Event Agenda

INSNA Sunbelt 2026

Monday, June 22, 2026

Registration/Check-in

8:00 AM – 4:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

8:00 AM – 9:00 AM | Location: Coquina Pre-Function

INCLUDED WITH MONDAY, JUNE 22 WORKSHOP REGISTRATION

Start your day in Coquina Pre-Function with a tasty breakfast buffet and networking with fellow workshop participants!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
- Scrambled eggs
- Hickory-smoked bacon
- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Large Language Models, Text Embeddings, and Network Analysis

9:00 AM – 4:00 PM | Location: Coquina A

WORKSHOP

This 6-hour session offers a practical introduction to Python and the synthesis of network analysis with natural language processing methods, including large language models (LLMs). This begins with an introduction to text data management and preprocessing in Python. We introduce embedding, discussing its development in the early 2010s and demonstrating practical applications. We start with word embeddings and word2vec, and the evolution from static word embeddings to contextual token embeddings through transformer architecture (e.g., BERT). Recent developments in post-ChatGPT generative LLMs, and how such developments (e.g. reinforcement learning from human feedback, contrastive learning) have improved text embedding generation, will be explored with LLM2Vec. The second half will guide attendees through the construction and analysis of networks derived of text embeddings. This will include topic modelling (BERT and LLM2Vec), and approaches to constructing network representations derived of topic embeddings – modelling the relational structure between the identified topics. The session will close with a demonstration of analyses which might be performed on the resulting network, such as backbone extraction (e.g., disparity filter, LANS) and the interpretation of the networks' features.

FULL-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speaker

Thomas Bryan Smith

Assistant Professor | University of Mississippi

Authors

Ayan-Yue Gupta

Egocentric Network Analysis with R

9:00 AM – 4:00 PM | Location: Coquina B

WORKSHOP

This workshop is an introduction to the R programming language and its tools to represent, manipulate, and analyze egocentric or personal network data. Topics include: introduction to ego-network research and data; data structures and network objects in R; visualizing ego-networks; calculating measures on ego-network composition and structure; converting ego-network measures to R functions; applying these functions to many ego-networks. The workshop relies on R tidyverse packages for data science, showing how they can be used to conduct common operations in ego-network analysis and scale those operations up to large collections of networks. We'll cover specific packages for network analysis (igraph, network, egor), data management (dplyr) and programming (purrr). No previous familiarity with R is required; participants only need a laptop with R and RStudio installed. This workshop has been taught for the past several years at different international conferences, including INSNA's Sunbelt and EUSN meetings. It draws on concepts and methods from the instructor's forthcoming book "Analyzing personal networks using R" (SAGE, in press). More details on the workshop's materials and requirements are here: raffaelevacca.com/egonet-r.

FULL-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speaker

Raffaele Vacca

Associate Professor | University of Milan

Micro-Macro Network Analysis Using Netmediate

9:00 AM – 12:00 PM | Location: Coquina C

WORKSHOP

What network selection mechanisms generate unique network structures and topologies? What are the implications of those selection mechanisms for individuals nested in social networks? This 3-hour workshop will introduce attendees to recent statistical frameworks for micro-macro network analysis using the netmediate package for R. The workshop will describe (1) procedures for estimating, interpreting, and null hypothesis testing the effects of micro-level selection mechanisms on macro-level network structures, and (2) introduce recent statistical procedures for evaluating the indirect effects of micro-level network selection mechanisms on individual and group level outcomes (e.g., adolescent smoking behavior). Topics covered will include (1) micro-macro analysis when the interest is treating a specific network structure (e.g., segregation, transitivity) as the dependent variable and (2) identification of indirect network selection effects on individual and group outcomes. We will review necessary assumptions for each type of analysis and strategies for meeting those assumptions in observational network data. Attendees will come away from the workshop with a deeper understanding of statistical procedures for micro-macro network analysis and how these procedures can be used to address research questions that implicate indirect network selection effects using netmediate.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speaker

Scott Duxbury

University of North Carolina at Chapel Hill

Beyond APIs: Collecting Web Data for Research Using the National Internet Observatory

9:00 AM – 12:00 PM | Location: Coquina F

WORKSHOP

The Internet serves as a vital platform for information access and global connectivity. Widespread online engagement offers unprecedented opportunities to study human behavior at scale, yet researchers face significant ethical and technical barriers when attempting to collect data for academic studies. Major social media platforms like Facebook and Twitter have progressively restricted access to their official Application Programming Interfaces (APIs), which previously served as primary tools for researchers to create customized datasets from specific platforms for studying online content production and engagement behavior. This workshop introduces the National Internet Observatory (NIO), an alternative data collection framework and infrastructure designed to help researchers study online behavior, with a particular focus on content viewing — the predominant form of online activity. The workshop presents NIO's informed data donation process, participant demographics and behavioral traces, and secure computing infrastructure. Further, the organizers will present concrete examples of research being conducted with this new source of data to motivate and inform workshop participants' own ideas around the kind of research they can conduct with NIO. The workshop incorporates interactive activities and hands-on sessions with real aggregated data to demonstrate NIO's capabilities for enabling novel cross-disciplinary and cross-platform research across web and social media environments.

Learn more about the workshop here.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speakers

Scott Cambo

Director of Data Science | National Internet Observatory

Pranav Goel

Postdoctoral Research Associate | Northeastern University

David Lazer

University Distinguished Professor of Political Science and Computer Sciences | Northeastern University

Seeing Science through Networks: Disciplinary Hardness and Softness

9:00 AM – 12:00 PM | Location: Coquina G

WORKSHOP

This workshop introduces a network-based approach to analysing the hardness and softness of scientific domains through their cognitive structure. Using Web of Science (WoS) data, participants will explore how network-derived indicators—such as centralities, clustering coefficients, entropy, and other structural measures—can describe whether a field is characterized by stable, cohesive, and centralized knowledge structures (hard science) or by diverse, fragmented, and flexible ones (soft science).

We shall first review the theory and evidence underlying this approach and then offer a practical demonstration of the methods involved. Using examples of workflows, we will extract key bibliometric features and construct cognitively meaningful co-reference networks from WoS records. Participants will apply Python and NetworkX to compute and interpret network measures that capture patterns of cohesion, integration, and diversity across disciplines.

By the end of the session, attendees will be able to retrieve and analyse network-based indicators that describe the cognitive and structural properties of scientific fields. The workshop will be particularly relevant for researchers in scientometrics, bibliometrics, and network science interested in applying quantitative network measures to study disciplinary structures and their cognitive organization.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speaker

Assemgul Kozhabek

Research Associate | Heriot-Watt University, Edinburgh Campus

Authors

Daniele Fanelli

Introduction to Relational Event Models

9:00 AM – 12:00 PM | Location: Coquina H

WORKSHOP

Many sociological processes unfold as sequences of temporally ordered interaction events between entities. Leveraging the availability of time-stamped data, the Relational Event Model (REM) provides a powerful framework for generative modeling of such dynamic networks. REMs capture how node and edge characteristics, together with past interactions, shape the evolution of these processes. The essential temporal information embedded in relational event sequences has motivated advances in the specification of covariates and development of inference techniques.

In this workshop, we will introduce the foundations of REMs and show how to construct covariates that represent exogenous drivers, endogenous mechanisms, and temporal features of these processes. We will then examine likelihood-based inference methods for estimating covariate effects and discuss extensions that enhance the flexibility of REMs, including non-linear and time-varying influences as well as random effects to account for network and actor heterogeneity.

Workshop Agenda:

1. Core REMs: introduction to REM formulation and the inclusion of time-aware exogenous and endogenous variables.

2. REM inference: overview of likelihood-based estimation methods.

3. Non-Linear REMs: modeling non-linear and time-varying covariate effects while accounting for network and actor heterogeneity.

4. Practical Tutorial with R Studio: applying REMs to empirical datasets.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speakers

Martina Boschi

PhD Candidate | Università della Svizzera italiana

Melania Lembo

Università della Svizzera italiana

Ernst C. Wit

Lunch

12:00 PM – 1:00 PM | Location: Coquina Pre-Function

INCLUDED WITH MONDAY, JUNE 22 WORKSHOP REGISTRATION

Join us in Coquina Pre-Function for a buffet lunch and networking with fellow workshop participants!

Lunch Menu

- Antipasto display
- Caesar salad with homemade croutons
- Panzanella salad
- Baked penne pasta
- Grilled chicken with pesto
- Assorted pizzas
- Garlic bread sticks
- Tiramisu, cannoli, and Italian lemon cake
- Iced tea and freshly brewed coffee

Exponential Family Random Graph Modeling (ERGMs) Using statnet

1:00 PM – 4:00 PM | Location: Coquina C

WORKSHOP

Prerequisites: Familiarity with R. Previous experience with the statnet packages network and sna is helpful but not required.

Synopsis:

This workshop will provide an introductory 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. The ERGM framework allows for the specification, estimation, and simulation of models that incorporate the complex dependencies within networks, and provides a general and flexible means of representing them. The session will demonstrate ERG modeling using the statnet software in R.

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. Familiarity with basic descriptive network concepts and statistical methods for network analysis within the R/statnet platform is

recommended. Attendees are expected to have had some prior exposure to R, but extensive experience is not assumed.

statnet is a collection of integrated packages for the R statistical computing environment that support the representation, manipulation, visualization, modeling, simulation, and analysis of network data. statnet is developed and maintained by a team of volunteer developers, and is released under the GNU Public License. statnet packages can be used with any computing platform that supports R (including Windows, Linux, and Mac). The software supports statistical analysis of large networks, temporal network analysis and valued ties, with utilities for missing and sampled data.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Carter Butts
Chancellor's Professor | University of California - Irvine

Pavel N. Krivitsky
Senior Lecturer in Statistics | University of New South Wales

An introduction to the design, administration, and management of in-person and remote personal networks research in Network Canvas

1:00 PM – 4:00 PM | Location: Coquina F

WORKSHOP

The goal of this workshop is to provide participants an orientation to conducting personal networks research within Network Canvas and the opportunity to master the skills necessary to apply these tools within their specific domain of interest. Network Canvas (http://www.networkcanvas.com), is a free and open-source software suite that facilitates the collection of self-reported social network data, comprised of applications to support both in-person interviewer-assisted environments as well as remote self-administered studies.

In this workshop, we will provide an overview of Architect, the Network Canvas visual survey builder, as well as Interviewer, the Network Canvas app used to collect data directly from participants within an in-person research design. We will also provide an overview of Fresco, the newest Network Canvas tool designed for remote network surveying. Finally, we will explore data export in Interviewer and Fresco, and a brief orientation to analysis. Expect the opportunity to engage in hands-on exercises during the session with assistance from our team.

When completed, you will acquire the skills to:

- Design an egocentric or whole network survey
- Deploy and manage a study, whether in-person or remote
- Obtain study data in Interviewer and Fresco, and export it for analysis

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Kate Banner
Northwestern University

Michelle Birkett
Northwestern University

Bernie Hogan
University of Oxford

Patrick Janulis
Northwestern University

Joshua Melville
Senior Research Associate | Northwestern University

Gregory Phillips II
Northwestern University

Practical Tools for Surveying, Visualizing, and Communicating Collaboration in Inter-organizational Policy Networks

1:00 PM – 4:00 PM | Location: Coquina G

WORKSHOP

This three-hour, hands-on workshop introduces participants to a suite of user-friendly tools, featuring the PLACE Plot platform and several open-source software tools, for developing and analyzing social network analysis (SNA) surveys for inter-organizational policy networks. Designed for researchers, evaluators, and policy practitioners, PLACEPlot streamlines the process of collecting high-quality relational data to map collaboration across agencies, organizations, and sectors.

The workshop begins with an overview of policy network analysis frameworks—emphasizing how SNA can illuminate patterns of collaboration, boundary spanning, and resource flow within complex policy systems. Participants will then explore PLACEPlot's intuitive interface to design and deploy customized network surveys, manage respondent data, and generate real-time network visualizations without requiring advanced coding skills.

In the second segment, participants will learn how to connect survey outputs with RShiny applications for interactive reporting and stakeholder engagement. This portion highlights how to translate network data into meaningful visual narratives and dashboards that

inform decision-making and drive collaboration.

By the end of the session, attendees will be able to (1) design and distribute SNA surveys using PLACEPlot, (2) interpret and visualize network data for policy insights, and (3) build interactive RShiny tools that make network findings accessible and actionable for diverse stakeholders.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speakers

Sarah Galey-Horn

Principal Investigator | STEM Ecosystem Evaluation

William Bork Rodriguez

Researcher Consultant | International Joint Commission

All you need to know about relational hyper-event modeling

1:00 PM – 4:00 PM | Location: Coquina H

WORKSHOP

Social network analysis has relied mainly on time-aggregated data and individual node connections. However, advances in data collection technologies now provide large amounts of time-stamped and hypernetwork information. Examples of such datasets include email multicast communication data and citation networks. Whereas methodological developments in temporal network science have expanded the toolkit for describing time-stamped and hypergraph data, relational hyper-event modeling has emerged as a central approach for the statistical modeling of the dynamic structures these data reveal. Recent contributions have made the Relational Hyper Event Model (RHEM) even more flexible, allowing it to address a range of applied demands.

In this workshop, we aim to present RHEMs, beginning with their core properties and progressing to their more novel modeling capacities, highlighting how they can be employed to address empirical questions.

Workshop Agenda:

- Core RHEMs: computing hyperevent covariates; formulating, estimating, and interpreting linear RHEMs.
- Non-Linear RHEMs: modeling non-linear, time-varying covariate effects while accounting for network and actor heterogeneity.
- Practical Tutorial with eventnet and R Studio: applying RHEMs to empirical datasets.
- Emerging Research Directions: exploring new questions and potential extensions for RHEMs.

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speakers

M

Martina Boschi

PhD Candidate | Università della Svizzera italiana

M

Melania Lembo

Università della Svizzera italiana

J

Jürgen Lerner

University of Konstanz

E

Ernst C. Wit

Tuesday, June 23, 2026

Registration/Check-in

8:00 AM – 4:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

8:00 AM – 9:00 AM | Location: Coquina Pre-Function

INCLUDED WITH TUESDAY, JUNE 23 WORKSHOP REGISTRATION

Start your day in Coquina Pre-Function with a tasty breakfast buffet and networking with fellow workshop participants!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
- Scrambled eggs
- Hickory-smoked bacon
- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Mixed Methods Research into Social Networks

9:00 AM – 4:00 PM | Location: Coquina A

WORKSHOP

The workshop focuses on the use of mixed methods research designs when studying whole and ego-centered social networks. The workshop will be conducted in two parts. The first part introduces social network qualitative research and the principles of mixed methods research designs and its contributions to the study of social networks, pointing out advantages and challenges of this approach. Illustrations of the theoretical and methodological aspects are given by bringing examples from a variety of fields of research. The second part is devoted to the presentation of concrete procedures to apply mixed methods in network research both at the level of data collection and analysis. This part includes an introduction of different approaches to the collection of whole and ego-centered network data, i.e. interviews, ethnographic methods, archival data, together with visual instruments. It then moves to the analysis of the quantitative and qualitative dimensions of network relationships and structures in a mixed method perspective.

FULL-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speaker

Elisa Bellotti

Full Professor | University of Manchester

Mediation and Moderation Analysis in ERGM using ergMargins

9:00 AM – 12:00 PM | Location: Coquina F

WORKSHOP

Exponential random graph models (ERGM) are widely used in the social sciences to examine determinants of graph structure. This 3-hour workshop will introduce attendees to mediation and moderation analysis in ERGM using the ergMargins package for R. The workshop will describe why ERGM coefficients cannot be compared between models and why coefficients for interactions—including node matching, node mixing, and other common measures of homophily and heterophily—cannot be interpreted without adjustment. Topics covered will include (1) mediation analysis, (2) moderation analysis, (3) mediation analysis when the mediator is an interaction, and (4) mediation analysis when the main effect is an interaction. We will review a range of special cases, including interactions involving both continuous and discrete variables, necessary conditions for a causal interpretation, and mediation analysis involving endogenous graph statistics. Attendees will come away from the workshop with a deeper understanding of inferential difficulties in ERGM and with knowledge on how to address each issue using ergMargins.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Scott Duxbury

University of North Carolina at Chapel Hill

Jenna Wertsching

University of North Carolina at Chapel Hill

Continuous Time Network Dynamics with statnet

9:00 AM – 12:00 PM | Location: Coquina G

WORKSHOP

Prerequisites: Some experience with R and familiarity with descriptive network concepts and statistical methods for network analysis in the R/statnet platform is expected. This workshop also assumes familiarity with ERGMs.

Synopsis:

This workshop will provide an introduction to modeling of network dynamics in continuous time using ERGM generating processes (EGPs). The exponential family random graph models (ERGMs) are a widely used framework for describing graph distributions, allowing flexible and parsimonious specification of both inhomogeneity (i.e., some ties are more likely than others) and dependence (i.e., some ties depend on others). EGPs complement ERGMs by providing ways of specifying continuous time dynamics whose long-run behavior recapitulates a specified ERGM distribution - thus allowing for dynamic network models that are consistent with specific cross-sectional behavior. In this session, we will begin with an overview of known classes of EGPs, with an eye to understanding the types of dynamic behavior embodied by each (and where they might be appropriate as empirical models). We will then discuss simulation and calibration of EGPs within the R/statnet platform, using the ergmgp package. We will show examples of the use of EGPs to generate dynamics consistent with cross-sectional network data combined with information on tie durations, including continuous time generalizations of the separable temporal ERGMs (STERGMs). Attendees are expected to have had some prior exposure to R and statnet, and completion of the statnet ERGM workshop session is strongly suggested as preparation for this session (as we will make extensive use of the ergm package).

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.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speaker

Carter Butts

Chancellor's Professor | University of California - Irvine

Social Network Approaches for Behavior Change

9:00 AM – 12:00 PM | Location: Coquina H

WORKSHOP

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. A framework for using networks during program implementation is presented. The workshop also 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 software or computing requirements are needed. The workshop will be conducted by Tom Valente who has been developing and implementing network-based interventions for nearly 25 years.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speaker

Thomas Valente

Professor | University of Southern California

Lunch

12:00 PM – 1:00 PM | Location: Coquina Pre-Function

INCLUDED WITH TUESDAY, JUNE 23 WORKSHOP REGISTRATION

Join us in Coquina Pre-Function for a buffet lunch and networking with fellow workshop participants!

Lunch Menu

- Thai roasted chicken & vegetable salad
- Potato salad
- Arcadian field greens tossed with Julienne carrot, sliced cucumber, and grape tomato - ranch and balsamic dressings
- Smoked turkey, honey-baked ham, and roast beef
- Alpine Swiss, Wisconsin Cheddar, and Provolone cheeses
- Dill pickles, green & black olives, sliced tomatoes, sliced red onion, and lettuce
- Mayonnaise, Creole mustard, Dijon mustard, and horseradish
- Sliced bread, including white, wheat, rye and rolls
- Chef's selection of dessert
- Iced tea and freshly brewed coffee

Soccer Analytics and the FIFA World Cup 2026

1:00 PM – 4:00 PM | Location: Coquina C

WORKSHOP

Association football (soccer) is a model system for network science. From the history of sports analytics, scheduling of competitions, prediction of results, ranking of teams, analysis of matches, and scouting of players to the transfer market, business development, governance, media coverage, event tourism, and fan engagement, there are plenty of research opportunities that call for network approaches.

The group stage of the FIFA World Cup 2026 concludes during Sunbelt, and will have daily updates featuring match analyses, civilized discussions, and heated debates.

For those interested in the methods on which these analyses are based, we provide an introduction to some non-standard approaches employing proximity networks, affiliation networks, and passing networks to determine tactical elements such as dynamic player positioning. Many of them have been developed at ETH Zürich and may or may not be used by Team Switzerland. There will also be the opportunity for some hands-on exercises.

The workshop is an introduction to the growing domain of soccer analytics. We provide an overview of problems and approaches, data and measurement, pitfalls and opportunities. It shall also make watching world cup matches even more interesting, and more fun.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speaker

Ulrik Brandes

Professor | ETH Zurich, Switzerland

Valued Network Modeling with statnet

1:00 PM – 4:00 PM | Location: Coquina F

WORKSHOP

Prerequisites: Attendees are expected to have had some prior exposure to R, but extensive experience is not assumed. Familiarity with binary ERG modeling with the R/statnet platform (e.g., from the “Exponential Family Random Graph (ERGM) Modeling with statnet” workshop session) is assumed.

Synopsis:

This workshop session provides a tutorial using statnet software particularly ergm and latentnet to model social networks whose ties have weights (e.g., counts of interactions) or are ranks (i.e., each actor ranks the others according to some criterion), using latent space models and exponential-family random graph models (ERGMs) generalized to valued ties, and emphasizing a hands-on approach to fitting these models to empirical data.

The ERGM framework allows for the parametrization, fitting, and simulation from models that incorporate the complex dependencies within relational data structures, and provides an extremely general and flexible means of representing them, while latent space models postulate an unobserved social space in which actors are embedded, facilitating principled visualization and group detection. Topics covered within this session include: importing, modifying, and exporting edge values on network objects; an overview of the valued ERGM framework and the notion of reference distribution; an overview of latent space models for social networks; defining and fitting models to empirical data, including ERGM terms meaningful for counts and ranks; interpretation of model coefficients; simulation of networks using these models; and ERGM degeneracy assessment.

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 networks, valued networks, network dynamics, and missing data.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Carter Butts

Chancellor's Professor | University of California - Irvine

Pavel N. Krivitsky

Senior Lecturer in Statistics | University of New South Wales

Artificial Intelligence for the Scientist in a Hurry

1:00 PM – 4:00 PM | Location: Coquina G

WORKSHOP

Artificial Intelligence (AI) is evolving at unprecedented speed, reshaping how we think, work, and collaborate. Once viewed primarily as a novel interface for interacting with computers, AI--especially with the rise of agentic systems and new model architectures--has become a powerful partner for researchers, educators, and practitioners across disciplines.

This workshop introduces participants to core concepts in AI literacy while showcasing emerging trends and practical tools that can enhance everyday academic and professional workflows. Designed for both newcomers and experienced users, the session will highlight how to use AI ethically, creatively, and productively--well beyond generating emails or simple text.

We will explore hands-on examples of leveraging AI for drafting and revising academic documents, supporting code development, and assisting with data analysis through agentic workflows. Participants will also learn about accessible online tools (such as ChatGPT and GitHub integrations) and programming-oriented options in R and Python, including local large language models through platforms like Ollama.

The workshop blends conceptual foundations with live demonstrations, giving attendees a clear overview of what AI can do today--and what the near future may bring. No prior experience with AI is required; curiosity and an interest in expanding your toolkit are all you need.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speaker

George Vega Yon

Research Associate Professor, Epidemiology | University of Utah

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Wednesday, June 24, 2026

Registration/Check-in

8:00 AM – 5:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

8:00 AM – 9:00 AM | Location: Coquina Pre-Function

INCLUDED WITH WEDNESDAY, JUNE 24 WORKSHOP REGISTRATION

Start your day in Coquina Pre-Function with a tasty breakfast buffet and networking with fellow workshop participants!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
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- Hickory-smoked bacon

- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Understanding diffusion with NetdiffuseR

9:00 AM – 12:00 PM | Location: Coquina A

WORKSHOP

The netdiffuseR package provides tools for analyzing and simulating the diffusion of innovations and contagion processes on networks. In this workshop, we demonstrate the package's features by analyzing empirical and simulated data on the diffusion of innovations. The session will include examples of using netdiffuseR jointly with other network analysis packages such as RSiena, statnet, and igraph. NetdiffuseR's main features are computing network exposure models based on weight matrices (direct ties, structural equivalence, attribute-weighted, etc.), thresholds, infectiousness, and susceptibility. The package works with both static and dynamic networks. Some other capabilities include handling relatively large graphs, simulating networks and diffusion of innovation processes, and visualizing the diffusion of innovations.

While there are no prerequisites, it is suggested that you have a working knowledge of the R programming language. We will use the latest version of the netdiffuseR R package, which can be found on GitHub here: https://github.com/USCCANA/netdiffuseR. During the workshop day, we will provide access to a cloud version of RStudio with the latest version of netdiffuseR, so do not worry if you cannot install the package before the workshop.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Aníbal Olivera

PhD(c) Student | Universidad del Desarrollo, Chile

Thomas Valente

Professor | University of Southern California

George Vega Yon

Research Associate Professor, Epidemiology | University of Utah

Introduction to Core Social Network Concepts

9:00 AM – 12:00 PM | Location: Coquina B

WORKSHOP

This workshop provides a conceptual survey of the major streams of social network theory. Rather than teaching methods or software, it situates foundational network ideas within the broader landscape of social theory. Core mathematical constructs—such as centrality, structural equivalence, and core–periphery structure—are introduced only to clarify the theoretical debates they support, not for hands-on analysis. The workshop is aimed at participants who are new to the network perspective and want a clear map of the field's main theoretical conversations.

The first part focuses on theories that treat network properties as drivers of outcomes. This includes classic work on social capital (weak ties, structural holes, social resources) and the contagion tradition (interpersonal influence, diffusion of innovation). We examine how centrality, cohesion, and related ideas are interpreted across these literatures, with attention to mechanisms, levels of analysis, and the role of social cognition in shaping perceived networks.

The second part turns to theories that explain the origins of network structure. Here the emphasis is on why networks take the forms they do and why actors come to occupy particular positions. Topics include homophily, preferential attachment, opportunities and constraints in choice, balance theory, and other mechanisms of tie formation.

By the end, participants will have a coherent framework for understanding how social scientists theorize about networks—both as causes of outcomes and as outcomes themselves—and how these lines of thought fit together in the broader social-scientific tradition.

HALF-DAY WORKSHOP | IN-PERSON | TICKET REQUIRED | WORKSHOP

Speakers

Steve Borgatti

Professor | University of Kentucky

Rich DeJordy

Rochester Institute of Technology

A comprehensive regression framework for studying relationships among predictors and outcomes in connected populations with spillover

9:00 AM – 12:00 PM | Location: Coquina C

WORKSHOP

In the interconnected and interdependent world of the twenty-first century, individual and collective outcomes — such as personal and public health, economic welfare, or war and peace — are affected by relationships among individual, corporate, state, and non-state actors. To understand how the world of the twenty-first century operates and make model-based predictions, it is vital to study networks of relationships and gain insight into how the structure of networks affects individual and collective outcomes. To study relationships among attributes under interference, a comprehensive regression framework for dependent predictors, outcomes, and connections is needed. We will provide workshop participants with a hands-on introduction to R package iglm, which implements a comprehensive

regression framework for dependent predictors, treatments, outcomes, and connections with important advantages over existing approaches, including interpretability, scalability, and provable theoretical guarantees. We will demonstrate that R package iglm can be used to study spillover in connected populations, including hate speech on social media.

Fritz, C., Schweinberger, M., Bhadra, S., and D.R. Hunter (in press). A regression framework for studying relationships among attributes under network interference. Journal of the American Statistical Association.

A preprint is available at

https://www.tandfonline.com/doi/full/10.1080/01621459.2025.2565851?src=exp-la

or

https://arxiv.org/abs/2410.07555

HALF-DAY WORKSHOP IN-PERSON TICKET REQUIRED WORKSHOP

Speaker

Michael Schweinberger

Professor of Statistics | The Pennsylvania State University

Authors

Cornelius Fritz

Brunch

11:30 AM – 1:00 PM | Location: Coquina DE

INCLUDED WITH WEDNESDAY, JUNE 24 WORKSHOP REGISTRATION AND CONFERENCE REGISTRATION

We're officially kicking off Sunbelt with a brunch buffet on Wednesday, June 24! Join us in Coquina DE for an amazing meal and networking with fellow attendees!

Brunch Menu

- Juice bar, including ruby red grapefruit juice, orange juice, apple juice, and cranberry juice
- Cold selections
  - Tropical fruit selection
  - Fusili pasta with sundried tomato, citrus, feta cheese, and basil pesto
  - Field greens with cucumber, grape tomato, shaved red onions, shredded carrots, kalamata olives, shaved asiago cheese, and croutons - white balsamic tarrgon vinaigrette and ranch dressings
  - Continental meat and cheese display
- Hot selections
  - Cheese blintzes with fruit topping and sour cream
  - Banana pecan French toast with Vermont maple syrup and whipped butter
  - Scrambled egg casserole with cheese, ham, and green onion
  - Bacon and breakfast sausage links, served with saw mill sausage gravy, southern biscuites, toast, butter, and jelly
  - Grilled free-range chicken breast, with rosemary dijon brandy sauce
  - Pan-seared salmon with cilantro tomato relish
  - Truffle-herbed fingerling potato rissole
  - Fresh vegetable selection
  - Loaded mac and cheese with bacon, chive, and white cheddar
  - Prime rib au jus with whipped horseradish and artesian dinner rolls
- Pastry selection
  - Muffins
  - Danish
  - Cinnamon rolls
  - Assorted scones served with fruit preserves
  - Chef's selection of desserts
- Freshly brewed regular and decaffeinated coffee
- Hot hebal teas

Advanced Mathematical and Statistical Network Methodology

1:00 PM – 2:40 PM | Location: Coquina A

ORGANIZED SESSION

In recent years, the field of statistical network analysis has seen the rapid development of new statistical methodologies designed to better address the complexities in social network applications. This session will bring together experts in statistical network analysis to present recent statistical models and tools for producing rigorous insights from network data. The talks in this session will be beneficial to a wide range of researchers, including scientists who utilize these methods, as well as those who develop and research them. A special emphasis will be given to applications in the social and life sciences.

IN-PERSON

Corresponding Organizer

Jonathan Stewart

Associate Professor | Florida State University

Authors

Joshua Loyal (Florida State University)

Eigenvector Centrality in Disconnected Networks

1:00 PM – 1:20 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

Eigenvector centrality (Bonacich 1972) is one of the most used centrality measures in social network analysis. When applied to disconnected graphs, it typically assigns non-zero values only to nodes in the component with the largest eigenvalue, with all other nodes receiving zero. The usual solution is to calculate the dominant eigenvector for each component separately, but this creates difficulties when comparing centrality scores across components. This paper provides a comprehensive analysis of approaches to this problem, categorizing them into three types: (1) eigenvector computation on perturbed matrices that force connectivity, including epsilon perturbation, supernode augmentation, and PageRank; (2) algebraic generalizations that include eigenvector as a limiting case, such as Katz and Hubbell centrality; and (3) component-wise computation with various scaling factors. We propose 7 criteria to evaluate the methods. These criteria are grounded in properties that eigenvector centrality exhibits on connected graphs. We then propose two main rescaling approaches -- degree matching and beta matching -- and show that a quadratic variant of beta matching is the only method satisfying all seven evaluation criteria that we propose.

Speaker

Martin Everett

Professor of Social Network Analysis | University of Manchester

Co-speaker

Steve Borgatti

Professor | University of Kentucky

Modeling Clustering Dynamics in Large-Scale Networks: A Markovian Clustering Dynamics Model

1:20 PM – 1:40 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

CHANGES OF SOCIAL NETWORKS OVER TIME MODELING NETWORK DYNAMICS

RECENT ADVANCES IN STAT. ANALYSIS & MATH. MODELING LARGE-SCALE NETWORK DATA

STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

Clustering is a core structural property of social networks, yet most existing models treat it as a static statistic or incorporate it indirectly in dynamic frameworks that do not scale to large networks or support forward simulation. This study introduces the **Markovian Clustering Dynamics Model (MCDM)**, a scalable generative framework that models clustering as a dynamic, state-based process in large-scale networks.

MCDM represents network evolution as a first-order Markov process in a low-dimensional structural state space derived from the current network. Central among these state variables is **delta clustering**, a ceiling-adjusted measure of change in local clustering that accounts explicitly for ego-network size and structural constraints. The transition operator integrates a dyadic backbone governing tie survival and formation with a triadic correction mechanism that regulates wedge closure and triangle dissolution, ensuring that simulated networks reproduce empirically observed clustering-change dynamics.

Parameters are estimated using scalable local likelihood methods combined with moment-based calibration, enabling application to networks with millions of nodes and edges. Empirical illustrations show that MCDM supports stable multi-step simulation and forecasting even with a limited number of observed time points, providing a unified framework for studying higher-order network dynamics and structural evolution.

Speaker

Cheng Wang

Associate Professor | Wayne State University

Multiple Imputation for Handling Tie Missingness in p2 models

1:40 PM – 2:00 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

SAMPLED AND MISSING NETWORK DATA TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

The p2 model is a crossed random-effects model that uses actor-level covariates, dyad-level covariates, and network dependency to analyze binary directed social networks. Current p2 model estimation techniques do not handle tie missingness adequately. When at least one tie is missing, the dyad or actor must be excluded from the estimation process. Common pre-processing techniques such as complete-case and zero imputation risk distorting the network structure.

We propose a network-aware multiple imputation approach that employs the p2 model itself as the imputation model. We perform a simulation study to assess robustness across missingness rates, network size, and missingness mechanisms.

Speaker

Princess Allotey

PhD Student | Carnegie Mellon University

Authors

Nynke Niezink (Carnegie Mellon University), David Choi (Carnegie Mellon University)

Quantum Trapping and Explosive Spread in Networked Epidemics

2:00 PM – 2:20 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

AGENT-BASED MODELING AND SOCIAL NETWORKS

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS MODELING NETWORK DYNAMICS

Epidemic models treat transmission as independent events. Real social networks exhibit complex local dependencies requiring different approaches. We present a hybrid quantum-classical framework where infection spreads via quantum circuits within clusters and classical channels between clusters. Using the SIS model on small-world and scale-free networks, we simulate epidemic dynamics through quantum superposition states. Quantum models maintain broader epidemic phases than classical counterparts. Where classical epidemics collapse under high recovery, quantum coherence acts as an infection reservoir with near-zero thresholds. Weak transmission rates trigger outbreaks that classical models predict as impossible. Local-global connectivity balance produces dramatic nonlinear effects. We discover a critical crossover at 20% inter-cluster connections. Network topology modulates quantum advantages unexpectedly. Small-world networks amplify explosive crossover. Scale-free networks reveal inversion where classical models achieve higher prevalence in heterogeneous topologies. Classical transmission exploits super-spreader hubs more efficiently than quantum operations. These findings challenge intervention assumptions. Altering local-global balance may trigger regime shifts. The vanishing threshold implies elimination requires more aggressive interventions. This framework offers genuinely new epidemic phenomenology applicable to information cascades or behavioral adoption.

Speaker

Hsuan-Wei “Wayne” Lee

Assistant Professor | Lehigh University

Authors

Yu-how Lin (National Taiwan University)

Opening the Black Box of Confounding: A Disentangled Causal Graph Estimator for Separating Feature and Structural Mechanisms

2:20 PM – 2:40 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS MODELING NETWORK DYNAMICS

NETWORK METHODS FOR IMPLEMENTATION SCIENCE

Causal inference in observational networks lives under the shadow of network mechanisms being generically confounded. While traditional models like SAOMs and Heckman two-step corrections offer interpretability, they struggle with high-dimensional data and rigid parametric assumptions. Conversely, modern Double Machine Learning (DML) approaches using Graph Neural Networks (GNNs) solve the bias problem but treat the network as a black box nuisance, obscuring the social network mechanisms.

This presentation introduces a Disentangled Causal Graph Estimator to bridge this divide. By integrating Disentangled Graph Representation Learning into the DML framework, I propose a method that recovers unbiased causal effects while quantifying the nature of the tie. Unlike standard GNNs that aggregate signals, my architecture decomposes the propensity score into two orthogonal channels: Feature channels and Structural channels. Furthermore, I employ post-hoc Explainable Deep Learning to further identify specific covariates driving selection in each channel.

This approach allows us to calculate a Mechanism Ratio, distinguishing whether a network mechanism, such as homophily, is driven by attribute-based echo chambers or structural pressure. I demonstrate that treating homophily as a monolithic confounder masks the distinct roles of feature sorting versus topological trapping. This method synthesizes the statistical rigor of deep learning with the explanatory power of network theory.

Speaker

Yuanhao(Colin) LIU

PhD Candidate | Johns Hopkins University

Modeling Network Dynamics

1:00 PM – 2:40 PM | Location: Coquina B

SESSION

IN-PERSON

Do Competitive Stakes Drive Attendance? Evidence from UEFA Champions League Matches

1:00 PM – 1:20 PM

MODELING NETWORK DYNAMICS | NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE | ORGANIZATIONAL NETWORKS

The UEFA Champions League (UCL) serves as a case study for tournament design. In 2024, UEFA shifted from a 32-team group stage (1999–2024) to a 36-team league stage (2024–2026), replacing groups with a single table. We introduce a rule-based framework to examine how these designs affect match relevance, attendance, and outcomes.

Team competitiveness is classified into three levels based on whether match outcomes can mathematically affect qualification or seeding at kickoff. From a network perspective, teams are nodes and matches are ties, with competitiveness serving as an attribute of each match. These team states combine to form a five-level typology capturing symmetric and asymmetric incentives. Defining competitiveness by stakes at kickoff rather than final results allows for consistent cross-format comparison.

Results show that spectator behavior responds strongly to incentives. In both formats, matches with low or no stakes draw lower attendance relative to stadium capacity. While the league-stage format reduces “dead rubber” matches, the attendance penalty persists when incentives are weak, indicating that demand remains sensitive to match relevance. We also observe a structural shift: draws decline under the new format, consistent with a payoff structure in which wins carry higher marginal value and encourage greater risk-taking. Overall, tournament design emerges as a key driver of engagement and on-field behavior.

Speaker

Traian Truta

Director, School Of Computing And Analytics | Northern Kentucky University

Co-speaker

Alina Campan

Professor | Northern Kentucky University

Mixtures of Relational Event Models for Inferring Anomalies in a Financial Process

1:20 PM – 1:40 PM

MODELING NETWORK DYNAMICS | STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

Financial crime represents a major global challenge, with money laundering alone estimated to account for 2-5 % of global gross domestic product. To mitigate these risks, financial institutions rely on anti-money laundering systems, which are increasingly enhanced by data-driven transaction monitoring techniques. While machine learning and deep learning models have shown strong predictive performance in detecting suspicious transactions, they often lack interpretability - an essential requirement when detection decisions may lead to the suspension of financial activities or entities.

In this work, we propose an interpretable methodological framework for detecting latent types of financial transactions, modelled as time-stamped relational events. The framework aims to uncover mixtures of underlying generative processes by capturing their temporal dynamics and the mechanisms governing event occurrence rates. Our approach accommodates time-varying and non-linear effects, providing a flexible yet interpretable representation of transaction behaviour that reflects the evolving nature of financial activity.

We validate the proposed framework through experiments on both synthetic labelled data - designed to reflect multiple money laundering typologies - and unlabelled high-frequency transaction data from a major online financial market.

Speaker

Martina Boschi

PhD Candidate | Università della Svizzera italiana

Authors

Dimosthenis Pasadakis (Università della Svizzera italiana), Ernst C. Wit (Università della Svizzera italiana)

Disentangling Repetition and Imitation Components of Preferential Attachment in Social Action Networks

1:40 PM – 2:00 PM

MODELING NETWORK DYNAMICS SOCIAL INFLUENCE
STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS
TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Models of social action networks frequently find that preferential attachment -- where individuals or entities that already have many social ties tend to attract even more over time -- reoccurs across many different social network contexts. The most common explanation of preferential attachment is social imitation, i.e., selecting interaction targets based on how others have selected targets in the past. However, a commonly used measure of preferential attachment, target indegree, conflates two distinct mechanisms: social imitation, in which actors mimic behaviors they observe in others, and self-repetition, in which actors repeat their own past behaviors. Drawing from classical and contemporary sociological theory, this paper proposes a conceptual and empirical distinction between these processes and demonstrates that they exhibit different sensitivities to features of the interaction environment. Using a hierarchical relational event model across a corpus of hundreds of social action networks, we show that models separating imitation and repetition provide improved fit and more interpretable results. In addition, while social imitation varies systematically with interaction visibility in the social ecology, repetition remains significant and positive when interaction visibility is low. These findings clarify the behavioral foundations of preferential attachment and provide conceptual precision in modeling sequential social dynamics across social ecologies.

Speaker

Ben Gibson

Assoc Social/Behavioral Scientist | RAND Corporation

Network Concomitance: AI plus Network Science Approach to Theory Building

2:00 PM – 2:20 PM

MODELING NETWORK DYNAMICS SOCIAL INFLUENCE

Who we know affects what we know and what we know affects whom we interact with. Groups share knowledge, beliefs, attitudes & norms. This conmitance of these networks is a natural feature of human behavior. It is so common that we take it for granted. When generating synthetic data getting networks to be concomitant is difficult, especially for large or evolving populations. This difficulty signals a gap in our understanding of how human networks constrain and enable behavior and communication, and how these social networks form and evolve. If we can identify those factors that are needed to produce this concomitance in synthetic data, we will have more realist synthetic data, and a better understanding of human social behavior. I argue that existing highly validated extant theories (Social influence, structuralism, persuasion, constructuralism, small world) are insufficient to explain, to generate, the observed concomitance. Preliminary findings are presented. Illustrative data, showing the types of “errors” that current theories produce are shown. Thus, the question arises – what is missing? It might be that the theories are sufficient and the large number of parameters need to be tuned. It might be that fundamental social factors used by people to organize their cognition are not being captured by current theories. We find that parameter setting is necessary but not sufficient and adding social cognition (e.g. actors classes) and physical limitations (diurnal) is critical.

Speaker

Kathleen Carley

Professor | CMU

Triadic Closure in a Fragmented Field: Coauthorship Formation in the Social Network Analysis Community

2:20 PM – 2:40 PM

MODELING NETWORK DYNAMICS STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

Triadic closure is widely theorized as a fundamental mechanism of network evolution. Yet how it structures collaboration within the Social Network Analysis (SNA) community, how its strength has changed over time, and whether it operates uniformly across structural positions remain open questions.

This study examines closure in the SNA community from 2000 to 2025 by constructing a longitudinal coauthorship network from OpenAlex data. Dyadic logistic regression model is employed to test whether shared collaborators predict new coauthorship, controlling for degree, productivity, and year fixed effects. The second stage employs separable temporal ERGM (STERGM) to account for network dependence, distinguishing closure from degree-driven attachment.

Results show that triadic closure significantly predicts new collaborations with effects strengthening after 2010. Closure remains robust after accounting for network dependence, suggesting that local closure processes operate independently of preferential attachment. Positional heterogeneity analyses further reveal that peripheral actors rely more heavily on shared partners to access new collaboration opportunities. Rather than suppressing closure, field fragmentation confines triadic processes to local neighborhoods, thereby reproducing positional inequality over time.

Speaker

Kejin Zhang

Emory University

Contagion and Diffusion Processes Through Social Networks

1:00 PM – 2:00 PM | Location: Coquina C

ORGANIZED SESSION

Collective behaviors often spread through social interactions, whether it be the emergence of social norms, the rise of social movements, or the adoption of technological and health innovations. Social networks act as critical pathways for these "social contagions." Research on diffusion dynamics has demonstrated that the structure of a social network or the threshold profiles of individuals can significantly influence the patterns and speed of such diffusion.

This session invites contributions from researchers focusing on two key areas:
1. Computational Modeling: Scholars developing mathematical models that explore how structural and cognitive factors affect diffusion processes, as well as those employing agent-based simulations to understand behavior change and diffusion dynamics.
2. Empirical Studies: Researchers conducting empirical work that maps social networks and measures the timing of adoption to build diffusion models are encouraged to participate. These studies may examine who within a network is most susceptible to influence, who serves as crucial influencers, and how social or economic factors shape the adoption process.

This session will provide a platform for presenting new datasets or advances in new contagion models. The discussion will be oriented towards new network interventions in areas like public health and cutting-edge research direction.

IN-PERSON

Corresponding Organizer

Thomas Valente
Professor | University of Southern California

Organizers

Aníbal Olivera
PhD(c) Student | Universidad del Desarrollo, Chile

George Vega Yon
Research Associate Professor, Epidemiology | University of Utah

From Metal to Mainstream: Diffusion of Music Signatures Across Friendship Distance from Online NSSI Communities

1:00 PM – 1:20 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS ONLINE HEALTH COMMUNITIES SOCIAL INFLUENCE

Online self-injury communities are often studied as support networks, yet the cultural “radius” of such groups is rarely quantified. Using LiveJournal, we map a friendship neighborhood around 120+ communities associated with non-suicidal self-injury (NSSI). We assemble community participants (C), an age- and size-matched set of their non–self-injury friends (F), and friends-of-friends (F2). Declared musical interests are mapped from artists to super-genres (Alt, Metal, Mainstream), yielding a 3-D music signature for each user and cohort-level mean signatures.

Mean preferences show a clear distance gradient: C is most Metal-leaning and least Mainstream-leaning, while F shifts toward Mainstream and F2 shifts further. Alt declines modestly with distance. Two-sample Student’s t-tests on individual signatures indicate that the Metal decrease and Mainstream increase from C→F and C→F2 are statistically reliable; Alt differences are smaller.

These findings extend prior work linking alternative subcultures and “problem music” with self-harm (e.g., Young et al., 2006; Bowes et al., 2015; North & Hargreaves, 2006) by reframing the association as a networked, distributional signature rather than a single-genre effect. Layered socio-semantic data (ties + interests) thus provides a scalable way to measure cultural boundaries around stigmatized online health communities and motivates designs to separate selection (homophily) from peer exposure effects.

Speaker

Dmitry Zinoviev
Professor | Suffolk University

Accounting for Intervention Spillover in Stepped Wedge Cluster-randomized Trials: Application to Physician Networks

1:20 PM – 1:40 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS SOCIAL INFLUENCE

Often motivated by concerns about contamination of control subjects, cluster-randomized stepped wedge designs assign interventions to distinct clusters (e.g., hospitals) and protect against confounding by randomizing the timing of intervention delivery. However, when trial units are embedded in professional networks akin to social networks that span clusters, such designs are vulnerable to spillover from intervention subjects to control subjects. In this study, we use a longitudinal cluster-randomized trial of an advance care planning (ACP) intervention and contemporaneous physician networks to model and estimate the direct effect of the intervention in a counterfactual world absent contamination, the indirect or spillover effect from intervention to control subjects, and the modification of the direct effect by intervention spillover. Our findings suggest that the diffusion of intervention behaviors through the network were primarily driven by a large physician spillover effect that modified the direct effect at the time of intervention and subsequently over follow-up.

Speaker

James O'Malley

Professor of Biomedical Data Science and of The Dartmouth Institute | Dartmouth College

Co-speaker

Carly Bobak

Lecturer in Biomedical Data Science | Dartmouth College

Pro-environmental concern and behaviors in a university friendship network

1:40 PM – 2:00 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS NETWORKS & SUSTAINABILITY SOCIAL INFLUENCE SOCIAL NETWORKS AND CLIMATE CHANGE

Environmental behavior change is often seen as an individual's responsibility, even though social networks and environmental beliefs and behaviors likely shape one another. This study focuses on whether environmental concern and the adoption of pro-environmental behaviors play a role in friendship formation (social selection) and are shaped by friendships (social influence).

A cohort of 74 students completed three questionnaires over 12 months. Stochastic Actor-Oriented Models (SAOMs) of friendships and environmental concern do not reveal evidence for social selection, nor for social influence. Instead, friendship formation is based on gender and propinquity effects (studying in the same group), and environmental concern is predicted by gender. Analyzing pro-environmental behavior adoption as a two-mode friendship-behavior network, SAOMs show that students tend to select friends with similar levels of behavioral adoption, but are not influenced by their friends' pro-environmental behavior. Behavior is predicted by individual environmental concern.

The lack of support for social influence is possibly due to the homogenous sample or the (in)visibility of such beliefs and behaviors. Students did tend to select friends with similar levels of pro-environmental behaviors, highlighting a selection mechanism that can lead to segregation. Further explanations and implications for research and practice are discussed.

