of network statistics,
- explore strategies for identifying efficiency gains through intervention in network structure,
- demonstrate the effective graphic representation of relational ties,
- demonstrate ways of triangulating SNA with other quantitative and qualitative social science methods.
**Course Prerequisites**

Computer literacy is assumed. This should allow participants to work on windows based environments and employ software such as EXCEL and SPSS. Other necessary software will be demonstrated during the module. Familiarity with employing UCINET will greatly assist in following lab sessions.

Intermediary statistical knowledge and numeracy is assumed. A strong grasp of descriptive statistics and an intermediary understanding of statistical inference, including correlation and regression diagnostics are important.

**Remedial Reading**


**Advances in Methodology**


**Key software**

*UCINET 6* – free for 30 days- excellent for general analysis- good help menus

http://www.analytictech.com/ucinet.htm

*Netdraw* – freeware – good for visual analysis and representation (packaged with UCINET)

http://www.analytictech.com/netdraw.htm

*Keyplayer* -freeware- good for identifying nodes whose elimination can disrupt a network

http://www.analytictech.com/keyplayer.htm

*STOCNET* –freeware- a general platform for a number of models including ZOO and p2, most vital is SIENA that allows for a statistical analysis of longitudinal networks employing MCMC simulations

http://stat.gamma.rug.nl/stocnet/

*PAJEK* – freeware- excellent for cluster analysis and large network analysis

http://vlado.fmf.uni-lj.si/pub/networks/pajek/default.htm

**Bibliography on software**


Bibliography on SNA methods and applications


Wasserman, s. and Faust, K. (1994) Social Network Analysis: Methods and Applications. CUP.

