2nd North American Social Networks Conference
of the International Network for Social Network Analysis
NASN2018

WORKSHOPS

Workshops are delivered in 1-session (3-hour) or 2-session (6-hour) formats, and are focused on teaching attendees specific methods, software, or theories.

Workshops are scheduled for November 27, 2018 (9 am – 7 pm).

This document lists the workshop timetable, a table of contents for all workshops, and a description of all available workshops.

Workshop fees:
1-session (3-hour) workshop: $70 USD regular / $35 USD student
2-session (6-hour) workshop: $140 USD regular / $70 USD students

Registration:
Registration opens August 20, 2018
Registration closes November 21, 2018

**Note*: many workshops have a set maximum number of participants, so please register early to ensure your place.

Register for workshops here: link

Additional information:
Conference website: http://insna.org/nasn2018/
Link to Workshop program: http://insna.org/nasn2018/program/
Workshop FAQ: http://insna.org/nasn2018/workshop-faq/
Conference and Workshop registration page: http://insna.org/nasn2018/registration/

For additional questions contact us at: nasocnet@gmail.com

WORKSHOP TIMETABLE

Tuesday, November 27th		
9:00 - 12:00	1:00 - 4:00	4:00 - 7:00
Introduction to ERGMs using statnet	Introduction to Modeling Temporal (dynamic) ERGMs using statnet	Introduction to Egocentric Network Data Analysis with ERGMs and TERGMs using statnet
Dynamic Network Analysis and ORA		Modeling Relational Event Dynamics with statnet
Network visualization with R	Organizational Behavior Interventions using R and Shiny	
ASPEN Platform Workshop - SNA Data Collection Tools for Ego-Centric and Whole Network Analysis	EgoWeb 2.0: Flexible and User Friendly Social Network Data Collection Software	
Understanding Diffusion with netdiffuseR	Network Approaches for Behavior Change	

WORKSHOP DESCRIPTIONS: TABLE OF CONTENTS

Workshop Title **Page Number**

WORKSHOP DESCROPTIONS

Introduction to ERGMs using statnet

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Martina Morris (University of Washington)

Description: *Prerequisites*: Familiarity with R and descriptive network analysis.

This workshop will provide a tutorial on using exponential-family random graph models (ERGMs) for statistical modeling of social networks, using a hands-on approach to fitting these models to data with the statnet software in R. The ergm package in statnet allows for the specification, estimation, and simulation of ERGMs that incorporate the complex dependencies within networks, and provides a general and flexible means of representing them. Topics covered within this session include: an overview of the ERGM framework; defining and fitting models to empirical data; interpretation of model coefficients; goodness-of-fit and model adequacy checking; simulation of networks using ERG models; degeneracy assessment and avoidance; and modeling and simulation of complete networks from egocentrically sampled data. statnet is an open source collection of integrated packages for the R statistical computing environment that support the representation, manipulation, visualization, modeling, simulation, and analysis of network data.

Introduction to Modeling Temporal (dynamic) ERGMs using statnet

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Martina Morris (University of Washington)

Description: *Prerequisites*: Familiarity with R. Previous experience with the statnet packages (ergm, network, sna).

This workshop will provide a hands-on tutorial on the estimation and simulation of dynamic networks using Temporal Exponential-Family Random Graph Models (TERGMs) in statnet. TERGMs can be used for both estimation from and simulation of dynamic network data, and provide a wide range of fitting diagnostics. The topics covered include exploratory data analysis with temporal network data (using the statnet packages tsna and ndtv to create network movies), model estimation (from network panel data, a single cross-sectional network with link duration information, and cross-sectional, egocentrically sampled network data), model diagnostics, and simulating dynamic networks from fitted models. The methods can be used with both fixed and changing node sets. statnet is an open source collection of integrated packages for the R statistical computing environment that support the representation, manipulation, visualization, modeling, simulation, and analysis of network data.

Introduction to Egocentric Network Data Analysis with ERGMs and TERGMs using statnet

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Martina Morris (University of Washington)

Description: *Prerequisites*: Some experience R and familiarity with descriptive network concepts and statistical methods for network analysis in the R/statnet platform (especially ERGM) is required.