Speaker

Rosaly Severijns

Postdoctoral researcher | Behavioural Economics and Engineering, KU Leuven; Environmental Economics, Hasselt University

Authors

Jasperina Brouwer (University of Groningen), Kayla de la Haye (University of California, Los Angeles)

Network Indicators for Group and Team Performance

1:00 PM – 3:00 PM | Location: Coquina F

SESSION

IN-PERSON

Decreasing Disruption and Increasing Concentration of Artificial Intelligence

1:00 PM – 1:20 PM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

This paper examines the development of artificial intelligence (AI) technologies from 1976 to 2020 and investigates the socio-economic factors driving its evolution. Using a large-scale dataset of AI patents and a novel network measure called the pairwise disruption index (PDI), we trace the social drivers of AI disruption and investigate the underlying mechanisms. Our analysis focuses on three key dimensions of the knowledge base emphasized in innovation theories: government support, R&D capacity, and inventor human capital. Results reveal (1) a clear trend of AI technologies becoming concentrated within well-resourced institutions, consistent with the theory of intellectual monopoly capitalism; and (2) while both macro-level factors—such as government support and corporate R&D capabilities—and micro-level factors—such as R&D team size—contribute to this concentration, macro-level forces exert a stronger influence overall. Among them, government support has the most substantial impact, and organizational R&D capacity has become an increasingly dominant driver in recent years. This study provides a systematic assessment of the socio-economic forces shaping AI development, complements the intellectual monopoly theory, and highlights concerns over declining technological disruption and increasing concentration in the AI sector.

Speaker

Likun Cao

Assistant Professor | Purdue University

Effects of Communication Modalities on Network Recall

1:20 PM – 1:40 PM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

"Research in the field of social cognition found that humans use schema for the storage and processing of network information. Schema use differs by gender and power, in theory because individuals differ in the schemas that apply to the network structures they are involved with. I analyze a survey dataset collected during the COVID-19 pandemic that asked respondents about how often they interacted with people, and organizations, as well as what forms of communication they used. In addition, a network recall survey experiment was conducted to measure their network recall accuracy. If schema are learned cognitive rules the brain uses to process information, then how an individual recalls a network should be shaped by ongoing opportunities to practice schemata. This effect should be moderated by the respondent's level of social poverty with higher levels of social poverty (i.e., inadequate social integration) being associated with poorer recall accuracy. Results uncovered more about the role that practice plays in the formation of social schemata and will shape future understanding of the differences in individual network recall ability across categories. Furthermore, it will contribute to efforts to design more efficient, and effective, organizations."

Speaker

Gage Pierce

Graduate Student | University of South Carolina

Burnout, Social Support, and Reciprocity in an Intensive Care Unit

2:00 PM – 2:20 PM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Burnout, defined by the World Health Organization as a syndrome resulting from chronic unmanaged workplace stress, is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. Burnout disproportionately affects critical care clinicians, with prevalence estimates of 40–46% and up to 68% during the COVID-19 pandemic. An increase in perceived social support is related to decreased risk of burnout; however, specific types of support and reciprocity in support exchanges remain underexplored. This study examines how giving, receiving, and reciprocating four types of social support (emotional, informational, instrumental, advice) relates to burnout and collective efficacy among healthcare professionals. Using cross-sectional, multiplex network data from healthcare providers working in an Intensive Care Unit in the midwestern United States (n = 39, 82.05% nurses, mean 12.92 years experience), it identifies associations between sending, receipt, and reciprocation of support and self-reports of emotional exhaustion, depersonalization, personal accomplishment, and collective efficacy. Results suggest that providers reported lower levels of burnout and higher levels of collective efficacy the more they received emotional support from those to whom they provided emotional support. This finding highlights the importance of reciprocal exchanges of specific kinds of social support for the mental health of providers working in demanding environments.

Speaker

Tom Wolff

Research Assistant Professor | Northwestern University

Co-speaker

Amy Kiefer

Clinical Assistant Professor | Loyola University Chicago

Network analysis in the tourism curriculum design context

2:20 PM – 2:40 PM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE VISUAL NETWORK METHODS

The purpose of this study is to map and unpack a relevant curriculum that produces a graduate aligned with the needs of the tourism industry. Curriculum design is the process of aligning teaching and learning content and activities with dynamic higher education and industry trends. As such, a contemporary curriculum is evolving. In that regard, new methods are needed to unpack curriculum design and to support effective curriculum delivery to achieve the desired outcomes. The study proposes mapping courses for Bachelor of Science degrees in tourism and hospitality management with specializations in events, tourism, and hospitality. The optimal number of courses to prepare an aligned graduate for the industry will be revealed using correlation tests of the programme network structures and the underlying attributes of experiential learning and a competency-based framework. Experiential learning is divided into three (3) categories of courses: course-led experiential learning, work-integrated experiential learning, and non-experiential learning. The competency-based framework is divided into three (3) categories of courses: operational/technical skills, management/strategic skills, and soft skills. de Blas, Gonzalez, and Herrero (2021) conducted network analysis to visualize curriculum development and detected incongruencies or mistakes in the curriculum. It is in a similar vein that this study is being conducted.

Speaker

Michelle Allen

Assistant Provost | University of The Bahamas

The Cost of Influence: Regulatory Profiles Predict Multiplex Leadership Network Structure in NCAA Teams

2:40 PM – 3:00 PM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

NETWORK LEADERSHIP: PERSPECTIVES, METHODS, AND APPLICATIONS

Single-layer leadership networks obscure functional differentiation. An athlete ranked 19th in overall leadership but 9th in cohesion-building is a relational resource invisible to coaches who examine only aggregate centrality. This study applies multiplex network analysis to leadership in athletic teams, constructing six distinct network layers from round-robin nominations: overall leadership, task, social, motivational, regulation, and cohesion-building. We test whether individual regulatory profiles predict layer-specific centrality. Using a situational judgment test administered under experimentally induced exhaustion, we derive continuous regulatory scores for 120 NCAA athletes across seven teams via Hierarchical Plackett-Luce modeling. We test three structural hypotheses: (1) AnchoredHolding (regulatory stability) will predict centrality in the Regulation and Cohesion layers, serving as the relational anchor; (2) TS Shadow (behavioral masking) will predict Task centrality, where surface composure reads as competence, but not Regulation centrality; and (3) ReactivePull (dysregulated intensity) will predict Motivational centrality due to visible energy, yet negatively predict Regulation centrality. This dissociation distinguishes hype from stabilization. Results determine whether regulatory architecture shapes not just status, but the functional topology of team leadership.

Speaker

Alexander Ochoa

Assistant Professor | University of San Francisco

Virtual Presentations

1:00 PM – 3:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

A Network-Based Diagnostic of Resilience in Scientific Fields

1:00 PM – 1:20 PM

LAYERING OF EXTERNAL DATA IN NETWORK ANALYSIS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

Scientific fields differ in their capacity to accumulate reliable knowledge and sustain consensus. Conventional indicators such as publication counts and citations capture productivity but reveal little about how the internal organisation of knowledge shapes resilience. This talk suggests structural diagnostics to assess how research fields respond to disruptions.

Our analysis targets representative samples of studies. Rather than examining the co-authorship networks of the sampled papers themselves, as is typically done, we reconstruct networks from the reference list of each study individually. This approach captures a finer-grained conception of a field as a focused body of research organised around a shared problem or method, allowing us to evaluate the average structural properties of research fields across domains. For each reference-defined field, we construct two complementary network representations: a co-authorship network; and a co-reference network, where nodes represent cited papers connected through shared references, capturing patterns of epistemic integration.

We assess robustness through systematic removal experiments that simulate disruption. Beyond classical topology-based removals targeting structurally prominent nodes (e.g., high centrality), we introduce epistemic removals based on attributes such as h-index, funding sources, and keywords, and evaluate how networks respond to these distinct forms of disruption.

Speaker

Assemgul Kozhabek

Research Associate | Heriot-Watt University, Edinburgh Campus

Co-speaker

Daniele Fanelli

Assistant Professor | Heriot-Watt University

Tie creation and tie maintenance in the dynamics of advice networks among activist judges

1:20 PM – 1:40 PM

CHANGES OF SOCIAL NETWORKS OVER TIME

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

This presentation uses Siena models to test hypotheses about variations in the influence of work-related appropriateness judgments on the evolution of advice tie formation patterns. We focus on the combined dynamics of tie creation and tie maintenance during and after an institutional crisis. We draw on data from research on the Commercial Court of Paris in which activist judges mobilized and then demobilized appropriateness judgments as the political crisis engulfing their institution evolved.

Speaker

Emmanuel Lazega

Emeritus Professor | Sciences Po Paris

Co-speaker

Eric Quintane

Professor | ESMT Berlin

Network proxy of scientific consensus reflects reproducibility of biomedical experiments

1:40 PM – 2:00 PM

NETWORK METHODS FOR IMPLEMENTATION SCIENCE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

Predicting whether a published research finding can be successfully replicated is a central concern for researchers, policy makers and industry. To date, this challenge remains largely unaddressed.

We hypothesised that a study's reproducibility would be reflected in the bibliometric proxies of its field, and in particular by the modularity of co-reference networks, which previous research suggests to be a proxy of theoretical and methodological consensus. We assumed that the literature cited by a study is representative of the study's field, and therefore that network properties of the cited literature would correlate with the study's reproducibility.

We tested our hypothesis on a large data set compiled by the Open Science Replicability Challenge (N=1441). For each original study in the sample (that is, study whose replicability has been estimated) we extracted the list of cited references, retrieved the full bibliometric record of each reference, and bult a co-reference network, the nodes of which are the original study and its references. We measured the average clustering coefficient of the network and the clustering coefficient of the node representing the original study. In support of our hypothesis, we found that the latter parameter was a significant predictor of replication successs, independent of statistical predictors of reproducibility (multiple logistic regression controlling for statistical significance and sample size: $b=2.57\pm1.04$, $z=2.480$, $P=0.013$).

Speakers

Daniele Fanelli

Assistant Professor | Heriot-Watt University

Assemgul Kozhabek

Research Associate | Heriot-Watt University, Edinburgh Campus

Analysing the Role of Sociodemographic Factors in Patient-sharing Provider Networks: A Social Network Analysis Approach

2:00 PM – 2:20 PM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS DIGITAL NETWORKS IN HEALTHCARE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

Interdisciplinary practice strengthens health service delivery. Poor coordination limits communication, which can lead to low patient engagement. Understanding how patient-sharing provider networks (PSPNs) is essential for evaluating the healthcare services. This study uses a social network analysis to construct PSPNs and patient sociodemographic attributes on healthcare. The administrative claim data are collected from NSW, Australia. Sociodemographic factors are sourced from regional databases and incorporated into regression models. This study examines degree, closeness, betweenness, clustering coefficient, and eigenvector centrality. The results show that SNA provides essential insights into healthcare system. The density in Macarthur is lower than in Parramatta–Hills. But Macarthur has a higher clustering coefficient. Macarthur has a higher closeness and lower degree centrality. Sydney has a high closeness centrality, Parramatta–Hills has a medium, and Macarthur has a low amount. Sydney has the highest score, Parramatta–Hills has the middle value, and Macarthur has the lowest betweenness centrality. In areas with more people, and education, networks grow more connected. In places with weaker economies and higher unemployment rates, centralised structures are more common. Places with many olders, stable employment and marriage can have strong patient-sharing programs. These findings underscore the importance of sociodemographic indicators into health system planning.

Speaker

Shakir Karim
University of Sydney

Authors

Hoonyong Lee (University of Sydney), Jin Xue (University of Sydney)

Identifying Turning Points in Early Adult Life

2:20 PM – 2:40 PM

SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

Life-course inequalities emerge from sequences of interdependent events across multiple life domains. Yet much longitudinal research examines education, employment, family and financial transitions in isolation. As a result, we lack a system-level understanding of how the timing and sequencing of early adult experiences across these domains combine to produce inequalities throughout the life course.

Using 14 years of panel data from the National Longitudinal Study of the High School Class of 1972 (NLS-72), we examine how transitions across education, work, family and financial domains jointly structure life trajectories beginning at age 18. Rather than modeling single transitions (e.g., college completion), we represent each year as a bundle of up to 100 co-occurring life events and construct sequences that capture ordering and timing across domains. Using network analysis, we identify recurrent trajectory types and characterize where similar paths diverge and limit possible midlife outcomes.

We ask which combinations of life transitions are associated with later differences in life satisfaction, health, and financial stability, and for whom? At what points do trajectories become difficult to reverse? And how does demographic background shape exposure to and consequences of different trajectories?

By modeling early adulthood as a structured, multi-domain process, this study highlights how turning points emerge from transitions that accumulate and constrain future options.

Speaker

Katie Spoon

Postdoc | Stanford University

Classroom Culture: Understanding the Factors Shaping Adolescent Status Hierarchy

2:40 PM – 3:00 PM

GENDER AND SOCIAL NETWORKS SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82827168975?pwd=BOO9swj3qAnQK5Fq6bzaBPvT20ZaxR.1

Meeting ID: 828 2716 8975
Passcode: 178364

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESNTATION:

Adolescent status hierarchies shape social influence and access to school-based resources. This study conceptualizes peer admiration as a form of symbolic capital, where traits such as academic achievement, prosocial behavior, and leadership gain value through peer recognition and we analyze how admiration ties structure classroom hierarchy. Using longitudinal survey data from 20 high school classes in Taiwan during the 2021–2022 academic year, we construct directed admiration networks and operationalize status with weighted PageRank; hierarchical linear models and dyadic analyses then test which individual and alter attributes predict centrality and whether homophily structures admiration ties. Admiration-based centrality is concentrated among academically stronger and prosocial (“kind”) students; parental education and frequent teacher interaction also predict higher admiration-based centrality. Although gender homophily is common, admiration received primarily from same-gender peers are negatively associated with admiration- based centrality, whereas grade homophily is not significant. The findings highlight the complex dynamics of adolescent peer hierarchy based on admiration networks. By illuminating how symbolic capital and peer similarity interact within school networks, this study provides insights for educators and policymakers seeking to foster more inclusive and supportive classroom environments.

Speaker

Man-Lin Chen

Doctoral Student | Department of Sociology, University of Washington

Co-speaker

Hsuan-Wei Lee

Assistant Professor | College of Health, Lehigh University, USA

Words and Networks

1:40 PM – 2:20 PM | Location: Coquina G

ORGANIZED SESSION

This session focuses on cutting-edge research at the intersection of text analysis (including discourse analysis, content analysis, text mining, and natural language processing) and network analysis/network science. Work presented in this session explores the study of word networks, socio-semantic networks, and the representation of text-based information as graphs (e.g., knowledge graphs), along with the extraction of network data from text. Research on "Words and Networks" has resulted in prominent studies on topics such as language change, recommender systems, collaborative innovation, semantic computing, and the diffusion of (mis)information in both online and offline environments.

A growing field of interest is the role of artificial intelligence and large language models in understanding social interactions. These models are advancing research on language patterns and behaviors within networks, as well as their implications for social structures and interactions. Another key area is organizational communication, where improved insights into the impact of language within and across organizations have led to actions that enhance employee engagement and client relationships. In the domains of marketing and branding, the application of text mining and network analysis has transformed the understanding of consumer behavior, leading to more targeted communication strategies based on the use of words, ideas, and narratives as networked entities. Additionally, the integration of text mining and network analysis has proven valuable in identifying and connecting social agents, fostering community development, and studying social movements.
We invite abstract submissions that contribute to the integration of text analysis, network analysis, and AI, particularly those exploring new methods, applications, or theoretical approaches. Both basic and applied studies are encouraged.

IN-PERSON

Authors

Andrea Fronzetti Colladon (Roma Tre University), Jana Diesner (Technical University of Munich), Peter Gloor (MIT), Roberto Vestrelli (University of Perugia), Francesca Greco

A Network Analysis of Open-Source Research Software from the OpenDORS Dataset

1:40 PM – 2:00 PM

WORDS AND NETWORKS

The prevalence of open-source research software (OSRS) is rapidly growing. By leveraging OSRS curated by specific research communities, users promote greater transparency, better reproducibility, and less duplication of effort. While numerous methodologies exist for linking research publications to related work, it remains difficult for researchers to find OSRS relevant to their specific field. This negatively impacts developers, who suffer from reduced visibility of their work, and users, who may not encounter existing tools. Therefore, there is a need for improved analysis and tooling geared towards discovering OSRS in published literature.

We propose an analysis of the recently published OpenDORS dataset. First, a citation network will be developed to model explicit relationships between OSRS users and developers in published literature. Next, a semantic network will be created to model underlying associations between OSRS publications to identify potential research topic and/or methodology overlap. Finally, these networks will be compared to identify the degree of overlap between explicit and semantic article relationships.

This work will contribute to our understanding of OSRS by 1) identifying potential overlap in OSRS use and development within and across domains, and 2) highlighting avenues for future work and collaboration with a focus on OSRS. The results of this analysis will enable future work developing methodologies and tools for OSRS discovery.

Speaker

Andrew Shahidehpour

Data Scientist | Accenture Federal Services

Authors

Heather Patsolic (Accenture Federal Services)

Characterizing the Usage of Published Pharmacokinetic Data: A Network Analysis

2:00 PM – 2:20 PM

WORDS AND NETWORKS

There is growing interest in the open-source hosting and retrieval of published research. Various initiatives exist to extract, store, and disseminate these results from published literature. Significant effort has focused specifically on pharmacokinetic (PK) parameters that describe the dynamics of drugs after administration. This has the potential to accelerate and democratize pharmaceutical research. However, less attention has been devoted to categorizing the actual usage of these PK data repositories. A comprehensive quantitative analysis of PK data usage will highlight existing and potential opportunities for further research leveraging these curated data sources.

We propose a citation network analysis of the PKPDAI database to characterize the downstream usage of published PK parameters. First, a representative sample of articles will be selected from the PKPDAI database based on their citation counts. Next, a hybrid rule-based and LLM pipeline will be developed to label the topic of the citing papers. Finally, a citation network will be constructed to model the relationships between the original PK information and subsequent applications.

This analysis will quantify the dissemination and usage of published PK data, laying the groundwork for developing context-aware search tools to accelerate PK research.

Speaker

Andrew Shahidehpour

Data Scientist | Accenture Federal Services

Social Capital

2:20 PM – 3:00 PM | Location: Coquina G

SESSION

IN-PERSON

The Impact of University Social Networks on Engineering Degree Persistence: A Survival Analysis Approach

2:20 PM – 2:40 PM

SOCIAL CAPITAL AND SOCIAL INEQUALITY

Institutional retention strategies often overlook the role of social networks in shaping student success and persistence. Using Cox proportional hazards modeling, this study examines how two forms of egocentric social networks influence undergraduate engineering persistence over time. We distinguish between entry social networks (comprised of pre-college connections) and pipeline social networks (those developed through university engagement).

The sample includes 1,663 cases across five longitudinal surveys of first-year engineering cohorts in 2014 at 11 universities. Position generator instruments captured access to influential relationships. Over time, risk of degree program departure was significantly attenuated by financial stability, higher GPA, and larger pipeline social networks. In addition, demographically homophilous network relationships further reduced departure hazard. While entry social networks showed marginal or group-specific effects, findings show that pipeline social networks function as the primary mechanism supporting degree persistence.

The results highlight the importance of network structure and composition in shaping degree completion trajectories. By identifying specific network-based mechanisms associated with persistence, this study provides a data-driven roadmap for institutions to develop targeted interventions that strengthen students' university-based social integration, increase retention, and stabilize the STEM workforce.

Speaker

Yiwen Zha

Social & Behavioral Researcher/Lab Manager | University of South Florida

Authors

John Skvoretz (University of South Florida), Glasdis Kersaint (University of Connecticut), Hesborn Wao (African Population and Health Research Center), Ellen Puccia (Beta Research Associates), Chrystal Smith (University of South Florida), Rebecca Campbell-Montalvo (University of South Florida)

Trust & Community Ties in Action: A Misdelivered Mail Experiment

2:40 PM – 3:00 PM

SOCIAL CAPITAL AND SOCIAL INEQUALITY

Despite the broad geographic reach of contemporary social networks, neighborhoods remain unique in how they anchor social lives and shape health and well-being—social support and social activity still have a local base. Yet there exists relatively little nationally representative data on actual interactions between neighbors in communities. In the Misdelivered Mail Experiment, we conduct a nationally representative field study that observes trustworthy and supportive behavior between neighbors to better understand the social fabric of US communities. We measure the availability of potentially activatable ties in a community by misdirecting an envelope to a neighbor and following up with a survey to find out if the intended recipient eventually received it. In this way, we capture ties that are anchored in real-world behavior—neighbors' propensity to return misdelivered mail. The experiment prompts the activation of potential ties: our main outcome (the return of the misdelivered envelope) does not depend on whether people have had the opportunity to interact with or give/receive support from neighbors in the past. Because the demographic characteristics of mail recipients and their community are known to us, our study allows us to investigate the individual and contextual predictors of social cohesion and community life in US neighborhoods, thus reflecting the core relational properties of social cohesion and social capital.

Speaker

Diana Sandoval Siman

Ph.D. Candidate | University of Chicago

Co-speaker

Linda Zhao

Assistant Professor of Sociology | University of Chicago

Tools and Data for Social Network Analysis

2:20 PM – 3:00 PM | Location: Coquina C

ORGANIZED SESSION

The advancement of computing, software tools, and data has been an important driver of progress in the Social Network Analysis field. Professional software development has gained popularity among scientists and has served as a way to improve the quality of tooling in the field. These tools have enabled researchers to model and analyze complex social structures more accurately, uncover hidden patterns in large datasets, and visualize network data intuitively. They also facilitate replication studies, help teach the next generation of social networks researchers, and, in general, empower researchers to tackle larger datasets and more sophisticated questions, advancing both theoretical and applied research in SNA.

This session aims to provide a space to present and feature existing and novel SNA-oriented tools, best practices for data sharing (such as data repositories), and datasets that may be relevant to the field. The discussion will be oriented towards short demos, sharing development experiences, case study applications, and the introduction of publicly available SNA software, datasets, and other resources.

IN-PERSON

Corresponding Organizer

George Vega Yon

Research Associate Professor, Epidemiology | University of Utah

Organizers

David Schoch

Pavel N. Krivitsky

Senior Lecturer in Statistics | University of New South Wales

Authors

James Hollway (Geneva Graduate Institute), Frank Takes

Modelling Household Structure in Social Networks

2:20 PM – 2:40 PM

TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Relationships often influence how people accumulate and maintain wealth. Consequently, social and economic networks capture aggregated notions of interconnected welfare. Data on these networks are primarily collected by querying individuals on their ties to other individuals. However, relationships that affect wealth often involve aggregates of individuals because resources are commonly shared among household members. We offer new statistical methodology that bridges the gap between individual level network data and the reality of wealth dynamics.

Speaker

Justin Weltz

Postdoctoral Fellow | Santa Fe Institute

Robust Empirical Research and Structural Holes

2:40 PM – 3:00 PM

TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Recent advances establish that Burt's opaque and misunderstood constraint index does not reliably support structural holes theory. Decomposing constraint and evaluating its components' covariance structure reveal that constraint's purely dyadic components determine its variance. Contrary to common beliefs, constraint's empirical meaning is a function of purely dyadic properties, not structure or brokerage or closure.

To facilitate both the reinterpretation of published research and robust future brokerage future, we created a web app through which researchers can upload network datasets to understand constraint's meaning in their data. For nodes in supplied graphs, the web app returns constraint's seven dyadic, triadic, and quadratic terms. The tool converts a user-provided edgelist into a Python networkx object used for constraint decomposition. The web app also provides constraint's covariance structure. The tool consists of a Python back-end https://github.com/jchandlerj/generalConstraintDecomp with a public web app UI: https://bam.bi.no/decomposeConstraint/.

Researchers can use the covariance structure to understand constraint's empirical meaning, and they can use the decomposed terms to explore distinct network properties otherwise buried in constraint. Using common "toy" graphs, including Burt's recurring sample, the session will demonstrate the tool's use and interpret the tool's output.

Speaker

Amir Sasson

Professor | BI Norwegian Business School

Co-speaker

John Chandler Johnson

Associate Professor | BI Norwegian Business School

Current Trends in Socio-Semantic Network Analysis

2:40 PM – 3:00 PM | Location: Coquina B

SESSION

IN-PERSON

Extracting and Representing Narrative Networks from News Media

2:40 PM – 3:00 PM

CURRENT TRENDS IN SOCIO-SEMANTIC NETWORK ANALYSIS

GRAPH ANALYTICS FOR GOVERNMENT APPLICATIONS

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

In the modern information landscape, narratives evolve faster than consumers can process. As a result, many consumers decrease their engagement with news media, by reducing the diversity of their sources or their analysis of the content, or both. This paper explores methods of reducing the cognitive load of analyzing news media, while improving the consumers' mental model of the information environment.

Existing automated knowledge systems (KS) leverage *ontologies*, or pre-generated structures, to extract and represent objective truths from unstructured text. We hypothesize that these approaches will struggle to represent narratives, which present subjective truth and cannot be easily represented by an ontology.

In this paper, we present a novel, bottom-up narrative KS that extracts subjective truths from news media. We compare it against a 1) top-down objective-fact KS and 2) a manually created narrative KS. The objective KS collapsed conflicting statements into single representations presented as the single true fact, interfering with narrative analysis. It also did not represent attitudes about the narratives. In contrast, the narrative KS represented much more information about fine-grained actions but also contained greater noise. Both systems operated significantly faster than manual analysis but resulted in less tailored output. We conclude that narrative analysis requires specialized KSs that represent and operate on fine-grained linguistic information.

Speaker

Julia Mertens

Lead Scientist | Boston Fusion

Coffee Break

3:00 PM – 3:20 PM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments!

Break Menu

- Seasonal whole fruit
- Assorted cookies
- Freshly brewed regular and decaffeinated coffee
- Iced tea

Freeman Keynote Presentation

3:30 PM – 5:00 PM | Location: Coquina DE

KEYNOTE

Speaker

Zsófia Boda

Associate Professor | University of Essex

Hospitality Suite Open

8:00 PM – 11:00 PM | Location: Hospitality Suite

Thursday, June 25, 2026

Registration/Check-in

7:00 AM – 5:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

7:00 AM – 8:00 AM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Start your day in Coquina DE with a tasty breakfast buffet and networking with fellow attendees!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
- Vegetable quiche with tomato, spinach, and cheese
- Scrambled eggs
- Hickory-smoked bacon
- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Advanced Mathematical and Statistical Network Methodology

8:00 AM – 10:00 AM | Location: Coquina A

ORGANIZED SESSION

In recent years, the field of statistical network analysis has seen the rapid development of new statistical methodologies designed to better address the complexities in social network applications. This session will bring together experts in statistical network analysis to present recent statistical models and tools for producing rigorous insights from network data. The talks in this session will be beneficial to a wide range of researchers, including scientists who utilize these methods, as well as those who develop and research them. A special emphasis will be given to applications in the social and life sciences.

IN-PERSON

Corresponding Organizer

Jonathan Stewart

Associate Professor | Florida State University

Authors

Joshua Loyal (Florida State University)

Multivariate Auto-Logistic Actor Attribute Models Mark II: Accounting for Actor Effects and Model Selection

8:00 AM – 8:20 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY SOCIAL INFLUENCE

The multivariate Auto-Logistic Actor Attribute model (ALAAM), generalises the univariate ALAAM that models dichotomous monadic variables conditional on a network, assumed to be fixed. The multivariate ALAAM achieves this by representing actors' binary outcome vectors through the now familiar actor-to-variable, two-mode representation. The multivariate ALAAM can be seen to have, as special cases, the independent outcomes, product ALAAM, as well as the traditional graphical model for contingency tables. The multivariate ALAAM enables inferring "differential contagion" effects, i.e. different strength "social influence" for different variables, through different homogenitiy assumptions on the set of model statistics. Here we explore different types of heterogeneities, in particular specifications contingent on assumptions of exogeneity of different sets of variables. We illustrate how to estimate models under different specifications and provide some preliminary attempts at testing assumptions.

Speaker

Johan Koskinen

Lecturer in Statistics | Stockholm University

Co-speakers

Peng Wang

Associate Professor of Innovation Studies | Swinburne University of Technology

Neelam Jain

Postdoctoral Researcher | Columbia Business School

Jonathan Januar

jonathan.januar@unimelb.edu.au | University of Melbourne

Noshir Contractor

Professor | Northwestern University

Regression under interference in connected populations

8:20 AM – 8:40 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

To understand how the interconnected and interdependent world of the twenty-first century operates and make model-based predictions, joint probability models for networks and interdependent outcomes are needed. We propose a comprehensive regression framework for networks and interdependent outcomes with multiple advantages, including interpretability, scalability, and provable theoretical guarantees. The regression framework can be used for studying relationships among attributes of connected units and captures complex dependencies among connections and attributes, while retaining the virtues of linear regression, logistic regression, and other regression models by being interpretable and widely applicable. On the computational side, we show that the regression framework is amenable to scalable statistical computing based on convex optimization of pseudo-likelihoods using minorization-maximization methods. On the theoretical side, we establish convergence rates for pseudo-likelihood estimators based on a single observation of dependent connections and attributes. We demonstrate the regression framework using simulations and an application to hate speech on the social media platform X.

Speaker

Michael Schweinberger

Professor of Statistics | The Pennsylvania State University

Semi-parametric ERGMs via Random Feature Methods

8:40 AM – 9:00 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

RECENT ADVANCES IN STAT. ANALYSIS & MATH. MODELING LARGE-SCALE NETWORK DATA

TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

While ERGMs are normally specified as parametric models, semi-parametric specifications that

allow for flexible estimation of covariate and/or dependence effects are possible. We propose to use kernel methods to construct semi-parametric ERGMs by means of random features based on the function space of the arc-cosine kernel. Arc-cosine kernels bring many advantages to ERGMs; including minimal hyper-parameter tuning for complex functions and stable random feature implementations through having known and easily simulated random feature representations. Additionally, they emulate the behaviour of a single layer, wide neural network with rectified polynomial activation functions, with the ability to be “stacked” to emulate deep multi-layer architectures.

We will consider “building block” statistics based on both continuous and discrete edgewise & nodewise covariates, and group mixing terms, allowing for flexible functions involving individual, dyadic, or group features. The random feature projection is implemented separately from model estimation, allowing the method to be used with any ERGM estimation function that supports regularized inference.

To perform such inference on this class of models we use a combination of pseudo-cross validation as well as regularised MCMC-MLE. Once fitted, models can be simulated/assessed using standard ERGM MCMC techniques. This method will be demonstrated with an application to social networks with non-linear covariate effects.

Speaker

Frances Beresford

Graduate Student | University of California, Irvine

Co-speaker

Carter Butts

Chancellor's Professor | University of California - Irvine

Modelling Rank-Order Networks when the Ordering is Partially Observed

9:00 AM – 9:20 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

SAMPLED AND MISSING NETWORK DATA

Rank-order relational data, rather than recording presence or absence (or magnitude) of relationships of interest, records an ordering by each actor ("ego") in the network of the other actors or of events ("alters") according to a criterion of interest. Such data are sometimes collected explicitly, such as by Newcomb (1961), but often implicitly, such as for fixed-rank nominations (i.e., "list your 5 best friends"), with some designs observing the ranking of those nominated (including the (in)famous data of Sampson, 1969) and others not.

Krivitsky and Butts (2017) developed an exponential-family model specification for ordinal networks, under the assumption that a complete ordering by every ego of every alter exists. However, their approach is only computationally feasible for networks of modest size and only applicable when the ranking is completely observed.

In this work, we consider the scenario in which a complete ordering is assumed to exist but is only partially observed, and derive and implement likelihood estimation and inference in this scenario. We also propose improvements to computational scalability of these models, enabling them to be used on larger networks. We show that this methodology can closely approximate results of completely observed orderings based on only a subset, and apply it to common ordinal datasets from the literature.

Speaker

Pavel N. Krivitsky

Senior Lecturer in Statistics | University of New South Wales

Co-speaker

Patrick Liang

Honours Student | University of New South Wales

Aggregated Relational Data for Cognitive Social Structures

9:20 AM – 9:40 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY NETWORKS AND CULTURE

RECENT ADVANCES IN STAT. ANALYSIS & MATH. MODELING LARGE-SCALE NETWORK DATA

SAMPLED AND MISSING NETWORK DATA

Cognitive social structures (CSSs) capture individuals' perceptions of the relationships between other people in their community. However, collecting CSSs necessitates the arduous task of conducting a complete survey. In this work, we discuss a possible approach for circumventing a complete survey by extending the method of collecting aggregated relational data (ARD)—which consists of asking respondents to estimate the number of connections they have to people with a particular trait—to the setting where we aim to collect multiple perceptions of relationships across given traits. Considering data collection in this way enables CSS data collection of larger populations and allows for the flexibility to collect CSSs of acquaintances, hard-to-reach populations, or of a general population. Furthermore, if the purpose of collecting a perceptual network is not to identify particular discrepancies across perceptions, but rather to identify latent structure in how people are assuming and perceiving connections within their social network, collecting data in this way has potential to invoke these assumptions and schema much more concretely than by asking about relationships in specific. In this talk we discuss two approaches for extending ARD to collect perceived networks of both closed communities and of a general population. We present preliminary findings of how people in the United States perceive the social networks of others.

Speaker

Izabel Aguiar

Omidyar Postdoctoral Fellow | Santa Fe Institute

Authors

Tyler McCormick (University of Washington)

A Meta-Structure for Validation and Analysis of Generative AI Simulated Networks

9:40 AM – 10:00 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

AGENT-BASED MODELING AND SOCIAL NETWORKS MODELING NETWORK DYNAMICS

Generative AI has been recently used for simulating and analyzing social networks. LLMs, due to their nature, are known for sometimes drifting and hallucinating, so ties might be created (false positives) or omitted (false negatives). Validation is then important to ensure that in the case of using Generative AI tools, the artificial/simulated network acts as intended and, thus, its analysis is sound.

In this talk, different prompts are compared in several LLMs and diverse networks are simulated via their mathematical representations, analogies and using natural language. Then, a meta-structure is presented for validating that the underlying network is preserved where needed or varies appropriately.

Speaker

Nicolas Bolivar

Assistant Professor | UNIVERSIDAD ANTONIO NARIÑO

Negative Ties and Signed Graphs

8:00 AM – 8:40 AM | Location: Coquina B

SESSION

IN-PERSON

The Other Side of Support: Structural and Dyadic Predictors of Difficult Ties Among Black Men with Type 2 Diabetes

8:00 AM – 8:20 AM

NEGATIVE TIES AND SIGNED GRAPHS

Background: Black men in the U.S. are disproportionately affected by Type 2 Diabetes (T2D). While positive social support is well-studied, "difficult ties" (negative social exchanges) remain under-examined despite their strong influence on health outcomes. This study investigates structural and dyadic predictors of difficult ties within the networks of Black men with T2D.

Methods: We analyzed cross-sectional egocentric network data from 1,181 Black men with T2D (collected Feb–April 2024). Participants identified alters providing support or making T2D management difficult, yielding 6,899 alters. A random-intercept Generalized Linear Mixed Model predicted the probability of a tie being perceived as difficult ($p<.05$).

Results: Higher ego-level depression, anxiety, and stress significantly increased the likelihood of reporting difficult ties (OR=1.11), while older age was protective (OR = 0.91). Dyadic emotional closeness (OR=0.44) and shared illness experience (OR=0.73) significantly reduced difficulty. Healthcare providers were the least likely to be difficult (OR=0.41), whereas peripheral ties (e.g., neighbors) posed higher risks than kin (OR=1.81).

Conclusion: Findings highlight the interplay between psychological distress and network structure. While depression amplifies negative perceptions, emotional closeness and shared illness experience serve as buffers. Interventions should target managing peripheral negativity and leveraging illness-concordant peer connections.

Speaker

Meg Patterson

Associate Professor | Texas A&M University

Co-speakers

Alaina Barney

MPH Student | Texas A&M University

J

Jeong-Hui Park

Texas A&M University

Ledric Sherman

Associate Professor; School of Public Health; Department of Health Behavior | Texas A&M University

M

Matthew Lee Smith

Texas A&M University

Tyler Prochnow

Texas A&M University

SOCIAL LIQUIDITY THEORY: KEEPING YOUR POWDER DRY

8:20 AM – 8:40 AM

NEGATIVE TIES AND SIGNED GRAPHS SOCIAL CAPITAL AND SOCIAL INEQUALITY

Recent methodological advances in measuring network transitivity and balance through correlation-based approaches (Dekker et al., 2019; 2024) demonstrate that when **neutral ties** are included alongside positive and negative relations, different triadic configurations systematically promote or suppress specific tie types. The <z.pp> configuration (neutrality embedded in mutual alliances) shows strong negative correlations, while <z.zp> (neutrality at boundaries) shows positive correlations. However, these empirical regularities lack a unified theoretical framework explaining why certain configurations produce these patterns.

We introduce Social Liquidity (SL) theory, which conceptualizes neutrality as a strategic resource that accumulates through consistent non-engagement and can be deployed for arbitration. The theory describes three forms of this capital: *optionality* (flexibility to form future alliances), *credibility* (perceived impartiality), and *bridging potential* (connecting disconnected groups). These become convertible through a deference mechanism, whereby other actors consult neutrals to resolve disputes.

SL theory also explains how arbitrators emerge endogenously from network structures without requiring external institutional enforcement. Social Liquidity theory transforms neutrality from a residual category into a theoretically grounded strategic resource with predictable accumulation patterns and systematic effects on network structure and stability.

Speaker

D **David Dekker**

Research Fellow | Heriot-Watt University Edinburgh Business School

Authors

David Krackhardt (Carnegie Mellon University), Patrick Doreian (University of Pittsburgh and University of Ljubljana)

Organizational Networks

8:00 AM – 8:40 AM | Location: Coquina C

ORGANIZED SESSION

The networked nature of organizations creates a complex ecosystem where individuals, groups, units, and other organizations are entangled. Such an entanglement shapes organizations in a dynamic way and affects their outcomes at multiple levels. This session aims to bring together studies on organizational networks addressing antecedents, dynamics, cross-level processes, and outcomes.

Submissions can refer, but are not limited, to the following areas of research:

– Micro-foundations of organizational networks: How individual characteristics and cognitions affect the emergence of network structures and how these network structures affect individuals.

– Dynamics of organizational networks: How network structures at various levels co-evolve and affect one another, as well as organizational processes and outcomes.

– Time-dependence in organizational networks: How organizational networks at various levels change at different paces over time.

– Overlap and interplay between social and other kinds of networks within and across organizational settings: How organizational networks are affected by the affiliation of individuals, or organizations to events or contexts.

– Organizational networks and the future of work: How new technologies (e.g., digital platforms, Artificial Intelligence, Virtual Reality) and new forms of organizing (e.g., distributed, boundaryless, and hybrid organizations) shape, support or hinder organizational networks.

We welcome both theoretical and empirical contributions addressing various aspects and implications of organizational networks research.

IN-PERSON

Authors

Francesca Pallotti (University of Exeter Business School), Spyros Angelopoulos (Durham University Business School), Olaf Rank (University of Freiburg), Paola Zappa (UCL)

FIRE-Net: Firefighter's Information and Resource Networks

8:00 AM – 8:20 AM

ORGANIZATIONAL NETWORKS

Firefighters (FF) work within dense social networks reinforced by strong house camaraderie. This cohesion can normalize health protective and risk factors. Despite this, limited formal social network analysis has examined these dynamics. FIRE-Net investigated the structure and dynamics of information sharing within a fire department.

Sixty FF completed a 30-minute questionnaire. Sociocentric analyses and visualizations were conducted in R. Analyses assessed characteristics associated with information sharing, frequency of health talks, and support of health practices. Dyadic characteristics included perceived trust/credibility and advice seeking/sharing. ERGMs were estimated to identify structural predictors (e.g., house, position, and rank) of trusted information ties.

Three FF were excluded due to missingness. House-D (n=3) was removed due to insufficient size, yielding A (n=27), B (n=17), and C (n=10). Density was low (.14, .13, .06), reciprocity minimal (A:10%, B:4%, C:0%), and transitivity moderate in A (.47) and B (.43) but absent in C. Degree centralization was .44 across houses. ERGMs showed same-house membership (β=.91, $p<.001$), higher rank as receiver (β=.31, $p<.001$), same rank (β=.33, $p<.05$), and age similarity (β=−.02, $p<.01$) predicted trusted health information ties.

Despite strong cohesion, health communication ties were sparse and largely unidirectional, suggesting rank- and age-matched peers could expand department-wide communication.

Speaker

Edda Rodriguez

Assistant Research Professor | University of Miami Miller School of Medicine

Co-speakers

Ariana L. Johnson

Assistant Professor | University of Miami Miller School of Medicine

J

Juan Sebastian Castillo Perez

Florida International University

Authors

Lacey Despres (University of Miami Miller School of Medicine), Maria Antonina Khalona (University of Miami Miller School of Medicine), Yesenia Rosas (University of Miami Miller School of Medicine), Alberto Caban-Martinez (University of Miami Miller School of Medicine), Mariano Kanamori (University of Miami)

Outsider Accountability: Comparing PON participant versus non-participant perceptions of impact

8:20 AM – 8:40 AM

ORGANIZATIONAL NETWORKS

Accountability in public serving networks has received increasing scholarly attention. These networks must navigate formal and informal accountability, as well as vertical and horizontal forms that can create tensions for participants. While formal accountability emphasizes vertical relationships with external stakeholders, research on informal and horizontal accountability has largely focused on those participating in the collaboration. Yet in many service delivery networks, only a subset of providers formally participates. How nonparticipating providers perceive network performance may shape the network's external legitimacy. Accordingly, we ask: (1) Do "outside" providers evaluate network impact differently than participants? (2) How do relational embeddedness and participation in other regional networks influence these perceptions?

We examine insider and outsider perceptions of performance in two purpose-oriented networks (PONs) serving the same region. PONs are bounded, formal networks organized around a shared purpose. Our cases include a child education and development network and a health and well-being network in southwest Virginia. Using survey data measuring system impact and interorganizational relationships, we compare outsider and insider evaluations and assess whether ties to participants or involvement in the other PON shape outsider perceptions. We discuss implications for understanding horizontal accountability beyond formal network boundaries.

Speaker

Huishan Yang

Assistant Professor | Valdosta State University

Co-speaker

R

Robin Lemaire

Associate Professor | Louisiana State University

Authors

Lauren McKeague (University of Montana)

Community-Based Participatory Research Approaches in SNA

8:00 AM – 8:40 AM | Location: Coquina F

SESSION

IN-PERSON

Socio-semantic network analysis of stakeholder engagement in food and nutrition insecurity interventions

8:00 AM – 8:20 AM

COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES IN SNA

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS

CURRENT TRENDS IN SOCIO-SEMANTIC NETWORK ANALYSIS

Addressing food and nutrition insecurity requires coordinated action among cross-sector stakeholders. Coordination in the food system depends not only on relationships among stakeholders but also on how they engage with system components. Conventional network approaches struggle to represent these social and semantic dimensions, particularly when concepts are nested within broader themes. This study advances a socio-semantic representation as a nested semantic hypergraph, with concepts grouped into topics and linked to stakeholders through social ties. We illustrate this framework using data from a group model-building workshop involving 13 Los Angeles stakeholders who collaboratively developed a causal loop diagram (CLD) of local drivers of food insecurity. The CLD comprised 69 concepts organized into ten topics, alongside stakeholder collaboration relationships measured through post-workshop surveys. A two-layer participant–concept network was analyzed to identify cross-layer configurations capturing dependencies between social structure and semantic engagement. Multiple socio-semantic configurations were observed, including alignment between stakeholder positions and engagement with prominent system concepts(e.g., government and community- based organization actors engaging distinct thematic areas; individuals and dyads engaging in distinct thematic areas). These patterns highlight how stakeholder ties and concept engagement jointly shape shared understanding.

Speaker

Natasha Wasim

PhD Candidate | University of Southern California, Population and Public Health Sciences

Authors

Kayla de la Haye (University of California, Los Angeles)

Social Influences on Animal-Based Food Intake: When Evidence meets Experience

8:20 AM – 8:40 AM

COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES IN SNA | NETWORKS & SUSTAINABILITY | QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS | SOCIAL INFLUENCE

Diets high in meat and other animal-based products are recognized as both unhealthy and environmentally unsustainable. Promoting reductions of animal-based food intake in the formative years of young adulthood is thus critical. While social influence is increasingly recognized as a key determinant of what youth eat in general, an overview of the social factors affecting the intake of animal-based products, specifically, is missing. Therefore, we combine a scoping review and a focus group study to unravel *what is known* to date and *what is experienced* by youth (16-25 years) on the phenomenon of social influence on animal-based food intake. Preliminary results show that there is a large breadth of existing evidence, indicating a wealth of studied social influence mechanisms (e.g., social norms, modeling, social support) and used methodologies (e.g., interviews, experiments, cross-sectional surveys). Our focus group insights provide in-depth, contextualized insights from youth themselves, capturing lived experiences, meanings, and marginalized perceptions that may have not been well represented in published research (e.g., the role of social media, siblings, and grandparents; and the large context-dependency of social influence). By integrating existing evidence with youths' lived experiences, this work identifies key social influence mechanisms and research gaps that can inform the development of socially grounded ways to study animal-based food consumption among young adults.

Speaker

Nina van den Broek

Postdoctoral researcher | Behavioural Science Institute, Radboud University

Co-speaker

Rosaly Severijns

Postdoctoral researcher | Behavioural Economics and Engineering, KU Leuven; Environmental Economics, Hasselt University

Virtual Presentations

8:00 AM – 10:00 AM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON | VIRTUAL

Social Contagion of Mental Disorders Among Youth: Mechanisms and Trends

8:00 AM – 8:20 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS SOCIAL INFLUENCE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Social contagion is increasingly discussed as one potential framework for understanding the rising burden of mental disorders among young people over recent decades. The concept refers to processes through which emotions, behaviors, and psychiatric symptoms may spread within social networks, influenced by interpersonal interactions, institutional contexts, and broader cultural narratives. Theoretical approaches to social contagion in mental health draw on social learning, labeling theory, and network diffusion models to explain how distress and psychopathology can cluster and intensify among youth populations.

The prevalence inflation hypothesis has been proposed to account for one part of the rising prevalence of mental health problems among young people. I will present the main arguments, recent empirical examples and some of the key historical patterns central to this theory. I will specifically focus on current research attempts to understand to what extent the increase in reported mental disorders over the past 15 years might reflect processes related to social contagion, looping effects, self-fulfilling prophecies, and concept creep. I will focus especially on the role of mental health awareness campaigns and public discourse in shaping how young people themselves experience, interpret and report psychological distress. I will discuss some of these dynamics particularly in relation to Tourette syndrome, ADHD, autism spectrum conditions, and eating disorders.

Speaker

Minea Rutar

Research assisstant | University of Maribor

The role of social network political ideology in threat response

8:20 AM – 8:40 AM

SOCIAL INFLUENCE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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ABOUT THIS PRESENTATION:

The present study examined the role of alter political ideology in the relationship between ego political ideology and threat perception. We tested competing hypotheses—1) that alter ideology matters more for conservatives (asymmetry) or 2) that the interrelationships between ego ideology, alter ideology, and threat depend on context (context affordance). For Study 1, in the COVID-19 context, we predicted that alter ideology would matter for conservatives. For Study 2, in the context of U.S. policing, we predicted that alter ideology would matter for liberals. In Study 1, 1,149 participants from ResearchMatch.org provided their politics, COVID-19 threat perceptions, behaviors, and political ideology for 15 listed alters. Alter ideology, the average ideology across the 15 alters, related to threat perception and face-masking among conservatives, but not liberals. The more liberal a conservative's alters were, the more they perceived COVID threat and masked. In Study 2, 1,098 Prolific.com participants completed similar measures to Study 1, but in the policing context. Alter ideology related to crime threat perception and police support for liberals and conservatives. Having more conservative alters related to more perceived crime threat and police support than having more liberal alters. The studies support the context affordance hypothesis and challenge the notion that conservatives are more threat sensitive than liberals.

Speaker

Joy Losee
Associate Professor | University of Dayton

Authors

Fade Eadeh (Seattle University)

From Social Network Analysis to Complex Social Structure Analysis: The Paradigm of Typed Acyclic Nested Sets

8:40 AM – 9:00 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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ABOUT THIS PRESENTATION:

This paper introduces a new way of formalising social structure, a way that generalises and extends network analysis to incorporate macro-scale social-structural dynamics traditionally analysed using randomly sampled observations. **Typed Acyclic Nested Sets (TANS)** represent society and its subsystems as complex structures combining various first-order relations at different social levels and layers, interconnected via higher-order relations that can nest, co-nest, and cross-nest multiple first-order relations within one another, acyclically across levels, or not nest them at all. Simultaneously with regular network dependencies, TANS framework enables explicit distinction between bottom-up emergence of higher-level relations and top-down feedback on lower-level relations, as implied by grand social theories. The framework thus provides a simultaneous account of micro- and macro-scale social structures as well as connections between them as concrete relations, generalising social network analysis to ***complex social structure analysis*** capable of covering all relevant forms of structural interdependence in society, not limited by the structural framework. It also allows conceptualising new mechanisms that involve various forms of acyclic nesting and non-nesting across two or more levels at a time, which is impossible within existing frameworks. TANS can be implemented by extending state-of-the-art statistical modelling approaches, such as ERGMs and RHEMs.

Speaker

Nikita Basov

Senior Lecturer in Network Analysis, Department of Social Statistics | University of Manchester

Authors

Philip Leifeld (University of Manchester), Jürgen Lerner (University of Konstanz)

Network Mechanisms of Sustainability Governance: Comparative Evidence from Uzbekistan and Kazakhstan

9:00 AM – 9:20 AM

NETWORKS & SUSTAINABILITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

Meeting ID: 859 5610 9825
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ABOUT THIS PRESENTATION:

This study examines how governance networks shape sustainability outcomes through a comparative analysis of tourism and natural-resource sectors in Uzbekistan and Kazakhstan. Drawing on personal network surveys (N=312 in Uzbekistan; N=284 in Kazakhstan), organizational collaboration matrices, and semantic networks of stakeholder narratives, the research identifies structural mechanisms that consistently influence governance performance across both countries. In Uzbekistan, sustainability initiatives in community-based tourism are constrained by brokerage concentration, with betweenness scores heavily clustered among a few local connectors. In Kazakhstan, natural-resource networks, particularly those linked to protected areas and regional tourism clusters, display high modularity, reflecting strong local cohesion but limited inter-sector coordination. Across both cases, semantic misalignment between governmental, community, and industry actors predicts delays in implementing sustainability actions.

By integrating measurable indicators - density, effective size, brokerage ratios, modularity, and semantic co-occurrence patterns - the study develops a transferable analytical model for diagnosing governance gaps. Although grounded in Central Asia, the mechanisms identified mirror relational dynamics observed globally in LMIC settings, providing generalizable insights for designing network-informed sustainability strategies.

Speaker

Deniza Alieva

Docent of School of Business and Management | Management Development Institute of Singapore in Tashkent

Clustering Ethical Discourse: Semantic Network Analysis of Global South and Global North AI Education Research

9:20 AM – 9:40 AM

CURRENT TRENDS IN SOCIO-SEMANTIC NETWORK ANALYSIS | SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Most ethical frameworks for AI in education have been developed in Global North contexts, reproducing well-documented asymmetries in whose values and priorities inform AI governance. This study examines how these asymmetries appear in academic discourse by analyzing how ethical dimensions are structurally combined in Global South and Global North AI-in-education research. We conducted a semantic network analysis of 54 peer-reviewed articles (2019–2025), classified by authors' institutional region (32 from the Global South and 22 from the Global North). Ten ethical dimensions and operational criteria from a contextual model for AI ethics in education are used as network nodes. For each regional subset, we construct undirected, weighted co-occurrence networks and characterize their structure using clustering coefficient, weighted degree, and betweenness centrality. Global North networks exhibit higher clustering and a dense cluster linking Evaluation, Transparency, Explainability, and Auditability, whereas Global South networks are organized around Inclusion and Plural Epistemology, whose connection is the strongest edge in the corpus. Overall, the results show how network topology can make visible epistemological structures embedded in AI-in-education discourse and indicate that ethical frameworks developed in one geopolitical context may not transfer straightforwardly to another, reinforcing the need for regionally grounded approaches to AI governance in education.

Speaker

Carlos Gomes
Education Director | Instituto Atlantico

Authors

Patricia Cavalcante (Pernambuco Federal University)

Globalisation and Network Analysis

8:40 AM – 9:00 AM | Location: Coquina B

SESSION

IN-PERSON

THE SILK ROAD PARADIGM: MODELING GLOBALIZATION'S RESILIENCE AND FRAGILITY

8:40 AM – 9:00 AM

GLOBALISATION AND NETWORK ANALYSIS | HISTORICAL NETWORKS | MODELING NETWORK DYNAMICS

The Silk Road—spanning East Asia, Central Asia, the Middle East, and Europe—represented one of history's earliest laboratories of globalization, enabling long-distance exchange of goods, technologies, ideas, and cultural practices. Conventional narratives portray gradual medieval decline driven by maritime alternatives, yet this obscures complex underlying dynamics. No single factor—commercial reorientation, geography, or technology—adequately explains the system's disintegration. Rather, the Silk Road underwent systemic rupture: a rapid, non-linear transition that transformed centuries of resilience, even as regional trade persisted. This rupture preceded the collapse of coordinated long-distance overland trade by over a century.

This historical case illuminates fundamental questions about resilience and fragility in large-scale interconnected systems. Contemporary supply chains face similar pressures—climate disruption, pandemics, geopolitical fragmentation, institutional erosion—that threaten to convert interdependence into cascading failure.

This study reconstructs the medieval Silk Road as a three-layer multiplex network—economic exchange, political-institutional security, and diasporic trust networks— across six snapshots (700–1500 CE). Through calibrated shock experiments, the analysis identifies conditions under which continent-scale coordination collapsed, yielding insights into when deep interconnection generates robustness and when it amplifies brittleness.

Speaker

Olga Shashkina

PhD Researcher & Graduate Research Assistant (Pathfinder Fellow) | University of Florida · Full-time

Authors

Gregory Kiker (University of Florida)

Spatial and Geographic Social Networks

8:40 AM – 9:00 AM | Location: Coquina C

SESSION

IN-PERSON

Does cancer type matter for care geography? A network analysis of chemotherapy patient flows in Brazil

8:40 AM – 9:00 AM

SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

Understanding whether regional cancer care geographies are shaped by tumor-specific pathways or shared hospital infrastructure is crucial for health planning, yet comparative analyses across cancer types are rare. This study applies SNA to intermunicipal chemotherapy flows for breast, prostate, lung, and colorectal cancers in Brazil, using Brazil's Unified Health System (SUS) data from 2023–2024. Each cancer type was modeled as a directed, weighted network linking municipalities of residence and treatment. In-degree and in-strength identified attraction poles and regional hubs, while the Leiden algorithm detected referral communities. Structural similarity across networks was assessed using the Adjusted Rand Index (ARI). Barretos and Salvador consistently emerge as the main hubs across all cancer types. However, attraction poles show some specialization: Barretos for lung cancer, Cascavel for colorectal, Recife for breast, and Salvador for prostate cancer. The Northeast shows high patient concentration in a limited number of municipalities, whereas the South and Southeast present more distributed patterns. High cross-network similarity (ARI 0.69–0.82) indicates that referral geographies are consistent across tumor types, implying that cancer care organization in Brazil is primarily shaped by existing hospital infrastructure and that improving access depends on strengthening and redistributing this infrastructure rather than on tumor-specific service reorganization.

Speaker

Bruna Fonseca

Researcher | Oswaldo Cruz Foundation - Fiocruz

Authors

Priscilla Albuquerque (Oswaldo Cruz Foundation), Lucas Felipe (Federal University of Rio de Janeiro)

Community-Engaged Social Network Analysis

8:40 AM – 9:00 AM | Location: Coquina F

SESSION

IN-PERSON

Mapping the Relational Ecology of Multi-Organizational Coalitions and Collaboratives: Considerations in the Conceptualization and Design of Social Network Analysis Studies

8:40 AM – 9:00 AM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS ORGANIZATIONAL NETWORKS

Coalitions and collaboratives are among the most common forms of community-level intervention across a wide variety of issues. Although social network analysis has produced useful insights for coalition theory and practice, the most common research designs tend to obscure much of the inherent complexity of coalitions and how they are interacting with their broader ecologies. This conceptual presentation will focus on two specific dimensions of complexity that are often overlooked in social network studies of coalitions: their multilevel structure and their embeddedness in larger community networks. We will argue that coalitions are inherently multilevel, comprising both interpersonal and interorganizational ties, yet research typically focuses on only one level. Additionally, standard "bounded" study designs often exclude influential ties to individuals and organizations not formally participating in the coalition. Drawing on research with 48 substance misuse prevention coalitions (SMPCs) in Tennessee, we illustrate the methodological dilemmas these complexities pose for SNA. We identify promising directions for future research, demonstrating how accounting for complexity enhances our understanding of coalition effectiveness. Finally, we discuss the practical tradeoffs and impediments inherent in these advanced research designs.

Speaker

Krista Haapanen

Assistant Professor of Community Psychology | University of Hawai'i at Mānoa

Co-speaker

Meg Patterson

Associate Professor | Texas A&M University

Authors

Brian Christens (Vanderbilt University)

Agent-Based Modeling and Social Networks

9:00 AM – 10:00 AM | Location: Coquina B

ORGANIZED SESSION

Bridging micro-level mechanisms and macro-social outcomes is pivotal to both Agent-Based Models (ABMs) and social network research. In recent years, a fruitful integration of the two fields has started. ABMs have been successfully applied for theoretical development around micro-level mechanisms and macro-social outcomes in relation to social networks, for the empirical testing of hypothetical causal mechanisms, and exploring counterfactual scenarios that are difficult to test empirically. As a flexible modelling technique, ABMs allow researchers to study the co-evolution of social networks and individual behavior by modelling different tie formation processes and the influence of networks on behavior. Moreover, ABMs allow modelers to incorporate assumptions about actors' decision-making processes that are cognitively and behaviorally grounded and assess the consequences of changes in those assumptions. Social network effects in an ABM can be calibrated with empirical data, which allows modelers to move beyond the use of abstract networks. In addition, ABMs can be used as a complementary tool to increase the generalizability of statistical analysis of network data. This session invites contributions in these directions, particularly those that attempt to explain macro-social outcomes or the evolution of relational patterns by individual actions and interactions constrained in dynamic social networks.

IN-PERSON

Organizers

Andreas Flache

Professor of Sociology | University of Groningen

Filip Agneessens

Senior Lecturer (Associate Professor) | The University of Manchester · Full-time

Authors

Federico Bianchi (University of Milan), Károly Takács (Institute for Analytical Sociology, Linköping University), Jennifer Badham (Durham University, United Kingdom)

Does Timing Matter? The Effects of Transmission Profile Shape on Epidemic Spread in Networks

9:00 AM – 9:20 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS MODELING NETWORK DYNAMICS

Scholars frequently study diffusion processes on networks to understand how system-level outcomes—such as epidemic size or information reach—depend on network structure, node-level traits, and contagion virulence. Most such models, including standard compartmental disease models and many agent-based diffusion models, assume that an infected node's probability of transmitting to a neighbor is constant over its infectious period. This assumption is often unrealistic. For example, some infectious diseases show transmission hazards that vary nonlinearly over the infectious period along with changes in viral shedding. In this paper, we show that allowing transmission hazards to vary by infection age can fundamentally change system-level diffusion outcomes, even when edge transmissibility is held fixed. We demonstrate that the timing of peak individual infectiousness alters the degree of competition among infection routes in a network, with important consequences for aggregate spread. Using discrete-time Susceptible–Infected–Recovered (SIR) simulations on synthetic and real-world networks with distinct structural properties, we show that micro-level timing effects systematically shape macro-level diffusion outcomes in ways that depend on network topology.

Speaker

Jake Burchard

Postdoctoral Associate | Duke University

Authors

Charles L. Nunn (Duke University), Bruce W. Rogers (Duke University), Linh Do (Duke University), Dana Pasquale (Duke University), James Moody (Duke University)

Who Should Be Targeted? Network-Based Intervention Simulations for Reducing School Peer Conflict

9:20 AM – 9:40 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS CHANGES OF SOCIAL NETWORKS OVER TIME

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS MODELING NETWORK DYNAMICS

SOCIAL INFLUENCE

Adolescent peer conflict in school settings poses significant health, educational, and developmental challenges. Conflict can spread through friendship networks as adolescents tend to influence their friends to engage in conflict with the same peers with whom they report interpersonal disputes. However, few studies have examined how interventions can leverage this peer influence mechanism to select targets for maximizing network-wide conflict reduction. The current study seeks to address this gap by analyzing adolescent network data from the Changing Climates of Conflict study. We first estimate multiplex Stochastic Actor-Oriented Models (SAOMs) to capture the co-evolution of peer conflict relationships and friendships using data from 28 middle schools. Building on these empirically-grounded estimates, we next conduct simulations to evaluate multiple targeting strategies that select adolescents at distinct network positions or structures that are important to the diffusion of peer influence. We then assess how these interventions shape network-wide levels of peer conflict. Our results suggest that, in certain scenarios, targeting the most central adolescents produces the greatest reduction in network-wide peer conflict.

Speaker

Jiaao Yu

Phd student | Northeastern University

Variability of ERGM fits influences epidemic simulation results: A case study of Monkeypox virus transmission and methods for robust scenario analysis

9:40 AM – 10:00 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS | MODELING NETWORK DYNAMICS

Exponential Random Graph Models (ERGMs) are widely used for network description and as generative models for downstream analyses, i.e. epidemic simulations on systems with many parameters. We found in the case of *Monkeypox virus* (MPXV), ERGMs repeatedly fit to the same target statistics have small variations in their coefficients and final networks, which can qualitatively alter downstream results. This occurs even for ERGMs that meet conventional goodness-of-fit metrics, likely because many non-identical networks exist that satisfy the target statistics. Without mitigation, this can produce inconsistent results. This issue is particularly apparent during scenario analysis that varies an ERGM target statistic as the independent variable (e.g. assortative mixing), where each scenario requires a separate fitting process. We document the effects of fitting process variability using a case study simulating *MPXV* transmission among gay, bisexual, and other men who have sex with men across a set of overlapping STERGMs (separable, temporal ERGMs) using the EpiModel R package. We then demonstrate a method to capture the true relationship between assortativity and outbreak size in the presence of fitting-induced variability by pooling epidemic simulation results from multiple ERGM fits per scenario. Finally, we use convergence analysis to provide guidance on the number of independent fits and simulations required to produce consistent results for studies varying ERGM terms as scenarios

Speaker

Samuel Rosenblatt

Data Scientist | Centers for Disease Control and Prevention (CDC), Center for Forecasting and Outbreak Analytics

Authors

Bevin Manuelpillai (Center for Forecasting and Outbreak Analytics, Centers for Disease Control and Prevention, USA), Ian Spicknall (Division of Sexually Transmitted Disease Prevention, Centers for Disease Control and Prevention, USA), Paige Miller (Center for Forecasting and Outbreak Analytics, Centers for Disease Control and Prevention, USA), George Vega Yon (Center for Forecasting and Outbreak Analytics, Centers for Disease Control and Prevention, USA), Patrick Clay (Division of Sexually Transmitted Disease Prevention, Centers for Disease Control and Prevention, USA), Dina Mistry (Center for Forecasting and Outbreak Analytics, Centers for Disease Control and Prevention, USA), Emily Pollock (Center for Forecasting and Outbreak Analytics, Centers for Disease Control and Prevention, USA)

Qualitative Network Research: Understanding Network Dynamics

9:00 AM – 9:40 AM | Location: Coquina F

SESSION

IN-PERSON

Drawing Threads: A Qualitative SNA Approach to the Social Fabric of Muslim Welfare Networks in Switzerland

9:00 AM – 9:20 AM

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS | VISUAL NETWORK METHODS

This presentation introduces a qualitative Social Network Analysis (SNA) approach developed as part of a doctoral research within the Swiss National Science Foundation project *Practices of Social Participation and Islamic Social Ethics (PSOPIS)*. The study examines the networks of emerging Muslim organizations in Switzerland's welfare system through a multimethod design that combines visual network mapping (free design drawings), semi-structured expert interviews, participant observation, and document analysis. This design moves beyond conventional quantitative SNA approaches, capturing not only structural ties but also the meanings, power relations, and historical entanglements shaping collaboration practices.

The presentation addresses three dimensions: (1) the methodological process, including strategies to elicit weak and past ties; (2) participants' experiences with the mapping tool and its implications for reflexivity and agency; and (3) methodological refinements informed by fieldwork. Preliminary findings highlight patterns of collaboration, resource mobilization, and barriers faced by Muslim organizations in navigating the welfare landscape. By situating these networks within postcolonial and critical perspectives, the study contributes to advancing qualitative SNA as a tool for challenging dominant epistemologies and foregrounding marginalized actors' perspectives in welfare research.

Speaker

Barbara Schmoutz

PhD candidate | Swiss Center for Islamic and Society, University of Fribourg

Supporting Innovative Science Teaching in Utah's Rural Schools: Evolving Teacher Networks

9:20 AM – 9:40 AM

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

This study examines the evolving ego networks of rural secondary science teachers in Utah who participated in a year-long technology-mediated lesson study (TMLS) professional development program. Rural teachers often experience professional isolation that limits access to sustained peer support and innovative instructional ideas. Using social network analysis, this research traces changes in participants' ego networks over the course of the program, focusing on network growth, density, and the development of bridging ties.

Results indicate that all participants expanded their professional networks, and that their networks evolved in ways that reflect both the strength of strong ties and the strength of weak ties. Increased density among close colleagues supported trust, accountability, and sustained changes in instructional practice. At the same time, participants formed new ties that bridged to educators beyond their schools and communities, providing access to novel ideas, diverse perspectives, and new instructional approaches.

These findings suggest that effective professional development for rural science teachers should intentionally cultivate networks that balance dense, supportive peer relationships with outward-facing connections that promote innovation. The study contributes to research on teacher professional learning by demonstrating how network structure supports instructional change in geographically isolated contexts.

Speaker

Rebecca Sansom

Assistant Professor of Science Education | Texas A&M University

Authors

Syahrul Amin (Texas A&M University)

Social Influence

9:00 AM – 9:40 AM | Location: Coquina G

SESSION

IN-PERSON

Interdependent Dynamics of School-Based Friendships and Adolescent Depression and Substance Use

9:00 AM – 9:20 AM

SOCIAL INFLUENCE

Adolescence is marked by rapid changes in peer relationships alongside the emergence of internalizing symptoms and health-risk behaviors. Although depressive symptoms and substance use are known to be correlated and socially patterned, less is understood about how these behaviors and friendship networks dynamically co-evolve. Using 5 waves of data collected from a large cohort of adolescents (N = 3,937) across 11 high schools in Southern California, this study applies stochastic actor-oriented models to examine the simultaneous evolution of school-based friendship networks, depressive symptoms, and substance use. This approach allows us to disentangle selection processes (e.g., homophily based on depression or substance use) from influence processes (e.g., peer socialization of behaviors), while accounting for the interdependence of network ties and behavioral change. By modeling depressive symptoms and substance use jointly, we assess whether these behaviors reinforce one another through shared peer contexts and whether distinct or overlapping network mechanisms underlie their spread. Although the end goal of this project is to perform a meta-analysis across all 11 schools, our presentation in Daytona will feature independent modeling results of 3 of those schools and a qualitative cross-school comparison to determine if consistent patterns are emerging.

Speaker

Lindsay Young

Assistant Professor | University of Southern California

Peer Network Influences on Suicide Communication Among Alaska Native Youth

9:20 AM – 9:40 AM

SOCIAL INFLUENCE

Alaska Native (AN) youth experience disproportionately high rates of suicide, with some studies reporting rates up to 18 times higher than non-AN youth. Although social factors influence suicidal behavior, there is limited research on how these processes operate within AN youths' peer networks or how they communicate about suicide.

Using social network data collected from 109 AN youth (1,461 alters) who attend an urban school, we examined (1) egos' likelihood of talking to their alters about suicidality and (2) ego perceptions of how likely their alters would talk to them.

Relational closeness was the strongest and most consistent predictor of suicide-related communication. Youth were significantly more likely to report increased likelihood of both talking to younger alters (<18 years old) about suicide and younger alters talking to them. Female alters were perceived as being more likely to share suicide-related thoughts, independent of relationship strength. Alters who influence ego participation in cultural activities were perceived as more likely to speak with them about suicidal thoughts. This may suggest that culturally influential relationships are a safe space for emotional conversations. Ego suicide risk was not independently associated with communication patterns once relational characteristics were included.

Suicide-related communication is more likely to occur within trusted relationships, emphasizing the need to support those connections in prevention efforts.

Speaker

Jerreed Ivanich

Assistant Professor | University of Colorado

Authors

Madelaine Mason (University of Colorado Anschutz Medical Campus)

Contagion and Diffusion Processes Through Social Networks

9:20 AM – 10:00 AM | Location: Coquina C

ORGANIZED SESSION

Collective behaviors often spread through social interactions, whether it be the emergence of social norms, the rise of social movements, or the adoption of technological and health innovations. Social networks act as critical pathways for these "social contagions." Research on diffusion dynamics has demonstrated that the structure of a social network or the threshold profiles of individuals can significantly influence the patterns and speed of such diffusion.

This session invites contributions from researchers focusing on two key areas:
1. Computational Modeling: Scholars developing mathematical models that explore how structural and cognitive factors affect diffusion processes, as well as those employing agent-based simulations to understand behavior change and diffusion dynamics.
2. Empirical Studies: Researchers conducting empirical work that maps social networks and measures the timing of adoption to build diffusion models are encouraged to participate. These studies may examine who within a network is most susceptible to influence, who serves as crucial influencers, and how social or economic factors shape the adoption process.

This session will provide a platform for presenting new datasets or advances in new contagion models. The discussion will be oriented towards new network interventions in areas like public health and cutting-edge research direction.

IN-PERSON

Corresponding Organizer

Thomas Valente

Professor | University of Southern California

Organizers

Aníbal Olivera

PhD(c) Student | Universidad del Desarrollo, Chile

George Vega Yon

Research Associate Professor, Epidemiology | University of Utah

You Have to See It to Believe It: Social Exposure as a Near-Necessary Condition for Conspiracy Adoption Online

9:20 AM – 9:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

How does conspiracy discourse spread through online communities, and what role does social exposure play relative to independent uptake? We investigate the case of 3i/Atlas on Reddit, a comet that upon discovery was framed as proof of non-human intelligence in UFO-focused subreddits and attracted sustained engagement over several months before belief cratered in the face of scientific consensus. We construct a bipartite thread–user network from 825,287 posts by 109,143 users across six subreddits, enabling counterfactual identification of network exposure effects by comparing users exposed to "infected" threads against users who participated only in never-infected threads within the same communities. Cox proportional hazards models estimated on 1.3 million person-days reveal network exposure as a near-necessary condition for keyword adoption: only 0.01% of never-exposed users adopted (6 out of 47,004), compared with 47.2% of highly-exposed users (3,042 out of 6,443). Any exposure is associated with a 59% increase in adoption hazard. Following the conspiracy theory's disconfirmation, network-central users were disproportionately likely to pivot to an alternative narrative rather than exit quietly, with Pivoters exhibiting 2.6 times the mean degree of Exiters. These findings contribute a replicable bipartite network framework for measuring information contagion and provide substantive evidence that social reinforcement drives conspiracy belief adoption online.

Speaker

Zach Brown

PhD Student | University of Washington

Co-speaker

Zack Almquist

Associate Professor | University of Washington

Implementation Collaboration: Adoption and Diffusion of Communication Supports for Non-speaking Preschoolers on the Autism Spectrum

9:40 AM – 10:00 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

INTERGROUP RELATIONS IN SOCIAL NETWORKS

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

NETWORK METHODS FOR IMPLEMENTATION SCIENCE

Non-speaking children on the autism spectrum experience high physical, emotional, and cognitive risks, both early and later in life. Communication supports represent a key opporuntity for early intervention. Determining modifiable factors, such as implementation collaboration for Alternative and Augmentative Communication (AAC) device use among professionals and caregivers can provide guidance about how to best improve outcomes for non-speaking autistic children. We investigated how alter role and ego–alter relationship quality were associated with alter-level adoption and diffusion behaviors within AAC implementation support networks for non-verbal autistic preschoolers. Linear mixed-effects models were used to examine associations between alter-level network characteristics and two outcomes: alter-level Adoption Composite Score and alter-level Diffusion Composite Score, with random intercepts accounting for clustering of alters within children. Adoption varied significantly by alter roles and relationship quality. Relative to family members (reference category), healthcare providers and preschool staff demonstrated significantly higher adoption scores across models. In fully adjusted models, healthcare providers ($\beta \approx 1.86$, $p < .05$) and preschool staff ($\beta \approx 2.36$, $p < .01$) remained positively associated with adoption. Limitations include sample size (N=21 child teams).

Speaker

Elizabeth McGhee Hassrick

Associate Professor | Drexel University

Authors

Habeeba Siddiqui (Drexel University), Seo-young Lee (Drexel University), Kathryn Bouvier-Weinberg (Drexel University), Sarah Dufek (University of California, Davis), Giacomo Vivanti (Drexel University)

Coffee Break

10:00 AM – 10:20 AM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments - INSNA thanks USF Social Network Research Collaborative for sponsoring this break!

Break Menu

- Sliced seasonal fruit
- Cinnamon rolls
- Freshly brewed regular and decaffienated coffee
- Selection of hot herbal teas

SPONSORED BY:

Agent-Based Modeling and Social Networks

10:20 AM – 12:00 PM | Location: Coquina B

ORGANIZED SESSION

Bridging micro-level mechanisms and macro-social outcomes is pivotal to both Agent-Based Models (ABMs) and social network research. In recent years, a fruitful integration of the two fields has started. ABMs have been successfully applied for theoretical development around micro-level mechanisms and macro-social outcomes in relation to social networks, for the empirical testing of hypothetical causal mechanisms, and exploring counterfactual scenarios that are difficult to test empirically. As a flexible modelling technique, ABMs allow researchers to study the co-evolution of social networks and individual behavior by modelling different tie formation processes and the influence of networks on behavior. Moreover, ABMs allow modelers to incorporate assumptions about actors' decision-making processes that are cognitively and behaviorally grounded and assess the consequences of changes in those assumptions. Social network effects in an ABM can be calibrated with empirical data, which allows modelers to move beyond the use of abstract networks. In addition, ABMs can be used as a complementary tool to increase the generalizability of statistical analysis of network data. This session invites contributions in these directions, particularly those that attempt to explain macro-social outcomes or the evolution of relational patterns by individual actions and interactions constrained in dynamic social networks.

IN-PERSON

Organizers

Andreas Flache

Professor of Sociology | University of Groningen

Filip Agneessens

Senior Lecturer (Associate Professor) | The University of Manchester · Full-time

Authors

Federico Bianchi (University of Milan), Károly Takács (Institute for Analytical Sociology, Linköping University), Jennifer Badham (Durham University, United Kingdom)

Stochastic Actor-Oriented Modeling for Cognitive Social Structures

10:20 AM – 10:40 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

We present a stochastic actor-oriented model (SAOM) for three-way network perception data of the form $x_{ijk}(t)$, where an observation at time t represents a relation from sender j to receiver k as perceived by actor i. Such data are also referred to as cognitive social structure data. Although three-way representations with perceiver, sender, and receiver roles are well established, their longitudinal analysis was previously not possible. Yet, many social science theories, including balance theory, require us to take network perceptions into account and concern network changes. Here, we accommodate both these aspects in the stochastic actor-oriented model framework. Our contribution is implemented as an extension of the RSiena package, enabling three-way network data to be analyzed using micro-step dynamics. The proposed framework supports perception-specific and self-reported components of network evolution through slice-specific rate parameters and statistics, while also allowing shared parameters and global statistics that operate across perceived slices. We present model effects that are tailored to the three-way network structure, and illustrate the proposed methodology on longitudinal friendship perception data collected among 20 students in a 6-week summer course.

Speaker

Jinwoo Cho

Special Faculty (Postdoc) | Carnegie Mellon University - Statistics & Data Science · Full-time

When Do Material Culture Networks Track Social Networks? Simulating social networks and material culture networks using the ArchMatNet agent-based model.

10:40 AM – 11:00 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

This paper tests a core assumption in archaeological network research: that similarities in artifacts can proxy past social interaction. Using ArchMatNet, an agent-based model of small-scale communities, we generated social interaction networks (visiting, learning, exchange) and material culture similarity networks under varied conditions of interaction frequency, cultural transmission strategy, and trait visibility. We compared network correspondence with graph correlation and QAP tests, then evaluated structural similarity with ERGMs and centrality metrics. Results show that material culture networks can strongly recover underlying social ties, but only under specific conditions. Correlations are highest when trait variability is substantial and interactions are frequent; they weaken when variation is low or traits are highly visible and easily copied. Across scenarios, low-visibility traits and learning dynamics strongly shape inferential reliability. The findings support network methods in archaeology while highlighting clear boundary conditions, and demonstrate how simulation-based validation can improve interpretation of empirical material culture networks.

Speaker

Robert Bischoff

Sr. Digital Data Specialist | Arizona State University

The Myth of “Personalized” Nutrition: Prescribed Diet Adherence as a Social Network Process

11:00 AM – 11:20 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

Diet recommendations are typically framed as individual prescriptions, and personalized nutrition promises ever more tailored guidance based on biology and health status. Yet eating is a fundamentally social practice, embedded in households and social settings. Treating diet as “personalized” obscures the social processes that shape dietary change and adherence. We develop a computational model to reconceptualize prescribed diet adherence as a social network phenomenon and to identify intervention opportunities beyond the individual.

An agent-based model of adults in Los Angeles was constructed by embedding agents in a multi-layered social network spanning household, workplace, and community contexts. Agents choose between a healthy Mediterranean-aligned diet or an unhealthy alternative based on personal preferences, resource constraints, prescriptions to eat the healthy diet, and social influence. Network influences are defined as baseline preferences reflecting normative influence from social ties, while eating events incorporate immediate social cues. Simulation experiments (i) assess how prescribed diet adherence varies based on network characteristics, and (ii) test network intervention strategies. Preliminary findings show that diet adherence is highly sensitive to social context, challenging the individualistic framing of precision nutrition, and offering a computational foundation for extending precision nutrition to households and social groups.

Speaker

Kayla de la Haye

Professor | UCLA

Co-speakers

Jessie Heneghan

Public Health Informatics, Computational, and Operations Research (PHICOR), CUNY

Kelly O’Shea

Public Health Informatics, Computational, and Operations Research (PHICOR), CUNY

Tej D Shah

Public Health Informatics, Computational, and Operations Research (PHICOR), CUNY

Bruce Y Lee

Professor | Public Health Informatics, Computational, and Operations Research (PHICOR), CUNY

From Agents to Humans: Network Structure and Homophily in LLM-Simulated and Mixed Online Communities

11:20 AM – 11:40 AM

AGENT-BASED MODELING AND SOCIAL NETWORKS

Our work presents two related studies that use generative social simulations based on Large Language Model (LLM) agents to analyze online interaction networks and community development under controlled, platform-faithful conditions. In the first study, we simulate a discussion forum similar to Reddit within the YSocial platform, and calibrate the simulated community to mirror empirically observed interactional patterns. We construct interaction networks from conversational exchanges, where nodes represent users and weighted edges capture repeated commenter-to-author ties. Across 30 independent 30-day runs, we fit a two-block stochastic block model to identify core-periphery structure, and validate network properties (density, degree distributions, clustering) alongside activity patterns, toxicity, topical coverage, and stylistic convergence.
The second study is experimental and extends this analysis to a mixed human-agent setting, wherein the key experimental condition is the existence of labels disclosing whether users are human or AI. We examine whether humans and LLM agents occupy distinct positions within the emerging core-periphery structure and whether disclosing identity labels strengthens same-type tie formation, producing homophily along the human-agent boundary. Together, these studies establish LLM agent simulations as a validated tool for studies of network structure, homophily, and core-periphery organization in online communities.

Speaker

Sara Major

Teaching Assistant | Department of Sociology, University of Novi Sad

Authors

Aleksandar Tomašević (Institute of Physics Belgrade, University of Belgrade), Darja Cvetković (Institute of Physics Belgrade, University of Belgrade), Slobodan Maletić (Vinča Institute of Nuclear Sciences, University of Belgrade), Miroslav Anđelković (Vinča Institute of Nuclear Sciences, University of Belgrade), Ana Vranić (Institute of Physics Belgrade, University of Belgrade), Boris Stupovski (Institute of Physics Belgrade, University of Belgrade), Dušan Vudragović (Institute of Physics Belgrade, University of Belgrade), Aleksandar Bogojević (Institute of Physics Belgrade, University of Belgrade), Marija Mitrović Dankulov (Institute of Physics Belgrade, University of Belgrade)

When Friends-of-Friends Divide Us: Triadic Closure and the Making of Segregated Networks.

11:40 AM – 12:00 PM

AGENT-BASED MODELING AND SOCIAL NETWORKS SOCIAL CAPITAL AND SOCIAL INEQUALITY
SOCIAL NETWORKS & INEQUALITY

Social networks shape access to information and resources, yet they remain sharply segregated by race, gender, and socioeconomic status. Segregation is typically attributed to homophily, but this paper argues that endogenous processes—especially triadic closure—can be equally consequential. Its impact is theoretically ambiguous: depending on its interaction with homophily, closure can either lock in separation by densifying within-group clusters or reduce it by stabilizing cross-group ties.

To determine when triadic closure amplifies segregation versus fosters integration, I analyze longitudinal networks across domains such as friendship, collaboration, and digital communication. I estimate temporal ERGMs that jointly model homophily, triadic closure, and their interaction, introducing a new specification—gwespmatch()—to capture how closure differs within and across groups.

The analysis proceeds in two steps. First, simulations of ERGM generating processes (ergmgp) show that small parameter shifts can yield steady states ranging from highly segregated to integrated networks. Second, temporal ERGMs test for threshold dynamics and “integrative cascades,” where cross-group ties reinforced through closure spread integration rather than remain isolated.

By clarifying how triadic closure shapes segregation over time and across contexts, the study shifts attention from preferences to structural mechanisms that sustain—or disrupt—inequality in social connectivity.

Speaker

Benjamin Rosche

Assistant Professor of Computational Social Science | New York University Abu Dhabi

Contagion and Diffusion Processes Through Social Networks

10:20 AM – 12:00 PM | Location: Coquina C

ORGANIZED SESSION

Collective behaviors often spread through social interactions, whether it be the emergence of social norms, the rise of social movements, or the adoption of technological and health innovations. Social networks act as critical pathways for these "social contagions." Research on diffusion dynamics has demonstrated that the structure of a social network or the threshold profiles of individuals can significantly influence the patterns and speed of such diffusion.

This session invites contributions from researchers focusing on two key areas:
1. Computational Modeling: Scholars developing mathematical models that explore how structural and cognitive factors affect diffusion processes, as well as those employing agent-based simulations to understand behavior change and diffusion dynamics.

2. Empirical Studies: Researchers conducting empirical work that maps social networks and measures the timing of adoption to build diffusion models are encouraged to participate. These studies may examine who within a network is most susceptible to influence, who serves as crucial influencers, and how social or economic factors shape the adoption process.

This session will provide a platform for presenting new datasets or advances in new contagion models. The discussion will be oriented towards new network interventions in areas like public health and cutting-edge research direction.

IN-PERSON

Corresponding Organizer

Thomas Valente

Professor | University of Southern California

Organizers

Aníbal Olivera

PhD(c) Student | Universidad del Desarrollo, Chile

George Vega Yon

Research Associate Professor, Epidemiology | University of Utah

A Spatial Social Network Approach to the Diffusion of Political Violence in Libya

10:20 AM – 10:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

How and why do violent conflicts spreadspatially? Political geographers and political scientists alike have long sought to answer this question given its far-reaching implications for both real-world policy decisions and theories of political violence. Existing research, however, often focuses at the level of the state and does not consider what drives individual conflictactors to operate in new territories. Likewise, this line of research rarely seeks to distinguish between discrete conflicts based on just who is doingthe fighting in which places. This project proposes a new typology of conflict diffusion based on the spatial and relational histories of the actors who participate in the conflict, an approach rooted in dynamic spatial social network analysis. We apply this novel methodology to the case study of Libya's costly and ongoing civil wars and model the diffusion of armed actors' activities within the spatial network of Libyan places.

Speaker

David Russell

PhD Candidate | University of Florida

Beyond the Tower of Babel: A Framework for Integrating Social Network Theories

10:40 AM – 11:00 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

Significant effort has been devoted to the development of network theory but remain significant implicit disagreements as to what network theory is. The "structuralist" school (e.g., Mayhew and Levinger 1976), generates theoretical propositions directly from the properties of graphs. This leads to the view that theories should be transportable across networks of different species (e.g., Skvoretz and Faust 2002) or of non-living entities (e.g., Watts and Strogatz 1998). Other theoretical schools explain networks via the unique properties of human agents (e.g., Cartwright and Harary 1956), with the implication that theoretical assertions should apply minimally if at all to other types of entities. Both approaches qualify as theory in their own right, but are starkly different from each other.

I propose a new system for relating existing, and future, theoretical work. It begins by arguing that structuralism is a necessary foundation, but ultimately is insufficient. It then introduces evolved capacities and motivations, arguing what organisms can do and what they tend to want to do. Third, I integrate social processes, which constrain and enable social networks. Finally, I argue that these levels are fundamentally intertwined, with processes at one level often developing in order to circumvent or take advantage of outcomes at another. The result links theory and empirical results, improving the cumulation of knowledge and identifying areas for future research.

Speaker

Matthew Brashears

Professor and Chair of Sociology | University of South Carolina

Pennywise, Pound Foolish: Political Networks, Brokerage, and Coordination Gaps in U.S. Penny Termination

11:00 AM – 11:20 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS
CORPORATE NETWORKS
ELITE NETWORKS
INTERGROUP RELATIONS IN SOCIAL NETWORKS
NETWORK APPROACHES TO POLITICAL DYNAMICS
NETWORKS IN TRADE AND FINANCE
NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS
NETWORKS, PHILANTHROPY, AND SOCIAL IMPACT
NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING
ORGANIZATIONAL NETWORKS
QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS
SOCIAL CAPITAL AND SOCIAL INEQUALITY
SOCIAL INFLUENCE
SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS

The U.S. Treasury's 2025 decision to end production of the one-cent coin was publicly framed as a straightforward efficiency measure. Yet the penny's termination and the fragmented policy response that followed raise questions that efficiency narratives cannot answer: Why did reform stall for decades despite widespread recognition of its costs? Who defined the problem, through what network channels, and with what consequences? And why did the transition produce uneven effects across stakeholders positioned differently within the governance system? The case offers an opportunity to examine how elite actors and media coverage construct urgency in low-salience fiscal domains, and how fragmented governance networks shape the timing and distribution of policy change.

This study examines:

1) Jurisdictional ambiguity across tax, payments, currency, and regulatory domains, evaluating how unclear ownership diffused brokerage responsibility across organizational clusters and weakened coordinative ties.

2) Urgency signaling among federal officials, state legislators, trade associations, and media actors, assessing how network position influenced when and how policy responses emerged.

3) Post-termination developments, analyzing whether variation in network cohesion, brokerage, and framing activity corresponds with differences in the timing and substance of policy responses.

Speaker

Melanie B. Hoskins, PhD CPA

Managing Member | Brightspot Publications

How Collaboration Networks Shape AAC Adoption Diffusion and Social Communication Behavior in Autistic Children

11:20 AM – 11:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS
INTERGROUP RELATIONS IN SOCIAL NETWORKS
NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE
NETWORK METHODS FOR IMPLEMENTATION SCIENCE

Insufficient information sharing and adoption of Augmentative and Alternative Communication (AAC) interventions among team members can lead to poor treatment responses in autistic children. This study examines the association between collaborative social dynamics among network members and AAC adoption, diffusion, and social communication behaviors of minimally verbal autistic preschoolers. Caregivers of 11 minimally verbal children on the autism spectrum were recruited. Interviews, including name generator questions, were conducted to identify supporters in home, community, school, and healthcare settings. For social communication behaviors, a brief observation of social communication change was conducted. To assess the quality of network and AAC adoption and diffusion, survey questionnaires were applied. Significant changes were found in network composition over time. Parents and siblings played significantly more central roles to coordinate the child within a network over time.Social communication behaviors of autistic children changed over time, from (M=44.1) to (M=40.4). AAC Adoption-related measures such as AAC belief, knowledge, and collaboration also improved. There was a positive association between strong networks with central individuals and AAC adoption and diffusion, which was positively associated with preschooler social communication behaviors. Limitations of this study are the small sample size, participant attrition, and loss to follow-up.

Speaker

Elizabeth McGhee Hassrick

Associate Professor | Drexel University

Authors

Habeeba Siddiqui (Drexel University), Seo-young Lee (Drexel University), Kathryn Bouvier-Weinberg (Drexel University), Sarah Dufek (University of California, Davis), Giacomo Vivanti (Drexel University), Elizabeth McGhee Hasrick (Drexel University)

Networks Decide for Us: The Emergence of Adoption in Homophily-Imputed Social Topologies

11:40 AM – 12:00 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

The diffusion of collective behaviors is often modeled as individual utility maximization or a contagion process. However, empirical reality suggests a hybrid mechanism where individuals weigh both intrinsic preferences and peer influence. Furthermore, peer networks are rarely random; they are shaped by deeply ingrained homophilic forces. We argue that "networks decide for us": conditional on fixed individual-level propensities, the relational structure systematically alters adoption outcomes.

To test this, we develop an imputation pipeline addressing the scarcity of whole-network data in representative surveys. We estimate homophily parameters from ego-centric network data (GSS 2004) and impute plausible networks to large-scale attitudinal surveys (ATP 2016). We then simulate diffusion on these populations using a hybrid model that integrates Rational Choice with Selective Social Influence, explicitly weighting peer influence by social proximity.

Using Generalized Additive Models on millions of simulated paths, we compare "plausible" networks against degree-preserving Erdős-Rényi baselines. Randomizing structure significantly depresses adoption, reducing the odds of social contagion by ~57%. We also observe non-linear phase transitions where diffusion feasibility depends critically on the interplay between intrinsic utility and social flexibility. Ultimately, macro-level social behavior is an emergent property; topology actively enables or constrains social change.

Speaker

Aníbal Olivera

PhD(c) Student | Universidad del Desarrollo, Chile

Co-speaker

Jorge Fábrega

Senior Researcher | Universidad del Desarrollo, Chile

Global Perspectives on Personal Networks

10:20 AM – 12:00 PM | Location: Coquina G

ORGANIZED SESSION

Over the past decades, an increasing number of surveys on personal networks have been conducted. Nevertheless, with a few exceptions, these studies are limited to local contexts or specialized samples. This session brings together researchers who present their work on more global or cross-cultural comparisons of personal networks, leveraging the cumulative nature of these studies to uncover large-scale patterns and insights. Contributions may explore data collection methods (Qualitative approaches, Surveys, Social Media data), theoretical frameworks that may account for the nature of personal network data, or comparative studies, among others.

IN-PERSON

Corresponding Organizer

Alejandro Dinkelberg

Postdoctoral researcher | Universidad Carlos III de Madrid

Organizers

Miroslav Pulgar

Postdoctoral researcher | Universitat Autònoma de Barcelona

José Luis Molina

Professor | Universitat Autonoma de Barcelona

Theorizing "cultural signatures" in worldwide personal networks

10:20 AM – 10:40 AM

GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

This paper advances the theory of “cultural signatures” in personal networks by integrating Goodenough’s concept of propriospect —the individual’s internalized model of culture—with a personal network approach to social structure. We define cultural signatures as the structural traces that cultural institutions—such as kinship systems, gender regimes, religious practices, and educational norms—leave in personal networks. Drawing on a personal networks survey in six countries selected across Gelfand's tight–loose cultural range, we demonstrate that network structures can reliably predict respondents' cultural background, supporting the hypothesis that social interaction patterns encode identifiable cultural imprints. To illustrate this theoretical framework, we revisit Fredrik Barth’s (1983) ethnography of Sohar, an Omani town characterized by multiculturality and gender segregation. Using the propriospect approach, we show how shared cultural codes of politeness and self-restraint sustain social diversity and how institutions (market, mosques, Wali court, and neighborhoods) shape the gendered topology of personal networks. By linking cognitive models of culture with measurable meso-level social structures, the paper provides a conceptual and methodological framework to analyze how cultural diversity manifests through patterns of social interaction.

Speaker

J **José Luis Molina**

Professor | Universitat Autonoma de Barcelona

Co-speakers

 **Alejandro Dinkelberg**

Postdoctoral researcher | Universidad Carlos III de Madrid

 **Miroslav Pulgar**

Postdoctoral researcher | Universitat Autònoma de Barcelona

C **Christopher McCarty**

Professor | University of Florida

M **Miguel Angel González - Casado**

Predoctoral researcher | Universidad Carlos III de Madrid

A **Anxo Sánchez**

Professor | Universidad Carlos III de Madrid

The causal effect of social drinking/eating networks on trust

10:40 AM – 11:00 AM

GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

Social drnking and eating is a common human behaviror and a verified network generator from a variety of social network research around the world. Yet, its causal consequences are not well-established empirical evidence. To fill in this gap, this study is designed to examine the causal effect of social drinking/eating networks (SDENs) on measures of generalized, political, and corporate trust. Results of the 2017 International Social Survey Programme (ISSP) module on "social resources and social capital" shows a great variation in an individual's attendance to social drinking/eating activities and his/her trust in pesons and institutions across 29 member countries from Africa, Americas, Asia, Europe, and Oceania. OLS models reveal that a citizen's social drinking/eating frequency is associated positively with one's generalized trust but negatively with one's trust in national courts and major private companies of one's own country. These results survive a causality test using Instrumental Variable Models, and the revealed causal effects vary across societities in terms of political regime, economic development, and cultural orientation, as well as among social groupings defined by survey residents' gender, education, and work sector.

Speaker

Y **Yanjie Bian**

Professor | Xi'an Jiaotong University

Network Churn and Social Tie Quality: Comparing Migrants Across Ethnic Backgrounds and the Majority Population

11:00 AM – 11:20 AM

GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

International migration reconfigures social networks across borders. While migrants often maintain transnational relations with people in their countries of origin, some personal ties are left behind, while new ones are formed in their destination countries. These transformations produce unequal patterns of social embeddedness among migrants of different ethnic backgrounds and between migrants and non-migrants. Utilising longitudinal egocentric network data from the UCNets study, we analyse three survey waves, comparing personal network trajectories of older migrants (aged 50–70) and non-migrants in the San Francisco Bay Area.

To assess embeddedness, we use mixed-effects models to analyse network size across waves, testing differences between migrants and non-migrants, alongside an ethnic breakdown. We evaluate network churn by calculating tie loss, gain, and net change, distinguishing actual contraction from relationship replacement. This structural comparison provides a baseline to explore tie quality, specifically the longitudinal dynamics of ambivalent and difficult ties, and reciprocity.