This workshop will provide a tutorial on analyzing egocentrically sampled data with exponential-family random graph models (ERGMs) for statistical modeling of social networks. It will be a hands-on workshop demonstrating how to fit, diagnose and simulate both static and dynamic ERG models from such data, using the new "ergm.ego" package, part of the integrated statnet software in R. Topics covered within this session include: a review of approaches to analyzing egocentrically sampled data, an overview of the statistical theory that supports the use of ERGMs for egocentric samples; defining and fitting ERGMs to egocentric data; interpretation of model coefficients; goodness-of-fit and model adequacy checking; and simulation of complete networks from the specified ERG models. The workshop will also cover estimating, fitting, diagnosing and simulating dynamic networks from cross-sectional egocentrically sampled data with relationship duration information. statnet is an open source collection of integrated packages for the R statistical computing environment that support the representation, manipulation, visualization, modeling, simulation, and analysis of network data.

Dynamic Network Analysis and ORA

Session Length: 2-sesssions (6 hours)
Attendance Limit: None
Instructors: Kathleen Carley (Carnegie Mellon University) and Richard Carley (Carnegie Mellon University)

Description: In a lecture and hands-on workshop in which attendees learn about Dynamic Network Analysis (DNA) and the DNA toolkit *ORA. Foundational concepts and techniques of Dynamic Network Analysis are presented including: assessing meta-network data, geo-spatial enabled network analysis, and change over time. Using *ORA the attendees will learn how to import, export, visualize, and assess data. Attention will be focused on spatio-temporal visualization, grouping technologies, key entity identification, dynamic networks, and network change. Participants will be presented with a thorough demonstration of software features used to create a sample network and analyze it using traditional and advanced DNA techniques. Participants will be provided with a CD for a windows PC or MAC with executable of the software (student version), a trial professional version), sample data, and a user's guide. Basic social network and dynamic network representations, statistics, analysis and visualization techniques are covered, both in concept and practical operation. This workshop will be fast-paced and involves advanced material, however novices to network analysis should be able to follow along, as the material is presented in an affable, but comprehensive manner.

This full day session begins with an overview of ORA, and techniques for entering, visualizing, and analyzing social and meta-network data. Special features for handling node attributes are presented. The early session provides an introduction to the basic network capabilities; whereas, the later session covers more advanced topics. Key node identification, clustering, spatio-temporal analytics and visualization, twitter analytic, and semantic networks are covered.

*ORA is a powerful network analysis and visualization tool. *ORA supports the assessment of standard social network data, organizational network data, high-dimensional network data, meta-network data, geo-spatial network data, and dynamic network data. Relatively unique features include trail and network visualization, fuzzy grouping algorithms, multi-mode network assessment, built in network simulators, JSON and CSV importers, specialized twitter analytics, two mode metrics, and powerful visualizer with data entry and mark-up capabilities. The professional version is capable of handling large 10^6 networks, and can run under the PC, Mac or linux operating system.

Who Should Attend? Those who are interested in assessing social media data, networks derived from texts, groups, organizations or communities using sets of interconnected multi-mode or multi-link networks and/or sets of networks across time and/or space and who want to learn how to use existing software tools and techniques to analyze such meta-network data, should attend this full-day workshop. The material and its delivery is suitable for researchers and practitioners, alike. This is designed to be a non-technical workshop, however, by its very nature, the material will involve some mathematics, although this will be minimized as the delivery is driven towards forming an understanding of the concepts, not mastery of the details.

Topics Include:

- Social Network Analysis
- Comparing and contrasting networks
- Multi-mode, multi-link, high dimensional network metrics
- Networks with positive and negative ties
- Weighted networks
- Semantic networks
- Placing networks on maps, geo-network analytics
- Analyzing Twitter data
- *ORA software
    - Data management, Visualization, General, temporal and geo-spatial, metrics, Grouping algorithms, Reporting

Computer Equipment: The software presented in this tutorial is Windows or Mac operating system based. Participants should bring their own laptops to workshop. The software will be screen-projected to the group as a live walk-through demonstration. Participants will be provided with a data CD containing the complete set of software and will be guided through its installation and subsequent hands-on usage.

Modeling Relational Event Dynamics with statnet

Session Length: 1-sesssions (3 hours)
Attendance Limit: None
Instructors: Carter T. BuKs (University of California Irvine) and Christopher S. Marcum (NIH)

Description Prerequisites: Some experience R and familiarity with descriptive network concepts and statistical methods for network analysis in the R/statnet platform is expected.