Including network churn and tie quality transcends simplistic, static notions of social relations. Inequalities are examined through tie formation, loss, stability, and the differential prevalence of difficult, ambivalent, and unreciprocated ties. These network dynamics may underpin mechanisms linking migration to unequal patterns of social integration and long-term well-being.

Speaker

Roberta Alidori

PhD candidate | Università degli Studi di Milano

Authors

Raffaele Vacca (University of Milan)

Book presentation: Analyzing personal networks using R

11:20 AM – 11:40 AM

GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

Research on personal or egocentric networks has grown enormously in the last few decades. Once seen as a smaller specialization in social network analysis, the field now comprises multiple textbooks and book chapters, journal special issues, conference panels and workshops, specialized software, and university courses. Reflecting these developments, a consolidated body of methodological tools for ego-network analysis has also emerged over the decades. This contribution presents a new textbook that reviews the methods available to ego-network analysts and illustrates their implementation in the R programming language for data analysis. The book distills contents from years of conference workshops and summer schools, and from a wide range of substantive and methodological literature. I will discuss typical data contents and formats, measures to summarize and visualize various aspects of personal network composition and structure, and methods of multivariate analysis and statistical modeling to study variation in personal networks and its association with ego-level outcomes. More advanced topics include multilevel models for alter- or tie-level outcomes and methods to study network dynamics. The book also considers cutting-edge techniques such as Exponential Random Graph Models for egocentric samples. I provide an overview of these methods, consider their aims, advantages, and pitfalls, and discuss current frontiers in research bridging sociocentric and egocentric designs.

Speaker

Raffaele Vacca

Associate Professor | University of Milan

The Shifting Role of Social Ties for Well-Being Across the Life Course: A Cross-National Study

11:40 AM – 12:00 PM

GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Social ties are fundamental to individual well-being, yet their role varies systematically across the life course. This study integrates the "linked lives" perspective with cross-national comparative research to examine how sociability patterns and their relationship to well-being shift throughout people's lives across 30 countries. Using harmonized social network data, I document substantial cross-national variation in life course patterns of social interaction. Countries differ markedly in how quickly sociability declines with age, with steeper declines in friendship and associational ties occurring in societies with stronger individualistic values.The analysis reveals that associations between social interactions and well-being outcomes—including life satisfaction, social support, and loneliness—also vary cross-nationally. Individualistic societies show stronger positive returns from sociability than collectivist nations. Integrating these findings, I demonstrate that life course variations in the sociability-wellbeing relationship depend on cultural context. In societies with stronger individualistic orientations and sharper age-related declines in social ties, active social lives exhibit stronger associations with individual well-being.

Speaker

Bernardo Mackenna

Postdoctoral Scholar, New Map of Life Fellow | Stanford University

Virtual Presentations

10:20 AM – 12:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

A Provocation: Visualizing Modeled Social Networks

10:20 AM – 10:40 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS VISUAL NETWORK METHODS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 859 5610 9825
Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Network scholarship regularly leverages visualizations. They are thought to enhance readers' recall, interpretation, and simplification of scholar's intended takeaways. However, by representing the specifics of single empirical cases, these visualization strategies may not optimize how well they accomplish our scientific purposes. In particular, they may: (1) be overly complex in ways that obfuscate what we can learn from them, (2) draw attention to the particularities of the case, rather than the general principles the case is examined to characterize, (3) be difficult to precisely replicate, raising questions about consistency in interpretation, and (4) introduce potential risks that could violate research ethical standards. To address these, I provoke the field to consider whether presenting *modeled* network results--in lieu of empirical cases--retains the aims of network visualization, while potentially overcoming some of the limitations of existing practice.

Speaker

Jimi Adams

Professor | University of South Carolina

Transnational Ainu media: YouTube Itak before and after 2019

10:40 AM – 11:00 AM

CHANGES OF SOCIAL NETWORKS OVER TIME

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

INTERGROUP RELATIONS IN SOCIAL NETWORKS NETWORK APPROACHES TO POLITICAL DYNAMICS

NETWORKS AND CULTURE

NETWORKS, GOVERNANCE, & GENDER: BRIDGING SOCIAL STRUCTURES & DIVERSITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

The Ainu are the Indigenous people officially recognized by the Japanese government, who live mostly in Japan. In recent times, three disruptions have affected the Ainu: the enactment of the "Act Promoting Measures to Achieve a Society in which the Pride of Ainu People is Respected" by the Japanese government in 2019; the beginning of the ongoing global COVID-19 pandemic in 2020; and the Tokyo Summer Olympics celebrated in 2021. It is largely unclear how these disruptions affected Ainu creative outputs or the diffusion of their culture in a transnational level.

One way that the Ainu have adopted to diffuse their public activities is social media. This study analyses 1,387 Ainu-related YouTube videos up to May 2022, focusing on differences before and after the global disruptions mentioned above. We adopted Indigenous and Ainu methods of multimedia understanding and collected public video related information through the YouTube API.

The Ainu Law, Tokyo Olympics and the beginning of the COVID-19 pandemic seemed to influence Ainu-related videos. There was a shift in prominent Ainu participating in video productions, and a unification of Ainu-related discourses after 2019. There also was a change in YouTube metrics, suggesting a shift on viewer perception. This study filled knowledge gaps regarding multiple versions of videos related to Ainu culture, identifying knowledge diffusion and cooperation areas that require attention.

Speaker

Xanat Meza

Researcher | Kyoto University

Named entity recognition, syntactic dependency parsing and network representations shed light on the evolution of conspiratorial narratives on social media

11:00 AM – 11:20 AM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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ABOUT THIS PRESENTATION:

Using a corpus of over 5.7 million health-related social media posts from Facebook, Youtube and Telegram, we examine the development of conspiratorial, health-related narratives during 2020-2024.
To identify conspiratorial and non-conspiratorial posts, we fine-tune a Llama 3 8B classifier on 5000 manually labelled posts. We retrieve entities representing persons and organisations (the 'characters' of conspiratorial narratives) using named entity recognition, and construct entity co-occurrence networks, where edges reflect the frequency of cooccurrence of pairs of entities in our corpus. Focusing on posts about 3 specific themes, we use community detection to identify, and compare across conspiratorial and non-conspiratorial content, the groups of entities that draw the most attention from and are heavily interrelated by users.

For more detailed narrative analysis, we select the most central entities in co-occurrence networks and conduct syntactic dependency parsing on the sentences mentioning them, thus representing the individual narratives surrounding particular entities as dependency trees. We train a graph neural network on them to retrieve embedding representations of dependency trees, enabling us to find groups of similar dependency tree embeddings, and therefore narratives, using the clustering algorithm HDBSCAN. We therefore identify and examine the most prominent *types* of narratives in greater depth, and examine how these types have changed between 2020 and 2024.

Speaker

Ayan-Yue Gupta
Postdoctoral Fellow | University of Milan

Co-speaker

Raffaele Vacca
Associate Professor | University of Milan

Authors

Massimo Airoldi (University of Milan)

Negotiation Networks and Organizational Effectiveness: A Social Network Approach to Enhancing Managerial Performance

11:20 AM – 11:40 AM

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Negotiation is a central managerial activity that shapes coordination, conflict resolution, and decision-making. Yet negotiation is typically examined as an individual skill rather than as a relational process embedded in organizational structures and team dynamics. This study applies social network analysis to investigate how negotiation interactions form patterned networks that influence both organizational effectiveness and group performance.

Data from medium-sized organizations in Uzbekistan capture negotiation-related ties such as information exchange, advice seeking, influence, and conflict mediation. Network indicators, including centrality, brokerage, constraint, density, and multiplexity, are used to identify how structural positions and team-level patterns support or hinder effective negotiation.

ERGMs and network regression models test how negotiation competencies and culturally shaped communication styles relate to network formation, team functioning, and organizational outcomes such as coordination efficiency and decision quality. The study conceptualizes negotiation as a networked organizational phenomenon and offers evidence-based recommendations for strengthening managerial performance and team collaboration through improved relational structures.

Speaker

Deniza Alieva

Docent of School of Business and Management | Management Development Institute of Singapore in Tashkent

Co-speaker

Tatyana Sokhrannaya

Leading lecturer on Communication Skills for Business | Management Development Institute of Singapore in Tashkent

Multiplex Network Structures in Digital Harassment Ecosystems: Emergent Properties and Intervention Implications

11:40 AM – 12:00 PM

GENDER AND SOCIAL NETWORKS | NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA | STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

HOW TO JOIN THIS SESSION:

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https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

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Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Digital harassment operates across platforms, yet single-platform approaches obscure integrated structural properties. Our previous research identified 2.3-4.1x amplification and 47 bridge actors (Basit et al, 2025). This study applies multiplex network theory to examine emergent properties invisible to single-layer analysis.

We analyze 57,514 interactions from 2,072 actors across X and YouTube using multiplex PageRank, versatility scores, community detection, structural reducibility, and robustness simulations.

Three findings emerge. First, 34% of network centrality becomes detectable only through integrated analysis, with bridge actors showing 2.8-fold higher versatility ($p<0.001$). Second, single-platform approaches lose 41% of structural information. Third, gender disparities intensify: masculine-coded actors occupy 82% of bridge positions versus 61% overall ($p<0.001$).

Robustness simulation shows removing top 10 bridge actors fragments networks into 23 components and reduces efficiency by 67%, while random removal has minimal effect. These findings establish harassment networks as integrated multiplex systems requiring ecosystem-level interventions targeting bridge actors rather than platform-specific responses.

Speaker

Lutfi Basit

Lecturer | Universitas Muhammadiyah Sumatera Utara

Advanced Mathematical and Statistical Network Methodology

10:40 AM – 11:40 AM | Location: Coquina A

ORGANIZED SESSION

In recent years, the field of statistical network analysis has seen the rapid development of new statistical methodologies designed to better address the complexities in social network applications. This session will bring together experts in statistical network analysis to present recent statistical models and tools for producing rigorous insights from network data. The talks in this session will be beneficial to a wide range of researchers, including scientists who utilize these methods, as well as those who develop and research them. A special emphasis will be given to applications in the social and life sciences.

IN-PERSON

Corresponding Organizer

Jonathan Stewart

Associate Professor | Florida State University

Authors

Joshua Loyal (Florida State University)

The Decay of Impact with Network Distance in Linear Diffusion Processes

10:40 AM – 11:00 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS SOCIAL INFLUENCE

Many processes related to status, power, and influence within social networks have been modeled using forced linear diffusion models; examples include the Friedkin-Johnsen model of social influence, the status/power scores of Katz and Bonacich, and the widely used network autocorrelation model. While an assumption of such models is that the impact of one individual on another through any given path falls exponentially with path length, the total impact of the first individual on the second involves contributions from walks of all lengths; thus, while total impact is expected to decline with network distance, the relationship is not trivial. Here, we provide an approximate solution for the total impact of one node on another as a function of network distance, showing that the total impact is given to first order by a product of eigenvector centrality scores together with an expression in terms of the graph spectrum that falls exponentially with distance. We also show how this solution can be refined using higher-order eigenvectors of the adjacency matrix. A simulation study on interpersonal networks drawn from educational settings verifies an average exponential decline in influence strength, and shows that the first-order eigenvector approximation can often be a good proxy for total impact as obtained from the exact solution. This suggests a simple model that can be used to approximate total impact for social influence or status processes in a range of settings.

Speaker

Carter Butts

Chancellor's Professor | University of California - Irvine

Co-speakers

Alexander Murray-Watters

University of California, Irvine

Cheng Wang

Associate Professor | Wayne State University

John Hipp

Professor | UC Irvine

Authors

Cynthia Lakon (UC Irvine)

Darmok and Jalad at Tanagra? Large Language Models Perform Alien Cultures

11:00 AM – 11:20 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA NETWORKS AND CULTURE

Large language models (LLMs) are discussed as a major innovation in the human-computer interface. Proposals for their use include enabling non-programmers to code their own applications, doctors using LLMs to aid in clinical transcription, using LLMs as an artificial survey respondent, to their use in military and intelligence settings. Yet LLMs are innately "culture machines", trained to produce output (such as text) on a corpus of cultural materials. If an LLM were to perform an alien culture rather than the one a user expects, miscommunication might result, with potentially severe consequences. It is an open question as to how well LLMs perform any human culture. To study this, we use the EPA cognitive dimensions introduced by Osgood. These measure human cultures by assessing where they place terms on three universal EPA dimensions: evaluation, potency, and activity. Human cultures place various terms in different locations within each dimension, but all make use of these three dimensions. By examining how similarly LLMs place terms to members of human cultures, we have a means of comparing both. Using historical EPA ratings numerous time periods and countries, as well as LLM data collected in 2026, we find that LLMs produce EPA ratings that are culturally distinct from human cultures across time and space. Our analysis includes a graph representation approach for examining proximity data inspired by Dejordy et al. (2007).

Speaker

Alexander Murray-Watters

University of California, Irvine

Authors

Frances Beresford (University of California, Irvine), Haley Smith (University of California, Irvine), Sean Mackin (University of California, Irvine), Carter Butts (University of California, Irvine)

Peripheral Elites: Status-Centrality Decoupling in Social Networks

11:20 AM – 11:40 AM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY ELITE NETWORKS HISTORICAL NETWORKS SOCIAL NETWORKS & INEQUALITY

Network research has long assumed that high-status actors occupy central positions, a proposition termed the status–centrality coupling hypothesis. This paper develops a theoretical framework distinguishing two pathways to status differentiation: a centralization pathway, where status emerges through network consolidation, and a disembedding pathway, where status emerges through differentiation from local ties combined with access to external sources of distinction. Four structural conditions favoring disembedding are proposed: network instability, access to multiple exchange spheres, weak institutionalization, and low network modularity. These competing hypotheses are tested using similarity networks derived from mortuary data in a Bronze Age cemetery in northwest China. Individuals possessing rare prestige goods show substantially lower eigenvector centrality than non-possessors, a pattern robust across permutation-based inference, MRQAP regression, and threshold sensitivity analyses. High-status actors predominantly occupy bridging rather than core positions and exhibit heterophily rather than elite clustering. A common-attributes-only robustness test is introduced to disentangle substantive peripherality from measurement artifact in similarity-based networks. The findings suggest that status-centrality coupling is contingent rather than universal, with implications for how centrality measures are interpreted across network research domains.

Speaker

Rui Bai

University of Georgia

Intergroup Relations in Social Networks

11:00 AM – 12:00 PM | Location: Coquina F

SESSION

IN-PERSON

A triadic social network analysis of conflict in a national study of Latino caregivers

11:00 AM – 11:20 AM

INTERGROUP RELATIONS IN SOCIAL NETWORKS NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

This paper offers a relational perspective on caregiver conflict – that conflict can arise from the structures and composition of care networks. We explore this topic by examining care triads – caregiver, care-recipient, and a third party helping the caregiver. We also explore interactions with gender. Care triads were measured using an innovative social network module, in the context of phone/web surveys of caregivers recruited from a nationally-representative American Latino Panel (N=620). Respondents who reported having at least one tense relationship in their care network reported greater strain in their relationship with the care-recipient. Furthermore, tension was more common if the care-helper and the respondent were both caring for their parent. If the care-helper was spouse to the care-recipient, respondents also reported greater tension with the care-helper. We found no gender interactions. We close with implications for studies of care networks, especially social expectations around different role-relationships in care.

Speaker

James Iveniuk

Senior Research Scientist | NORC at the University of Chicago

Authors

Lissette Piedra (University of Illinois at Urbana-Champain), Melissa Howe (NORC at the University of Chicago), Michelle Johns (NORC at the University of Chicago)

What Structure of Acquaintanceships Leads to Social Cohesion: Comparison of Networks in Four European Countries

11:20 AM – 11:40 AM

INTERGROUP RELATIONS IN SOCIAL NETWORKS | INTERNATIONAL COMPARISON OF SOCIAL CAPITAL | NETWORKS & SUSTAINABILITY | NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Many existing studies have explored which network structural features can lead to social cohesion (e.g., intergroup contact and positive intergroup attitudes). Yet those studies tend to focus primarily on networks of closed, long-term relationships, although acquaintanceships are rapidly becoming a major part of social networking rather than friendships and kinships. Using a noble network data recently collected from four European countries—the Netherlands, Hungary, Poland, and Sweden—we explore what structure of acquaintance relationships can lead to social cohesion or conflict. This study consists of two parts. First, we measure a specific structure of the individual-level acquaintance network, considering various characteristics of ties (e.g., heterogeneity by actors' occupation and religion). Then, its relationship with multiple dimensions of social cohesion is tested in each country (e.g., intergroup solidarity, openness to policies for equality and diversity). Second, the mechanism of the observed relationship in each country is explored with an agent-based model. This model is based on the estimated societal-level networks of the four countries using the network scale-up method (NSUM). On the networks, micro-processes of vertical homophily (i.e., similar opinions/attitudes of actors of different social classes become dissimilar) and horizontal homophily (i.e., similar opinions/attitudes of actors of similar social classes become more similar) are simulated.

Speaker

Yunsub Lee

Postdoctoral Researcher | Coalesce Lab, Autonomous University of Barcelona

Building Bridges at Scale: The Evolution of Cross-Sector Brokering in a Statewide STEM Ecosystem Network

11:40 AM – 12:00 PM

INTERGROUP RELATIONS IN SOCIAL NETWORKS | NETWORK APPROACHES TO POLITICAL DYNAMICS | NETWORK METHODS FOR IMPLEMENTATION SCIENCE | ORGANIZATIONAL NETWORKS | SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS

Cross-sector collaboration is widely promoted as essential for complex policy implementation, yet we know less about who performs the work of brokering across institutional boundaries. This paper examines cross-sector brokering in the early development of STEM-NET, a statewide STEM ecosystem connecting education, business, workforce, government, and nonprofit sectors.

We draw on whole-network survey data collected during the launch of a statewide ecosystem intervention in the early 2010s (Year One N=342; Year Two N=1288). Beyond collaboration ties, the survey included a tie attribute identifying actors who worked with partners to convene organizations and individuals across sectors, allowing us to isolate brokering ties from general collaboration.

Results show growth in network size, sectoral diversity, and the mix of actors engaged in cross-sector convening. In Year One, brokering was concentrated among Intermediate School District (ISD) and university actors; by Year Two, business, nonprofit, workforce, and coalition actors increasingly occupied brokerage positions. Brokering became less centralized and more distributed across organizational types, indicating a shift toward a polycentric convening structure.

By leveraging tie-level brokering attributes, this study moves beyond structural proxies (e.g., betweenness) to examine the substantive work of cross-sector convening, contributing to research on policy networks, ecosystem governance, and relational infrastructure.

Speaker

Sarah Galey-Horn

Principal Investigator | STEM Ecosystem Evaluation

Co-speaker

William Bork Rodriguez

Researcher Consultant | International Joint Commission

Lunch

12:00 PM – 1:40 PM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Please join us in Coquina DE for lunch and networking with fellow conference attendees!

Lunch Menu

- Tortilla soup, served with cheddar cheese, tortilla strips, and sour cream
- Tortilla chips, served with salsa and black bean & corn salad
- Chicken fajitas
- Ground beef tacos
- Chicken & cheese enchiladas
- Soft flour tortillas & crisp corn taco shells, served with shredded lettuce, cheese, chopped tomatoes and onions, spicy tomato

salsa, sour cream, jalapeño peppers, and cheese
- Mexican rice
- Refried beans
- Fruit flan, cinnamon crips, and tres leches
- Iced tea
- Freshly brewed coffee

Advanced Mathematical and Statistical Network Methodology

1:40 PM – 2:40 PM | Location: Coquina A

ORGANIZED SESSION

In recent years, the field of statistical network analysis has seen the rapid development of new statistical methodologies designed to better address the complexities in social network applications. This session will bring together experts in statistical network analysis to present recent statistical models and tools for producing rigorous insights from network data. The talks in this session will be beneficial to a wide range of researchers, including scientists who utilize these methods, as well as those who develop and research them. A special emphasis will be given to applications in the social and life sciences.

IN-PERSON

Corresponding Organizer

Jonathan Stewart

Associate Professor | Florida State University

Authors

Joshua Loyal (Florida State University)

In the Bookies' Net

1:40 PM – 2:00 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE SOCIAL INFLUENCE

By assuming that betting odds are generated from an outcome probability model commonly used for ranking in sports competition networks, we cast the estimation of latent player or team strengths as a consensus problem in opinion dynamics on networks. If the competition network for which odds are given is connected, this problem yields a unique set of team strengths.

We apply our method to recent seasons of competitions organized by the Union of European Football Associations (UEFA) and its member associations such as the English Premier League, La Liga, or Bundesliga. Results indicate that the simple model based on estimated team strengths consistently reproduces betting odds, pointing at relative stability of supposed team strengths.

Authors

Ulrik Brandes (ETH Zurich)

Communities Detection in Social Networks by Hypergraph Constructing

2:00 PM – 2:20 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Many existing methods for community detection define communities as subnetworks with link density higher than the network average. However, real social communities are typically formed locally, as actors identify themselves as members of groups without global knowledge of the network. Communities may overlap, since actors can belong to multiple groups simultaneously. In well-formed communities, intensive interaction produces many triads and a high clustering coefficient, enabling detection based on local link correlation.

We propose a community detection method based on hypergraph construction. The commonality of two actors is defined as the proportion of their mutual neighbors. Three actors with high commonality form a hypernode. Two hypernodes are connected if they share two actors. Each connected component in the resulting hypergraph corresponds to a community.

Based on this framework, we develop an algorithm for detecting overlapping communities. Starting from an arbitrary actor, communities overlapping with that actor can be identified using local commonality calculations. The algorithm was evaluated on real-world and synthetic networks, demonstrating effectiveness, computational efficiency, locality, and stability under random link perturbations.

Speaker

Igor Kanovsky

Prof. | Peres Academic Center

Authors

Baruch Barzel (Bar-Ilan University), Dmitri Deinega (Bar-Ilan University, Israel)

Using statistical design theory for optimising treatment allocation in networks

2:20 PM – 2:40 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

Conducting controlled experiments to estimate causal treatment effects is central to many fields, including healthcare, business, public policy and the tech sector. When designing experiments on networks, it is crucial to acknowledge inherent network dependencies and interference, creating spillover effects. Optimal design of experiments can be used to select whom to treat in order to maximize precision in treatment effect estimation. So far applications have been largely focused on a class of linear network effects models assuming conditional independence, thus unable to identify any spillover in the form of, e.g. social influence. We instead consider network autocorrelation models to explicitly capture interference. The optimal design for this model class is dependent on the model parameters as well as the network characteristics. Drawing on our previous results on locally D-optimal designs assuming the autoregressive network effects model, we show how treatment allocation is affected by the dependence structure. Using discrete optimization algorithms, we derive optimal treatment assignments in networks of varying sizes and with different structural properties. We find that diverse allocation, targeting distant nodes, is optimal when the true network autocorrelation is positive. Further, we explore how network topology influences the optimal design.

Speaker

Ellinor Fackle Fornius

Senior lecturer | Stockholm University

Co-speaker

Johan Koskinen

Lecturer in Statistics | Stockholm University

Agent-Based Modeling and Social Networks

1:40 PM – 2:40 PM | Location: Coquina B

ORGANIZED SESSION

Bridging micro-level mechanisms and macro-social outcomes is pivotal to both Agent-Based Models (ABMs) and social network research. In recent years, a fruitful integration of the two fields has started. ABMs have been successfully applied for theoretical development around micro-level mechanisms and macro-social outcomes in relation to social networks, for the empirical testing of hypothetical causal mechanisms, and exploring counterfactual scenarios that are difficult to test empirically. As a flexible modelling technique, ABMs allow researchers to study the co-evolution of social networks and individual behavior by modelling different tie formation processes and the influence of networks on behavior. Moreover, ABMs allow modelers to incorporate assumptions about actors' decision-making processes that are cognitively and behaviorally grounded and assess the consequences of changes in those assumptions. Social network effects in an ABM can be calibrated with empirical data, which allows modelers to move beyond the use of abstract networks. In addition, ABMs can be used as a complementary tool to increase the generalizability of statistical analysis of network data. This session invites contributions in these directions, particularly those that attempt to explain macro-social outcomes or the evolution of relational patterns by individual actions and interactions constrained in dynamic social networks.

IN-PERSON

Organizers

Andreas Flache

Professor of Sociology | University of Groningen

Filip Agneessens

Senior Lecturer (Associate Professor) | The University of Manchester · Full-time

Authors

Federico Bianchi (University of Milan), Károly Takács (Institute for Analytical Sociology, Linköping University), Jennifer Badham (Durham University, United Kingdom)

Beyond the Nuclear Family: Spatial and Social Structure of Extended-Kin Networks in Historical U.S. Families

1:40 PM – 2:00 PM

AGENT-BASED MODELING AND SOCIAL NETWORKS | CHANGES OF SOCIAL NETWORKS OVER TIME | HISTORICAL NETWORKS | SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

Marriage restructures kinship networks, makes them more interconnected, and lowers the cost of maintaining family cohesion. In cohesive networks, individuals are more likely to exchange support, especially during crises. Qualitative studies in small populations show that in-law relations can influence individuals' functioning by facilitating migration, providing kin care, and offering occupational and financial support. However, most kinship studies focused on dyadic relations, either between nuclear family members or between spouses. In this study, using county-level geocoded individuals in a family tree dataset with more than 17 million individuals, we construct extended-kin networks using a sibling and sibling-in-law model that links consanguineal and affinal kin in a single graph. Nodes represent U.S.-born individuals and their birth county, and edges represent brother ties and brother-in-law ties. We examine the social and spatial connectivity and closure of these brother and brother-in-law networks across five generations between 1820 and 1920. The structure of these spatial kinship networks helps identify potential changes in extended-kin cohesion through historical events such as the Civil War and frontier expansion. To evaluate the representativeness of these families, an expected kinship model for the U.S. population is developed based on demographic indices, including fertility and mortality.

Speaker

Maryam Torkashvand

Research Fellow | University of Iowa

The role of social influence on HIV testing using a stochastic-actor oriented model: evidence from Uganda

2:00 PM – 2:20 PM

AGENT-BASED MODELING AND SOCIAL NETWORKS | CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS | SOCIAL INFLUENCE

Ending the HIV/AIDS epidemic requires that 95% of people living with HIV know their status. Social influence by modeling peer behaviors can promote HIV testing, yet most studies do not account for homophily by HIV testing and other individual attributes. We implemented a stochastic actor-oriented model (SAOM) to estimate the co-evolution of social tie formation and HIV testing over time in rural Uganda. We collected sociocentric network data from all adults in a rural parish comprising eight villages (N=1,893) every two years, including HIV status, HIV testing, socio-demographics, and name generators. Using 4 waves, we implemented a SAOM to examine changes in tie formation and HIV testing by local network structure, individual attributes, and social influence processes. Preliminary results include one village (N=272). We found homophily in tie formation by sex, age, HIV status, and asset ownership but not HIV testing. A positive linear shape parameter indicated a tendency to adopt HIV testing over time, independent of network influence and covariates (aOR=1.94, $p<0.001$). There was no social influence effect (aOR=1.14, $p=0.212$), indicating individuals' testing behaviors did not move towards alters' average testing behavior. Education was positively associated with testing (aOR=1.65, $p<0.10$), while age was negatively associated (aOR=0.96, $p<0.001$). Final results across all villages will clarify if social influence contributes to HIV testing uptake while adjusting for homophily.

Speaker

Alison Comfort

Assistant Professor | University of California San Francisco

Co-speaker

Sarah Piombo

Research Fellow | Dana-Farber Cancer Institute / Harvard Medical School

Authors

James Moody (Duke University), Scholastic Ashaba (MUST), Charles Baguma (MUST), Emily Satinsky (University of Southern California), Bernard Kakuhikire (MUST), Esther Atukunda (MUST), Julian Adong (MUST), Rumbidzai Mushavi (MUST), Miranda Hill (UCSF), Mercy Juliet (MUST), Justus Kananura (MUST), Viola Kyokunda (MUST), Phionah Ahereza (MUST), Patrick Gumisiriza (MUST), Sarah Sowell Van Dyk (Vanderbilt University), David Schaefer (UC Irvine), Alexander C. Tsai (Massachusetts General Hospital), Jessica Perkins (Vanderbilt University)

The structure of reputation system in a nascent marketplace

2:20 PM – 2:40 PM

AGENT-BASED MODELING AND SOCIAL NETWORKS | MODELING NETWORK DYNAMICS | NEGATIVE TIES AND SIGNED GRAPHS | NETWORKS IN TRADE AND FINANCE

How does sustainable social order emerge in nascent markets characterized by radical technology and high anonymity? While traditional research focuses on mature, regulated environments, we investigate how micro-level interactions aggregate into macro-level order in early-stage, high-risk exchange systems.

We analyze the entire life cycle of the Bitcoin-OTC "Web of Trust" (WoT), a decentralized reputation system where users manually assigned signed ratings (–10 to +10). We employ a weighted, directed, signed Stochastic Block Model (SBM) and infer latent community structures across longitudinal snapshots and derive a "fragmentation index" (Ft) to measure the divergence between within-community (θwithin) and between-community (θbetween) interaction intensities.

Results reveal a dynamic trajectory of social order. In the early phase, θbetween declines sharply while θwithin decreases more slowly, leading to a widening gap and a peak in the fragmentation index. In the later phase, while θwithin remains stable, θbetween begins to rise. However, this declining fragmentation does not represent social reintegration; instead, network collapses into numerous small cliques. Furthermore, agent-based modeling (ABM) indicates that purely economic incentive models lead to centralization, which contradicts our observed decentralized,fragmented empirical network.

This study shows that social order in nascent markets emerges through localized trust clusters

Speaker

Xinyue Hu

PhD student | Sociology,The Chinese University of Hong Kong

Contagion and Diffusion Processes Through Social Networks

1:40 PM – 2:20 PM | Location: Coquina C

ORGANIZED SESSION

Collective behaviors often spread through social interactions, whether it be the emergence of social norms, the rise of social movements, or the adoption of technological and health innovations. Social networks act as critical pathways for these "social contagions." Research on diffusion dynamics has demonstrated that the structure of a social network or the threshold profiles of individuals can significantly influence the patterns and speed of such diffusion.

This session invites contributions from researchers focusing on two key areas:
1. Computational Modeling: Scholars developing mathematical models that explore how structural and cognitive factors affect diffusion processes, as well as those employing agent-based simulations to understand behavior change and diffusion dynamics.
2. Empirical Studies: Researchers conducting empirical work that maps social networks and measures the timing of adoption to build diffusion models are encouraged to participate. These studies may examine who within a network is most susceptible to influence, who serves as crucial influencers, and how social or economic factors shape the adoption process.

This session will provide a platform for presenting new datasets or advances in new contagion models. The discussion will be oriented towards new network interventions in areas like public health and cutting-edge research direction.

IN-PERSON

Corresponding Organizer

Thomas Valente
Professor | University of Southern California

Organizers

Aníbal Olivera
PhD(c) Student | Universidad del Desarrollo, Chile

George Vega Yon
Research Associate Professor, Epidemiology | University of Utah

Information Availability and Influence on Directed Graphs

1:40 PM – 2:00 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS | SOCIAL INFLUENCE | SOCIAL NETWORKS & INEQUALITY | TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

The principal eigenvector of an adjacency matrix is the basis of several important metrics in social network analysis. Bienenstock and Bonacich (2021) proposed using the Gini-coefficient of the principal eigenvector of the communication matrix to measure the extent to which the centralization of communication in an organization is a barrier to incorporating information from outside the core. This problem can be exacerbated when informational flows are one way. On directed graphs, nodes that are informed may not be influential, and influential nodes may not be informed. This subtle distinction is highlighted by the relationship between the forward and reverse versions of the DeGroot influence model with the corresponding reverse and forward versions of PageRank, giving rise to two separate Gini-coefficient measures of influence inequality and information inequality for directed graphs.

Speaker

Elisa Jayne Bienenstock
Research Professor | Arizona State University

Co-speaker

Joel Nishimura
Associate Professor | Arizona State University

Social Networks Influencing Therapy-Seeking Behavior among International Students in the United States

2:00 PM – 2:20 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS | SOCIAL INFLUENCE

College students are prone to experiencing some form of mental health conditions during their time in college (Kecojevic et al., 2020). Despite this likelihood, several studies have shown that international students rarely seek mental health help (Skromanis et al., 2018). Research examining international students' help-seeking behavior related to their mental health is therefore integral.

Previous studies have suggested that the people we associate with significantly influence ourhealth behavior(Khosravi et al., 2018), including alcohol consumption (Neighbours et al., 2007) mental health assistance seeking (Silt et al., 2017), exercise (Okun et al., 2003) smoking (Butttross & Kastner, 2003). Several social network theories explain this phenomenon (Granovetter (1973; (Rimal & Real, 2003)). For instance, the contagion mechanism suggests that the attitudes and behaviors of people to whom a person is connected directly affect how they behave (Erickson, 1988). This study examines how social networks influence mental health assistance seeking, the norms by which this influence occurs, and the role of strength of ties in international students' decision-making about the disclosure of mental health conditions and help-seeking. By examining social network connections and how mental health assistance-seeking influence occurs, this study offers some implications for practice. Targeted programs and campaigns may be developed to boost help-seeking among international students.

Speakers

Gladys Momade
PhD Student | Purdue University

Seungyoon Lee
Professor | Purdue University

Mixed Methods for Social Network Analysis

1:40 PM – 2:40 PM | Location: Coquina G

SESSION

IN-PERSON

Early Neural-habitus Attunement to Peer Status Predicts Future Social Network Position and Popularity in Adolescents

1:40 PM – 2:00 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS AND CULTURE

Popularity is a key marker of social status, yet the phenomena that support its emergence within newly forming social groups remain unclear. We combined functional neuroimaging and longitudinal school-wide social network analysis to track adolescents throughout their first year of high school, examining whether early neural-habitus responses to peers of varying social status predict later popularity. Here, we show that greater neural differentiation when viewing the faces of unpopular versus popular peers, particularly in the hippocampus, forecasts greater perceived popularity at the end of the school year. This relationship is mediated by midyear social network centrality, especially in-closeness centrality, which reflects being more easily reachable by peers. These findings suggest that early neural-habitus attunement to the status of their peers shapes how adolescents become embedded in their social networks, which in turn contributes to later gains in their own social statuses, perceived popularity. More generally, these findings reveal how neural and social network-level processes jointly drive adolescents' navigation of evolving social landscapes and attainment of social status.

Speaker

Yoosik Youm

Underwood Distinguished Professor, Professor of Sociology | Yonsei University

Authors

Won-Gyo Shin (Yonsei University), Kiho Sung (Yonsei University), Junho Bang (Pusan National University), Sunhae Sol (Hanyang University), Carolyn Parkinson (UCLA)

A Mixed Methods Analysis of Interorganizational Networks Supporting Mental Health in High Schools

2:00 PM – 2:20 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS ORGANIZATIONAL NETWORKS

Students with disabilities with comorbid mental health needs may be best served within schools, however mental health services available in schools are often insufficient to support the needs of students with disabilities. Collaboration with community mental health agencies may best meet the needs of students with disabilities, but little is known about how these relationships form. This study utilized a mixed methods approach, including social network analysis (ERGMs for valued edges) and qualitative analysis, to examine existing and desired networks of schools and community agencies and the perspectives of staff within these organizations to expand our understanding of how facilitators and barriers may explain perceptions of relationship intensity. Integration of quantitative and qualitative findings suggest relational facilitators and structural factors contribute to relationships, while organizational barriers may impede them. Schools and community agencies interested in building or improving relationships should focus on strengthening relational facilitators while addressing organizational barriers within their control. Additionally, relational barriers not easily addressed may be mitigated through transparency and communication.

Speaker

Kate Bromley

Research Associate | University of Oregon

Using network data as an assessment tool for educational design in postsecondary education

2:20 PM – 2:40 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

Postsecondary institutions have made considerable investments in accountability infrastructure to assess student learning at micro and macro scales.These approaches, though, often suffer from a focus on methodological individualism, isolating individual behaviors from the campus environment and relationship structures. We offer a complementary approach to traditional evaluation methodologies by incorporating network data collection and analysis tools to explore how institutions shape the opportunity structure of students' relationships in the campus environment.

We offer two illustrative examples using network methodologies to advance evaluation of students' learning experiences to improve educational design. First, we present an evaluation using attendance data from a program that supports the persistence of Women in Science, Technology, Engineering, and Math. Using a two-mode network, we identified how neighborhoods and communities emerged around focal events, illustrating either interdisciplinary interaction or homophilous network formation. Second, we describe a reflective course activity where first-year undergraduates mapped their college support networks. Assignment results were used to develop interventions to help students identify and generate previously missing resources and strengthen existing ones. Throughout, we provide design and analysis suggestions, describe challenges, and illustrate the importance of thinking relationally in question and method design.

Speaker

Michael Brown

Associate Professor | University of Michigan, Ann Arbor

Co-speakers

Rachel Smith

Associate Professor | Iowa State University

Rachel Niemer

Managing Director, Women in Science & Engineering | University of Michigan

Virtual Presentations

1:40 PM – 2:40 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

Meeting ID: 859 5610 9825
Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Social support and caregiving: a systematic revision of the siblings networks during ageing

1:40 PM – 2:00 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

Meeting ID: 859 5610 9825
Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Every day, people worldwide are living longer, leading to an increase in the number and proportion of older adults in the vast majority of countries. Therefore, their social support and caregiving relationships are more relevant in the context of a care crisis. Throughout a person's life, one of the most consistent relationships is with siblings; hence, its relevance. This research focuses on systematically understanding the existing literature on sibling relationships during ageing to identify gaps.

We conducted a systematic review using a qualitative and mixed-methods approach to understand this topic. To achieve this objective, the PRISMA guidelines will be adopted for data collection, analysis, and presentation, following the guidelines for a systematic review. The Web of Science database is analysed. Including only published articles in English and Spanish on "sisterhood networks among older adults" (query). For each systematic review, a network analysis will be applied to the (available) sociodemographic characteristics of the articles.

In short, this research will allow us to explore what has been written in the global and Latin American literature about sibling relationships among older adults from a relational perspective. This will help identify gaps in the literature, which could be helpful for future studies on social support, caregiving, or the ageing population.

Speaker

Francisca Ortiz Ruiz

Assistant professor | Centre for Economics and Social Policy, Universidad Mayor.

Authors

Matías Montero (Department of Education, University of Oxford.)

Mapping Boundary Work: Sectoral, Disciplinary, and National Dynamics in Smart Cities Collaboration Networks

2:00 PM – 2:20 PM

WORDS AND NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

Meeting ID: 859 5610 9825
Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

We examine how *boundary work* shapes global smart cities research by operationalising Gieryn's (1983) framework with network methods. Using a co-authorship network of 26,692 authors from 9,378 Scopus-indexed articles (1999–Q1 2023), we map how sectoral, disciplinary, and national boundaries organise scientific collaborations. We combine assortativity coefficients with clique-level diversity measurement such as *degree primacy* as well as the *residualised Shannon entropy* to capture both structural tendencies and localised configurations of boundary maintenance. This approach reveals clear tendencies for collaborations to remain within-sector, within-discipline, and domestic. Boundary-crossing ties are rare and typically occur within, rather than across, the STEM and HASS domains. ICT and engineering researchers occupy dominant positions, while fields such as Indigenous Studies and gender studies remain peripheral. Emerging hubs in the Asia–Pacific and Africa, and China's increasing centrality, signal the shifting geopolitical dynamics of knowledge production. By demonstrating how network metrics can surface forms of epistemic enclosure, we show that global connectivity coexists with uneven legitimations of knowledge, and argue for approaches that incorporate Indigenous and gender perspectives in smart cities research.

Gieryn TF (1983) Boundary-work and the demarcation of science from non-science. American Sociological Review 48(6): 781–795.

Speaker

Xiaolan Cai

PhD candidate | University of Canberra

Authors

Mathieu O'Neil (University of Canberra)

Exposing the obscured influence of state-controlled media via causal inference of quotation propagation.

2:20 PM – 2:40 PM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/85956109825?pwd=XOSyaZevPwbSGcRq26peLURuHQZAC0.1

Meeting ID: 859 5610 9825
Passcode: 226938

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Reporting by major media outlets influences news coverage by other outlets, resulting in an outsized impact on public opinion. Understanding this inter-outlet influence, known as intermedia agenda setting, is important for assessing the impact of state media and strategic communications. We demonstrate a novel method to quantify inter-outlet influence using causal inference on “quote following,” where one outlet uses the same quote as another outlet at a later date. By applying our methodology to a dataset of quotes from over 100,000 articles published in European media between May 2018 and October 2019, we reveal obscured influence by Russian state-affiliated media over other outlets and the general dynamics of European media. We find that Russian state-controlled media have a strong influence on the coverage of other Russian outlets, including independent outlets. Moreover, this influence extends to media ecosystems of other countries. Finally, we demonstrate quantifying inter-outlet influence on the specific topic of nuclear forces treaty, as an example of precision study of intermedia agenda setting on specific issues. Overall, our methodology quantifies sources and channels of influence between news outlets with important implications for strategic communication, influence operations, and media independence.

Speaker

Jacob Coakwell
Senior Manager - Assessments | Accenture Federal Services

Co-speakers

J

Joseph Schlessinger
MIT Lincoln Laboratory

Edward Kao
Research Staff | MIT Lincoln Laboratory

S

Steven Smith
MIT Lincoln Laboratory

R

Richard Bennet
Accenture Federal Services

Intergroup Relations in Social Networks

2:00 PM – 2:20 PM | Location: Coquina F

SESSION

IN-PERSON

Cognitive Expectations of Homophily in Village Social Networks

2:00 PM – 2:20 PM

INTERGROUP RELATIONS IN SOCIAL NETWORKS

RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS

SOCIAL CAPITAL AND SOCIAL INEQUALITY

Homophily, the tendency for individuals to associate with similar others, is a central principle of social organization. Yet, the extent to which social actors rely on this principle when reasoning about their social networks—and overestimate its applicability—remains unclear. Here, we investigate individuals' cognitive expectations of homophily and compare these expectations to actual homophily among 10,072 adults across 82 isolated Honduras villages. We elicited subjects' beliefs about whether pairs of people in their village-wide social networks were socially connected. We show that people deploy cognitive heuristics that substantially overestimate homophily across multiple dimensions, including wealth, ethnicity, gender, and religion, with gender showing the largest excess. Overall similarity produces a striking bias: respondents are more likely to falsely believe similar individuals are connected than to correctly identify an actual tie between dissimilar individuals. We also find that individuals whose ego networks exhibit greater homophily show stronger sensitivity to similarity when judging others' ties. Furthermore, people exploit network structural information when predicting ties, independent of attribute-based similarity. Understanding cognitive homophily has implications for models of network formation, for measures targeting social behavior and information diffusion, and for interventions addressing social inequality.

Speaker

Eric Feltham

Postdoctoral Research Scholar | Columbia University

Coffee Break

2:40 PM – 3:00 PM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments - INSNA thanks the Arizona State University Institute for Social Science Research (ISSR) for sponsoring this break!

Break Menu

- Assorted vegetables, hummus, and pita chips
- Assorted cookies
- Freshly brewed regular and decaffeinated coffee
- Iced tea

SPONSORED BY:

ASU Institute for Social Science Research
Arizona State University

Awards Ceremony

3:00 PM – 3:45 PM | Location: Coquina DE

AWARD CEREMONY

Simmel Award Keynote Presentation

3:45 PM – 5:15 PM | Location: Coquina DE

KEYNOTE

Speaker

David Lazer

University Distinguished Professor of Political Science and Computer Sciences | Northeastern University

Banquet Dinner

5:15 PM – 7:30 PM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

You're invited to the 2026 Sunbelt Banquet Dinner! Enjoy a delicious dinner and drinks with the 2026 Sunbelt Organizing Committee and fellow colleagues immediately following the Awards Ceremony and Simmel Award Keynote Presentation. If you would like to bring a

guest, please visit the registration desk to purchase a guest ticket. We look forward to seeing you!

Banquet Dinner Menu

- Starters
  - Tomato mozzarella salad: fresh mozzarella tossed with roasted garlic, fesh basil and arugula, grape tomatoes; topped with toasted cracked black pepper, roasted garlic, extra virgin olive oil, and fresh lemon
  - Caesar salad: Romaine lettuce, croutons, shaved parmesan, and classic Caesar dressing
  - Tabbouleh: cucumber, tomato, green onion, parsley, mint, lemon juice, and olive oil
- Entrees
  - Sliced sirloin with red wine demi glace
  - Grilled chicken with lemon sauce
  - Pan-seared orange roughy with lemon herb buerre blanc
  - Three-cheese ravioli served with cream, marinara, and fried basil
- Sides
  - Seasonal vegetables
  - Rice pilaf
  - Rolls with creamery butter
- Dessert
  - Assortment of cheesecake
  - Carrot Cake
  - Chocolate Cake
- Beverages
  - Coffee
  - Hot tea
  - Wine, beer, and soda bar

Hospitality Suite Open

8:00 PM – 11:00 PM | Location: Hospitality Suite

Friday, June 26, 2026

Registration/Check-in

7:00 AM – 5:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

7:00 AM – 8:00 AM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Start your day in Coquina DE with a tasty breakfast buffet and networking with fellow attendees!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
- Vegetable quiche with tomato, spinach, and cheese
- Scrambled eggs
- Hickory-smoked bacon
- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Organizational Networks

8:00 AM – 8:40 AM | Location: Coquina C

ORGANIZED SESSION

The networked nature of organizations creates a complex ecosystem where individuals, groups, units, and other organizations are entangled. Such an entanglement shapes organizations in a dynamic way and affects their outcomes at multiple levels. This session aims to bring together studies on organizational networks addressing antecedents, dynamics, cross-level processes, and outcomes.

Submissions can refer, but are not limited, to the following areas of research:

– Micro-foundations of organizational networks: How individual characteristics and cognitions affect the emergence of network structures and how these network structures affect individuals.

– Dynamics of organizational networks: How network structures at various levels co-evolve and affect one another, as well as organizational processes and outcomes.

– Time-dependence in organizational networks: How organizational networks at various levels change at different paces over time.

– Overlap and interplay between social and other kinds of networks within and across organizational settings: How organizational networks are affected by the affiliation of individuals, or organizations to events or contexts.

– Organizational networks and the future of work: How new technologies (e.g., digital platforms, Artificial Intelligence, Virtual Reality) and new forms of organizing (e.g., distributed, boundaryless, and hybrid organizations) shape, support or hinder organizational networks.

We welcome both theoretical and empirical contributions addressing various aspects and implications of organizational networks research.

IN-PERSON

Authors

Francesca Pallotti (University of Exeter Business School), Spyros Angelopoulos (Durham University Business School), Olaf Rank (University of Freiburg), Paola Zappa (UCL)

Increasing Cross-Disciplinary Scientific Communication within Research Hubs: The Interactive Effects of Institutional Breadth and Resource Stability

8:00 AM – 8:20 AM

ORGANIZATIONAL NETWORKS

Research institutions and funding agencies devote considerable resources to support semiformal organizational entities known as research 'hubs' that connect scientists from different disciplines and institutions. We advance understanding of the organizational features of research hubs associated with gains in cross-disciplinary connectivity by evaluating the growth in novel connections among previously disconnected disciplinary areas based on the corpus of 27,543 interdisciplinary publications produced by 62 medical research hubs supported by the National Center for Advancing Translational Sciences' CTSA program. Longitudinal models of network emergence reveal significant increases in cross-disciplinary connectivity over time within 82% of the hubs, suggesting that the implementation of a research hub is associated with growth in cross-disciplinary connectivity over time. However, the strength of a hub's growth depends on the interactive effect of the number of institutions involved (institutional breadth) and the stability of the hub's funding (resource stability). Although hubs with higher institutional breadth may appear to have higher potential for sustained growth in cross-disciplinary connectivity, institutional breadth is only positively associated with growth when resources are stable. Dependence on resource stability was not observed for hubs with low institutional breadth, suggesting that stability is particularly relevant for hubs involving many institutions.

Speaker

Alina Lungeanu

Assistant Professor | Northeastern University

Authors

Dorothy Carter (Michigan State University), Hayley Trainer (The University of Georgia)

Collaborative Learning among Military Educators: A Social Network Analysis of Transactive Memory Systems and Organizational Learning

8:20 AM – 8:40 AM

ORGANIZATIONAL NETWORKS

Military educators are expected to continuously develop their instructional skills to adapt to evolving operational contexts. Collaborative learning within and across units supports educators' professional development by providing access to distributed expertise.

This study examines the collaborative learning networks of military educators to investigate transactive memory systems (TMS), defined as a shared understanding of "who knows what" and how to access that expertise. While prior research has focused primarily on team-level TMS, organizational-level investigations remain limited. Moreover, although social network analysis (SNA) has been widely recommended as a promising approach for studying TMS, empirical applications remain scarce. By integrating TMS concepts into network-based measurement, the study captures perceptions of colleagues' expertise and learning ties, contributing both theoretically and methodologically to research on organizational-level TMS.

A network survey was distributed to approximately 500 military instructors and trainers across eight Defence training centers in Belgium. Preliminary analyses reveal substantial variation in cross-unit learning and communication patterns across training units, suggesting different organizational conditions for coordination and knowledge retention. These findings provide new empirical insight into how organizational-level TMS can be examined using social network analysis in large, multi-unit organizations.

Speaker

Mariko Matsuzaki

PhD Researcher | KU Leuven / Royal Military Academy

Authors

Katrien Vangrieken (KU Leuven), Salvatore Lo Bue (Royal Military Academy, Belgium)

Social Network Analysis for Critical Infrastructure

8:00 AM – 8:20 AM | Location: Coquina B

ORGANIZED SESSION

This panel session seeks to attract papers on applying social network analysis (SNA) to critical infrastructure protection (CIP). There is a growing recognition of the vulnerabilities malevolent actors or accidental failures can pose to critical infrastructure (CI) and the resulting harm. While existing literature has shown that SNA can be a valuable tool for identifying vulnerabilities in CI, there is a dearth of literature and practical application, especially in private industry. With this panel we hope to bridge the gap between the scholarly application of SNA to CI and the practitioner implementation of SNA informed CIP strategies. We hope to attract papers applying SNA to CIP in all sectors, but especially in the transportation, chemical, energy, and health sectors. Participation in this panel will help to inform the establishment of a SNA for CIP program within the Institute for Homeland Security at Sam Houston State University.

IN-PERSON

Corresponding Organizer

Nathan Jones

Associate Professor | Sam Houston State University

Organizer

Michael Aspland

Executive Director - Institute for Homeland Security | Sam Houston State University

Water Network Topography for the State of Texas: A Scale-Free Network

8:00 AM – 8:20 AM

SOCIAL NETWORK ANALYSIS FOR CRITICAL INFRASTRUCTURE

This technical report examines the Texas water network using a dataset from the Texas Water Use Survey administered by the Texas Water Development Board. It contributes to the literature in three ways. First, it provides an empirical strategic social network analysis (SNA) of the water flow in Texas through 6,696 nodes, comprising water sources and systems via more than 8024 relationships (how water moves through the system). The findings indicate that the Texas water network exhibits scale-free characteristics, with highly connected hubs. The hub structure suggests that the concentration of security resources on hubs will provide the highest return on investment and maximize resilience and robustness in the network. Additionally, we conducted a key player analysis, and we identify a set of water sources and systems whose removal disconnects or significantly fragments the network. We suggest that focusing protection resources on these would most effectively enhance overall water network resilience.

Speaker

Nathan Jones

Associate Professor | Sam Houston State University

Virtual Presentations

8:40 AM – 9:40 AM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Sleeping Beauties in an Online Health Community: The Role of Network Position and Informational Support

8:40 AM – 9:00 AM

DIGITAL NETWORKS IN HEALTHCARE | NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA | ONLINE HEALTH COMMUNITIES

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

In online health communities, patients' information needs are episodic and recurrent, yet platforms organise content chronologically. Some posts may therefore be rediscovered long after publication, and authors' structural positions in the community network may shape which ones. We adapt the sleeping beauty concept from citation analysis, where publications lie dormant before an unexpected citation surge, and apply it to post-level attention dynamics in a UK national asthma forum (5,981 posts, 965K+ page views, 2019-2024). A community-level double power law models two-phase attention decay. A modified Beauty Coefficient then flags posts that regain unexpected attention relative to this baseline.

We found that 8% of posts exhibit late-stage resurgence, with the distribution of resurgence magnitude following a heavy tail. Informational support posts are 2.33x over-represented among posts with the strongest resurgence, while purely emotional support posts are progressively under-represented. Directed commenting networks reveal that author betweenness centrality is positively associated with sleeping beauty status (OR=1.17, p<.001), suggesting that bridging positions expose content to diverse audiences and increase the likelihood of late rediscovery.

These findings reveal persistent informational value that standard engagement metrics miss, and point to network-informed recommendations for surfacing content relevant to patient self-management that would otherwise remain buried.

Speaker

Xiancheng Li

Post-doctoral researcher | Queen Mary, University of London

A social network analysis of stakeholders involved with markets for organic and naturally farmed foods and beverages in India

9:00 AM – 9:20 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS IN AGRICULTURE
RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS
SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Organic and natural farming are expanding rapidly in India, yet the domestic market for these products remains limited, with many farmers struggling to identify buyers. While low domestic demand is part of the challenge, the reported low availability and affordability of organic and naturally farmed foods points to broader market challenges. There has been limited research on this market in India, including who the key stakeholders are, how they are connected, and what they perceive as strengths and challenges. This study aimed to fill that gap by conducting a mixed methods social network analysis (MMSNA) of 471 identified stakeholders, focusing on networks of collaboration, governance, funding, and information related to markets for organic and naturally farmed foods in India. We found low density and concentration of power across the four networks, with some stakeholders having more connections but not significantly greater structural power or links to government actors. The networks showed fragmentation, particularly based on differing certification standards, and information flows were especially limited. A key market strength was growing domestic demand, while key challenges included the small and fragmented nature of the market, lack of differentiated market infrastructure, and difficulties establishing trust. Overall, our study underscores the need for a strategic multi-stakeholder approach to developing markets for organic and naturally farmed foods in India.

Speaker

A

Alexandra Sadler

PhD Student | University of Edinburgh

Authors

Gil Viry (University of Edinburgh), Gv Ramanjaneyulu (Centre for Sustainable Agriculture, Hyderabad, India), Dominic Moran (University of Edinburgh), Vinton Omaleki (University of Edinburgh), Lindsay Jaacks (University of Edinburgh)

Weaving the Fringe Core: How the Constitution of Relational Publics Explains Engagement on Social Media

9:20 AM – 9:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS
NETWORK APPROACHES TO POLITICAL DYNAMICS ORGANIZATIONAL NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

This article examines the media co-consumption networks during the early wave of COVID-19 vaccination as an instance of the constitution of relational publics in unsettled times. I develop a relational theory to explain an empirical puzzle: how a relatively small volume of misinformation can nonetheless position misinformation, such as conspiracy theories, as a prominent social and political issue. Using blockmodeling techniques, the analysis reveals a structural asymmetry: specific misinformation outlets are highly integrated with conservative mainstream and official sources, effectively occupying the core of the media network. By contrast, the liberal mainstream—despite supporting official government policy—is relegated to the periphery, exhibiting a structural isolation comparable to radical fringe outlets. Negative binomial regression models confirm that structural positions drive impact: only misinformation outlets occupying a core position achieve significant social media engagement. These findings support that audiences act as bricoleurs, integrating disparate news sources into a radically restructured media landscape, while extending our understanding of polarization by demonstrating that the architecture of the relational public, not just the content of the news, determines the boundaries of legitimate knowledge.

Speaker

Chen-Shuo Hong
Assistant Professor | National Taiwan University

Corporate Networks

9:00 AM – 10:00 AM | Location: Coquina B

ORGANIZED SESSION

This session highlights the study of the role of social networks in consolidating the dominant position of business and economic elites. Applicants are invited to submit papers that use social network analysis at either local, national or transnational level. We're particularly interested in research offering insights into the social attributes of dominant economic elites and their interdependencies with the political sphere through think tanks, clubs and informal groups. We also welcome papers that offer new empirical perspectives or analytical tools to understand how corporate networks are embedded into non-corporate forms of sociability, thus facilitating the connection of the economic realm with other social spheres. Papers may also explore how interlocking directorates help understand the transformation of business elites, especially when they are confronted with socio-political or financial crises. Finally, the session welcomes innovative approaches that combine social network analysis with qualitative or other quantitative methods (multiple correspondence analysis, sequence analysis, etc.).

IN-PERSON

Corresponding Organizer

Roy Barnes
University Of Michigan-Flint

Organizers

Josh Murray
Associate Professor | Crye-Leike Real Estate

Mohamed Oubenal
Researcher in sociology | IRCAM, Morocco

Roberto Urbani
Luiss

Do Green Ties Matter? Environmental Performance and Formation of Board Interlocks

9:00 AM – 9:20 AM

CORPORATE NETWORKS | NETWORKS & SUSTAINABILITY | SOCIAL NETWORKS AND CLIMATE CHANGE

This paper examines whether firms' environmental performance conditions the formation of interlocking directorates in corporate governance networks. Rather than treating interlocks as channels for ESG diffusion, the study conceptualizes board interlocks as outcomes of social selection shaped by firm-level attributes. Drawing on legitimacy theory and the distinction between symbolic and substantive environmental performance, it argues that firms selectively form board-level affiliations with environmentally similar firms either to signal legitimacy or to reinforce credible sustainability oversight. Using data on publicly listed firms in Denmark, Germany, and France from 2016 to 2021, the study applies ERGM to analyse conditional patterns of interlock formation while accounting for endogenous network dependence. The results show that environmental performance is associated with interlocs, but that symbolic and substantive performance operate differently over time: symbolic similarity appears intermittently in earlier years, whereas substantive similarity becomes increasingly salient in later periods as regulatory scrutiny and performance-based sustainability expectations intensify. These findings extend research on interlocks by identifying environmental attributes as selection criteria in governance networks and refine legitimacy-based accounts of ESG governance by documenting a shift from disclosure-oriented alignment toward outcome-based environmental oversight.

Speaker

Slobodan Kacanski

Associate Professor of Accounting | Roskilde University

A Role-Based Network Mechanism for Scope 3 Reduction: ego-TERGM Inference in Global Automotive Supply Chains

9:20 AM – 9:40 AM

CORPORATE NETWORKS | NETWORKS & SUSTAINABILITY

Scope 3 emissions represent the largest portion of the automotive industry's carbon footprint yet the structural mechanisms facilitating their reduction remain underexplored. While traditional approaches focus on firm attributes this study adopts a dynamic network perspective to examine how specific supply network roles influence decarbonization performance. We categorize firms into the four distinct roles of Negotiator, Orchestrator, Executor, and Compromiser based on local network density and centrality. We employ the Ego Temporal Exponential Random Graph Model framework to empirically infer these latent roles within a longitudinal dataset of major global automakers and their tier 1 suppliers and customers spanning 2016 through 2024. We then connect role membership to Scope 3 performance by measuring emissions intensity change and upstream emissions visibility. Orchestrators occupy highly central positions in sparse ego networks and struggle the most with Scope 3 visibility and reduction. Executors and Compromisers benefit from denser ego networks and show stronger declines in Scope 3 intensity whereas Negotiators exhibit smaller and more volatile improvements. We further examine whether the share of green revenue moderates the role of product greening in translating into supply chain decarbonization. The findings provide a reference for automotive manufacturers to formulate network based Scope 3 emissions governance strategies tailored to specific roles.

Speaker

Lin Li

Harbin Institute of Technology

Co-speakers

Kexin Cong

University of Macau

Meng Li

Harbin Institute of Technology

Interlocking Board Memberships: Governance Networks Across Corporates and Nonprofits

9:40 AM – 10:00 AM

NETWORKS, PHILANTHROPY, AND SOCIAL IMPACT

This study examines interlocking board memberships between corporate and nonprofit sectors using network analysis and data from LittleSis. Findings reveal structural differences: corporate boards are more insular, reinforcing sector-specific governance, while nonprofit boards, particularly in the arts and philanthropy, exhibit greater cross-sector connectivity. Board interlocks show strong geographic clustering, with governance networks aligning with regional economic ecosystems. Despite some overlap, corporate and nonprofit boards largely operate independently, with financial institutions playing a central role in business interlocks. Sectoral diversity analysis using Shannon entropy indicates that art organizations have the most diverse board connections, while finance boards remain more homogeneous. These insights highlight the role of board interlocking in shaping governance, influencing decision-making, and reinforcing elite networks. The study contributes to research on organizational networks, governance structures, and the intersection of business and nonprofit leadership, with implications for policy, transparency, and cross-sector collaboration.

Speaker

Dikla Yogev

Assistant Professor | Florida International University

Co-speaker

Louis Shekhtman

Bar Ilan University

Research and Methods in Low- and Middle-Income Settings

9:00 AM – 10:00 AM | Location: Coquina C

ORGANIZED SESSION

Most of the world's population lives Low- and Middle-Income Countries (LMICs) yet these settings remain largely overlooked in network science. In these non-WEIRD (Western, Educated, Industrialized, Rich, Democratic) contexts, social networks often play central roles in shaping well-being, development, and health where formal sources of support may be lacking. Social networks serve as key sources of welfare, knowledge, and support, influenced by diverse cultural and environmental realities. Some recent global health studies have demonstrated that incorporating network-based approaches into intervention strategy can accelerate population-level change where it is most needed. At the same time, researchers must navigate logistical difficulties, ethical considerations, and the importance of strong community engagement to ensure reliable and culturally responsive network research methods.

This session will spotlight experimental, observational, intervention, and theoretical projects on social networks in LMICs. We welcome studies using socio-centric or ego-centric designs. Topics may include network appraisal methodologies, addressing community engagement in network research and/or dissemination, multi-layered or temporal networks, use of mixed-methods approaches, and examination of network structure, composition, and/or spillover effects in relation to health and development. By advancing network methods and evidence from LMICs, this session will highlight the critical role of social networks in promoting equity, well-being, and development worldwide.

IN-PERSON

Corresponding Organizer

Jessica Perkins

Assistant Professor | Vanderbilt University

Authors

Ana Lucia Rodriguez de la Rosa (Yale University)

Social Networks, HIV Stigma and Disclosure Among African Immigrants

9:00 AM – 9:20 AM

RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS

HIV/AIDS continues to be a worldwide health problem, with approximately 40 million people living with HIV by the end of 2024. While tremendous progress has been made in combating the epidemic, increasing HIV incidence highlights the need to address individual and structural barriers that continue to undermine these efforts.

Stigma in particular has been identified as a key barrier, contributing to delays in testing and treatment, and poorer adherence to care. Importantly, how stigma is experienced depends in part on the characteristics of an individual's social networks, with implications for how they manage information about their status - whether, to whom, and under what conditions they disclose their HIV status.

This presentation draws on data from in-depth interviews and a CAPI survey to examine the links between stigma and social networks of African immigrants living with HIV. It will explore experiences of stigma within participants' personal networks, comparing the characteristics of those who have concealed their HIV status, disclosed it voluntarily, or been outed/breached, with respect to the structural and compositional properties of these networks. The presentation will highlight how personal network connections shape the disclosure of stigmatized health conditions, and the broader implications of 'network stigma' for health outcomes, including HIV risk and protective behaviors.

Speaker

E

Emmanuel Koku

Professor | Department of Sociology, Drexel University, Philadelphia, PA.

Misperceived norms, network composition, and disclosure of getting tested for HIV: a sociocentric social network study of adults in rural Uganda

9:20 AM – 9:40 AM

RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS SOCIAL INFLUENCE

Peer norms are understudied as drivers of HIV testing disclosure. Adults across 8 villages reported whether they had people that they had been tested for HIV. Participants also estimated whether most villagers had disclosed getting tested for HIV. Disclosure and HIV status were recorded for all incoming and outgoing alters. Perceptions were compared with aggregated reports of personal testing disclosure. We also estimated associations between personal disclosure and disclosure norms, adjusting for network size, alters living with HIV, and other factors. Among those who had been tested for HIV (n=1570/1,703 [92%]), most (1,092 [70%]) had disclosed testing, and most (1,096 [70%]) were in personal networks where >50% had disclosed getting tested. However, 1285 (83%) incorrectly thought disclosure was not normative. Correctly perceiving disclosure as normative was associated with personal disclosure (aRR = 1.19, 95% CI= [1.11–1.26], p<0.001). As the number of alters who had disclosed testing increased, so did the likelihood of personal disclosure (adjusted risk ratio [aRR]=1.27, 95% CI=[1.24-1.30], p<0.001). Having alters living with HIV was not associated with disclosure. In an HIV-endemic setting, most participants had personal networks where disclosure was normative yet most participants thought disclosure was uncommon in their village. Interventions to correct misperceived norms and foster conversation about testing may decrease stigma and increase HIV testing.

Speaker

Jessica Perkins

Assistant Professor | Vanderbilt University

HIV testing history homophily in the Likoma Island sociocentric sexual network study

9:40 AM – 10:00 AM

RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS

HIV testing and treatment homophily may segregate HIV interventions on a network, altering the effectiveness of population-level testing and treatment coverage on HIV incidence. In prior work, we have found evidence of HIV testing homophily in household couples, but have yet to explore this phenomenon in non-household partners.

The Likoma Network Study was a sociocentric sexual network study conducted in 2005-2008 on Likoma Island, Malawi. A census of Likoma Island was conducted, and individuals nominated up to five most recent sexual partners. Participants were asked about their HIV testing history and were offered HIV testing and counseling (HTC) through the study. We built exponential random graph models for the sexual networks including nodal attribute and homophily terms for age, years of schooling, and two HIV testing variables. We find that our homophily term on HIV testing was statistically significant overall and for household partners, but not among steady girlfriend/boyfriend, infrequent, or one-time partnerships.

Our findings corroborate work showing homophily on HIV testing among household couples. However, within more casual partnership types we find no evidence of homophily. While the results come from an earlier era of the HIV epidemic, it is plausible that the mechanisms behind household couple homophily is influence, rather than selection, and explained by partnership duration. Newer data is needed to evaluate whether these findings hold today.

Speaker

Kathryn Risher

Assistant Professor | Penn State University

Social Networks & Inequality

9:00 AM – 9:40 AM | Location: Coquina F

SESSION

IN-PERSON

Network structures of inequality in social and informational support: The role of intersecting identity dimensions in three disasters

9:00 AM – 9:20 AM

SOCIAL NETWORKS & INEQUALITY

Disasters are contexts in which vulnerability and inequality associated with various sociodemographic identities become salient. The inequalities are reflected not only in differences in disaster impacts and recovery outcomes but also in the structure of networks individuals are able to draw resources from during response and recovery. Although prior research has examined these issues extensively, most studies focus on a single identity dimension at a time. Drawing on Quantitative Criticalism (QuantCrit) framework, which emphasizes the critical underpinnings of social structures, and utilizing egocentric network survey datasets from three U.S. hurricanes events, this study analyzes how intersecting identity dimensions shape network structure. Specifically, we examine patterns of social support network composition (e.g., homogeneity, density, and access to institutional versus informal support) as well as evacuation-related information support ties at the dyadic level (e.g., homophily and spatial proximity). Findings show that examining interlocking identity dimensions reveal complex facets of inequality that are often overlooked when treating identity dimensions independently. This paper concludes with theoretical and methodological recommendations, arguing that social network analysis is well suited for highlighting intersectional marginalization by examining patterns of cohesion and division among social groups and resulting resource access.

Speaker

Seungyoon Lee

Professor | Purdue University

Educational and Ideological Homophily in Personal Networks and Beliefs About Inequality in Chile

9:20 AM – 9:40 AM

SOCIAL NETWORKS & INEQUALITY

This study examines how educational and ideological homophily in personal networks is associated with the way people understand and evaluate social inequality in Chile. Drawing on a relational perspective, it argues that individuals do not form beliefs about inequality in isolation, but within networks that are themselves shaped by social structure. The paper develops a theoretical framework that distinguishes homophily from heterogeneity and segregation, situates it within Coleman's boat, and differentiates between status- and value-based homophily, as well as between baseline and inbreeding homophily. Building on this framework, the study explores how social structure shapes opportunities for contact, how homophilous ties are reinforced through selection and network dynamics, and how these processes may contribute to broader patterns of social closure and inequality reproduction. Using survey-based egocentric network data from Chile, the article seeks to measure the extent of educational and ideological homophily and to assess how these relational environments are linked to perceptions of inequality, meritocratic beliefs, and preferences for redistribution. In doing so, it contributes to the literature on homophily by connecting network structure to the formation of attitudes in a highly unequal society.

Speaker

Guillermo Beck

Ph. D. Student | Pontificia Universidad Católica de Chile

Mixed Methods for Network Analysis

9:20 AM – 10:00 AM | Location: Coquina G

SESSION

IN-PERSON

Beyond Composition: A Network Perspective on Acculturative Social Stress and Language Composition

9:20 AM – 9:40 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS AND CULTURE

Social networks serve as a critical factor against acculturative stress, yet the specific properties that afford this protection may change over time. In this study, we investigated a developmental "pivot" in how heritage Spanish speakers (N = 51) utilize ego network to manage linguistic social stress (via Multidimensional Acculturative Stress Inventory, MASI). We distinguish between network structure (e.g., linguistic assortativity) and network composition (e.g., percentage of Spanish-speaking ties). Bayesian model results indicate a functional shift at the transition into adolescence (age 13). In childhood (0–13), lower social stress was predicted by high linguistic assortativity, which means language use is structurally embedded and highly predictable. Conversely, beyond age 13, this structural effect waned; instead, stress was buffered by network composition, where a higher percentage of Spanish predicted negative association with Spanish social stress. We argue these findings reveal a transition in language development: while children may rely on linguistic predictability cast in their structural network to navigate social environments with reduced cognitive-emotional load, adolescents may require direct language exposure to support identity validation and resist cultural assimilation.

Speaker

Ruizhe Liu

Postdoc associate | University of Florida

Authors

Ester Navarro (Department of Psychology, St. John's University), Eleonora Rossi (Linguistics Department, University of Florida)

Analyzing professional academic advisors' professional network on campus

9:40 AM – 10:00 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS ORGANIZATIONAL NETWORKS

Academic advisors serve as students' first point of contact, providing resources and guidance on academic, co-curricular, and extracurricular opportunities to enhance student success (Keup & Kinzie, 2024). Despite this salient role, research on professional academic advisors remains sparse (Keup et al., 2024). Social network analysis offers a viable methodology for understanding how campus agents navigate their roles and position themselves within the broader institutional ecosystem.

Using the campus ecological network model (Brown & Smith, 2024), this social network analysis examines how advisors' professional networks inform their awareness of campus resources for students. The lead author interviewed 26 academic advisors at a large research institution using the Network Canvas tool. Preliminary findings suggest that advisors build their professional networks closely with fellow advisors who also engage in learning experiences such as learning communities and orientation courses.

This oral presentation discusses academic advisors as ego-centric networks with relationships to campus alters. Given academic advisors' high turnover rates, their departure poses a significant risk to student success. Understanding how advisors form and maintain their networks is therefore critical to institutional practice, informing how institutions can better support advisors and preserve the relational infrastructure on which student success depends.

Speaker

Amy Mendee

PhD Candidate | Iowa State University

Co-speaker

Harun Celik

Data Analyst | Iowa State University

Authors

Rachel Smith (Iowa State University)

Current Trends in Socio-Semantic Network Analysis

9:40 AM – 10:00 AM | Location: Coquina A

SESSION

IN-PERSON

The lamps going out: Shifts in discursive communities and organizational networks around resilience in the European Union

9:40 AM – 10:00 AM

CURRENT TRENDS IN SOCIO-SEMANTIC NETWORK ANALYSIS | ORGANIZATIONAL NETWORKS | SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS | TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Resilience is a focal topic for the European Union (EU), in a changing world order of instability and crises. A keyword search over EU parliament documents shows an exponential increase in mentions of resilience. How is resilience discourse represented in the EU parliament over time and do discursive communities exist across parliamentary committees? What are the key organizational players shaping resilience, and what are their interrelations? To answer these questions, we collect all EU parliament reports mentioning resilience from 1994-2026 and use Gemini for named entity recognition. We inductively encode organizations based on their resilience context as authorities for resilience guidelines, resilience enactors, facing risks, or being threats. We construct a bipartite network of organizations and parliamentary committees connected through this resilience context. For the organizational enactors, we also extract collaborative ties in case they are collaborating towards a resilient outcome. Preliminary network analysis and qualitative interpretation show a temporal discursive shift of resilience topics and organizations that shape it. We also observe a rather centralized network among EU institutions with peripheral organizations directly collaborating with them rather than with each other. Our preliminary results hint at potential risks for the continent's resilience in case of a systemic failure for a handful of nodes.

Speaker

Loizos Bitsikokos

Brian Lamb School of Communication, Purdue University

Co-speaker

Seungyoon Lee

Professor | Purdue University

Coffee Break

10:00 AM – 10:20 AM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments - INSNA thanks the Bureau of Economic and Business Research (BEBR) for sponsoring this break!

Break Menu

- Seasonal sliced fruit
- Assorted muffins
- Freshly brewed regular and decaffeinated coffee
- Selection of hot herbal teas

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Alcohol and Substance Use in Social Networks

10:20 AM – 12:00 PM | Location: Coquina A

SESSION

IN-PERSON

Influence of Exposure to E-cigarette Posts on TikTok on Adolescent Tie Formation and E-Cigarette and Cannabis Use Initiation: A Co-Evolution Social Network Analysis Using RSiena

10:20 AM – 10:40 AM

ALCOHOL AND SUBSTANCE USE IN SOCIAL NETWORKS

Background:
Exposure to e-cigarette content on TikTok has been linked to adolescent e-cigarette and cannabis use, but its role in shaping peer networks over time is unclear. This study examined whether exposure to e-cigarette posts on TikTok is associated with tie formation with substance-using peers and e-cigarette and cannabis initiation using a co-evolution social network approach.

Methods:
We analyzed a five-wave (2022–2024) longitudinal survey of California adolescents (M_age = 15 at baseline; N ≈ 4,000 per wave) who nominated up to five friends per wave. School-specific RSiena co-evolution models examined whether prior exposure to e-cigarette posts on TikTok predicted (1) tie formation or maintenance with e-cigarette- or cannabis-using peers and (2) subsequent substance initiation. Models included network structural effects, and covariate terms for TikTok exposure, substance use status, and sex at birth. Estimates were pooled across 14 schools using random-effects meta-analysis.

Results:
Networks were sparse with strong reciprocity. Adolescents exposed to e-cigarette posts on TikTok were more likely to form or maintain ties with e-cigarette- (parameter estimate = 0.21, 95% CI = 0.03-0.38) and cannabis-using peers (0.24, 95% CI = 0.11-0.38), and to initiate e-cigarette (1.71, 95% CI = 0.65-2.97) and cannabis use (1.46, 95% CI = 0.15-2.76).

Conclusions:
Findings suggest the importance of monitoring and regulating e-cigarette-related content on TikTok to protect youth health.

Speaker

Julia Vassey

Research Scientist | University of Southern California

Adolescent Social Network Influences on Substance Use

10:40 AM – 11:00 AM

ALCOHOL AND SUBSTANCE USE IN SOCIAL NETWORKS

Adolescent social networks have been shown to be strongly associate with use of tobacco, marijuana, and alcohol. Our prior analyses of these data showed cross-sectional associations between both perceived and alter self-report of nicotine, marijuana, and alcohol were strongly associated with individual use. In this study we replicate those associations treating the data longitudinally and show peer use associated with individual use. Interestingly, the magnitude of these associations was much lower than in our prior analyses. In addition, out-degree was negatively associated with use. Unlike our prior study, however, we do not find that peer influences vary by ethnicity. Preliminary results from Stochastic Actor Oriented Models (SAOM) will also be presented. Data were collected from up to 14 demographically diverse schools in southern California and consist of approximately 2,000 students interviewed bi-annually from 9^{th} to 12^{th} grade.

Speakers

Thomas Valente

Professor | University of Southern California

Sarah Piombo

Research Fellow | Dana-Farber Cancer Institute / Harvard Medical School

Co-speaker

Jessica Barrington-Trimis

Professor | USC

Authors

Kristina Miljkovic (University of Southern California), Yuchan Cao (USC)

Promoting Positive Behaviors through affecting tie activation: A conceptual approach/proposal to decrease stimulant use & HIV risk in Latino Sexual Minority Men through network visualization

11:00 AM – 11:20 AM

ALCOHOL AND SUBSTANCE USE IN SOCIAL NETWORKS

NETWORK METHODS FOR IMPLEMENTATION SCIENCE

There is a rising epidemic of methamphetamine and stimulant use contributing to HIV/AIDS, particularly among sexual minority men (SMM). Recent data indicates that meth use accounts for one in three new HIV infections, with increases among Black and Latino SMM, potentially exacerbating health disparities. To address the connection between stimulant use and HIV risk, we propose utilizing personal network visualization, a method that positively influences health behaviors. Our approach is inspired by the Network Episode Model, Stress & Coping theory, and Positive Affect, aiming to identify and activate positive social connections. Our culturally tailored behavioral intervention, called Focus Intervention for Stimulating Men Strengthening Their Ties through Affect Regulation with Contingency Management, will consist of six one-on-one sessions focused on enhancing supportive personal networks. A pilot randomized controlled trial will evaluate the intervention's feasibility, acceptability, and preliminary effectiveness. The primary outcome will be Pre-Exposure Prophylaxis uptake, while a reduction in stimulant use will serve as the secondary outcome. Through this innovative intervention, we aim to reduce stimulant use and HIV risk behaviors among SMM.

Speaker

Jose Felix Colon Burgos

Assistant Professor | University of Florida

Co-speaker

C

Christopher McCarty

Professor | University of Florida

Feasibility & Acceptability of the "Promoting Recovery Outcomes with Motivational Interviewing and Social network Engagement" (PROMISE) Intervention for Individuals in Substance Use Disorder Recovery

11:20 AM – 11:40 AM

ALCOHOL AND SUBSTANCE USE IN SOCIAL NETWORKS CONTACT DIARY: METHODOLOGY AND PRACTISE

This study tests the feasibility and acceptability of*PROMISE,* an mHealth intervention integrating motivational enhancement (ME) to maintain SUD recovery, daily social network monitoring, and wearable stress detection. As part of an open pilot trial, participants in SUD recovery with a criminal history completed four weekly ME phone sessions and an 8-week booster with an interventionist. Participants used the *PROMISE* app for daily monitoring of social interactions, stress (Garmin), and substance use. Survey and personal network data were collected at baseline and 12-weeks. Feasibility outcomes included enrollment (>60%), retention (>60%), and adherence (>60% engaging in essential use, urine drug screens). Acceptability outcomes were defined as mean post-session ratings of >7/10. Of 39 eligible participants, 28 enrolled (72%), with a 78% retention rate at 12-weeks and 98% urine drug screen completion. Participants were primarily white (89%), women (57%), with an average age of 39 (SD=8.6), who named 4 to 5 alters. Participants completed 66% of the daily surveys, and 44% of daily triggers were related to alters, with 16% reporting the presence of an alter at a trigger event. Three-fourths engaged in essential intervention use. Intervention acceptability was high (x=9.7, SD=1.1). *PROMISE* demonstrates the feasibility and acceptability of digital tools to extend recovery support beyond traditional treatment settings and to respond dynamically to stress and social network triggers.

Speaker

Carrie Oser

Professor | University of Kentucky

Office Hours with DoctorX: A signed multiplex network analysis of the intersection between darknet markets and harm reduction communities

11:40 AM – 12:00 PM

ALCOHOL AND SUBSTANCE USE IN SOCIAL NETWORKS | CRIME AND NETWORKS

Dread, a darknet-based platform formed in 2018 in order to reinvigorate the exchange of information pertaining to 'Dark Net Markets' (e.g., illicit drugs, hacking, and fraud), has become a focal interest of recent cybersecurity scholarship. Despite the inherently illicit nature of the platform, user discourse concurrently exhibits a strong sense of community. Practical strategies for ameliorating the negative consequences of the illicit substance use facilitated by the same platform are discussed with regularity. This presentation reports preliminary findings derived of the intersecting harm reduction and dark net markets communities. Selenium and BeautifulSoup4 are used to access and scrape user metadata, posts, comments, and replies from all 840 harm reduction posts appearing on the website, as well as a 2000 'Dark Net Market' posts. Each of these communities is treated as a layer in a multiplex network, while sentiment analysis of comment and reply content is used to quantify the disposition of user interaction, producing a signed multiplex graph representing of these darknet communities. Generalized louvain, infomap, and clique percolation community detection methods are used to examine the extent that these communities intersect. BERTopic are used to summarize the focal interests of notable multiplex communities.

Speaker

Thomas Bryan Smith

Assistant Professor | University of Mississippi

Networks, Social Resources, and Subjective Well-Being

10:20 AM – 11:40 AM | Location: Coquina F

ORGANIZED SESSION

This session focuses on papers that analyze resources embedded in social networks which are indispensable to produce subjective well-being. During their life course persons are embedded in ever changing networks. What these networks have in common is that a broad set of resources – material, affective or cognitive – is embedded in them. A multitude of research tasks can be derived from that observation. Identifying the composition of resources necessary to secure well-being, creating resource-oriented network typologies or analyzing the requirements of resource access, to only name a few options. However, the extent to which social resources are integrated into networks also depends on culture and traditions and can therefore vary between societies in their importance for well-being.
An approach that is focused on resources within networks can tackle questions ranging from life course analysis to social inequality and beyond.

Research work – be it quantitatively or qualitatively oriented – that is concerned with subjective well-being and the resources necessary for obtaining it, is highly welcome. Theoretical and/or methodological contribution from all relevant fields (e.g. sociology, economy, anthropology, medicine, psychology, educational sciences, statistics etc.) is desired.

IN-PERSON

Corresponding Organizer

Marina Hennig

Professor | Johannes-Gutenberg University of Mainz

Social Provisions, Network Structure, and Loneliness: A Study among First-Year Students

10:20 AM – 10:40 AM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Loneliness is an unpleasant experience arising when one's social connections—quantity or quality—fall short of personal needs. It's not just emotional; it's a proven risk factor for depression, poor academic performance, and long-term health issues. Students starting university often face social transitions—moving, leaving old ties, building new networks—which can sharply increase loneliness. Weiss (1974) distinguishes six *social provisions* — Attachment, Social Integration, Opportunity for Nurturance, Reassurance of Worth, Reliable Alliance, and Guidance — as fundamental need domains that can be fulfilled through interpersonal relationships. According to Weiss, loneliness arises when at least one of these domains remains permanently unsatisfied. In contrast to loneliness as a global evaluation of the absence or inadequacy of relationships, the provisions describe specific functional aspects of relationships. We therefore investigate how the satisfaction of the six provisions and the ego-centered network structure explain the global level of loneliness among first-year students, and which factors determine satisfaction with each individual provision.In an online survey, ego-centered network data will be collected from approximately 300 first-year students. The survey captures quantitative network metrics, qualitative assessments of relationships, the degree of satisfaction with each of the six provisions (Social Provisions Scale), and perceived loneliness.

Speaker

Marina Hennig

Professor | Johannes-Gutenberg University of Mainz

Authors

Bastian Laier (Johannes-Gutenberg University of Mainz)

Personal network structure and composition among adults with spinal cord injury/disease and their relationship to mobility, loneliness, social isolation, health, and quality of life

10:40 AM – 11:00 AM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

In this talk we present preliminary findings from a study that explores personal network structure and composition, mobility, loneliness, social isolation, and quality of life among individuals with spinal cord injury and disease (SCI/D). The study recognizes the importance of mobility for community integration and social participation for individuals with SCI/D and the significant impact of mobility limitations on social relationships and networks, impacting mental health and quality of life. First, we describe the social networks of individuals with SCI/D and second, we investigate the association of these networks with mobility, subjective loneliness, objective social disconnectedness, and feelings of social isolation within the SCI/D participants. The study employs a mixed methods approach, starting with formative, qualitative interviews to explore and understand the social networks of community-dwelling adults with SCI/D. Subsequently, a personal network survey administered to adults with SCI/D allows us to systematically explore associations among social network structure and composition, mobility, loneliness, social disconnectedness, social isolation, health, and quality of life. Findings will inform clinical practice to enhance individuals' capacity to create, maintain, and mobilize social networks outside the home, thereby mitigating isolation, combating loneliness, strengthening social connections, and improving quality of life.

Speaker

Hank Green

Associate Professor | Indiana University School of Public Health -- Bloomington

Network Re-Composition Under Constraint: Asymmetric Social Pathways Linking Functional Limitation to Mental Health

11:00 AM – 11:20 AM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Using three waves of NSHAP data and interventional mediation analysis with marginal structural models, this study adjudicates between competing pathways linking functional limitation to depressive symptoms and anxiety in later life. We distinguish between the normative resilience of interpersonal network characteristics (size, contact frequency, kin composition, density) and the structural vulnerability of community engagement (religious involvement, volunteering, organizational participation). Our findings reveal an asymmetry in mediation: although interpersonal networks remain largely intact, they do not buffer the psychological toll of functional limitation. Instead, adverse mental health effects are primarily transmitted through the erosion of community engagement, a key source of social agency and identity. These results challenge Socioemotional Selectivity Theory and the community engagement compensation model, suggesting that such adaptive strategies falter under declining physical functioning. Overall, after adjusting for time-varying confounding, functional limitation affects mental health mainly through direct pathways, with only modest indirect effects via community engagement rather than personal networks. This pattern underscores the contrast between the resilience of close ties and the vulnerability of formal social participation in later life.

Speaker

Huimin Zhang

Ph.D. Candidate | University of Florida

The Link Between Communal Coping and Social Networks for Caregivers of Children with Rare Genetic Conditions

11:20 AM – 11:40 AM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Approximately 19.2% of children in the United States live with at least one chronic condition, many of which are rare or undiagnosed, who often rely on parents and family members for lifelong care. These caregivers experience significantly higher burden than other caregivers, adversely affecting mental and physical health. Coping resources may reduce stress and improve well-being. Communal coping—defined as families jointly addressing a shared stressor through collective action—is more effective in mitigating stress than individual-level coping. Communal coping includes a cognitive component—appraising caregiving as a shared responsibility—and a behavioral component reflected in collaborative actions. We examined whether these communal coping processes are linked with caregivers' social networks. Eighty parent caregivers of 70 children with rare conditions completed a survey assessing shared appraisal and collaborative action. Caregivers also completed an ego-centered network assessment, reporting closeness and exchanges of support resources. Viewing caregiving as a shared responsibility was associated with a greater number of very close ties exchanging health information. Collaborative action was associated with very close ties providing tangible aid and close ties providing emotional support. Findings highlight links between communal coping and caregivers' social networks, suggesting opportunities for network-based interventions to improve caregiver health and well-being.

Speaker

Laura Koehly

Senior Investigator | National Human Genome Research Institute, National Institutes of Health, USA

Authors

Eve Rubovits (Social and Behavioral Research Branch, National Human Genome Research Institute, NIH), Lori Erby (Social and Behavioral Research Branch, National Human Genome Research Institute, NIH)

Corporate Networks

10:40 AM – 12:00 PM | Location: Coquina B

ORGANIZED SESSION

This session highlights the study of the role of social networks in consolidating the dominant position of business and economic elites. Applicants are invited to submit papers that use social network analysis at either local, national or transnational level. We're particularly interested in research offering insights into the social attributes of dominant economic elites and their interdependencies with the political sphere through think tanks, clubs and informal groups. We also welcome papers that offer new empirical perspectives or analytical tools to understand how corporate networks are embedded into non-corporate forms of sociability, thus facilitating the connection of the economic realm with other social spheres. Papers may also explore how interlocking directorates help understand the transformation of business elites, especially when they are confronted with socio-political or financial crises. Finally, the session welcomes innovative approaches that combine social network analysis with qualitative or other quantitative methods (multiple correspondence analysis, sequence analysis, etc.).

IN-PERSON

Corresponding Organizer

Roy Barnes

University Of Michigan-Flint

Organizers

Josh Murray

Associate Professor | Crye-Leike Real Estate

Mohamed Oubenal

Researcher in sociology | IRCAM, Morocco

Roberto Urbani

Luiss

The Corporate-Nonprofit Constellation: Continuity or Change leading to the second Trump Administration

10:40 AM – 11:00 AM

CORPORATE NETWORKS

This paper documents the changes occurring in the corporate-nonprofit network for the years 2010, 2018 and 2023 utilizing the boards of directors for the Fortune 500 corporations, six corporate policy groups and 34 think tanks. The corporate policy groups include such organizations as the Business Roundtable and the National Association of Manufacturers while the population of think tanks is represented by The Brooking Institution, the Peterson Institute for International Economics, the American Enterprise Institute, and the Heritage Foundation, to name but a few. Utilizing measures of network centrality and k-core decomposition, the empirical results document the changes that have occurred in the clustering and composition of the main component of the largest corporations, historically important corporate policy groups and the numerous think tanks leading to the second Trump administration. We are particularly interested in noting if there is a decrease in the linkages between corporations and the corporate policy groups, an increase in centrality of the ultra-conservative think tanks in the network, and whether there is a discernable rise of big tech in the corporate-nonprofit network over these three time periods.

Speaker

Roy Barnes

University Of Michigan-Flint

Authors

G. William Domhoff (University of California, Santa Cruz)

Housing Financialisation in Puerto Rico: Corporate Investors, LLC Networks, and Tax Incentives in San Juan's Housing Market

11:00 AM – 11:20 AM

CORPORATE NETWORKS ELITE NETWORKS NETWORKS IN TRADE AND FINANCE SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

We use social network analysis and linked administrative records to examine how corporate real estate investment is relationally organised in Puerto Rico, a peripheral and disaster-affected setting experiencing emergent housing financialisation. Using property transactions, corporate filings, tax exemption decrees, and cadastral data from San Juan's northern coastal neighbourhoods (2020–2024), we construct networks from ~1,400 LLC-mediated transactions totaling over $1 billion USD. LLCs require administratively authorised agents and registered representatives, thus creating artefacts yielding observable ties between legally independent entities. We link firms through shared intermediaries and incorporate tax decree participation to map incentivised capital within the acquisition landscape.

Betweenness centrality reveals that intermediaries—not the most visible buyers—occupy key brokerage positions connecting separate clusters of corporate activity. Both LLCs and natural persons appear among key bridges. Decree holders are dispersed across the network, indicating tax exemptions function as distributed public subsidies throughout acquisition structures. Spatial analysis shows acquisitions diffusing from high-value historic districts into working-class neighbourhoods, with rapid inter-corporate resales at escalating prices. We show how administrative compliance artefacts can serve as relational evidence where opacity is deliberately produced through legal design.

Speaker

Rashid Marcano Rivera

Assistant Professor | Universidad de Puerto Rico

Authors

Raúl Santiago Bartolomei (Universidad de Puerto Rico - Recinto de Río Piedras)

Learning from the Board, Leading the Firm: How Board Social Networks Drive Directors' Cybersecurity Transformation and Reshape Strategic Effectiveness

11:20 AM – 11:40 AM

CORPORATE NETWORKS

As cybersecurity threats become a material risk to corporations, boards face a critical governance challenge: developing the expertise to oversee digital risks. While prior research has focused on hiring external specialists, we observe a parallel phenomenon; incumbent directors training themselves to become cybersecurity experts. This understudied transformation has implications beyond individual careers, offering insights into the direction and effectiveness of firms' future strategic decisions.

We investigate how board social networks shape directors' expertise development. Using novel datasets, we conduct an individual-level analysis tracing directors' career trajectories and network embeddedness, a rare approach in corporate governance research. This design lays the groundwork for understanding how individual-level changes in director expertise influence firm-level strategic decisions.

Our findings reveal that directors' expertise development decisions are shaped by observing colleagues' behavior. Network centrality moderates this effect, indicating that information flow and social influence vary by structural position. By extending network theory to corporate governance domain, we demonstrate that network effects play a significant role in shaping corporate strategy evolution beyond traditional hiring mechanisms, suggesting that board networks may serve as a conduit through which strategic decisions diffuse across the corporate landscape.

Speaker

Ji Hae Choi

Graduate Student | Northwestern University

Reconsidering Power Elites and the Dual Structure of the Japanese Economy through Corporate Network Analysis

11:40 AM – 12:00 PM

CORPORATE NETWORKS

This study reexamines, in a contemporary context, the power-elite thesis and the dual-structure theory of the Japanese economy. It is motivated by widening inequality, negative discourse on “Japanese Traditional Companies”, and the need to redesign Japan’s corporate system. The question is whether a new power elite and a new dual economic structure are emerging simultaneously.

I use social network analysis to provide empirical evidence. Using annual data on all Japanese listed companies (about 3,600 firms) from FY2008 to FY2024, I construct two-mode officer–firm networks and projected one-mode officer networks.

Three hypotheses are tested. H1: the overall officer network has become more integrated over time. Fragmentation declines from 0.83 to 0.49, with a significant time trend. H2: the integrative and brokerage roles of large firms (proxied by Nikkei 225 firms) have weakened over time. Removal-based fragmentation tests show a significant decline in large-firm integrative contribution, and the bridging effect of officers linking Nikkei and non-Nikkei firms declines after around 2015. H3: despite this decline, large firms remain more influential in cross-section. Removing Nikkei 225 firms increases fragmentation significantly more than random removals (Monte Carlo permutation test).

The results suggest early signs of a new power elite and a relative decline of traditional large-firm dominance, while the absolute influence of major firms remains substantial.

Speaker

Hideki Fujiyama

Professor | Dokkyo University

Mixed Methods for Social Network Analysis

10:40 AM – 12:00 PM | Location: Coquina G

SESSION

IN-PERSON

"I stay in the house": A Mixed Methods Exploration on Safety Perceptions and Intentional Social and Geographic Restriction Among Black Sexually Minoritized Men in Baltimore, MD

10:40 AM – 11:00 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

Background: Settings are often implicit in network research and viewed only spatially rather than as nodes within socio-spatial networks created by social interactions, power relations, and infrastructures. This gap is important for understanding health disparities among marginalized groups who have fewer social interactions and resources. Social and geospatial experiences create mental maps influenced by safety and stigma, shaping spatial behavior and social engagement. Understanding how mental maps inform experiences of place and social connectedness is essential for designing targeted interventions. **Methods:** Between March 2024 and March 2025, 20 integrated mapping interviews (IMIs) were conducted with racially and sexually minoritized men in Baltimore, MD. IMIs produced participant-drawn visual maps connected to rich qualitative descriptions, yielding geospatial and qualitative data. Emergent themes were analyzed using a thematic approach. **Results:** Socio-emotional well-being was conceptualized as a function of intimate, relational, and collective connectedness. Safety perceptions destabilized collective connectedness. Key themes included safety, intersectional identity, and financial insecurity. **Conclusion:** Safety concerns may cause self-isolation and network restriction due to perceived environmental distress. Interventions to increase social connectivity should consider how safety perceptions and place experiences influence individuals' desire and willingness to engage.