This workshop session will provide an introduction to the analysis of relational event data (i.e., actions, interactions, or other events involving multiple actors that occur over time) within R/statnet platform. We will begin by reviewing the basics of relational event modeling, with an emphasis on models with piecewise constant hazards. We will then discuss estimation of dyadic and more general relational event models using the relevent package, with an emphasis on hands-on applications of the methods and interpretation of results. Using the informR package, we will then show how to construct models for spell data, and data involving multiple event types. Attendees are expected to have had some prior exposure to R and statnet, and completion of the "Introduction to Network Analysis with R and statnet" workshop session is suggested (but not required) as preparation for this session. Familiarity with parametric statistical methods is strongly recommended, and some knowledge of hazard or survival analysis will be helpful. statnet is a collection of packages for the R statistical computing system that supports the representation, manipulation, visualization, modeling, simulation, and analysis of relational data. statnet packages are contributed by a team of volunteer developers, and are made freely available under the GNU Public License. These packages are written for the R statistical computing environment, and can be used with any computing platform that supports R (including Windows, Linux, and Mac). statnet packages can be used to handle a wide range of simulation and analysis tasks, including support for large networks, statistical network models, network dynamics, and missing data.

Network Visualization with R

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Katherine Ognyanova (Rutgers University)

Description: This workshop will cover basic and advanced network visualization using the R language for statistical computing g (cran.r-project.org) and RStudio (rstudio.com). Participants should have basic knowledge of R and network concepts. The workshop will provide a step-by-step guide describing the path from raw data to graph visualization in the *igraph* and *Statnet* frameworks. The advanced portion of the workshop will touch on dynamic visualization for longitudinal networks and combining networks with geographic maps. We will also discuss ways of converting graphs in R to interactive visualizations for the Web.

Organizational Behavior Interventions using R and Shiny

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Ian McCulloh (Johns Hopkins University) and Christian Vogel (Johns Hopkins University)

Description: This workshop introduces a social network perspective to the dichotomy of agile and efficient organizations. It includes a brief introduction to Krackhardt's measures of a purely efficient organization and principals for measuring the agility of knowledge and resource exchange within informal networks. Competing constraints between efficient and agile networks are explained. We introduce a publicly available, prototype, R Shiny application that is compatible with igraph and provides a convenient user interface to explore formal and informal networks within a matrixed organization. The software accepts data sources such as email-exchange or project co-billing to infer relationships among employees. Methods for filtering data to increase correlation with self-reported collaboration networks are discussed. Finally we introduce several options a manager can use to shape the level of agility or efficiency within an organization. These interventions are similar to those proposed by Valente for health interventions. They include empowering informal power brokers, team interventions, activation of network ties, and work environment alteration. The R Shiny application provides a method to measure the impact of organizational interventions. No pre-requisites.

EgoWeb 2.0: Flexible and User Friendly Social Network Data Collection Software

Session Length: 2-sesssions (6 hours)
Attendance Limit: 30 people
Instructors: David P. Kennedy (RAND Corporation), Marie R. Kennedy (Loyola Marymount University), Stacey Giroux (Indiana University)

In these hands-on workshops, attendees will learn to use *EgoWeb 2.0*, an open-source and freely available software for network data instrument development, network interview administration, and network data processing and analysis for a variety of data collection modes. Attendees of the workshop will learn to create data collection instruments that can be administered on laptops, mobile tablets, or over the internet. Workshop attendees will learn how to use *EgoWeb 2.0* to collect egocentric / personal network data (Session 1) as well as whole/cognitive network data (Session 2). Session 2 will build off of Session 1 instruction but current users of EgoWeb 2.0 will be able to participate in Session 2 without participating in Session 1.

Attendees of part one of this workshop (*EgoWeb 2.0* Basic Features) will learn:

- To program egocentric survey instruments that ask questions about network alters generated from scratch.
- To program name generator questions and questions about ego, alters, and alter pairs.
- To produce instant visualizations of network data collected during the interview.
- To use basic analysis and visualization capabilities in *EgoWeb 2.0* for analysis of data after collection.
- To create basic skip logic for displaying questions based on previous responses.
- To export data for analysis in other software (e.g. R).

Attendees of part two of this workshop (*EgoWeb 2.0* Advanced Features) will learn:

- To use *EgoWeb 2.0*'s longitudinal features for re-interviewing the same respondent over multiple sessions.
- To use *EgoWeb 2.0*'s whole and cognitive network features for conducting interviews about alters chosen from a roster.
- To use advanced *EgoWeb 2.0*'s skip-logic capabilities for displaying questions based on combinations of previous question responses or based on previous session responses.
- To control text display based on previous responses.
- To set up *EgoWeb 2.0* to send invitations via email for respondents to answer social network survey questions through a web browser.
- To use *EgoWeb 2.0* mobile features, including how to access and use the *EgoWeb 2.0* mobile app for data collection off-line in the field.
- To set up *EgoWeb 2.0* to run on a commercial web hosting site.