Speaker

Ananya Bhaktaram

PhD Candidate | Johns Hopkins Bloomberg School of Public Health

Authors

Carl A. Latkin (Johns Hopkins Bloomberg School of Public Health), Zoe Mistrale Hendrickson (University of Pittsburgh), Lauren Dayton (Johns Hopkins Bloomberg School of Public Health)

Protocol for a Pilot Randomized Trial Evaluating SONATA, a Social Network Intervention for Older Adults with Advanced Cancer

11:00 AM – 11:20 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

Older adults with advanced cancer rely heavily on social networks (SNs) to manage complex medical and psychosocial needs. Prior research shows that better-connected SNs are associated with improved QoL and survival, and tightly knit SNs may help prevent functional decline and falls. However, few interventions explicitly leverage network structure to enhance patient activation and improve quality of life (QoL). SN interventions and personal network mapping offer practical approaches to engage patients in structured reflection on their support. This protocol describes a pilot randomized controlled trial evaluating SONATA (Social Networks to Activate Teamwork & Alliance), a theory-informed network intervention designed to help older adults with advanced cancer visualize and mobilize their social networks. Seventy patients and their network members (primarily caregivers) will be randomized to SONATA or usual care. The intervention integrates network mapping, engagement of key SN members, communication skill-building, and iterative. Primary outcomes are feasibility, acceptability and appropriateness. Secondary outcomes assess the preliminary efficacy on psychosocial measures. We will also explore structural and attribute-based network patterns using mixed methods thematic analysis of egocentric network data collected during coaching sessions. This study advances social network diagnostics as an actionable tool for network interventions to improve connectedness and social support.

Speaker

Meng-Jung Wen

Postdoctoral Fellow | University of Rochester Medical Center

Co-speaker

Reza Yousefi-Nooraie

Department of Public Health Sciences (SMD), University of Rochester

Authors

Gretchen Roman (Department of Family Medicine, University of Rochester), Supriya Mohile (Department of Medicine, Hematology/Oncology (SMD), University of Rochester), Sarah Phillips (Geri Onc M&D, University of Rochester), Ellen Mandwelle (Patient Advisor), Martha McGee (Patient advisor), Ronald Epstein (Department of Family Medicine (SMD), University of Rochester), Kah Poh Loh (Department of Medicine, Hematology/Oncology (SMD), University of Rochester), Tanzy Love (Dept of Biostatistics and Computational Biology, University of Rochester)

“Are we related?” A Mixed Methods Description of Social Network Characteristics Among American Indian Adolescents

11:20 AM – 11:40 AM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

While strong relationships are widely recognized as a core strength in American Indian (AI) communities, prevailing social network principles may not fully capture social dynamics in reservation or rural Native communities. This presentation will describe an explanatory sequential mixed methods study, including data integration and metainferences related to network characteristics among AI youth. Data include social network surveys from 9th and 10th graders (N = 263) on a Northern Plains reservation and qualitative interviews with a subsample (n = 16) to interpret findings from ego and school networks.

Gender homophily among school-based alters was high and influenced by place, activity, and social norms. There was a low variation of in-degree and high family proportions in networks across schools. The mean proportion of family members in ego networks ranged from .24 to .46; kinship played a prominent role in shaping network composition. There were disagreements on family relation status in 16% of the school-based ties. Qualitative data demonstrate that there is not a consistent definition for what it means to be related to an alter and that conceptions may be influenced by place and cultural practices.

Findings offer insights into social network structure and functions for AI populations and demonstrate how mixed methods research can adapt and expand social network analysis in culturally specific contexts.

Speaker

Katie Schultz

Associate Professor | University of Michigan

Co-speakers

J

Jerreed Ivanich

Assistant Professor | University of Colorado

Lauren White

Assistant Professor | University of Washington School of Social Work

M

Michael Siciliano

Professor | University of Illinois- Chicago

Socializing and Teaching in the In-Between: A Mixed-Methods Study of Hybrid Places and Professional Networks among Teachers in Training

11:40 AM – 12:00 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

Phenomenologists suggest that individuals possess a psychological need for both a sense of "home" and "horizons" that reach beyond it (Buttimer, 2015). For teacher candidates, these horizons are blurred. This has led to the emergence of "hybrid places" that function simultaneously as second places (work/school) and third places (social). This study explores how hybrid places shape identity, relationship closeness, and the professional socialization of teachers in training.

122 undergraduate teaching candidates at 3 private universities in the U.S. participated. Participants were 81% women, aged 18–22. The qualitative part was a phenomenological analysis (Giorgi, 2009) of stories regarding conversations with friends about the challenges of learning to teach. The quantitative component was an ego-network study (Crossley et al., 2015) where participants nominated 5 friends and rated them on a 1–10 scale regarding closeness, alter-alter closeness (density), and the likelihood of seeking professional advice.

Findings indicate that hybrid places are characterized by fluidity and a sense of waiting. However, this fluidity also introduces a risk for students because places of rest blur into places of work. This study examines how these spatial aspects are co-constituted with network multiplexity, or the overlap between friendship and professional advice-seeking. Analysis suggests that the relational qualities of hybrid places facilitate higher network density and advice-seeking.

Speaker

Matthew Stapleton

Associate Professor | University of Indianapolis

Co-speakers

Hui Zhang

Assistant Professor | University of Indianapolis

I

Isabella Vakkur

Graduate Student | University of Indianapolis

Jessie Ji

Graduate Student | University of Indianapolis

John Kuykendall

Dean of the College of Education and Behavioral Sciences | University of Indianapolis

Virtual Presentations

10:40 AM – 12:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Extent to which a team of teams model realised in Google Chats: A social network analysis

10:40 AM – 11:00 AM

CORPORATE NETWORKS MIXED METHODS FOR SOCIAL NETWORK ANALYSIS VISUAL NETWORK METHODS

HOW TO JOIN THIS SESSION:

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ABOUT THIS PRESENTATION:

Managers believe that the efficiency of work depends on the vertical flow of information through hiarchical structures. Research shows that workers rely on the personal networks to get access to the information, knowledge, advice, support, expertise, guidance and concrete resources to complete their work. As they are wovem during this networked learning process in development networks, these special social networks can be explored to better understand the efficiency of hierarchical structures, but also the efficiency of these hidden social structures as they can either hinder or promote access to the sources needed to work effectively. As hierarchical structures can hinder the dlow of information, McChrystal developed the team-of-teams model to encourage the development of lateral relations between all members of an organisation.

An Afrikaans online home school switched to the team of teams model in 2023. Teams use Google Chats for communication; thus, the artefacts are automatially stored. Atlhough it is assumed that the model is effective, no research was conducted to substantiate such a claim. As the artefacts are automaticaly stored, the purpose of this research is to visualise the development networks of the teams, and the school, to determine to what extent the team-of-teams model realised in Google Chats. The sociograms will also be explored to identify elements which can hinder or promote learning in this online school.

Speaker

Christina Johanna van Staden

research fellow | University of the Free State

PIONEER: Hybrid Generative-AI and Network-Based Modeling for Forecasting Multi-Stakeholder Decisionmaking

11:00 AM – 11:20 AM

NETWORK APPROACHES TO POLITICAL DYNAMICS

HOW TO JOIN THIS SESSION:

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

PIONEER is a hybrid human-in-the-loop platform that integrates generative AI, behavioral econometrics, game-theoretic utility modeling, and Monte Carlo–based simulation to forecast outcomes in complex, multi-stakeholder decision landscapes. The system uses large language models to rapidly generate scenarios, stakeholder networks, drivers of behavior, and estimated payoff structures, reducing processes that previously required extensive SME elicitation to just minutes. Analysts refine model-generated scenario structures, stakeholder positions, and factor hierarchies, enabling PIONEER to simulate thousands of alternative futures and estimate the robustness of competing outcomes.
Applied across domains such as conflict forecasting, crisis response, and geostrategic planning—including cases in Venezuela and the Taiwan Strait—PIONEER demonstrates how AI-augmented modeling can uncover hidden dependencies, estimate cross-actor influence, and map plausible behavioral trajectories in highly contested environments.
For the social network analysis community, PIONEER offers a novel synthesis: it models not only the structure of stakeholder networks, but also the evolving preferences, utilities, and strategic interactions that drive networked behavior. This positions PIONEER as a next-generation computational social science tool capable of supporting predictive, evidence-based policymaking at scale.

Speaker

Evelyn Torsher

Senior Manager | Accenture Federal Services

Chimera states in complex networks of cubic-quintic Duffing oscillators

11:20 AM – 11:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

The interplay between network topology and nonlinear dynamics is central to understanding complex systems. In networks such as neural systems, hybrid patterns known as chimera states emerge, where synchronized and desynchronized oscillations coexist. This study analyzes the emergence and spatial distribution of chaotic regions within chimera states across Erdős-Rényi and Watts-Strogatz networks of linearly coupled, driven cubic-quintic Duffing oscillators. Using numerical simulations, we track the magnitude of each node's oscillation, which serves as a proxy for its chaotic state. This determines its membership in the chaotic attractor, quantifying its specific contribution to the global chaotic dynamics.

Our analysis yields two primary findings. First, we observe a parameter-driven, smooth transition in the chaotic domain size from synchronized to chaotic regimes, depending sensitively on both the network's mean degree and coupling strength. Second, we demonstrate that the spatial organization of this chaos is governed by structural relevance rather than the initial perturbation site. Nodes with higher centrality —specifically degree, eigenvector, and betweenness—exhibit a significantly higher probability of belonging to the chaotic attractor. Ultimately, these findings suggest that standard centrality metrics can reliably predict the spatial organization of chaos, providing a critical link between network structure and incoherent behavior in real-world systems.

Speaker

Daniel Toro
Research Assistant | Pontificia Universidad Católica de Chile

Authors

Rafael Riveros (Pontificia Universidad Católica de Valparaíso; Universidad Técnica Federico Santa María)

Peer Network Reconfiguration and Achievement Goals across the Elementary-to-Middle School Transition

11:40 AM – 12:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | MODELING NETWORK DYNAMICS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

This study examines the reconfiguration of peer networks during the transition from elementary to middle school and its link to students' achievement goals within an integrated school setting in the Republic of Korea. Utilizing longitudinal network and survey data, we model the co-evolution of two directed networks: **friendship** and **help**. The integrated school context provides a unique opportunity to observe transition-related dynamics under institutional continuity, minimizing membership shifts. We employ **Stochastic Actor-Oriented Models (SAOM; RSiena)** to estimate endogenous structural tendencies—including density, reciprocity, and transitivity—while testing for achievement-goal-based selection (ego, alter, and similarity effects) and social influence. The research addresses whether the transition differentially reshapes friendship versus help ties and how motivational orientations intertwine with evolving peer relations. Preliminary results suggest that while friendship networks undergo significant restructuring, help networks remain highly centralized, indicating unequal access to instrumental support. By clarifying the interplay between relational reallocation and motivational development, this study offers critical insights for designing network-informed supports during educational transitions.

Speaker

Seungsoo Kim

elementary school teacher | Gyeongin National University of Education (GINUE)

Co-speaker

Chong Min Kim

Professor of Education | Gyeongin National University of Education (GINUE)

Gender and Social Networks

11:00 AM – 12:00 PM | Location: Coquina C

ORGANIZED SESSION

Social network research studies the mechanisms that drive formations of network structures as well as the outcomes of such structures on social behaviour. A well investigated area of research focuses on gender differences in network formations and outcomes in personal and professional networks. Researchers have looked, for example, at the different styles of socializations of boys and girls in early age, varieties of gendered network structures in different cultures, gender differences in peer networks and educational outcomes, gendered structural and cultural constrains of network strategies in organizational studies, different network positions and relational strategies between men and women at work, gender unbalance in academic networks and interlocking directorates.

This session wants to bring together interdisciplinary perspectives on gender similarities and differences in social networks which might be investigated with a variety of methods and modelling techniques. We welcome both highly quantitative modelling studies as well as qualitative research that looks at how discourses and narratives may impact the relational strategies embedded in network structures. We also welcome research that expand the very definition of gender to investigate peculiarities and differences of LGBT social networks.

Topics of the session might include, but are not limited to:
• Gender differences in structure and composition of personal networks
• Gender differences in tie formation in early life
• Gender dynamics in educational settings
• Gender and social support over the lifetime
• Gender, social capital and brokerage
• Gender differences in interlocking directorates, academic networks and organizational studies
• Gendered narratives in relational strategies
• Gendered perceptions of SNA

IN-PERSON

Corresponding Organizer

Elisa Bellotti

Full Professor | University of Manchester

Gender, Networks, and CEO Selection in Australian Sport Organisations

11:00 AM – 11:20 AM

GENDER AND SOCIAL NETWORKS

This research explores gender differences in networks and networking amongst chief executive officers (CEOs) of sport organisations in the context of CEO selection. Using social network surveys and semi-structured interviews, personal work-related networks and networking experiences were examined. Ego-nets were analysed using Ucinet and NetDraw, while interview data was analysed thematically using NVivo. Both men and women recognise networks influence CEO selection. However, gender-based differences emerge in network size, tie strength, tie origins, and tie function. Women CEOs have smaller but more intimate networks than men CEOs. Women also hold less influential positions in the broader sport management network. Participants confirm 'old boy' clubs remain present in Australian sport. While networks may perpetuate inequality, networking functions such as mentoring and sponsorship may circumvent disadvantage by increasing visibility and providing legitimacy for women. Such relationships are typically multiplex, comprising strong, enduring ties. These findings highlight the significance of networks and their impact on diversity in executive leadership. This study is novel in sourcing data directly from CEOs, whereas previous management scholarship suggested networks differ by gender without such direct evidence. This research adds to sport management knowledge by using empirical social network data to explain women's underrepresentation and lack of gender equity in leadership.

Speaker

Lloyd Rothwell

Lecturer | University of Technology Sydney

Gender and reciprocal ties: do boys and girls differ in forming and maintaining reciprocal friendships and avoidance relationships?

11:20 AM – 11:40 AM

GENDER AND SOCIAL NETWORKS

Gender stereotypes are reproduced in everyday interactions and accumulate into gendered social structures that reinforce hierarchies. Understanding how gender shapes the formation, maintenance, and dissolution of social relationships—and how these processes aggregate into broader network structures—is therefore crucial. Although social network analysis has extensively examined relational and structural mechanisms of tie formation, two limitations persist. First, research has focused mainly on positive ties, leaving limited insight into networks that include negative relationships. Second, individual characteristics such as gender are often treated as exogenous, making it unclear whether gender affects network mechanisms or operates differently across relationship types. This talk presents an ongoing project that links gendered micro-level interactions to macro-level inequalities through social networks. We report findings from schools, a context where asymmetry is pervasive in adolescent peer relations. Using three large-scale studies (11,463 students, 487 classrooms), we analyzed friendship and avoidance ties with MRQAP models. Results show no gender differences in reciprocity, transitivity, preferential attachment, or avoidance dynamics. The only consistent difference is a stronger tendency among girls to form homophilous ties. These findings suggest that gender inequalities do not stem from dyadic reciprocity and open questions about more complex network mechanisms.

Speaker

Elisa Bellotti

Full Professor | University of Manchester

Paper Title: Sociodemographic Dimensions of Echo Chambers: Network Analysis of Information Sharing on Twitter/X"

11:40 AM – 12:00 PM

GENDER AND SOCIAL NETWORKS MODELING NETWORK DYNAMICS
NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA
NETWORK APPROACHES TO POLITICAL DYNAMICS

The debate over whether the internet functions as an echo chamber or a diverse forum remains unresolved. While some research highlights ideological polarization through homophilic network structures, others suggest platforms like Twitter/X enable cross-cutting exposure. This study addresses gaps in this discourse by incorporating sociodemographic factors such as gender, race, and rural residency, which are often overlooked in prior work.

Using a longitudinal dataset of 1.6 million Twitter/X accounts linked to U.S. voter files and national survey waves, we examine three dimensions of networked information ecosystems: diversity in news consumption, social network dynamics of news sharing, and clustering around news sources. Through network analysis and community detection methods, we identify significant demographic variation in exposure to diverse perspectives and the formation of homophilic clusters.

Our findings show that sociodemographic attributes shape patterns of information diffusion and clustering beyond ideological divides. By integrating network science approaches, this study provides new insight into how platforms such as Twitter/X may foster or mitigate segmentation, with important implications for democratic engagement and public discourse.

Speaker

Burak Ozturan

PhD | Network Science Institute, Northeastern University

Business Meeting Luncheon

12:00 PM – 1:40 PM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Join us in Coquina DE for the Annual Business Meeting Luncheon!

Business Meeting Luncheon Menu

- Starters
  - Arcadian field greens tossed with carrot, cucumer, and grape tomato; served with ranch and balsamic dressings
  - Chef's soup kettle
- Entrees
  - Blackened mahi-mahi with citrus sauce
  - Penne pasta tossed with sundried tomatoes, artichokes, and pine nuts
  - Sauteed chicken breast with rosemary dijon sauce
- Sides
  - Chef's selection of starch
  - Chef's selection of vegetable
  - Baked potato bar (make your own): Idaho baked potatoes served with creamery butter, sour cream, crumbled bacon bits, shredded cheddar cheese, scallions, and broccoli florets
  - Rolls with creamery butter
- Desserts
  - Bread pudding served with vanilla sauce and whipped cream
  - Country apple pie
- Beverages
  - Iced tea
  - Freshly brewed coffee

Changes of Social Networks Over Time

1:40 PM – 3:00 PM | Location: Coquina A

SESSION

IN-PERSON

The Evolution of the Political Science Journal Citation Network: A Network Analysis of the Academic Literature

1:40 PM – 2:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORK APPROACHES TO POLITICAL DYNAMICS

In this paper, we will present the results of social network analyses of the journal citations in political science. We conducted keyword searches in the Web of Science and utilized network analyses tools and generative AI tools to analyze the structure of the political science journal citation network, positions of the journals in the network, and the subgroups of journals within the network. To investigate the evolution of the networks we conducted analyses in four time periods (2005, 2010, 2015, and 2020). Our network level analyses show that the political science citation networks were highly centralized in the four periods we studied, with moderate levels of fragmentation of the network and transitivity among the citing and cited journals, which indicate that there were meaningful subgroups among them. Three journals were consistently most central in the network and at the core of the network in all four years, with some other journals rising in their centralities and coreness over time. Our subgroup analyses show that there were meaningful and consistent subgroups: generalist and more prestigious political science journals, international relations and comparative politics journals, political theory and philosophy journals, and more specialized area journals. We will present the results of our structural analyses, as well as the centrality and sub-group analyses in the conference paper.

Speaker

Glenn McGuigan

Library Director, Penn State Harrisburg | Penn State University Libraries

Authors

Göktuğ Morçöl (Penn State Harrisburg), Preston M. Varkpeh (Penn State Harrisburg), Arifur Rahman Bhuiyan (Penn State Harrisburg), Samson Oluwaseun Fapetu (Penn State Harrisburg)

Adolescent Personal Support Networks Before and After the COVID-19 Pandemic

2:00 PM – 2:20 PM

CHANGES OF SOCIAL NETWORKS OVER TIME

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

The COVID-19 pandemic substantially altered adolescents' social lives, reducing in-person interaction and potentially increasing reliance on social media and online exchange. This study examines the composition and structure of core support networks pre- and post-COVID, based on two samples of rural Michigan adolescents from 2018 (N=288) and 2023 (N=248). A modified important matters name generator (the R5D) was used to elicit up to five alters across five support domains (family, career, finance, health, happiness/life goals). Multilevel models accounted for both network- and alter-level characteristics, and Wald tests assessed differences across years. Compared to pre-pandemic, we found no difference in network size, tie strength, bridging potential, support deficiency, or the relationship between social media use and support (it remained trivial). Support networks were slightly less dense post-pandemic, female alters provided more types of support (especially health), extended kin provided less support, alters were less specialized, close ties provided less family support, happiness was less likely to come from parents, and support related to health was more likely to come from romantic partners. Our findings suggest that adolescents' support networks were resilient or rebounded post-pandemic, having largely adapted to major life disruptions.

Speaker

Boram Lee

PhD student | Michigan State University

Co-speakers

Gabriel Hales

Michigan State University

Keith Hampton

Professor | Michigan State University

Cultivating Connections: Using Baseline Social Network Analysis to Inform Network Development Strategy for an Interdisciplinary Research Initiative

2:20 PM – 2:40 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE | ORGANIZATIONAL NETWORKS

This study leveraged baseline social network analysis to inform network-development strategies in a newly forming interdisciplinary research initiative and evaluate structural change after one year. A longitudinal analysis of a University-Wide Plants, Nature, and Health Initiative was conducted at baseline (N=25, December 2024, pre-launch) and follow-up (N=31, January 2026). Members completed roster-based surveys rating relationship depth (0–5). Baseline findings and recommendations were presented at the January 2025 launch. Follow-up analyses assessed structural change and applied link-prediction models to identify tie-formation mechanisms. Baseline modularity was moderately high (Q=.321) and 52% of possible ties were “unknown,” prompting strategies emphasizing cross-cluster collaboration via super-connectors and bridge builders. After one year, density increased 20%, average connections rose 50%, and collaborative ties grew 78%. Modularity decreased from .312 to .181, indicating greater cross-cluster integration. Among previously unconnected pairs, 26% formed ties, and 26% of new ties immediately reached project-based collaboration. Link prediction identified preferential attachment as the dominant mechanism (AUC=.69), supporting the use of opinion leaders to foster connections. Findings provide empirical evidence for mechanism-aligned, network-informed interventions that can accelerate integration in emerging research networks

Speaker

Meg Patterson

Associate Professor | Texas A&M University

Co-speakers

Jay Maddock

Regents Professor, Department of Environmental and Occupational Health; Director, Center for Health | Texas A&M University

Charlie Hall

Professor, Department of Horticultural Sciences & Ellison Chair in International Floriculture | Texas A&M University

Network Motifs and Sentiment Analysis in Hebrew Wikipedia in the AI Era

2:40 PM – 3:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

This study examines how artificial intelligence reshapes collaboration dynamics and content quality in the Hebrew Wikipedia. Using Wikimedia revision histories, we construct editor interaction networks where nodes represent contributors and directed edges capture sequential editing patterns.

Our framework integrates network topology with computational linguistics. We employ centrality metrics and network motif analysis (3- and 4-node configurations) to characterize collaboration structures. Statistical inference uses Difference-in-Differences estimation to assess the effects of article quality on editing behavior. Sentiment analysis of edit comments via HeBERT provides emotional context to interactions.

All connected motifs increase substantially, while null motifs decline, indicating evolution toward denser networks that enable enhanced information flow and coordination. AI catalyzes intensive peer engagement rather than isolated contributions.

Cross-referencing motif distributions with sentiment metrics identifies patterns that differentiate high-quality articles from regular entries, providing a foundation for automated quality assessment.

This work advances understanding of AI's impact on collective knowledge creation by demonstrating how algorithmic assistance restructures human collaboration networks. Future models will classify article quality through combined motif-sentiment features, enabling real-time monitoring in collaborative platforms.

Speaker

Gilad Ravid

Professor | Ben-Gurion University of the Negev

Co-speaker

Yuval Melamed

Msc Student | Ben-Gurion University of the Negev

Networks, Social Resources, and Subjective Well-Being

1:40 PM – 2:40 PM | Location: Coquina F

ORGANIZED SESSION

This session focuses on papers that analyze resources embedded in social networks which are indispensable to produce subjective well-being. During their life course persons are embedded in ever changing networks. What these networks have in common is that a broad set of resources – material, affective or cognitive – is embedded in them. A multitude of research tasks can be derived from that observation. Identifying the composition of resources necessary to secure well-being, creating resource-oriented network typologies or analyzing the requirements of resource access, to only name a few options. However, the extent to which social resources are integrated into networks also depends on culture and traditions and can therefore vary between societies in their importance for well-being.
An approach that is focused on resources within networks can tackle questions ranging from life course analysis to social inequality and beyond.

Research work – be it quantitatively or qualitatively oriented – that is concerned with subjective well-being and the resources necessary for obtaining it, is highly welcome. Theoretical and/or methodological contribution from all relevant fields (e.g. sociology, economy, anthropology, medicine, psychology, educational sciences, statistics etc.) is desired.

IN-PERSON

Corresponding Organizer

Marina Hennig

Professor | Johannes-Gutenberg University of Mainz

Exploratory Analysis of Social Network Structure as a Potential Intervention Target for Psychosocial Outcomes among Older Adults with Advanced Cancer

1:40 PM – 2:00 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Social networks play a critical role in cancer care, yet structural features of patients' personal networks remain understudied. We analyzed baseline data from SONATA (Social Networks to Activate Teamwork & Alliance), a pilot single-arm trial evaluating a theory-informed network intervention for older adults with advanced cancer. Participants (n=15; mean age=75.1 years) completed structured egocentric network interviews to identify network members and map ties among them using an egocentric network chart. Psychosocial outcomes included measures of depressive symptoms, anxiety, distress, social connectedness, perceived social support, psychological need satisfaction, patient activation, hope, and quality of life. Spearman correlations were conducted using SPSS v31. Greater inner-circle total (number of close relationships) was associated with higher perceived social support (ρ=.62, p=.04), greater patient activation (ρ=.68, p=.05), and lower distress (ρ=−.61, p=.05). Inner-circle density (ρ=.89, p<.01) and EI index (ρ=.74, p=.02) were positively associated with psychological need satisfaction. A higher number of isolates (unconnected members) was negatively correlated with perceived social support (ρ=-.87, p<.001). These findings demonstrate that core relationships were positively associated with social support, whereas fragmentation was linked to poorer psychosocial outcomes. Findings are exploratory and require confirmation in larger samples and longitudinal analyses.

Speaker

Meng-Jung Wen

Postdoctoral Fellow | University of Rochester Medical Center

Co-speaker

Reza Yousefi-Nooraie

Department of Public Health Sciences (SMD), University of Rochester

Authors

Gretchen Roman (Department of Family Medicine, University of Rochester), Supriya Mohile (Department of Medicine, Hematology/Oncology (SMD), University of Rochester), Soroush Mortaz Hedjri (University of Rochester Medical Center (URMC), Department of Medicine), Sarah Phillips (Geri Onc M&D, University of Rochester), Ellen Mandwelle (Patient Advisor), Martha McGee (Patient advisor), Ronald Epstein (Department of Family Medicine (SMD), University of Rochester), Kah Poh Loh (Department of Medicine, Hematology/Oncology (SMD), University of Rochester)

Social Network Homophily, Perceived Fit, and Engineering Degree Program Persistence: A Survival Analysis

2:00 PM – 2:20 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Qualitative research demonstrates that persistence in engineering is impacted by intersections between students' social networks and perceived fit—the extent to which individuals experience belonging and alignment within engineering culture.

This study uses Cox proportional hazards modeling to examine how network composition and perceived fit jointly influence time to departure from engineering. Data come from a five-year longitudinal study of 1,663 engineering students across 11 universities. Egocentric networks were measured using position generators, capturing mentor relationships and demographic homophily. Perceived fit was assessed using a validated scale of 22-items.

In the fully adjusted model, higher perceived fit reduced departure hazard (HR=0.941, CI 0.897–0.988). Gender and race homophily with mentors showed stronger inverse associations (HR=0.770 and 0.716). GPA showed the strongest effect (HR=0.396). Survival curves indicated students with higher GPA, fit, and homophilous mentors persisted longer.

Homophilous mentor relationships shape persistence partly through reinforcing perceived fit. Network composition, particularly mentor similarity, functions as a key mechanism supporting engineering persistence. These findings demonstrate that network composition influences persistence through culturally mediated belonging, clarifying a key mechanism linking social structure to educational trajectories.

Speaker

David Dillon

Scientific Researcher | University of South Florida

Authors

Rebecca Campbell-Montalvo (University of South Florida), Yiwen Zha (University of South Florida, AQUASS Research Lab)

Relational Network Structures Following Maltreatment: An Egocentric Network Study of Adolescents

2:20 PM – 2:40 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

A network perspective views adolescents as embedded in systems of social ties through which influence, belonging, and support are communicated. Drawing on social support theory and network thinking that emphasizes cohesion, clusters, and the flow of influence, this study examines (1) whether adolescents with maltreatment histories differ from a community control group in the structure and composition of their personal social networks, and (2) whether these structural features are associated with perceived functional support.

Data collection is ongoing, with an anticipated sample of approximately 100 adolescents per group (current sample n=85, age *M*=14.13 years, *SD*=1.99). Structured social network interviews using *Network Canvas* software were conducted to elicit personal networks, capturing alter roles, tie strength, and inter-alter connections. Multivariate analyses will examine group differences in network structure, and regression models will test associations with perceived functional support (Interpersonal Support Evaluation List).

Differences in both compositional indicators (e.g., kin proportion, adult/peer balance, online/offline connections) and structural metrics (e.g., size, density) will be examined, as will the extent to which networks tend toward cohesive clusters or fragmented ties reflective of varying structural cohesion. Findings will clarify how adverse caregiving contexts may shape adolescents' relational embeddedness and inform network-based interventions.

Speaker

Nan Xiao

Research Scientist | University of California, Irvine

Authors

Jodi Quas (University of California, Irvine)

Virtual Presentations

1:40 PM – 3:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Network Structures of Organizational Crisis Management in the Netherlands and Spain

1:40 PM – 2:00 PM

ORGANIZATIONAL NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Organizational crisis management depends on rapid coordination, reliable information flow, and adaptive decision-making. Yet the effectiveness of crisis response is shaped less by formal procedures and more by the underlying communication and collaboration networks within organizations.

This study applies social network analysis to examine how crisis-related ties function in companies in the Netherlands and Spain. Using name-generator surveys, we map networks of information sharing, problem-solving collaboration, authority delegation, and cross-departmental support. Network indicators such as centralization, brokerage, redundancy, and tie strength are used to identify structural patterns associated with effective crisis response, reduced coordination failures, and higher decision quality. ERGMs and network regression models test how crisis management principles, such as decentralization and flexibility, manifest in actual organizational structures across different national contexts.

By conceptualizing crisis governance as a networked organizational process, the study proposes evidence-based strategies for strengthening resilience through improved communication structures and more adaptive relational configurations.

Speaker

Deniza Alieva

Docent of School of Business and Management | Management Development Institute of Singapore in Tashkent

Co-speaker

Elena Khanzadyan

Management Development Institute of Singapore in Tashkent

Is Horizon research in line with EU policy missions? Assessing research alignment with token classification and topic netw

2:00 PM – 2:20 PM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Recently there have been efforts to use natural language processing (NLP) to investigate research alignment. We build on these efforts by devising methods of measuring alignment that combine network analysis with NLP. Using a dataset of 80000 Horizon research abstracts and 4000 policy documents relevant to EU Missions policy areas published since 2014, to **(1)** extract specific policy objectives and targets, **(2)** map the topics pertinent to extracted objectives/targets and their interrelations, and **(3)** examine the association between topics and Horizon project metadata. For **(1)**, we fine-tune and validate a large language model (LLM) to identify token sequences that express policy targets in our 4000 policy documents, using a manually labelled subsample. For **(2)**, we use topic modelling on all documents. Topics are found by clustering LLM embedding representations of documents, allowing construction of topic embeddings. We map interrelations between topics by constructing networks where nodes are topics and edges are cosine similarities between topics' embeddings. By analyzing these networks and tracking the topics where identified policy targets tend to be concentrated, we assess alignment between interrelated research topics and policy targets. For **(3)** we use Horizon covariate metadata (e.g. research project cost) to model covariate effects on topic prevalence using generalised linear models. Thus, we consider the factors that might drive greater or lesser degrees of alignment.

Speaker

Ayan-Yue Gupta
Postdoctoral Fellow | University of Milan

Co-speaker

Raffaele Vacca
Associate Professor | University of Milan

Authors

Flaminio Squazzoni (University of Milan)

The Evolution of Collaboration Networks among Russian Universities, 1991–2025

2:20 PM – 2:40 PM

SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

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Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

As a result of the post-Soviet legacy, research in Russia was long dominated by a single organization – the Academy of Sciences. Over the past few decades, several programs and initiatives have aimed to develop strong research universities. But what are the characteristics of university research clusters? How have these clusters changed over the past 30 years? Using publication data from Russian universities included in the "Priority 2030" project list (N = 141) obtained from the OpenAlex database, we construct co-authorship networks in which nodes represent universities and ties represent joint publications. We examine these networks across four time periods from 1991 to 2025. First, we analyze network size, collaboration intensity, and key actors. Second, we conduct a cluster analysis to identify emerging clusters of universities and the factors associated with their formation. Third, we use blockmodeling to examine the collaboration structure and its evolution over time. We find that the division into clusters largely aligns with geographic proximity. At the same time, the collaboration structure is highly heterogeneous: there is a small, highly productive and collaborative core of universities and a peripheral group that collaborates little, if at all, with others. Our preliminary results suggest that "university science" in Russia is primarily represented by a small group of leading universities, and that the system of research-university clusters is still developing.

Speaker

Lika Kapustina
Junior Researcher | HSE University, International Laboratory for Applied Network Research

Co-speaker

Nataliya Matveeva
Research Fellow | HSE University, International Laboratory for Applied Network Research

Division: The Space Between Us and Them

2:40 PM – 3:00 PM

NETWORK APPROACHES TO POLITICAL DYNAMICS

HOW TO JOIN THIS SESSION:

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Join Zoom Meeting
https://us06web.zoom.us/j/82587815633?pwd=1PQL7Sha0OVLPvh9LtfY0IcHPm0LRt.1

Meeting ID: 825 8781 5633
Passcode: 339304

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

How do people draw symbolic boundaries between "us" and "them," and why so? While extensive scholarship has examined the causes, content, and consequences of such boundaries, less attention has been paid to their structure. Drawing on belief-network perspectives within social scientific inquiry and foundational measures from spectral graph theory, I advance a conception of symbolic boundaries as structural fault lines within identity-based attitude networks and develop novel metrics of both boundary adherence (at the belief network level) and position (at the identity level). This enables an assessment of both of aggregate division and which groups feature as polar or more bridging categories. Using data from the American National Election Studies Study (2012-2024), I apply this model and trace the structure and evolution of these boundaries across the American public and over time. Building from cultural sociology, inequality, and group processes literatures, I also develop and test several hypotheses linking individuals' social, political, and economic positionalities with variation in this symbolic structure. By revealing the underlying structure of symbolic boundaries, this paper offers new opportunities for social inquiry on division, pertinent to political, cultural, and inequality scholarship.

Speaker

Jack Wippell

PhD Candidate | The Ohio State University

Community-Engaged Social Network Analysis

2:00 PM – 2:40 PM | Location: Coquina B

SESSION

IN-PERSON

Disclosure of suicidal Thoughts and Experiences of Violence in Adolescent Ego Networks: Multilevel Evidence from American Indian Youth.

2:00 PM – 2:20 PM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS

Social network researchers often treat support as a general function rather than a topic-specific one. High-stakes disclosures—such as discussing suicidal thoughts or experiences of violence—are likely differentially structured across alters within an ego network. We examine whether Reservation-based American Indian youth differentiate whom they approach when disclosing suicidal thoughts compared to experiences of violence.

In a sample of 241 youth (3244 alters), we estimate multilevel models with alters nested within egos to assess tie-level predictors of disclosure and between-ego heterogeneity. We highlight several key findings. First, we find substantial random intercept variances. This indicated clustering in disclosure propensity. Second, we find that closeness is a robust predictor of disclosure. Third, patterns of disclosure are not parallel: the alters youth approach for suicidal disclosure differ systematically from those they approach regarding violence exposure.

Specific disclosures activate distinct subsets of ego networks. Although relational characteristics such as closeness remain consistently relevant, high-stakes problems selectively mobilize different ties. This work highlights the unique strength of social networks in understanding the relational patterns of social support across different outcomes, often of great concern to adolescent health researchers. Furthermore, this provides a promising and tailored approach to understanding intervention targeting.

Speaker

Jerreed Ivanich

Assistant Professor | University of Colorado

Authors

Katie Schultz (University of Michigan), Michael Siciliano (University of Illinois Chicago)

Public Space, Network Formation, and Social Inequality in Segregated Cities

2:20 PM – 2:40 PM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS INTERGROUP RELATIONS IN SOCIAL NETWORKS NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING SOCIAL NETWORKS & INEQUALITY

This paper examines how public social infrastructure shapes network formation and social inequality in an era of increasing racial and economic segregation in U.S. metropolitan areas. While prior research documents segregation in residential and activity spaces, we know far less about how everyday public settings structure opportunities for cross-group interaction and tie formation. We develop a three-dimensional theoretical framework of social connectedness in public space and introduce an original survey instrument that measures four network layers: place attachment, co-presence and joint activity, existing ties present on site, and the formation of new ties across racial and class boundaries.

Data come from 1,191 adults surveyed using a two-stage cluster sampling design in libraries, parks, and recreational facilities across Lower Manhattan, Central Brooklyn, and Poughkeepsie between July and November 2025, using an original survey instrument. By integrating spatial sampling with network measures, the study links spatial context to micro-level tie formation.

Preliminary findings show that public social infrastructure fosters both bonding and bridging ties, including cross-racial and cross-class connections, while uneven distribution of such spaces may reproduce spatialized inequality in network opportunity. The study advances a network-based, spatially grounded approach to understanding inequality, intergroup contact, and social cohesion.

Speaker

Nan Feng

Postdoctoral Researcher | New York University

Authors

Eric Klinenberg (New York University)

Network Analysis for Textual Data in Social Media

2:00 PM – 2:40 PM | Location: Coquina G

SESSION

IN-PERSON

Forklore: Tracking the Diffusion of Informal Platform Knowledge Through Cycles of Technical Change

2:00 PM – 2:20 PM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA SOCIAL INFLUENCE

This paper examines the diffusion of a concept we term “forklore”: the folk knowledge that emerges when users collectively make sense of platforms they cannot directly observe, particularly in situations where technology "forks" or diverges from user expectations through sudden updates, undisclosed changes, or the deprecation of familiar features. While prior work has examined individual folk theories of algorithms, less attention has been paid to how this knowledge spreads, mutates, and consolidates across user networks in response to platform updates and technical change. Drawing on textual data from subreddit discussions, we construct co-discussion and user-interaction networks to trace how informal platform knowledge propagates within and across communities following documented technical changes. We examine how network position shapes which users originate, amplify, or contest forklore, and how community structure mediates the spread and stabilization of each claim. We find that forklore diffusion is neither uniform nor spontaneous — rather, it concentrates around high-betweenness users and meta-communities who serve as knowledge brokers, with cross-community spread accelerating sharply in the wake of technical disruptions. Our findings contribute to sociotechnical systems research by reframing folk theories not as individual cognitive artifacts but as emergent network phenomena that are shaped by platform architecture, community topology, and cycles of technical change.

Speaker

Emerson Johnston

Research Assistant | Stanford University

Consolidating Twitter Networks by Interaction Configurations: A Novel Method for Meaningful Network Reduction

2:20 PM – 2:40 PM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

Social media network analysis struggles with massive datasets where hundreds of thousands of nodes obscure patterns. While reduction techniques exist, they often sacrifice structural fidelity. This paper introduces a novel consolidation method that achieves ~97% node reduction while preserving essential structural properties.

Unlike conventional aggregation, our method consolidates nodes based on interaction configurations. We treat combinations of relationship types (mentions, retweets, replies, quotes) as behavioral signatures. Users with identical configurations are merged into single nodes, creating a reduced network that maintains original relational patterns while improving interpretability.

We tested this on two Twitter datasets: pro-vaccination (202,204 users) and anti-vaccination (46,822 users). After filtering, the method reduced the pro-vaccination network from 21,034 vertices to 291, and the anti-vaccination network from 8,998 vertices to 295—a 97% reduction in both cases. Comparisons show that consolidated networks preserve core characteristics: centralization and clustering coefficients remained stable, and community detection identified similar macro-level structures.

This approach makes visualizations interpretable without losing accuracy and decreases computational demands. By focusing on interaction configurations, this method makes large-scale network analysis more accessible and actionable.

Speaker

Tracy Burkett

Professor of Sociology | College of Charleston

Co-speaker

Roy Barnes

University Of Michigan-Flint

Digital Networks in Healthcare

2:00 PM – 3:00 PM | Location: Coquina C

ORGANIZED SESSION

The healthcare ecosystem has undergone a profound and rapid transformation over the past few years, prompted by the wide adoption of digital technologies. They have reshaped the interactions between healthcare workers, patients and institutions, unveiling both opportunities for global collaborations on complex processes and projects, as well as potential solutions to local issues to improve inter-institutional access to patient data, services and empower patients.

For instance, the emergence of informal communication means, e.g. apps and virtual platforms, has changed the way healthcare workers communicate and how patients can interact with the healthcare system, and has thus improved information sharing between all actors, enhanced feedback mechanisms and monitoring processes, streamlined training programs and fostered new ways of collaborating in clinical and research initiatives. In parallel, the use of electronic healthcare records has promoted coordinated care and synchronization of patient-centered interventions. Finally, the introduction of AI solutions is reshaping the machine-human division of labor and interactions as well as interpersonal coordination by expanding the machine assisted decision-making and problem-solving solutions.

This transformation can be felt and used at different levels, from local specialist clinical teams for information handover between shifts, to within hospital multi-specialist teams such as in Intensive Care Unit, intra and inter-hospital patient transfers, and telemedicine platforms connecting healthcare professionals across continents, such as virtual robotic surgery teams. Despite the rapid proliferation of

these technologies, tools and practices, their functional and organizational aspects, ethical implications and impact on patient outcomes and healthcare systems in general remain to be systematically assessed.

We welcome theoretical and empirical studies that contribute to the debate on all aspects of the digitalization of the healthcare ecosystem, as well as methodological papers offering insights on the treatment of digital healthcare data.

IN-PERSON

Corresponding Organizer

Paul Expert
University College London

Authors

Paola Zappa (UCL)

Networks and trust digital services: How social networks shape pensioners' attitudes toward the digital services of the Norwegian Labour and Welfare Administration.

2:00 PM – 2:20 PM

DIGITAL NETWORKS IN HEALTHCARE

The digital transformation of welfare services challenges traditional mechanisms of trust, particularly among vulnerable populations. This paper explores how social networks influence pensioners' trust in the digital services provided by the Norwegian Labour and Welfare Administration (NAV). Previous research indicates that personal characteristics, including networks and participation in voluntary associations, shape trust. In a rapidly digitalizing welfare environment, social networks may serve as key mediators for navigating new technologies, shaping trust or distrust in digital services. Pensioners, who may not be as familiar with digital tools, use these networks to help them form opinions about digital platforms.

This study, based on sociological research on personal networks, explores the influence of pensioners' networks on their trust in NAV's digital platforms. The study employs mixed methods to investigate how these networks influence attitudes towards digital platforms and whether they serve as barriers or facilitators of trust.

The study contributes to broader sociological debates on trust in digital society by examining an understudied population and showing how social ties affect perceptions of digital services in public welfare. The findings offer practical recommendations for improving trust in digital services among older populations and ensuring they are not left behind in the transition to digitalized welfare systems.

Speaker

Alhassan Yakubu Alhassan
Assistant Professor | University of Agder

Outpatient clinician networks and mortality in older adults with multimorbidity

2:20 PM – 2:40 PM

DIGITAL NETWORKS IN HEALTHCARE

Older adults with multimorbidity often visit multiple outpatient clinicians. Sparse connections between clinicians can lead to fragmented care, which is associated with poor outcomes. Yet such networks are rarely studied. This study evaluates the relationship between patients' outpatient clinician networks (size, density, centrality) and mortality. We use notes from electronic health records at a large metropolitan health system to build patient-clinician bipartite networks and project clinician–clinician ties from shared patients. 8,105 clinicians are connected via 10,459 older adults who had 2 or more chronic conditions in 2019. For each patient, we compute network size (number of clinicians), density, and the mean weighted degree and eigenvector centrality of their clinician teams. Cox proportional hazards models, adjusted for demographic and clinical factors, show that larger clinician networks are associated with higher mortality (per SD, HR=1.19, $p<0.001$). Further, increased mean clinician eigenvector centrality (HR=0.83, $p<0.001$), mean weighted degree (HR=0.91, $p=0.004$), and density (HR=0.94, $p=0.02$) were associated with lower mortality. These findings indicate that relationships between outpatient clinicians are associated with the survival of older adults with multimorbidity. Understanding clinician team networks could inform relationship-focused interventions to strengthen clinician ties and system connectivity, thereby reducing fragmentation and improving outcomes.

Speaker

Sijia Wei
Postdoctoral Fellow | Northwestern University

Predictive Infection Risk Modeling Using Graph Neural Networks and Ensemble AI Methods: A Network-Based Approach to HIV Prevention in PEPFAR-Supported Regions

2:40 PM – 3:00 PM

DIGITAL NETWORKS IN HEALTHCARE | GRAPH ANALYTICS FOR GOVERNMENT APPLICATIONS | MODELING NETWORK DYNAMICS | RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS

Abstract: This research presents APEX (AI-Powered Infection Prevention System), a novel network-based predictive framework that leverages Graph Neural Networks (GNNs) combined with ensemble machine learning to model HIV transmission dynamics and predict infection risk 30-60 days before infections occur. Applied to 20 years of surveillance data from PEPFAR-supported countries in Sub-Saharan Africa, APEX addresses a critical gap in global health systems: the transition from retrospective analysis to prospective prevention. **Network Methodology:** APEX employs a three-model ensemble architecture that explicitly models disease transmission as a network problem. The core innovation lies in using Graph Neural Networks to represent contact networks, geographic proximity networks, and healthcare utilization networks simultaneously. The GNN component learns transmission patterns across node relationships, predicting infection probability based on:

- Contact network topology with known HIV-positive individuals
- Geographic clustering patterns at district/facility levels
- Temporal evolution of transmission networks over time
- Behavioral and demographic attributes as node features

The GNN predictions are combined with LSTM neural networks (temporal pattern recognition) and XGBoost (multi-feature risk scoring) in an ensemble method, achieving target confidence scores of 85-89% when all three models agree.

Speaker

Dominic Le Donne

Data & AI Consultant | Accenture Federal Services

Poster Presentation Reception

3:00 PM – 5:00 PM | Location: Coquina Pre-Function

POSTER SESSION

Enjoy coffee and refreshments while learning about the wonderful research conducted by our Poster Presenters - INSNA thanksUSF Social Network Research Collaborative for sponsoring the Poster Presentation Reception!

Poster Presentation Reception Menu

- Assorted desserts, including cookies, brownies, mini cheesecakes, fruit tarts, and chocolate-covered strawberries
- Classic hummus and baba ganoush, served with mini pita bread and lavash bread
- Individual assorted yogurt with berries, smoked almonds
- Blueberry lemonade
- Selection of hot herbal teas
- Freshly brewed regular and decaffeinated coffee

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USF SOCIAL NETWORK RESEARCH COLLABORATIVE

IN-PERSON | POSTER

Patient-sharing networks and utilization of diabetes self-management education: Does centrality correlate to patient-referral behavior?

3:00 PM – 5:00 PM

NETWORK METHODS FOR IMPLEMENTATION SCIENCE

Diabetes self-management education and support (DSMES) is a core component of diabetes care, but despite guidelines, it remains underutilized among Medicare beneficiaries.

This study examines whether structural position within provider networks is associated with DSMES utilization. We hypothesize that providers with higher degree centrality and betweenness centrality, reflecting their connectivity and brokerage roles within the care network, are more likely to refer their patients to DSMES. Using Arkansas All-Payer Claims Database data from 2015–2019, we identified 12,643 individuals newly diagnosed with type 2 diabetes and 3,222 providers linked to 61,666 diabetes-related claims. Only 851 patients (6.7%) received DSMES, referred by 362 providers.

We constructed a provider network based on patient-sharing ties, modeling it as a weighted, undirected graph, and calculated node-level centrality metrics to assess the provider's network position. Providers who referred patients to DSMES had significantly higher normalized weighted degree and betweenness centrality compared to non-referring providers ($t=7.22$, $p<0.001$; $t=3.7$, $p<0.001$). These findings suggest that network structures can be used to enhance DSMES dissemination, facilitating knowledge diffusion from more centrally positioned providers to engage peripheral providers in DSMES utilization and highlight the importance of expanding DSMES access to improve uptake. MR was supported by the NIDDK [K25DK136966].

Speaker

Mandana Rezaeiahari

Associate Professor | University of Arkansas for Medical Sciences

Authors

Mark Williams (University of Arkansas for Medical Sciences), Bradley Martin (University of Arkansas for Medical Sciences), Kayo Fujimoto (UTHealth Houston School of Public Health)

Endogenous Network Formation through Regional Homophily and Triadic Closure: A TERGM Analysis of RCEP Trade Networks

3:00 PM – 5:00 PM

GLOBALISATION AND NETWORK ANALYSIS NETWORKS IN TRADE AND FINANCE

This study uses social network analysis to examine the formation and evolution of an intra-regional global value chain (GVC) network within the Regional Comprehensive Economic Partnership (RCEP). We construct the RCEP regional GVC network using a trade value-added decomposition method and analyze its structural properties and dynamic generative mechanisms.

Network structure is described using density, centrality, reciprocity, and clustering. Temporal Exponential Random Graph Models (TERGM) are used to evaluate the network's topological properties and evolutionary dynamics from 2000 to 2020, whereas multilayer ERGM captures cross-layer dependencies between various sub-GVC networks.

The findings show that the RCEP regional GVC network has small-world features, high clustering, and low reciprocity. Expansiveness and triadic structures play an important role in network evolution. We also analyze whether endogenous network structures partially mediate the effects of node attributes and co-evolving networks on the network. Multilayer ERGM analysis reveals heterogeneity across sub-GVC networks, suggesting that strengthening one type of GVC linkage among RCEP countries can influence the formation of other GVC linkages through interlayer network structures. Large economies do not have dominant positions in the network despite their economic size, while other countries may serve as bridging hubs between the RCEP region and the GVC network.

Speaker

Zhiyu Zhu

When a Few Can Influence Many: Minority Impact in Daily Interaction

3:00 PM – 5:00 PM

AGENT-BASED MODELING AND SOCIAL NETWORKS
CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS
INTERGROUP RELATIONS IN SOCIAL NETWORKS
MODELING NETWORK DYNAMICS
NETWORK APPROACHES TO POLITICAL DYNAMICS
NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE
NETWORKS AND CULTURE
NETWORKS, COLLECTIVE ACTION, AND SOCIAL MOVEMENTS
ORGANIZATIONAL NETWORKS
SOCIAL INFLUENCE
SOCIAL NETWORKS & INEQUALITY

This paper examines the conditions under which ordinary minorities—those without extraordinary resources, power, strategies or commitment—can influence majority opinions through routine interactions in stable social networks. This research utilizes Agent-Based Models extending the associative diffusion framework combined with Qualitative Comparative Analysis to identify the cultural-cognitive and social-structural configurations that empower minority voices. The results indicate that minority impact is significantly more likely in contexts characterized by low schema tightness, where the strength of associations between different issues is lower. To achieve dramatic change or a minority win, low complexity schemas involving fewer issues are most effective, while high-complexity schemas are better suited for achieving moderate minority advances.

Regarding social ecology, the study find that a critical mass of at least 30 percent significantly improves the likelihood of minority impact. Furthermore, high-density networks and Barabási–Albert structures facilitate faster opinion change and group congruence than Watts–Strogatz or sparse networks. While total shifts toward minority opinions are rare, the findings show that specific combinations of flexible schemas and supportive network structures asymmetrically empower minorities. Ultimately, the research suggests that even trivial daily interactions can catalyze social change when embedded in favorable social ecologies

Speaker

Yuanhao(Colin) LIU

PhD Candidate | Johns Hopkins University

How the 2025 NIH Grant Terminations Affected the Biomedical Research Workforce

3:00 PM – 5:00 PM

GENDER AND SOCIAL NETWORKS

In 2025, the NIH terminated 2,291 active research grants, withdrawing approximately $2.45B from ongoing biomedical projects and disrupting laboratories across the United States. While the economic scale of these cuts has been widely recognized, less is known about how impacts varied across researchers' demographic groups. Using an original dataset from publicly available records, this study examines how grant terminations differed by gender and career stage. The cancellations affected institutions nationwide, spanning major research universities, academic medical centers, and training programs, indicating a systemic disruption rather than regional effects. Statistical patterns show that early-career investigators, including assistant professors, postdoctoral fellows, and graduate trainees, were disproportionately affected. Women investigators were also more heavily impacted, particularly within training and transition awards supporting entry into independent research careers. Women-led projects were smaller on average and had a larger share of unspent funds at cancellation, suggesting planned research activity and workforce support were halted midstream. Applying NIH economic multipliers indicates roughly $6.29B in unrealized economic activity. These findings highlight how funding instability may disproportionately disrupt vulnerable stages of the biomedical workforce and raise concerns about long-term scientific continuity and future research capacity in the United States.

Speaker

Diego Fregolent Mendes de Oliveira

Assistant Professor | University of North Dakota

Co-speaker

Qian Huang

Assistant Professor | Washington State University

Behavioral Contagion Across Multiple Health Related-Behaviors: Evidence from a Two-Year Sociocentric Network Study of University Students

3:00 PM – 5:00 PM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

This study examined whether homophily in multiple health-related behaviors among university students is mainly driven by behavioral contagion or peer selection, accounting for individual and network factors.We conducted a longitudinal sociocentric social network study among undergraduate freshmen from two universities in Guangzhou, China, with four waves of data collected between October 2022 and July 2024. Friendship networks were measured using a fixed roster method. Validated instruments assessed physical activity, fruit and vegetable consumption, sleep quality, sugar-sweetened beverage intake, video game use, smoking, and alcohol consumption. Stochastic Actor-Oriented Models were applied to distinguish behavioral contagion from peer selection. The sample included five complete friendship networks with 609 students at baseline (mean age 18.7 years; 65.2% female). Significant behavioral contagion effects were observed for physical activity, fruit consumption, sleep quality, smoking, drinking, and video game use, whereas homophily in sugar-sweetened beverage consumption was mainly explained by peer selection. Overall, contagion contributed more to observed homophily, particularly for health-risk behaviors. Similarity in most health-related behaviors among university students is driven primarily by behavioral contagion rather than selective friendship formation, highlighting the importance of peer influence and network-based interventions.

Speaker

Rui Luo

post-doc fellow | University of South Carolina，Arnold school of public health

Gender Disparities in Recognition, Collaboration, and Career Advancement in Communication Research

3:00 PM – 5:00 PM

GENDER AND SOCIAL NETWORKS

This study examines gender differences in scientific impact, collaboration patterns, authorship roles, and academic career outcomes in communication research, revealing persistent inequalities. Women represent slightly more than half of all authors, reflecting progress toward participation parity. They are active in sole authorship and publish in journals with comparable or slightly higher impact factors than men. Yet women's publications receive fewer citations on average, even after accounting for journal prestige and research characteristics, suggesting disparities in recognition rather than quality. Collaboration analyses show strong gender homophily, with researchers more likely to form single-gender teams than mixed collaborations. Women-led collaborations receive fewer citations in multi-author settings, highlighting unequal visibility. Analyses of leading communication journals indicate that women remain underrepresented in top outlets and face citation disadvantages across authorship positions. Institutional analyses of U.S. public universities show that although women are well represented at assistant professor levels, their representation declines at senior ranks, indicating barriers to advancement. Overall, gender disparities increasingly reflect differences in recognition, collaboration dynamics, and career progression rather than participation alone, underscoring the need for more equitable evaluation and institutional practices.

Speaker

Diego Fregolent Mendes de Oliveira

Assistant Professor | University of North Dakota

Co-speaker

Qian Huang

Assistant Professor | Washington State University

Who are the support providers in personal networks of special education professionals?

3:00 PM – 5:00 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Feeling supported by colleagues is important for special education teachers to stay in the field. The literature on teacher retention has addressed this topic focused on individual teachers by conceptualizing support as a collective characteristic across colleagues. Social support, however, is embedded within relationships better examined through social network analysis. Educational literature on social support has rarely used SNA. Currently, important information about specific characteristics that make it more likely for a colleague to provide support to special education teachers is unavailable.

To address these issues, we collected personal network data from 29 special education professionals working in either suburban school districts in Utah or rural school districts across the United States. Each ego nominated between 10-25 alters, for a total of 425 alters. Using multilevel models with alters nested within egos, we estimated the likelihood of being nominated as a provider of professional, emotional, and social support, based on alters' gender, school role, and years of experience. We found that teachers and paraeducators were less likely to provide professional support, whereas female alters and colleagues with more teaching experience were more likely to provide emotional and social support. These results provide a more nuanced picture of social support networks of special education professionals that school leaders could use to structure more formalized support.

Speaker

Willa van Dijk

Assistant Professor of Special Education | Utah State University

Co-speaker

David Cañarte

Tarleton State University

Constructing Egocentric Networks using Interview Data from Veterans with TBI: Adapting Natural Language Processing

3:00 PM – 5:00 PM

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

Social networks influence health outcomes. Yet network size decreases after traumatic brain injury (TBI), often due to job loss or marital separation. Network analysis is not standard in TBI science, presenting barriers to social network intervention.

Moreover, manually coding social networks from interviews is time-intensive. This study applies Natural Language Processing (NLP) to automate network construction from interview transcripts with TBI survivors. This study asks: Compared to human coding, how accurately can NLP identify features of Veteran egocentric networks in the USF Hyperbaric Oxygen Therapy interview transcripts?

The pipeline NLP was developed in Python. Text was pre-processed using tokenization, lemmatization, and part-of-speech tagging. spaCy's Named Entity Recognition and rule-based classification extracted alter names, attributes, and support type. Outputs were scored as full, partial (≥1 match), or no match against manual coding.

To start, five interviews using position generators were analyzed. 25 alters were manually identified; NLP fully matched all names. Gender (21), race (9), age (14), and years known (11) were fully matched. Education was fully matched in 7, partially in 11. Support type was fully matched in 11, and partially in 9 alters.

Results show scalability potential but highlight challenges in race identification outside of standardized categories. Implications inform interview protocols to optimize AI network mapping.

Speaker

Katelyn Carlsen

Undergraduate Research Assistant | University of South Florida

Authors

Rebecca Campbell-Montalvo (University of South Florida), Yiwen Zha (University of South Florida, AQUASS Research Lab), Daniel Lende (University of South Florida, Department of Anthropology), Jason Wilson (University of South Florida), Alana Alexander (University of South Florida), Chad Radwan (University of South Florida), Christine Melillo (University of South Florida), Fayyadh Yusuf (University of South Florida), Erik Velasquez (University of South Florida), Harry van Loveren (University of South Florida, Department of Neurosurgery, Brain & Spine)

NET-AI: Leveraging egocentric networks for community-engaged gynecological clinical trial recruitment

3:00 PM – 5:00 PM

COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES IN SNA

In the United States, Black and Latino communities remain underrepresented in gynecological cancer clinical trial participation, leading to significant limitations in the generalizability of findings and development of life saving therapies. Social network-based communication models offer a powerful approach to identifying participants, increasing awareness of clinical trial research, and building community trust to improve enrollment rates. NET-AI, a spatially explicit, social network-based communication model, proposes a promising alternative to traditional recruitment methods used in clinical research, enhancing the reach of patient recruitment among underrepresented populations. We will present the NET-AI model that incorporates egocentric and two-mode network mapping to characterize participants' personal network compositions in the context of medical decision making, assessing underlying network structures, relationships, and patterns of information diffusion. We will describe how this model examines tie strength, interaction frequency, barriers and facilitators in accessing health information, and the identification of high centrality alters that can disseminate health information and encourage participation among their communities. NET-AI has the potential to establish a self-sustaining communication network that enables information-sharing and de-stigmatization of clinical trial participation.

Speaker

Ariana L. Johnson

Assistant Professor | University of Miami Miller School of Medicine

Authors

Mariano Kanamori (University of Miami), Edda Rodriguez (University of Miami), Ana Bravo (University of Miami), Jean Jose (University of Miami), Daniel Bilbao Cortes (University of Miami), Sanjeev Chatterjee (University of Miami), Abdulrahman Sinno (University of Miami), Lilliana Vilchez (University of Miami Miller School of Medicine)

Competition Design and Ranking Stability: An Analysis of the UEFA Champions League and English Premier League

3:00 PM – 5:00 PM

MODELING NETWORK DYNAMICS NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE

This study compares the UEFA Champions League (UCL) league phase and the English Premier League (EPL) to analyze how competition structures, specifically an incomplete Swiss-style schedule versus a full double round-robin, affect ranking stability.

We evaluate rankings against three baselines: (i) UEFA club coefficients, (ii) static (start-of-competition) Elo ratings, and (iii) dynamic Elo ratings updated match-by-match. To isolate schedule effects, we also develop two Strength-of-Schedule (SoS) measures based on Elo differences to determine if early rankings reflect genuine performance or lopsided opposition.

A network perspective is introduced by constructing a competitive interaction graph. We compute eigenvector centrality to model each team's position within the schedule's competitive structure. This allows us to test if centrality explains whether bracket design influences team performance and whether there are differences between expected results reflected by baseline Elos and actual competition results.

By replicating this framework on the EPL, we compare the uneven UCL format against a balanced league. Analysis of rank-agreement dynamics, such as Spearman and Kendall correlations, and top-k stability reveals how format design influences competitive fairness. The findings offer a network-based interpretation of ranking evolution and practical insights for forecasting and tournament design in modern football.

Speaker

Alina Campan

Professor | Northern Kentucky University

Co-speaker

Traian Truta

Director, School Of Computing And Analytics | Northern Kentucky University

Authors

Nitish Baidya (Northern Kentucky University), Rajani Khatri (Northern Kentucky University)

Typology of Egocentric Networks in ADRD-Related Communication

3:00 PM – 5:00 PM

DIGITAL NETWORKS IN HEALTHCARE GLOBAL PERSPECTIVES ON PERSONAL NETWORKS

Background: Information- and care-seeking for dementia risk reduction are shaped by social networks. Identifying configurations that facilitate cognitive and brain health conversations can inform targeted risk reduction communications.

Methods: 71 adults at risk for dementia completed ego-centric surveys based on PhenX toolkit using Network Canvas. We analyzed network topologies across relational composition and support/communication functions of ego–alter ties and at network-level characterizing cohesion and structural brokerage. We then identified distinct network phenotypes using principal-axis factor analysis and Ward's hierarchical clustering.

Results: 4 distinct factors were identified: network closure (density/constraint), tie strength (closeness/frequency), bridging potential (size/betweenness), and health-related communication and support. Metrics supported a three-profile solution: a bridging-expansive group (n=9) with larger, low-constraint networks and higher brokerage; a mixed group (n=35) with balanced support and moderate cohesion; and a bonding-closed group (n=27) with higher density and stronger emotional ties. Each profile showed distinct health-communication patterns.

Conclusion: This 4-dimension/3-profile typology captures ego-network heterogeneity relevant for individuals at risk of dementia. Findings enable tailored intervention strategies that harness a social capital framework that operationalizes bridging, linking, and bonding capital.

Speaker

Derun Xia

PhD candidate | UTHealth Houston

Co-speakers

Rebecca Mauldin

Associate Professor | The University of Texas at Arlington

Kayo Fujimoto

Distinguished Professor | University of Texas Health Science Center at Houston

Sahiti Myneni

Associate Professor | The University of Texas Health Science Center at Houston

Mechanism of Social Networks Influence on Kidney Replacement Treatment Decision-Making

3:00 PM – 5:00 PM

MIXED METHODS FOR SOCIAL NETWORK ANALYSIS NETWORKS AND CULTURE
NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS

The decision to select a Kidney Replacement Treatment (KRT) is a complex process influenced by clinical and psychosocial factors. Although literature suggests social influences on KRT decisions and outcomes, the mechanisms by which the social network factors mediate decision making is unclear. As part of the Trial to Evaluate and Assess the effects of Comprehensive patient education on Home dialysis in Veterans (TEACH-VET), we conducted interviews informed by the Theoretical Domains Framework (TDF) to explore Veterans' ability for informed KRT decision-making and the facilitators for selecting home dialysis. Using NVivo for coding and thematic analysis, we contextualize the role of social influences by caregivers, family, friends, etc. in the decision-making process. A subsample of 42 TEACH-VET enrollees completed the interview. The thematic analysis identified three mechanisms: 1) Shared discussion about kidney disease and KRT; 2) Provision or expectation of instrumental or expressive social support; and 3) Approaching of KRT as a joint concern. These relationships progress from least to the most robust social connections and support. Social networks function as a primary influence on KRT decision making through TDF domains: emotion, environmental context, intention, and self-efficacy. Hence, to facilitate informed KRT decision and ultimately desired outcomes, it is important to integrate the identified social network influences in patient education and treatment planning.

Speaker

Tali Schneider

Scientific Researcher | University of South Florida, College of Medicine, Department of Emergency Medicine

Co-speaker

Rebecca Campbell-Montalvo

Assistant Professor | University of South Florida

Authors

Shaira M. Ruiz Brito (University of Florida, Gainesville, Florida, United States), Ashutosh Shukla M. (US Department of Veterans Affairs Veterans Health Administration, University of Florida)

Social Network Analysis in Caregiving for Neurodegenerative Disorders: A Scoping Review

3:00 PM – 5:00 PM

INTERGROUP RELATIONS IN SOCIAL NETWORKS

Neurodegenerative disorders (NDDs) (i.e., Alzheimer's) require long-term care delivered through networks of informal caregivers, professionals, and organizations. Social network analysis (SNA) is underused for understanding how networks affect caregiver wellbeing and care quality. This scoping review systematically maps SNA applications in NDD caregiving across micro/personal, meso/interprofessional, and macro/interorganizational levels.

We identified 35 eligible studies published before 2025 from 5 databases. We used Covidence software for article screening and extraction.

Most studies applied SNA at the micro-level (55%), showing caregiver depression is more strongly related to network upset than perceived support. Meso-level studies (31%) reveal uneven knowledge distribution within teams and highlight boundary-crossing ties between staff and families to improve care. Macro-level interorganizational studies (14%) show evidence of fragmented care systems. Methodologically, the field relies mostly on cross-sectional designs (86%). Only 26% studies examined cross-level dynamics, typically qualitatively rather than through formal multi-level network modeling.

While SNA offers sophisticated tools for modeling interdependencies across network layers, it remains underused for multilevel modeling. Future studies should examine caregiving networks across personal, professional, and organizational layers and how interventions at one level may ripple across the caregiving ecosystem.

Speaker

Zhenning Kang

Graduate Research Assistant | Texas A&M University

Co-speakers

Meg Patterson

Associate Professor | Texas A&M University

Laura Koehly

Senior Investigator | National Human Genome Research Institute, National Institutes of Health, USA

Authors

Kyle Holland (Texas A&M University)

Who Fills The Void? Regulatory Profiles and Leadership Emergence After Network Reorganization

3:00 PM – 5:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORK INDICATORS FOR GROUP AND TEAM PERFORMANCE | NETWORK LEADERSHIP: PERSPECTIVES, METHODS, AND APPLICATIONS

Athletic teams function as complex systems where its members inhabit roles that keep the system cohesive. As teams shift throughout a season, coaches seek new players and search for talent to fill roles that old leaders left. Research on personality traits like the Big 5 and leadership are linked to high performance and cohesive team dynamics (Kim et al., 2008; Yang, 2024), but little examines whether emotional regulation predicts an athlete's position within their new network. Our research examines whether athlete's regulatory tendencies predict their leadership centrality through the Gross-Goleman-Barrett-Neurovisceral Integration (GGBN) framework.

Athletes from USF's collegiate women's soccer team (N=23) completed assessments including Situational Judgement Test (SJT) stemming from the GGBN framework, Big 5 personality measures, and leadership categories across three timepoints. The SJT-GGBN captures what regulation style athletes prioritize when responding to athletic-related scenarios. Round robin nominations across six leadership categories produce normalized weighted degree centrality for each athlete.

We test whether GGBN profiles predict leadership centrality beyond traditional measures like the ERQ and Big 5. Preliminary results show higher Anchored Holding correlates with greater centrality gains following turnover (r=.38). This research integrates emotion regulation with social network analysis to better understand how individuals influence team systems.

Speaker

A

Alexander Ochoa

Assistant Professor | University of San Francisco

Authors

Isabella Leone (University of San Francisco)

The role of personal network factors and nativity status on cancer screening history

3:00 PM – 5:00 PM

GENDER AND SOCIAL NETWORKS

There is limited examination of sociocultural factors, such as personal networks and support systems, as potential barriers or facilitators to cancer screenings. Also, whereas screening rates of commonly detectable cancers are lower among foreign- than US-born individuals, few studies have examined differences in the personal networks of these groups. This study examines the association between personal network characteristics and cancer screening in adults; and explores the moderating effect of nativity status, sex, and age. The UC Berkeley Social Networks Study is an online and in-person survey of young (21-30 years) and older adults (50-70 years). The cohort data enable examination of differences between US- (n=975) and foreign-born (n=178) individuals' network characteristics (i.e., size, boundedness, homogeneity, and diversity, proximity, interaction, and density) and support (i.e., advice, practical, confidence, and sickness) factors. We tested whether these factors were associated with cancer screening (mammography, Pap test, and colonoscopy) and adjusted for the moderating factors. Preliminary findings suggest significant difference in the association between network boundness (e.g., proportion of kin, density) and support (e.g., having confidants, care for sickness) with cancer screenings. Further investigating network factors associated with cancer screening will provide insights into leveraging personal networks to developed cancer screening interventions.

Speaker

L

Leslie Cofie

Associated Professor | East Carolina University

Co-speakers

Qiang Wu

Professor | East Carolina University

J

Julianna Nieuwsma

Research Associate | East Carolina University

Occupational Network Embeddedness and Employment Loss during the COVID-19 Shock

3:00 PM – 5:00 PM

SOCIAL NETWORKS & INEQUALITY

The COVID-19 pandemic generated substantial employment losses, yet these losses were uneven across occupations. While prior research emphasizes task characteristics such as teleworkability and wage levels, this paper advances a structural perspective: occupational vulnerability is embedded in the pre-existing network architecture of job mobility. Using longitudinally linked microdata from the U.S. Current Population Survey (CPS), I construct a directed occupational mobility network based on job-to-job transitions from 2017 to 2019. I derive measures of structural position, including centrality and core-periphery membership, to capture each occupation's embeddedness in the mobility system. I then combine these measures with occupation-level employment data from 2016 to 2021 and estimate a difference-in-differences model that interacts pre-pandemic network position with the post-2020 shock period, incorporating occupation and year fixed effects. Preliminary findings indicate that structurally peripheral occupations experienced significantly larger employment declines during the pandemic. These results suggest that labor market resilience is shaped not only by task attributes but also by structural connectivity, highlighting a relational foundation for occupational precarity under systemic shocks.

Speaker

Yuntong Ji

Northeastern University

Specialized Support In Egocentric Networks Among Graduate Student Writers

3:00 PM – 5:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME

Graduate students in the United States face a knowledge gap in writing wherein advisors have higher expectations for students' writing skills than students feel they can accomplish. As a result, graduation timelines are often affected by a lack of writing knowledge and ability (Cotterall, 2011; Lavelle & Bushrow, 2007). Previous studies suggest students are successful in writing when supported through mentorship and extracurricular structured writing experiences (Kleinbort et al., 2020; Kornhaber et al., 2016). Facilitators delivered an extracurricular, 2-day writing retreat based on the Social Writing Framework, which emphasizes the need for socialization in establishing a writing habit (Murray, 2019). Pilot study data were collected at baseline and at three-month follow-up. Five participants completed measures assessing their writing behavior, writing self-efficacy, and writing support network. Preliminary egocentric network descriptives illustrate growth in the size of networks, from 2.2 to 3.4 alters on average, but decreased density and multiplexity at the tie level. The findings from the pilot study suggest writing support networks may function more through weak, specialized ties, rather than through strong, multiplex ones. As this pilot study serves as the first step in a larger project, the poster will include preliminary findings about the structure of egocentric support networks and their associations with writing attitudes and behavior.

Speaker

Emily Howell

Texas A&M University

Authors

Daniela Berry (Indiana University), Jacob Vasquez (Texas A&M University)

Utilizing Domain-Relevant and Topological Methods to Model and Evaluate Spatial Social Networks

3:00 PM – 5:00 PM

MODELING NETWORK DYNAMICS

Spatial Social Networks (SSNs), a class of networks embedded in geographical space, are used to study how relationships form between agents in the context of important phenomena such as disease, violence, and capital. Utilizing empirical observations regarding the social, spatial, and structural features of real-world networks, researchers often generate networks to help contextualize the behavior or actions of agents in relation to their area of interest. However, few researchers have attempted to create generalizable models incorporating empirical observations of both the generalizable topological structures from real world networks and feature-based principals derived from social or spatial research.

In this study, we construct a tool that allows users to generate synthetic networks by incorporating feature-based social and spatial metrics into classic topological network models. Constructed in Python and referred to as the "FTSNA" (Feature and Topological Social Network Application) Model, the tool implements classic statistical network generation models while altering connection probabilities to account for SSN metrics such as spatial proximity, importance, and homophily via parameter tuning. The study also examines the utility of the model in providing users with a statistical analysis of these SSN metrics, assessing its ability to generate insights utilizing the expectation of the synthetic network against the real-world network.

Speaker

Max Hill

Comparing Racial Differences in Climate Belief Networks of LA County Residents

3:00 PM – 5:00 PM

NETWORKS & SUSTAINABILITY NETWORKS, COLLECTIVE ACTION, AND SOCIAL MOVEMENTS

Climate change harms communities of color unequally as a result of structural inequities in transit access, heat & pollution burden. Given the differing vulnerability, climate change belief networks may differ in meaningful ways.

Using data from USC's LA Barometer Survey Panel (N = 1318), we examined differences in climate change belief networks across racial groups (White and People of Color (POC)). We extend the Causal Attitude Network Model (Dalege et al., 2016), including environmental features (e.g., self-report pollution burden) with climate beliefs and attitudes to reflect a social-ecological belief system.

We find similarities in node strength and global connectivity, with climate change threat, prevention, and skepticism as the strongest nodes across groups. Network structure differed, suggesting that edges are not equal across networks (Max = 0.32, p = 0.01). The strongest edge difference was in government trust and government efficacy in addressing climate change, with a stronger positive correlation for POC. Differences also emerged in the connections of climate change beliefs to climate justice. Climate change threat was tied to more climate justice beliefs for POC than for White participants. Political action was linked to climate justice beliefs for White participants, but to community coping with climate hazards for POC. Our findings show differences in belief networks across groups, offering insights for tailored climate communication and coalition building.

Speaker

Yema Conteh

PhD Student | University of Southern California

Do Empathic Friends Buffer Stress? Network Density, Alter Perspective-Taking, and College Student Well-Being

3:00 PM – 5:00 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Social networks are the primary place for the development of empathy (Morelli et al., 2017). Among college students, the empathic orientation of close peers may support or buffer against loneliness and stress experienced. This study examines whether the structure (density) and composition (perspective-taking of friends) of students' ego networks are associated with self-reported loneliness and perceived stress, and whether these associations are moderated by the student's own perspective-taking.

Participants were college students (N = 277; 61% women) enrolled in a private university. They listed 10 friends and rated (a) how often each alter takes others' perspectives, (b) tie strength to the ego, and (c) alter–alter tie strength. Participants also completed self-report measures of empathy, loneliness, and stress. Primary analyses used regression to predict loneliness and stress.

Supporting our hypothesis, higher average alter perspective-taking and greater network density predicted lower loneliness and stress (loneliness: $\Delta R^2 = .15$, $p < .001$; stress: $\Delta R^2 = .08$, $p = .002$). In addition, the interaction between ego and alter perspective-taking was significant for loneliness ($\beta = -.14$, $p = .018$) and marginal for stress ($\beta = -.11$, $p = .052$), indicating protective effects for students higher in self-reported perspective-taking. These findings support an ecological account of empathy and focus on peer network characteristics as potential targets for campus-based interventions.

Speaker

Matthew Stapleton

Associate Professor | University of Indianapolis

Co-speakers

N

Noelle Brown

Graduate Student | University of Indianapolis

Hui Zhang

Assistant Professor | University of Indianapolis

International Students' Social Networks, Place Attachment, and Loneliness

3:00 PM – 5:00 PM

NETWORKS AND CULTURE | NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Social support benefits international students' psychological adjustment (Bender et al., 2019). This study aims to explore international students' social networks (density and the associations with place attachment and loneliness. A total of 137 international students in the United States (M_{age} = 25.47; 68% female) completed self-report questionnaires on loneliness and place attachment to their university community. Moreover, egocentric social network data (Perry et al., 2018) were collected (detailing up to 10 friends, inter-friend connections, closeness, and demographics). Most participants originated from China, alongside other nations including India, Bangladesh, Philippine, Switzerland, the UK, and Nigeria. Social network and regression analyses indicated that higher network density and fewer brokerage positions predicted lower loneliness (β = -.33 and β = .28, ps < .05) and greater social bonding (one factor of place attachment, β = .30 and β = -.27, ps < .05). Though the proportion of host-country friendship was not significantly associated with place attachment or loneliness, having friends residing in the U.S. was positively associated to place dependence (another factor of place attachment, β = .28, p < .05). These findings imply that building interconnected networks that include both cultural insiders and outsiders can reduce brokerage roles and lower international students' sense of isolation.

Speaker

Hui Zhang
Assistant Professor | University of Indianapolis

Co-speakers

Morgan Streicher
Graduate Research Assistant | University of Indianapolis

Matthew Stapleton
Associate Professor | University of Indianapolis

EEG Biosignatures of Egocentric Network Structure in Veterans with a History of TBI

3:00 PM – 5:00 PM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS

Clinical trials for traumatic brain injury (TBI) face challenges due to participant heterogeneity and environmental factors. While social context is theorized to impact neuro-recovery, the relationship between social network structures, trial engagement, and neurophysiological markers remains poorly understood. Integrating EEG biosignatures offers an opportunity to capture cognitive processing within a participant's social ecosystem, potentially refining data interpretation, enhancing recruitment/retention, and improving participant stratification.

Egocentric network data were paired with EEG during a modified Boston Naming Task (n=6). Variables included size, density, homophily, role multiplexity, expected global impression of change (GloC), social contact difficulty, and transportation independence. Adaptive-window ERP analysis showed network size and GloC exerted the largest effects (Cohen's d>1.6) in frontal and parietal regions. Density and transportation independence influenced earlier lexical search (N400); social contact difficulty and homophily affected later categorization (P3), with peak effects beyond 800ms.

This pilot establishes the feasibility of identifying EEG biosignatures of network structure and expectations among Veterans with a history of TBI. Ongoing work will enable modeling to clarify how diverse social contexts contribute to variability in neurophysiological markers during trial participation.

Speaker

Katherine Walters

Graduate Research Assistant / PhD Candidate | University of South Florida

Co-speakers

Katelyn Carlsen

Undergraduate Research Assistant | University of South Florida

Rebecca Campbell-Montalvo

Assistant Professor | University of South Florida

Authors

Yiwen Zha (University of South Florida, AQUASS Research Lab), Daniel Lende (University of South Florida, Department of Anthropology), Harry van Loveren (University of South Florida, Department of Neurosurgery, Brain & Spine), Nathan Schilaty (University of South Florida, Department of Neurosurgery, Brain & Spine)

Where's Waldo? Mapping Digital Humanists in Education, Career, and Place Networks

3:00 PM – 5:00 PM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Digital Humanities (DH) is an interdisciplinary field encompassing humanities and computing. Conventional bibliometric studies focus on established disciplines, leaving a gap in understanding DH as a professional identity. This study shifts focus from publications to professional self-identification, analyzing a dataset of 920 LinkedIn "digital humanities" profiles. We explore institutional, disciplinary, and geographic connections among professionals. Our database includes profile attributes, educational and employment histories, and classifications using established taxonomies enhanced by LLM-assisted coding. We map geographic concentrations using GIS, revealing strong clustering (Global North). Educational backgrounds focus on the Humanities, at the Bachelor's and Master's levels. Few degrees are explicitly labeled DH, suggesting that expertise is often gained in interdisciplinary environments. Career paths largely remain within higher education, with some movement into private-sector and freelancing. Our analysis shows university clusters and selective private-sector hubs, questioning whether DH labor is integrated within existing institutional frameworks. Furthermore, a co-educational network illustrates a core-periphery structure, while a co-working network is sparse, suggesting a weak connection between educational and career paths. By using LinkedIn as a professional signaling platform, this study illuminates "implicit DH" and its influence on professional outcomes.

Speaker

Loizos Bitsikokos

Brian Lamb School of Communication, Purdue University

Authors

Connor Au Yeung (Purdue University), Lane M. Bradley (Purdue University), Marlene Burtscher (Purdue University), Priya M. Dabak (Purdue University), Shriya Dasgupta (Purdue University), Secret Permenter (Purdue University), Diana Torres Arias (Purdue University), Spencer Stewart (Purdue University)

Networks in Motion: Using Personal Social Networks to Predict Linguistic Fluency in Heritage Speakers of Spanish

3:00 PM – 5:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS | WORDS AND NETWORKS

Spanish Heritage Speakers (HS) are the largest and fastest growing bilingual population in the US (US Census Bureau, 2022). HSs are bilinguals who grow up speaking their heritage language at home and the majority language in most other contexts. Importantly, a large proportion of HSs enter secondary and college education and enroll in Spanish courses for Heritage Speakers (Nguyen et al., 2023). Following the systems Framework of Bilingualism (Titone & Tiv, 2023), which models how speaker's interlocutors and the social environment influence language outcomes, the present study aims to understand the extent to which composition and structure of Spanish HS' personal social networks predict fluency and phonetic proficiency in their two languages (i.e., English and Spanish) measured through two experimental linguistic tasks (i.e., verbal fluency and voice onset time).

Twenty three participants completed a language background and social network questionnaire (alter-count per ego = 25) along with verbal fluency and pronunciation measures in English and Spanish. The data was collected during the first three weeks of enrollment in a course from the UF's Spanish Heritage program. Ongoing analyses will test the hypothesis that a higher proportion and density of Spanish spoken in the network will predict greater verbal fluency and phonetic proficiency in the heritage language (Spanish).

Speaker

Raul Camargo

Research Associate | University of Florida

Learning as Infrastructure for Systemic Change: Social Network Dynamics in Kenya's Waste Management Ecosystem

3:00 PM – 5:00 PM

NETWORKS & SUSTAINABILITY

This study investigates how learning initiatives shape relationships, knowledge flows, and agency within Kenya's waste management ecosystem. As part of the *capacity4transition* project (2024–2027), it maps how actors connected to Danida Fellowship Centre (DFC) programmes and the Strategic Sector Cooperation (SSC) are positioned in a broader interorganisational network. Based on 230 survey responses and a snowball-sampled network of more than 700 individuals, the analysis examines who participants engage with, for what purposes, and how frequently, and whether DFC learning activities reach actors who hold central or influential positions. The study explores how connectedness influences actors' ability to act and how learning activities contribute to knowledge, experience, and new ties that may support circular and sustainable waste management transitions. By analysing network coherence, structural holes, centrality patterns, and cross-cutting collaboration across national and county levels, the study provides insights into how learning designs can strengthen the relational infrastructure that underpins systemic change.

Speaker

Simon Skaarhoej

Capacity Development Advisor and PhD Researcher | Aalborg University and Danida Fellowship Centre

Seasonal and Ecological Effects on Female Social Networks in Red-Collared Brown Lemurs

3:00 PM – 5:00 PM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORKS & SUSTAINABILITY

Social connections in animal societies are shaped by environmental conditions. Group stability and resilience is thought to be linked to patterns of social cohesion, which can be quantified using social network analysis. This approach can detect shifts in cohesion and association patterns in response to ecological change and disturbance. Primates are valuable systems due to their diverse social strategies, presence in human-impacted regions, and the comparative insight they offer into social structure. Such studies have been largely male-centric, despite the vital role females play in decision-making and social bonding. Here we apply network analysis to populations of red-collared brown lemurs (*Eulemur collaris)* across a disturbance gradient in Madagascar to examine how grooming structure varies across ecological constraints. We assess how associations change over time, how density varies across seasons, and how homophily shapes relationships. Using interaction-rate grooming networks, we calculate individual and group-level social network metrics to quantify changes in social structure and cohesion. By integrating temporal and habitat-level comparisons, the research aims to clarify how female social structure responds to environmental variation and whether social cohesion is resilient or sensitive to seasonality and ecological constraint. This poster represents the first stages of the project and welcomes discussions of methodological approaches and analytical design.

Speaker

Casey OBrien

Oxford Brookes University

Authors

Matthew Bulbert (Oxford Brookes University), Marco Campera (Oxford Brookes University), Miya Warrington (Oxford Brookes University)

Predicting Tie Formation in Sparse Networks: A Machine Learning Approach to Link Prediction Under Class Imbalance

3:00 PM – 5:00 PM

MODELING NETWORK DYNAMICS | STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

We applied machine learning (ML) to predict ties among online graduate students, addressing a gap in educational research that has primarily used descriptive rather than predictive approaches. We used peer-nomination data from an online program and processed it for ML purposes, with the outcome being having interaction (Edge) or not (No Edge). Features were derived from the Community of Inquiry (CoI) survey, which measures social, teaching, and cognitive presences, along with variables capturing online experience.

Two datasets were constructed: Dataset A used aggregated CoI presence scores (21 features), while Dataset B retained individual indicators of each presence (52 features). Five supervised machine learning algorithms were tested: logistic regression, random forest, XGBoost, decision tree, and support vector machine. The models were trained on an 80/20 split with stratified sampling, and SMOTE was applied to address class imbalance.

Dataset A, using composite CoI presences, achieved better predictive performance than Dataset B across most models. XGBoost performed best with an F1-score (0.23) and AUC (0.86) in Dataset A. The findings demonstrate that parsimonious CoI features effectively capture interaction patterns and that predictive modeling can help instructors identify socially isolated students. We suggest using the CoI instrument holistically rather than partitioning by individual presences.

Speaker

Ela Castellanos-Reyes

Assistant Professor | North Carolina State University

Co-speakers

Tracy Sweet

Associate Professor | University of Maryland

Apporva Verma

Graduate Researcher | University of Maryland

Authors

Xinyan Fu (North Carolina State University)

Hospitality Suite Open

8:00 PM – 11:00 PM | Location: Hospitality Suite

Saturday, June 27, 2026

Registration/Check-in

8:00 AM – 5:00 PM | Location: Coquina Pre-Function

Visit the registration desk to pick up your name badge!

Breakfast

8:00 AM – 9:00 AM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Start your day in Coquina DE with a tasty breakfast buffet and networking with fellow attendees!

Breakfast Menu

- Selection of fruit juices
- Sesasonal sliced fruit selection
- Vegetable quiche with tomato, spinach, and cheese
- Scrambled eggs
- Hickory-smoked bacon
- Breakfast sausage links
- Breakfast potatoes
- Baker's basket of assorted muffins, Danish, and croissants - with creamery butter and natural fruit preserves
- Regular and decaffeinated coffee
- Selection of hot herbal teas

Changes of Social Networks Over Time

9:00 AM – 10:00 AM | Location: Coquina A

SESSION

IN-PERSON

Unpacking the social network dynamics of support and HIV risk among mobile women in the Southeastern United States

9:00 AM – 9:20 AM

CHANGES OF SOCIAL NETWORKS OVER TIME

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

Geographic mobility reshapes HIV risk by disrupting social networks. This longitudinal qualitative study describes how mobility transforms the structure, function, and impact of social networks on HIV risk contexts among African American women (AAW) in Atlanta, Georgia — a population and place with high HIV disparities.

We recruited mobile AAW living with and without HIV (N = 20) in metropolitan Atlanta for retrospective life-history interviews (~75 minutes), exploring HIV and social network dynamics across mobility histories. Interviews were audio-recorded, transcribed, and thematically analyzed using frameworks on social determinants, social networks, HIV, and mobility.

Participants changed primary residence 5–70 times. Mobility from places of birth or kinship networks weakened support structures by shifting women from dense networks to isolated relationships. Network fragmentation, HIV stigma, relational conflict, and ambivalence contributed to diminished access to support for managing mobility-driven stressors. HIV risk was amplified through varied networked pathways, including geospatial sexual network bridging, partner concurrency, and interpersonal violence.

HIV risks co-evolved with mobility and networks in this sample of mobile women. Social networks functioned as dynamic and fragile systems in which quality and safety outweighed density and reach. Findings underscore a need for HIV interventions that buffer mobility-related social adversity.

Speakers

Miranda Hill

Assistant Professor | University of California, San Francisco

Alison Comfort

Assistant Professor | University of California San Francisco

Authors

James Moody (Duke University), Mary C. Kan (Sisterlove, Inc.), Ria Kolala (St. Louis University), Reyna Patterson (Sisterlove, Inc.), Dazon Dixon Diallo (Sisterlove, Inc.), Carol Camlin (University of California, San Francisco)

Uncovering Influence: Temporal Dynamics of Network Gatekeeping and the Diffusion of Generative AI Discourse on X

9:20 AM – 9:40 AM

CHANGES OF SOCIAL NETWORKS OVER TIME

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

CURRENT TRENDS IN SOCIO-SEMANTIC NETWORK ANALYSIS

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA SOCIAL INFLUENCE WORDS AND NETWORKS

This research examines how discourse surrounding Generative AI (GenAI) on Twitter (X) is shaped by gatekeepers. Drawing on Network Gatekeeping Theory (Barzilai-Nahon, 2008), we conceptualize gatekeepers as high centrality actors who shape information flows for audiences (the “gatekept”) and influence downstream discourse.

We address four questions: (1) how does gatekeeper composition shift over time in terms of elite vs. non-elite status?; (2) how do major external events correspond with shifts in gatekeeper topic and sentiment framing?; (3) controlling for reach and elite status, how does engagement and sentiment vary across different topics among gatekeepers?; and (4) do shifts in gatekeeper topic and sentiment prevalence precede similar shifts in the broader GenAI discourse?

Our analysis relies on two corpora of data; (1) a 10% decahose sample of GenAI-related tweets containing focal keywords from 02/2023-02/2025 (317k tweets), and (2) all relevant tweets from 659 gatekeepers identified via retweet network eigenvector centrality in dataset 1 over the same period (110k tweets). Together, our analysis relies on 408k unique tweets.

Combining topic, sentiment, and engagement data with temporal network measures, this study shows how influence in fast-paced technology-centric discourse can evolve. Further, this research provides a base of knowledge regarding the state of GenAI discourse and a forecast of how this discourse may influence the space tangibly in the future.

Speaker

Gabriel Garlough-Shah

PhD Student | Northwestern University

Authors

Matthew Lu (Northwestern University), Yanshu Sybil Wang (University of Wisconsin-Madison)

Egocentric Network Structure and Treatment Expectations among Veterans with Traumatic Brain Injury

9:40 AM – 10:00 AM

CHANGES OF SOCIAL NETWORKS OVER TIME | GLOBAL PERSPECTIVES ON PERSONAL NETWORKS | MIXED METHODS FOR SOCIAL NETWORK ANALYSIS | NETWORK METHODS FOR IMPLEMENTATION SCIENCE | NETWORKS AND CULTURE

Background: Social context is a critical recovery determinant following traumatic brain injury (TBI), yet social influences are often measured using broad indicators. Social networks may shape treatment expectations—which in turn affect treatment adherence and even outcome perceptions—through shared experiences, information exchange, and recovery narratives.

Methods: Veterans and Service Members with TBI (N=20) in an ongoing trial of hyperbaric oxygen therapy completed egocentric network assessments. Measures included network size, density, service-status homophily, communication frequency, role multiplexity, and relationship duration. Treatment expectations were assessed using anticipated Global Impression of Change scores. Exploratory Spearman correlations and interaction analyses were conducted.

Results: Service-status homophily demonstrated the strongest association with treatment expectations (ρ=.41, p=.073), suggesting that participants whose networks contained a greater proportion of individuals sharing service experience reported more positive treatment expectations. Network density showed a moderate inverse association with treatment expectations (ρ=-.34, p=.162).

Conclusions: Preliminary findings suggest that network composition may be more relevant to treatment expectations than network size alone. Although not statistically significant in this exploratory sample, observed effect sizes warrant further examination in the full longitudinal cohort (anticipated N=200).

Speaker

Rebecca Campbell-Montalvo

Assistant Professor | University of South Florida

Recent Advances in Statistical Analysis & Mathematical Modeling Large-Scale Network Data

9:00 AM – 9:40 AM | Location: Coquina F

ORGANIZED SESSION

In the current big-data regime, a large-scale social network, despite its sheer size and complexity, has received much attention from researchers of many different fields, including social sciences, network sciences, economists and statisticians. The grand aggregation of knowledge contributions from these fields generates many inspiring outcomes for this interdisciplinary research area. This organized session aims at introducing recent advances in the statistical analysis and mathematical modeling in large-scale network data, and their applications in social networks and scientific networks. It is expected to gather experts to discuss recent advances in sociology, information science and statistics, and to analyze the networks from different point of view. The topics include, but not limited to, network structure characterization, network data analysis, network dynamics, network modeling, network data visualization, real-life applications and so on.

IN-PERSON

Corresponding Organizer

Frederick Kin Hing Phoa

Research Fellow | Academia Sinica

A Binary Splitting Algorithm for Optimal Modularity-Based Community Detection in Networks

9:00 AM – 9:20 AM

RECENT ADVANCES IN STAT. ANALYSIS & MATH. MODELING LARGE-SCALE NETWORK DATA

Community detection is a fundamental task in network science, with modularity serving as one of the most widely adopted criteria for evaluating the quality of network partitions. However, modularity maximization is computationally challenging, as the number of possible partitions increases exponentially with network size. To address this issue, we introduce a binary splitting algorithm that identifies the optimal two-group partition in a finite number of steps with computational complexity O(N^2). The algorithm initializes all nodes in a single community and iteratively transfers nodes to a second community, selecting at each step the move that yields the greatest increase in modularity. The procedure terminates once the modularity value reaches its maximum, and—while designed for bipartitioning—it can be recursively applied to detect multiple communities. We evaluate the proposed method through numerical experiments on networks generated using the Barabási–Albert model and stochastic block models. The results indicate that our approach consistently achieves higher modularity and Rand Index scores than several established methods, for both undirected and directed networks. Applications to real-world networks, including the Political Blogs graph and Zachary's Karate Club, further demonstrate its superior performance. Overall, the binary splitting algorithm offers an efficient and accurate solution for modularity-based community detection.

Speaker

Frederick Kin Hing Phoa

Research Fellow | Academia Sinica

Recent advances in species uniqueness measurement for ecological networks

9:20 AM – 9:40 AM

RECENT ADVANCES IN STAT. ANALYSIS & MATH. MODELING LARGE-SCALE NETWORK DATA

Identifying important species in an ecosystem is of paramount importance in ecology. Given that species interact trophically to form a food web, it is therefore intuitive to assess species importance from a network perspective. The mainstream approach to species importance quantifies the importance of species network position in a food web, as important species are assumed to have disproportionate impact on the entire ecosystem. A relatively new addition to species importance measurement is the concept of network-based species uniqueness. In general, unique species are those species whose positions in an ecological network are seemingly different from others. Or in ecological terminology, unique species are those species whose functional roles cannot be replaced by others. In this presentation, we review methodologies for measuring species uniqueness from the last decade and identify fundamental shortcomings shared by those methodologies. We also propose a simple modification to the existing methodologies that remedy these shortcomings.

Speaker

Wei-chung Liu

Associate Research Fellow | Institute of Statistical Science, Academia Sinica, Taiwan

Network Analysis for Textual Data in Social Media

9:00 AM – 10:00 AM | Location: Coquina G

SESSION

IN-PERSON

Beyond Screen Time: A Configural Approach to Digital Well-Being

9:00 AM – 9:20 AM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

Digital well-being research has yielded inconsistent findings, partly due to reliance on simple aggregate measures (screen time and frequency) that reduce complex media ecosystems to a single number. Drawing on network analytic principles, this study reconceptualizes each individual's personal communication system as a personal media network: a configuration of digital channels linked by functional interdependencies. This egocentric network perspective shifts the unit of analysis from volume of use to the structural properties of the media system itself.