The workshop will primarily involve live demonstrations and hands-on exercises with minimal lecturing. Session 1 attendees will be expected to have a basic understanding of social network analysis and survey data collection. Session 2 attendees should have some prior experience using

EgoWeb 2.0. Attendees should bring their own laptops to access to the internet via a web-browser (Chrome preferred) in order to participate in workshop exercises. Attendees will be given access to a server installation of *EgoWeb 2.0* to follow workshop exercises.

Additional *EgoWeb 2.0* information can be found at egoweb.info.

Contact information for workshop organizer:

David P. Kennedy
RAND Corporation
davidk@rand.org
(310) 393-0411, Ext. 6133

ASPEN Platform Workshop - SNA Data Collection Tools for Ego-Centric and Whole Network Analysis

Session Length: 1-sesssion (3 hours)
Attendance Limit: 30 people
Instructors: Danielle Varda (University of Colorado Denver School of Public Affairs; Director, Center on Network Science; CEO and Founder, Visible Network Labs) and Stephanie Bultema (Center on Network Science; Senior Research ScienSst, Visible Network Labs)

Description: CollecSng and analyzing network data can be complex and frustraSng. But it doesn't have to be! In this workshop, you will get to learn all about how to use the ASPEN plaUorm's SNA tools to design, collect, and analyze network data at the ego-centric AND whole network levels. ASPEN is a comprehensive plaUorm that has an enSre suite of data, SNA tools, and trainings that makes administering a network study, and then translaSng that data into strategies and acSon steps, easier than ever. ASPEN provides tools for designing surveys, a server for storing and exporSng data, and analysis tools to visualize and analyze networks at all levels. Two tools will be introduced and demonstrated in this workshop. The first is the PARTENR (Program to Anlayze, Record, and Track Networks to Enhance RelaSonships) tool. PARTNER has been used by over 2500 communiSes across the United States and in 40 countries to collect data on cross-sector interorganizaSonal networks. It has a default survey to get you started, a way to add quesSons to and customize the surveys, and an analysis tools that allows you to immediately visualize and analyze your data (you don't have to figure out what to do, but you can always export the data into any other program if you want). The second tool is the Person-Centered Network App. The PCN App is an innovaSve, simple tool to collect data at the ego-centric data. Using a swiping method on a touch-screen, a respondent can capture relaSonships among alters quickly and with increased reliability. The tool provides a customizable survey, an easy downloadable app, in-app and exportable reports, and a secure HIPPA compliant server that stores the data for easy analysis and export. ASPEN's data dashboard (sSll in development) allows a user to track all of these data in one place, as well as search through a huge database of exisSng data (over 1000 whole networks) that have all been collected using the PARTNER survey, for comparison across networks. Our organizaSon has a mission to build the capacity of people and organizaSons to use SNA in the most simple, intuiSve method possible. The goals of this workshop are that parScipants leave with a tools they can use immediately (each parScipant will get a free license to use the tools (license are designed to be accessible and low-cost to all users)), a reliability methodology to collect the data, and a plant to get started using them immediately.

Network Approaches for Behavior Change

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Tom Valente (University of Southern California)

Description: This workshop introduces the many ways that social networks influence individual and network-level behaviors. It also provides a brief introduction to analytic approaches for understanding network influences on behaviors; and reviews existing evidence for the utility of using social network data for behavior change in a variety of settings including health behaviors and organizational performance. The workshop presents a typology of network interventions and reviews existing evidence on the effectiveness of network interventions. (Students familiar with the R environment may follow an R script written to demonstrate the 24 or so tactical interventions presented.) No pre-requisites.

Understanding Diffusion with netdiffuseR

Session Length: 1-sesssion (3 hours)
Attendance Limit: None
Instructors: Tom Valente and George Vega Yon (University of Southern California)

Description: The netdiffuseR package provides a set of tools for analyzing and simulating diffusion of innovations on networks. In this workshop we demonstrate the features of the package through the analysis of both empirical and simulated data on the diffusion of innovations. The session will include examples on how to use netdiffuseR jointly with other network analysis packages such as RSiena, statnet, and igraph. netdiffuseR 's main features are computing network exposure models based on various weight matrices (direct ties, structural equivalence, attribute-weighted, etc.), thresholds, infectiousness and susceptibility, among others. The package works with both static and dynamic networks. Some other capabilities include handling relative large graphs, simulating networks and diffusion of innovation processes, and visualizing the diffusion of innovations. While there are no pre-requisites, it is suggested to have a working knowledge of the R programming language.