Using survey data from 1,197 U.S. adults, we operationalized three network-level attributes: size (number of active channels), density (functional interconnection among channels), and centralization (concentration in hub channels). Structural equation modeling showed configuration attributes explained unique variance in four digital stress outcomes (communication overload, deficient self-regulation, self-presentation pressure, and overconnectivity) beyond general media use. Larger configurations amplified overload and self-regulation failure; greater centralization buffered against overconnectivity. These findings establish that media network topology, not just volume, meaningfully shapes digital stress. The configurational approach invites dialogue between communication research and social network analysis, offering structural explanations for media effects and pointing toward network-informed interventions.

Speaker

Chengyu Fang

PhD candidate | University of California, Santa Barbara

Authors

Ceciley (Xinyi) Zhang (California State University, Fullerton), Ronald E. Rice (University of California, Santa Barbara)

A Hierarchical Multipartite Graph Approach to Macro-level Analysis of Discourse Networks

9:20 AM – 9:40 AM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA WORDS AND NETWORKS

Network science builds on discourse structural analysis by mapping discourse-system structure and interactions. A macro view can reveal emergent properties and mechanisms, detect discursive shifts (regime changes/phase transitions), and track structural evolution. To address the relative neglect of macro-level discourse networks, this study fuses a document–term matrix with hierarchical multipartite graphs in a lexical–frame–actor framework.

Boundaries are conceptual (topic) and temporal (timing/sequence of actor activity). Layers include actors (contributing entities), frames (selected textual units), and a lexical layer modeled as a projected term-co-occurrence graph.

The approach is demonstrated using a tripartite graph of X handles, tagged with the CSR hashtag. It evaluates degree distribution, node fitness, and preferential attachment, then slices the system into weekly snapshots (aggregated vs segregated). For each, five measures are tracked: graph order, graph size, power-law degree exponent, structural complexity, and fractal dimension (correlation dimension). Aggregated slices show multiple scaling regimes; segregated slices show strong long-range dependence (persistent memory). Multifractal analysis in eight two-year windows (104 weeks) further assesses evolution, self-similarity, and configurational complexity.

The framework generalizes to many discourse forms as long as the material can be rendered as text or transcribed speech, in any medium.

Speaker

Jalayer (Jolly) Khalilzadeh

Associate Professor | East Carolina University

Discord Communication Application and Its Impact on College GPA

9:40 AM – 10:00 AM

NETWORK ANALYSIS FOR TEXTUAL DATA IN SOCIAL MEDIA

Discord, a free app originally built for gamers, has become popular beyond the gaming community due to its video and messaging features. By enabling the creation of voice and text channels for sharing educational content through messaging, video calls, and screen sharing, Discord became one of the most widely used platforms for teaching and learning among college and university students during the COVID-19 pandemic. Though the pandemic is well over, a significant number of students argue that they are still using the discord platform, not for playing games, but rather for studying with other classmates. Overall, the results of the study provide evidence that some correlation exists the between college students' communication app use and their academic performance. Based on the analysis of the results, the impact of the discord communication app use on academic GPA is greatest if the students already have a very solid academic background and they study at least 5 days per week.

Speaker

Jameson McFarlane

Computer Science Professor | Thaddeus Stevens College of Technology

Co-speaker

Leon Bernard

Database Manager / Adjunct Professor | Unleashed / Towson University

Virtual Presentations

9:00 AM – 10:00 AM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Sanctions and Migration Networks: How Economic Statecraft Reconfigures Migration Destinations

9:00 AM – 9:20 AM

GLOBALISATION AND NETWORK ANALYSIS | NETWORK APPROACHES TO POLITICAL DYNAMICS | NETWORKS IN TRADE AND FINANCE

HOW TO JOIN THIS SESSION:

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Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Sanctions are increasingly used in world politics, but their impact on migration networks, especially destination reallocation, remains less explored. This project examines how sanctions restructure migration patterns, beyond analyzing average emigration flows. Specifically, how and under what conditions do international sanctions structure a target's salient migration destinations over time? How do endogenous network structures and path dependence shape post-sanctions migration adjustment? I argue that sanctions can induce destination substitution and corridor turnover by altering the expected returns and constraints associated with cross-border mobility, but that such adjustment is conditioned by the endogenous structure of the network. Empirically, this paper uses Temporal Exponential Random Graph Models (TERGMs) to assess whether (and how) sanction episodes are associated with changes in a target's salient migration destinations over time, while accounting for complex interdependencies in the international migration network. Moreover, the models explicitly estimate structural features such as tie persistence and hub effects. Notably, a full network design enables a rigorous analysis of higher order spillovers, beyond traditional dyadic models. This paper contributes to emerging quantitative research on sanctions and migration by offering a tractable dynamic network framework for studying sanction-linked destination reconfiguration and its structural constraints.

Speaker

Zhengqi Pan

Senior Lecturer | Singapore University of Social Sciences

Diffusion Within And Between Social Circles: Bonding and Bridging Ties and Nodes

9:20 AM – 9:40 AM

CONTAGION AND DIFFUSION PROCESSES THROUGH SOCIAL NETWORKS

HOW TO JOIN THIS SESSION:

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https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

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ABOUT THIS PRESENTATION:

We consider diffusion across networks composed of intersecting social circles. For both ties and nodes, we define "bonding" as the extent their structure connects within clusters and "bridging" as the extent it connects between clusters. Then, we suggest bonding facilitate diffusion requiring multiple contacts, while bridging facilitates diffusion where redundancy slows diffusion.

We define a TIE's bonding (o) to be the number of other nodes tied to both of its nodes, and bridging(v) to be the number of other nodes tied to only one of its nodes. Then bonding of a tie is just the number of connected triples in which it is embedded. The bonding of a tie is bounded by the lower degree of its nodes, but a tie between high degree nodes can be high on both bonding and bridging; its total degree t=2o+v. A tie's bonding indicates embedding within a social circle, and its bridging indicates connections between circles.

We define a NODE's bonding (o) to be the number of pairs of the node's alters (nodes to which it is tied) that are tied to one another. and its bridging to be the number of untied alter pairs. A node's bonding is the sum of the bonding of its ties divided by 2. The total number of alter pairs p=2o+v. A high degree node can be high on both bonding and bridging. A node's bonding indicates the total embedding within multiple social circles, and its bridging indicates the dispersion across social circles.

We discuss implications and consider directions for further research.

Speaker

Scott Feld

CANCELED: Duality and Structure in Nonprofit Relationality: Modelling Field Intersections via Bipartite ERGMs

9:40 AM – 10:00 AM

ORGANIZATIONAL NETWORKS

HOW TO JOIN THIS SESSION:

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Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
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ABOUT THIS PRESENTATION:

The nonprofit sector is a field of cooperative action disciplined for the production of common, civic, social and public products. As such, it is assumed to work under its own style, differentiated from that of for-profit market and public institutions. By inquiring nonprofit organizations' (npos) relational structures, it is possible to identify their specific field dynamics. Following this approach, the aim of the paper is to test the generative effect of strategic interdependence compared to structural interdependence on non-profit organizations' ties with other social formations. While research on the antecedents of npos collaborations within and across sectors expands, a focus on the emergent interorganizational network structure and the related endogenous effects on organzational action is lacking with regard to this particular object of study. To contribute in this direction, the paper presents a cross-sectional analysis of an undirected two-mode network of relations between a representative sample of Italian npos (n. 54.435) and a set of aggregated entities ranging from other npos to public ministries, social movements and business organizations. By implementing Exponential Random Graph Models (ERGM) on the bipartite graph, it is expected to identify how much the probability of npos ties is conditioned by endogenous factors compared to attribute-based affinity.

Speaker

Selene Greco

PhD Student in Methodology of Social Sciences | Sapienza University of Rome, Department of Communication and Social Rese…

Authors

Antonio Zinilli (National Research Council of Italy (CNR))

Networks in Agriculture

9:20 AM – 10:00 AM | Location: Coquina B

ORGANIZED SESSION

The study of social networks offers a rigorous framework for analyzing the relationships that structure agricultural systems. From early research on innovation diffusion in farming to contemporary examinations of complex agro-ecosystems, network analysis provides critical insights into how connections drive agricultural development.

This session will examine the diverse applications of social network analysis within agricultural contexts, emphasizing its integration with both qualitative and quantitative approaches. Agriculture presents a unique setting for such work, encompassing multiple scales of connectivity: at the human level, networks capture knowledge-sharing, expert consultation, and market relations; at the biological level, they illuminate nutrient flows and disease dynamics; and at the organizational level, they clarify supply chains, governance structures, and institutional linkages.
We invite contributions that demonstrate innovative applications of network analysis, critically assess methodological strengths and limitations, or explore challenges in applying network-based approaches to agrarian systems. Relevant topics include farmer knowledge and innovation networks, ecological and biological interactions, supply chain and market relationships, land use dynamics, digital agriculture, and policy and governance structures.

Submissions utilizing qualitative, quantitative, or mixed-method approaches are encouraged. The session aims to advance methodological dialogue and foster interdisciplinary collaboration to enhance the role of network analysis in agricultural research and practice.

IN-PERSON

Corresponding Organizer

Gilad Ravid

Professor | Ben-Gurion University of the Negev

Synthetic Membranes: Structure and Theory in Ownership Networks

9:20 AM – 9:40 AM

NETWORKS IN AGRICULTURE ORGANIZATIONAL NETWORKS

Interorganizational ownership networks look strange compared to most social networks we study. Using a new dataset from a global agriculture sector with 733 organizations and 729 directed ownership ties, we find that the network behaves almost like a synthetic canopy: no cycles, very little redundancy, and lots of thin subsidiary or shareholding "membranes." When we try to fit ERGMs, the models struggle because the observed structure sits at the edge of the sample space where degree distributions are lopsided, clustering is basically zero, and many alternative configurations are legally impossible due to ownership rules.

To make sense of this, we use Goffman and Luhmann as a theoretical lens. Subsidiaries and holding companies work as backstage façades for segmenting risk, taxes, and accountability, while the larger corporate system autopoetically reproduces itself by continually spinning off new entities. From this perspective, the ownership network isn't just a record of firms buying other firms (explainable via traditional variation–selection–retention mechanisms), but an organizational structure for managing liability and constructing a synthetic canopy that shields "backstage" through many membranes. We argue that these canopy-like structures invite network theory to pay more attention to instantiated and infrastructural forms of relationality—domains where networks are designed and autopoetically reproduced rather than emerging freely from social interaction.

Speaker

Andy Pilny

Associate Professor | University of Kentucky

Co-speakers

Loka Ashwood

Professor | University of Wisconsin

Mohammad Khalilian

University of Kentucky, United States of America

Modeling Crops' Pests and Diseases as Networks for Smart Agriculture

9:40 AM – 10:00 AM

NETWORKS IN AGRICULTURE

Periodic crop monitoring for pests and diseases enables early detection and preventive intervention, yet resource limitations delay detection, leading to excessive pesticide use and environmental damage. This study employs social network analysis (SNA) to model spatiotemporal dynamics of biotic stressors in two agroecosystems.

We investigated: [1] two-spotted spider mite (TSSM) in screenhouse peppers in southern Israel (2015–2017); and [2] white mold (WM) in open-field peanuts in northern Israel (2024), allowing comparison across contrasting systems.

Network models represented fields as grids, with nodes corresponding to grid cells. Directed edges indicated pathogen detection in cell i at time t, followed by cell j at t+1. Edge weights reflected the inverse distance between cells.

Exponential random graph models (ERGMs) revealed edge-formation probabilities that incorporate spatial covariates. Both networks showed lower westward spreading probability ($p<0.01$). However, TSSM showed increased edge probability with distance, suggesting long-range dispersal via human activity; WM showed decreased probability with distance, consistent with soil-based mycelial transmission.

Network centrality measures identified infection hotspots. This research demonstrates SNA's potential for optimizing sampling strategies by identifying high-risk locations and transmission pathways, enabling efficient resource allocation in crop protection.

Speaker

Gilad Ravid

Professor | Ben-Gurion University of the Negev

Authors

Roni Gafni (Northern R&D, MIGAL – Galilee Research Institute), Dana Levanon (Ben Gurion University of the Negev), Yael Edan (Ben Gurion University of the Negev), Yafit Cohen (Agricultural Research Organization, Institute of Agricultural and Biosystems Engineering)

Coffee Break

10:00 AM – 10:20 AM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments!

Break Menu

- Sliced seasonal fruit
- Assorted muffins
- Freshly brewed regular and decaffeinated coffee
- Selection of hot herbal teas

Organizational Networks

10:20 AM – 11:20 AM | Location: Coquina C

ORGANIZED SESSION

The networked nature of organizations creates a complex ecosystem where individuals, groups, units, and other organizations are

entangled. Such an entanglement shapes organizations in a dynamic way and affects their outcomes at multiple levels. This session aims to bring together studies on organizational networks addressing antecedents, dynamics, cross-level processes, and outcomes.

Submissions can refer, but are not limited, to the following areas of research:

– Micro-foundations of organizational networks: How individual characteristics and cognitions affect the emergence of network structures and how these network structures affect individuals.

– Dynamics of organizational networks: How network structures at various levels co-evolve and affect one another, as well as organizational processes and outcomes.

– Time-dependence in organizational networks: How organizational networks at various levels change at different paces over time.

– Overlap and interplay between social and other kinds of networks within and across organizational settings: How organizational networks are affected by the affiliation of individuals, or organizations to events or contexts.

– Organizational networks and the future of work: How new technologies (e.g., digital platforms, Artificial Intelligence, Virtual Reality) and new forms of organizing (e.g., distributed, boundaryless, and hybrid organizations) shape, support or hinder organizational networks.

We welcome both theoretical and empirical contributions addressing various aspects and implications of organizational networks research.

IN-PERSON

Authors

Francesca Pallotti (University of Exeter Business School), Spyros Angelopoulos (Durham University Business School), Olaf Rank (University of Freiburg), Paola Zappa (UCL)

Team Leaders' Dominance and Prestige, team advice network, and team task performance

10:20 AM – 10:40 AM

ORGANIZATIONAL NETWORKS

We examine how team leaders' personal influence motives shape team advice networks and performance. Grounded in dual-strategies theory, we contrast dominance-oriented leaders, who seek influence through intimidation, with prestige-oriented leaders, who gain it through expertise and prosociality. We argue dominance suppresses lateral advice exchange, creating sparse networks that undermine performance, while prestige promotes mutual advice seeking, yielding dense networks that enhance performance. We also propose that leader gender moderates these effects. The communal stereotype for female leaders aligns better with prestige than dominance, giving women a relative advantage when pursuing prestige-based influence. Using three-wave survey data from R&D teams, we measured leader dominance and prestige (T1), advice network density (T2), and team performance (T3). Structural equation modeling shows that leader dominance is indirectly and negatively related to performance via lower network density, whereas leader prestige is indirectly and positively related via higher density. Crucially, female leaders are especially effective at leveraging prestige to build dense networks but lose this advantage when relying on dominance, which conflicts with communal stereotypes. This study advances a social network perspective on leadership, treating leaders as active architects of team relational patterns through their influence motives, and gender.

Speaker

Wookje Sung

Assistant Professor of Management | University of Montana

Authors

Shungjae Shin (Portland State University), Inseong Jeong (University of Melbourne), Wen Wu (Beijing Jiaotong University)

Network Approach to Examining Policy Uncertainty and Ambiguity within Organizations

10:40 AM – 11:00 AM

ORGANIZATIONAL NETWORKS | SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS

The executive orders banning diversity, equity, and inclusion (DEI) programs in the U.S. in 2025 led to disruptions within organizations, causing the restructuring of DEI-related activities. Companies like Walmart, IBM, and Meta scaled back their commitments due to political pressure and Supreme Court rulings. The orders' ambiguity has sparked debates and lawsuits, with entities like the University of Alabama being sued over its vague provisions. The resulting increase in stress and uncertainty among employees highlights the importance of clear policy communication. The communication of policies is crucial, as ambiguity can lead to decreased trust and job performance. Research shows that employees rely on network resources for policy understanding, viewing policy knowledge as a communicative process influenced by interactions with peers and information networks. This study aims to understand how network structures affect policy knowledge and perceptions of uncertainty, proposing that individuals manage feelings of ambiguity through their information networks. A quantitative cross-sectional survey-based ego network analysis will be conducted with 200 diverse participants from Prolific including individuals from various races, working at different organizational levels, and exposed to the executive DEI order within the last ten months.

(This study, awaiting the approval of the Institutional Review Board, has been funded and will be completed and ready to present by June 2026).

Speaker

Subulola Jiboye

Graduate Student | Purdue University

Co-speaker

S

Seungyoon Lee

Professor | Purdue University

Working Together Through the Storm: The Role of Task Performance in a Collaborative Emergent Multiorganizational Disaster Response Network

11:00 AM – 11:20 AM

ORGANIZATIONAL NETWORKS

During a large-scale disaster, collaborative relationships between heterogeneous entities responding to the emergency form emergent multiorganizational networks (EMONs). This work studies how task performance of responding organizations affects the structures and interactions within an EMON of collaborations. We formulate a large language model (LLM) -based methodology for systematic extraction of organizational task structures from long-form situational reports detailing responding organizations' activities during the 2005 Hurricane Katrina disaster. Tasks are related to a broader disaster response task ontology, then used in exploratory multivariate analysis augmented by nonparametric hypothesis tests to understand how the tasks performed by each organization relate to their collaborations and their positions within the larger EMON structure.

Speaker

Sabrina Mai

Postdoctoral Researcher | Swedish Excellence Centre for Computational Social Science

Co-speaker

C

Carter Butts

Chancellor's Professor | University of California - Irvine

Crime and Networks

10:20 AM – 10:40 AM | Location: Coquina G

SESSION

IN-PERSON

Use of Network Analytics for Efficient Simulation of Organizations under Social Cyber Attacks

10:20 AM – 10:40 AM

CRIME AND NETWORKS GRAPH ANALYTICS FOR GOVERNMENT APPLICATIONS

This talk will present a high-level overview of work at Carnegie Mellon University's CASOS Lab to use network analytics to efficiently model and simulate social cyber-attacks on users and their computing devices. Cybersecurity Ventures predicted that global cybercrime cost are growing by 15% per yearand that they will reach $10.5 trillion USD annually by 2025. Further, cyber-defense companies indicate that 90% of attacks rely on convincing humans to make mistakes. We will describe efficient high-level network models, human behavioral models in a cyber context, and an efficient simulation environment that can support organizational designers in making better choices about how to structure organizations in-order-to minimize the cost of social cyber-attacks. We extracted our models for the stages of cyber attacks from the MITRE ATT&CK framework. We will describe use of network Markov models for the evolution of cyber-attacks over time in an efficient simulation environment. Finally, we will present results using the simulation environment to explore the changes in the damage to an organization due to cyber attacks with variations in the size of the organization's cyber support team and with the amount of training that the organization's users have been given. The talk will end with a discussion of the potential for this technology to support the testing of novel cyber-defense strategies using high-level simulations of entire organizations under realistic cyber attacks.

Speaker

L. Richard Carley

Professor | Carnegie Mellon University

Network Approaches to Political Dynamics

10:40 AM – 11:20 AM | Location: Coquina B

ORGANIZED SESSION

This session explores how social network analysis (SNA) and computational approaches can advance our understanding of democratic development and decline. Democracies are complex systems shaped by interdependent actors, institutions, and global dynamics. Why do some democracies strengthen while others backslide? What relational mechanisms foster resilience or catalyze erosion?

We invite contributions that move beyond treating democracy solely as a node attribute in social selection models or as a dependent variable in social influence models. In selection models, democracy as a node attribute may shape link formation (e.g., war occurrence, diplomatic ties, alliances). In influence models, levels of democracy can be explained by network variables (e.g., centrality in trade, alliance, or other networks) alongside non-network factors (GDP, state capacity, geography).

While such works are welcome, we especially encourage papers that conceptualize democracy and democratization in relational terms - for example, as shared democratic paths, histories, or trajectories of change - and that examine connections between democracy networks and other networks (trade, conflict, migration, cultural exchange, information flows).

By combining strong theory with empirical modeling, this session seeks to highlight innovative relational approaches and foster cross-disciplinary dialogue on democracy.

IN-PERSON

Corresponding Organizer

Dmitry Zaytsev

Associate Professor | University of Notre Dame

Organizer

Michael Coppedge

Professor | University of Notre Dame

Modeling Democratic Development and Decline with Social Network Analysis

10:40 AM – 11:00 AM

NETWORK APPROACHES TO POLITICAL DYNAMICS

This presentation explores how social network analysis (SNA) and computational modeling can advance the study of democratic development and decline by treating democracy as a fundamentally relational process. Democracies evolve within networks of interdependent states, institutions, and transnational ties, yet existing research often models democracy either as a node attribute shaping link formation (e.g., conflict, alliances, diplomacy) or as an outcome influenced by network position (e.g., centrality in trade or alliance networks alongside economic and institutional factors).

Building on and extending these approaches, the presentation introduces a network-centered framework that conceptualizes democracy and democratization in relational terms, including shared democratic trajectories, co-evolution among connected states, and networked pathways of resilience and erosion. Using longitudinal cross-national network data, the analysis examines how democracy networks interact with other relational structures - such as trade, conflict, migration, and information flows - to shape patterns of democratic change over time. By integrating political theory with empirical network modeling, the presentation demonstrates how SNA can provide new explanatory leverage on democratic development and decline, contributing to interdisciplinary dialogue at the intersection of political science, network science, and computational social science.

Speaker

Dmitry Zaytsev

Associate Professor | University of Notre Dame

Co-speakers

Valentina Kuskova

Professor | University of Notre Dame

Michael Coppedge

Professor | University of Notre Dame

Partisan Attachment and Co-Ethnic Networks among Hispanic Voters in Florida

11:00 AM – 11:20 AM

NETWORK APPROACHES TO POLITICAL DYNAMICS NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS

How does the presence of co-ethnics influence partisan attachment among Hispanic voters? The behavior of Hispanics as a voting bloc baffled commentators and commanded extensive media coverage during the 2024 General Election. I study the development of partisan attachment among Hispanic voters through an interview study based in Florida. My recruitment strategy aims to capture variation in demographic composition at the tract level. This strategy allows me to shed light on the mechanisms linking party affiliation to local socio-political contexts, particularly the presence of co-ethnic neighbors. I choose Florida as a field site because its sizeable Hispanic population is unevenly distributed across the state, creating contrasts in the social environments that Hispanic voters are exposed to. Through in-depth interviews, I investigate how Hispanic voters decide to affiliate with a political party, how co-ethnic ties shape their political environment, and how Hispanic voters relate to the party system more broadly. My project engages with literature on political networks, partisan attachment, and immigrant political incorporation. The growing role of partisan identity in American life makes an emphasis on partisanship especially relevant for discussions of immigrant integration.

Speaker

Diana Sandoval Siman

Ph.D. Candidate | University of Chicago

Globalisation and Network Analysis

10:40 AM – 12:00 PM | Location: Coquina F

SESSION

IN-PERSON

Network-based prediction of economic growth

10:40 AM – 11:00 AM

GLOBALISATION AND NETWORK ANALYSIS NETWORKS IN TRADE AND FINANCE

Recent research, primarily focusing on the characteristics of individual industries rather than on the **complexity of the evolving economy** in which they are embedded, seems insufficient to investigate growth. The **network-based approach to industrial growth** brings a new perspective to the table.
Network metrics that consider the industry's influence on the national economy can also encompass the structure and functioning of the production network and provide a relevant approach to industrial growth alongside current measures based on trade volumes.
This is the first study to use only these network measures and the production network framework alone to prove that **the position of a sector in the production cycle considerably impacts its economic growth**. Research questions include to what extent we can determine the growth of an industry purely from its place in the production cycle and what production network characteristics lead to one sector's development and the other's decline.
We find that almost **a third of the industry's growth is explained by its location in the production network topology** alone. This significant amount cannot be overseen, thus suggesting that the network approach to national economic trade has the potential for beneficial applications in national policy and development.

Speaker

Eszter Metz

Assistant Professor | Sapientia Hungarian University of Transylvania

Governance (mis)alignment and emerging pest and pathogen risk via international trade networks

11:00 AM – 11:20 AM

GLOBALISATION AND NETWORK ANALYSIS NETWORK APPROACHES TO POLITICAL DYNAMICS NETWORKS IN AGRICULTURE NETWORKS IN TRADE AND FINANCE SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

Global trade is a primary vector for emerging pests and pathogens (EPPs).Despite this, it remains unclear how well sanitary and phytosanitary (SPS) measures in trade agreements align with trade patterns and ecological risks. We assess alignment of SPS policy with crop and livestock trade flows filtered by ecological similarity of trading partners to identify systemic gaps in EPP governance. Using CEPII-BACI data, we constructed global networks for livestock and crop trade flows filtered by ecological similarity and compared them to a network mapping bilateral SPS measures in preferential trade agreements. The SPS policy network is sparser and more modular than trade networks, reflecting geographic and political ties rather than trade volume or ecological risk. Crop and livestock trade networks differ structurally: livestock trade is largely intra-regional and lower volume, while crop trade is frequently inter-regional and high volume. Crucially, many countries share high ecological similarity with distant partners with whom they lack robust SPS agreements. Current SPS frameworks are misaligned with ecological reality, particularly for inter-regional crop trade, leaving countries ill-equipped to manage risks from geographically distant but ecologically similar trade partners. Policy effectiveness could be improved by decoupling livestock and crop risks to reflect their distinct trade architectures and increasing SPS harmonization for high-risk trade ties.

Speaker

Melissa Barton

PhD Student | Stockholm Resilience Centre, Stockholm University

Authors

Örjan Bodin (Stockholm Resilience Centre, Stockholm University), Peter Søgaard Jørgensen (Stockholm Resilience Centre, Stockholm University)

The Impact of the Industrial and Trade Structures of China and the United States on the Stability of Global Production Networks: Based on the Nested Structure Theory

11:20 AM – 11:40 AM

GLOBALISATION AND NETWORK ANALYSIS

Abstract:Against the backdrop of escalating Sino-U.S. trade frictions and global production network (GPN) restructuring , this study analyzes the bidirectional trade structures and their impact on system stability. Using the ADB-MRIO (2025) database , we construct a global industrial value chain bipartite network (GIVCNBG) to mapintermediate trade flows. By measuring network nestedness (NODF) , we quantify overall stability and employ counterfactual analysis to identify the heterogeneous roles of China and the U.S. as core nodes. A cascading failure model is introduced to analyze risk diffusion paths from key sectors. Finally, we simulate the dynamic impact of U.S. "anti-circumvention" policies.Findings show that China has evolved into a new structural core, with mid-to-high-tech sectors acting as critical hubs. Supply-side networks exhibit higher fragility than demand-side ones. While "decoupling" policies may marginally stabilize U.S. imports in the short term, they trigger long-term structural "self-harm" by reducing supply diversity. These results offer strategic insights for optimizing trade layouts and enhancing industrial chain security.

Speaker

YuJia Pei

Ph.D. Candidate | Beijing University of Technology

The Architecture of Global Environmentalism: Environmental INGO Networks and the Global South, 1995–2015

11:40 AM – 12:00 PM

GLOBALISATION AND NETWORK ANALYSIS SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS SOCIAL NETWORKS AND CLIMATE CHANGE

What explains the diffusion of transnational environmental advocacy? Scholars and pundits have long debated this question, pointing to the growth of environmental international non-governmental organizations (EINGOs). Yet research has rarely examined the network processes through which EINGOs forge ties with nation-states. Thus, this study examines social forces underpinning EINGO network expansion into the Global South, where tensions between global environmental norms and economic development are most acute. Drawing on world society and inequality literatures, I introduce two pathways of EINGO diffusion: the *institutional-scaffolding model* and the *grievance-response model*. Using bipartite Temporal Exponential Random Graph Models (TERGMs), this study analyzes a novel network dataset of 249 EINGOs observed from 1995 to 2015 across 137 countries. Results support the *institutional-scaffolding model* in the Global South, showing that EINGOs are more likely to form ties with countries where a national environmental ministry is absent. Conversely, foreign direct investment is associated with EINGO network growth primarily in the Global North, indicating regionally distinct patterns of EINGO expansion.

Speaker

Sumin Lee

PhD Candidate | University of Texas at Austin

Changes of Social Networks Over Time

10:40 AM – 11:40 AM | Location: Coquina A

SESSION

IN-PERSON

A CROSS-NATIONAL HARMONIZED ANALYIS OF COGNITIVE FUNCTION AND NETWORK CHANGE

10:40 AM – 11:00 AM

CHANGES OF SOCIAL NETWORKS OVER TIME | GLOBAL PERSPECTIVES ON PERSONAL NETWORKS | NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING | SOCIAL NETWORKS & INEQUALITY

Larger social networks protect against lower levels of cognitive function and cognitive decline in older adulthood. But the cross-national variability in these associations is poorly understood, because different datasets use different measures of networks and cognition. We draw upon data from the National Social Life Health and Aging Project (NSHAP) and the Survey of Health, Ageing and Retirement in Europe (SHARE), which possess identical social network measures, and then statistically harmonize their cognition measures across 19 different countries (N=34,810). We use structural equation models to produce harmonized cognition scores, examining differential item functioning using Multiple Indicator Multiple Cause (MIMIC) models. We then explore levels of cognition, and changes, using multilevel models. We find that loss of confidants is associated with lower levels of cognition, and addition of new confidants is associated with better cognition, net of baseline network size. These findings hold longitudinally (i.e. when controlling for lagged cognition). There were no significant interactions between loss/addition, nor between loss and baseline network size, or addition and baseline network size. Investigating the variability in slopes across countries using best linear unbiased predictions (BLUPs) of random effects, the association between cognition and loss was uniformly negative, and the association between cognition and addition was uniformly positive cross-nationally.

Speaker

James Iveniuk

Senior Research Scientist | NORC at the University of Chicago

Authors

Markus Schafer (Baylor University)

An intersectional network approach to social media platform repertoires and health communication inequalities among U.S. adults

11:00 AM – 11:20 AM

CHANGES OF SOCIAL NETWORKS OVER TIME | NETWORKS AND CULTURE | SOCIAL NETWORKS & INEQUALITY

Health communication increasingly relies on social media, yet opportunities to access health information remain unequally distributed across intersecting systems of race, gender, age, and class. We examined how these intersections shape social media platform repertoires for U.S. adults. Using nationally representative data (Pew's American Trends Panel, Wave 144), we analyzed daily use of Facebook, Instagram, TikTok, and Twitter. For Black, Hispanic, and White adults and key subgroups, we constructed weighted respondent-by-platform matrices, projected them to platform networks, and estimated survey-weighted logistic regressions for platform use and overlap.

Black and Hispanic adults maintained larger repertoires than White adults. Facebook offered broad, cross-cutting reach, while Instagram and TikTok formed a dense core among younger and Hispanic adults. Across groups, men were more Twitter-oriented; women were embedded in Facebook/Instagram/TikTok combinations. Age gradients were steep for Instagram, TikTok, and Twitter, but modest for Facebook. Education and partisanship further stratified who was reachable on Facebook-anchored versus visual-heavy repertoires.

We treat this as a living project, expanding to additional platforms and using repeated waves to track shifts in use. Identifying how repertoires evolve is essential for anticipating where communities will be reachable and for designing adaptive placement that helps narrow health communication inequalities.

Speaker

Merriah Croston

Yerby Postdoctoral Fellow | Harvard T.H. Chan School of Public Health

Social Isolation, Loneliness, and Post-COVID Cognitive Decline in Older Adults

11:20 AM – 11:40 AM

CHANGES OF SOCIAL NETWORKS OVER TIME

Using four waves of the Health and Retirement Study (2016-2022), we document a sharp post-COVID cognitive decline in a nationally representative panel of older adults. Mean performance on the 27-point cognitive composite was flat across three pre-pandemic waves, then fell by approximately 0.7-0.9 points in 2022 -- three to four times larger than any prior wave-to-wave fluctuation. This decline replicated across the full balanced panel and two non-overlapping Leave Behind cohorts, ruling out sample attrition and rotation-group assignment as explanations. Descriptively, both loneliness and structural social isolation were associated with lower baseline cognition and steeper decline. Loneliness showed an acute spike at COVID onset followed by partial recovery; structural isolation rose monotonically through 2022 with no sign of attenuation. Preliminary fixed-effects models provide initial causal evidence that within-person increases in structural isolation predict within-person cognitive decline ($b = -0.30$, $p < .001$). The UCLA loneliness scale adds an independent negative association ($b = -0.47$, $p < .001$). These estimates survive elimination of all stable individual traits via person fixed effects, strengthening causal inference. Whether isolation's cognitive penalty was specifically amplified by COVID -- beyond individual illness and mortality -- awaits a fuller model with area-level contextual controls.

Speaker

Chris Soria

PhD candidate | UC Berkeley Demography

Virtual Presentations

10:40 AM – 12:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

Personal Networks and Climate Action: The Relative importance of Online Versus Offline Ties.

10:40 AM – 11:00 AM

NETWORKS, COLLECTIVE ACTION, AND SOCIAL MOVEMENTS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

I explore the relative importance of online and offline personal network ties for facilitating climate action.

There are divergent views about the importance and role of online social network ties. Some social movement scholars have argued that online collective action represents a new social movement phenomena, and that online ties have been central to particular social movements. Other social movement scholars, and those in other social network research fields, have been skeptical about this.

Despite the forementioned literature, there is a dearth of systematic research that empirically examines the relative importance of online and offline ties, and their relationship to social movement actions. The study described in this talk sets out to address this.

I will present findings from a survey project that collected data from a socio-demographically representative sample of the Canadian population. For this study we collected data on people's personal network ties (online and offline, and combinations of these) to alters who supported or opposed the climate movement, and how this is related to various types of social movement activities such as individual participation in activism, and various types of pro-environmental behaviours.

Speaker

David Tindall

Professor | The University of British Columbia

Authors

Mark C.J. Stoddart (Memorial University of Newfoundland), John McLevey (Memorial University of Newfoundland)

Social Capital and Health, a Social Networks Study of Health in Latino, Vietnamese, and Native American Communities

11:00 AM – 11:20 AM

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS | MIXED METHODS FOR SOCIAL NETWORK ANALYSIS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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ABOUT THIS PRESENTATION:

Social networks describe people's closest relationships and the relationships of their relationships, which makes opportunities available by virtue of connection (Bourdieu, 1998). Better-connected people can access helpful information, enjoy stronger social support, reach better opportunities for social mobility, and even have better health outcomes (Small, 2009; Berkman & Glass, 2000). However, minoritized groups have smaller social networks and experience reduced access to resources, information, and influence (Lubbers, 2023).

Across systems, we worry about inequities as outcomes of systemic structural factors, or instead describe them as products of individual experiences. This approach ignores the structural mechanisms governing people's relationships. Those social spaces shape our experiences and determine who, what, and how people have information or influence; social networks are not necessarily fair or equitable and can contribute to injustice and segregation. Understanding social networks is fundamental to recognizing the relational attributes of our communities and the generation and mobilization of health resources and information.

Objectives:

Describe the patterns of social connectivity within and across groups of individuals of Latin-American, Vietnamese, and Native-American origins living in SW Denver

Explain the relationship between social capital and health in this community

Explain the social processes by which social networks facilitate or constrain health

Speaker

Paulina Erices-Ocampo
CU Denver - Community Collaborative Research Center

Multilayer Networks in Sustainability Science: Linking Global Challenges to Interdisciplinary Collaboration within a Research Center

11:20 AM – 11:40 AM

NETWORKS & SUSTAINABILITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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ABOUT THIS PRESENTATION:

Understanding how interdisciplinary collaboration emerges is central to sustainability science, yet existing accounts often privilege formal research outputs over the informal social processes that underpin scientific work. This study examines the informal social networks of researchers within a national interdisciplinary sustainability science research centre that brings together scholars from the social and natural sciences to address climate-related challenges. We analyse how shared expertise, disciplinary distance, and affective social ties jointly shape patterns of interdisciplinary collaboration. The study combines survey-based relational data on informal communication and social relations with bibliometric information on scientific production, enabling a multilayer network analysis of collaboration and interaction. Our findings indicate that interdisciplinary collaboration is structured by informal communication and affective ties, alongside cognitive proximity, highlighting the enduring role of the invisible college in organising scientific activity. By empirically linking informal social relations to interdisciplinary collaboration, this study contributes to the sociology of science and sustainability research, demonstrating that scientific collaboration is embedded in everyday interaction, trust, and informal exchange rather than arising solely from shared expertise or institutional design.

Speaker

Alejandro Espinosa-Rada
Assistant Professor | Pontificia Universidad Católica de Chile

Two Latent Factor Structures of Centrality in Peer Evaluation Networks: Evidence from Children's Collaborative Activities

11:40 AM – 12:00 PM

NETWORK LEADERSHIP: PERSPECTIVES, METHODS, AND APPLICATIONS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

This study examines whether centrality metrics in children's peer evaluation networks reflect latent dimensional structure consistent with distributed leadership theory.

Complete network data were collected from a multi-age group (grades 1–6, N=24) at a Japanese elementary school across three time points. After each collaborative activity, children nominated contributing peers ("Like!" nominations), generating directed adjacency matrices. Seven node-level centrality metrics were computed: in/out-degree, in/out-closeness, betweenness, and in/out-eigenvector centrality.

Exploratory factor analysis revealed a consistent two-factor structure across all three time points (KMO: 0.709–0.789; cumulative variance: 95–97%). Factor 1 loaded on in-degree, out-closeness, and out-eigenvector centrality, capturing visibility and influence (labeled "Captain type"). Factor 2 loaded on out-degree, in-closeness, and in-eigenvector centrality, capturing coordination and support (labeled "Supporter type"). Betweenness cross-loaded on both factors.

Post hoc validation showed that children with distinctive factor profiles matched formal leadership roles. Teacher observations correlated with Factor 1 but not Factor 2, suggesting that Supporter-type contributions escape conventional observation. These findings show that centrality metrics form stable latent dimensions capturing distinct structural roles across contexts.

Speaker

Hisashi Matsuse
Doctoral Student | Graduate School of Management, Tokyo Metropolitan University

Co-speaker

Nobuhiko Kondo
Professor | Tokyo Metropolitan University

Networks, Collective Action, and Social Movements

11:00 AM – 11:20 AM | Location: Coquina G

SESSION

IN-PERSON

The Rise, Impact, and Imbalances of Big Team Science

11:00 AM – 11:20 AM

NETWORKS, COLLECTIVE ACTION, AND SOCIAL MOVEMENTS

The present work evaluates the rise, impact, and imbalances of large-scale collaboration via an analysis of n = 3,023,895 articles published in the 21st century in a single discipline (psychology). Results indicate that big teams– ranging from 10 to 100+ authors – are relatively unusual (n = 49,695) but increasing in popularity. More notably, such collaborations generate unusually high impact, in terms of yearly mentions in scholarly articles (n = 39,788,158), the news (n = 1,018,639), social media (n = 5,971,965), and policy documents (n = 69,959). An examination of country-level sociocultural indicators revealed that first authors, in general, tend to be in regions that are relatively Western, Educated, Industrialized, Rich, and Democratic. However, this so-called “WEIRD” imbalance is slightly more pronounced among larger teams. In summary, results suggest that big team science is an emerging trend – one that is unevenly deployed across world regions to generate high-impact scientific insights

Speaker

Nicholas Coles
Assistant Professor | University of Florida

Statistical Approaches for Modeling Network Dynamics

11:40 AM – 12:00 PM | Location: Coquina A

SESSION

IN-PERSON

Selection or Influence? A Causal Approach Using Relational Event Models

11:40 AM – 12:00 PM

STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

Distinguishing selection from influence is a key challenge in dynamic social network analysis.

The observed relationship between similarity among actors and their interaction patterns may arise either because similar actors are more likely to interact (selection) or because interactions lead them to become more similar over time (influence). In this talk, we will argue that separating these two mechanism requires a causal framework rather than relying on associational analyses.

One formalization of causality is based on invariance: a relationship between a target variable and a set of covariates is causal if it remains stable across environments or interventions. Originally developed for linear models, this idea has been extended to generalized linear models, where the causal model can be characterized by a Pearson risk constraint.

We extend invariance-based causal reasoning to dynamic networks using Relational Event Models (REMs), which represent time-stamped interactions between actors and generalize Pearson risk invariance to this setting to derive a causal discovery procedure that operates with data from a single observational environment. We then illustrate how this approach can be used to distinguish selection and influence in dynamic networks. This is joint work with Cuihuan Zhang (USI), Ester Riccardi (UNITN), Veronica Vinciotti (UNITN) and Ernst Wit (USI).

Speaker

M

Melania Lembo

Università della Svizzera italiana

Authors

Ernst C. Wit (Università della Svizzera italiana), Ester Riccardi (University of Trento), Cuihuan Zhang (Università della Svizzera italiana), Veronica Vinciotti (University of Trento)

Lunch

12:00 PM – 1:40 PM | Location: Coquina DE

INCLUDED WITH CONFERENCE REGISTRATION

Please join us in Coquina DE for lunch and networking with fellow conference attendees!

Lunch Menu

- Starters
  - Arcadian field greens tossed with carrots, cucumber, and grape tomato; served with ranch and balsamic dressings
  - Chef's soup kettle
- Entrees
  - Grilled flank steak with red wine sauce
  - Grilled salmon with tomato basil tapenade
- Sides
  - Chef's selection of starch
  - Chef's selection of vegetable
  - Rolls with creamery butter
- Desserts
  - Assortment of cheesecakes
  - Chocolate cake
- Beverages
  - Iced tea
  - Freshly brewed regular and decaffeinated coffee

Community-Based Participatory Research Approaches in SNA

1:40 PM – 2:20 PM | Location: Coquina A

SESSION

IN-PERSON

An egocentric view on the exploratory analysis of homophily for women at risk of partner abuse

1:40 PM – 2:00 PM

COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES IN SNA

COMMUNITY-ENGAGED SOCIAL NETWORK ANALYSIS

QUALITATIVE NETWORK RESEARCH: UNDERSTANDING NETWORK DYNAMICS

SOCIAL CAPITAL AND SOCIAL INEQUALITY SOCIAL INFLUENCE

Although sociological and communication perspectives on homophily differ, these conceptual tensions allow for integrated analyses of women's *perceived* (McCroskey et al., 1975) and *absolute* similarity (i.e., socio-demographics) that often shapes social outcomes. Among battered women, homophily is linked with increased psychological distress, moderation of stigma-related stress in functional networks, reduced emotional support, and positive effects on disclosure. Given homophily's role as a critical determinant of network structure, this paper proposes a *homophily index* to explore its linkages with perceptions of women about closeness of ties and perceived social support.
Integrating social network name generator in a survey, data was collected from 61 women (244 network ties). Preliminary results found low homophily (t(60)=-2.103, p=.04) among women with lifetime IPV (M=9.64, SD=3.20), compared to those who were never abused (M=12.03, SD=5.38). Mental health women with heterogenous networks (M=48.6, SD=10.29) was higher (t=2.759, p=.008) those with homogenous ties (M=39.87, SD=14.06), demonstrating consistency across the three dimensions of emotional, psychological, and social well-being. Importantly, homophily decreased (Δ=.07, p=.023) the main effects of relationship strength on women's perceived social support. Drawing from structural holes (Burt, 1992), findings underscore critical role of heterogenous ties around women for network-driven IPV prevention.

Speaker

Pooja Ichplani

Community Engaged Research Specialist | Florida Institute for Child Welfare

Synthesizing Life Histories, Expert Consultations, Cognitive Testing, and LLM Feedback for a Longitudinal Egocentric Network Survey Examining HIV Among Mobile Women in the U.S. South

2:00 PM – 2:20 PM

COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES IN SNA

Mobile populations are among the most difficult groups to reach and retain in studies. Retrospective approaches are feasible and cost-effective, but raise concerns about recall, time-point anchoring, and respondent fatigue. We describe the development of a retrospective longitudinal egocentric survey on social networks and HIV among mobile women in the U.S.

We used a community participatory-based approach, including formative research, scientific expert consultations, community advisory board reviews, and cognitive interviews with mobile women to design the survey. Survey templates were adapted through expert and community input. Cognitive interviews with mobile women assessed comprehension, recall, and relevancy. Large Language Models assisted in developing retrospective prompts to guide recall.

Experts informed survey programming and measurement rigor. Community advisors guided the inclusion of memory aids, response categories, and name generators. Cognitive interviews improved comprehension, temporal clarity, and recall by refining prompts and alter descriptors. The final protocol includes a self-administered ego-level survey followed by an interviewer-administered network assessment.

Our survey design process demonstrates how multifacted expertise from scientists, community advisors, and AI can strengthen retrospective network surveys and provides a replicable framework for measure development with mobile populations.

Speaker

Miranda Hill

Assistant Professor | University of California, San Francisco

Authors

James Moody (Duke University), Mary C. Kan (Sisterlove, Inc.), Reyna Patterson (Sisterlove, Inc.), Carol Camlin (University of California, San Francisco), Amanda Van Buren (Sisterlove, Inc.), Whitney Rice (Emory University), Kennedy Lowman (Georgia State University), Tiajuanna Francis (Sisterlove, Inc.), Cynthia Simmons (Sisterlove, Inc.), Dazon Diallo Dixon (Sisterlove, Inc.)

Networks and Culture

1:40 PM – 2:40 PM | Location: Coquina B

SESSION

IN-PERSON

Are the Bridges Functioning Well? Bicultural Identity Integration, Networks, and Boundary Spanning

1:40 PM – 2:00 PM

NETWORKS AND CULTURE

NETWORKS, GOVERNANCE, & GENDER: BRIDGING SOCIAL STRUCTURES & DIVERSITY

Globalization is increasingly contested, with ongoing debates about its benefits and drawbacks, and whether this process should be continued or curtailed. Against this background, it is crucial to examine the roles of biculturals, who are often seen as potential bridges between different cultural groups. Understanding the extent to which they are functioning effectively --- specifically, how motivated and capable they are in bridging across diverse cultural groups--- deserves more research attention. This presentation will introduce a study that explored the impact of bicultural identity integration on cultural boundary spanning. From a social network perspective, it also assessed how the strength of ties to both mainstream and heritage cultures affects bicultural identity integration. With a longitudinal design and a sample of 317 bicultural individuals, the results revealed that bicultural identity integration enhances cultural boundary spanning; however, this effect is moderated by specific social conditions. Firstly, the positive relationship between bicultural identity integration and boundary spanning is stronger when intercultural conflict is low rather than high. Secondly, the association is more pronounced when the support network is heterogeneous rather than homogeneous. Furthermore, strong ties to both mainstream and heritage cultures were found to significantly contribute to bicultural identity integration.

Speaker

Jing Han

Professor | Winona State University, College of Business, Business Administration Department

Authors

Jidong Zhang (Minnesota State University, Mankato)

From Micro- to Macro-Genres: Using GoodReads Shelf Tags to Identify Literary Genres

2:00 PM – 2:20 PM

NETWORKS AND CULTURE WORDS AND NETWORKS

Recent work in the sociology of culture has turned to micro-genres as a way to more precisely classify cultural items. Genres provide recognizable patterns that orient consumers and shape expectations, but broad macro-genres often obscure meaningful variation in content. For example, the genre “Romance” conveys far less than distinctions such as “Romantic Comedy” or “Sports Romance.” While micro-genres are salient to consumers, they are rarely formalized by producers or captured in standard survey data. Between macro-genres and micro-genres, however, sit consumer-generated classification schemes that succinctly describe cultural items and structure how they are encountered and evaluated. To examine this intermediate level of genre classification, this paper draws on collective shelving practices on the literary social media platform GoodReads.com, where readers publicly tag books using labels such as “Romance,” “Fantasy,” “YA,” “Erotica,” “LGBTQ+,” and “African American.” Using the seven most popular "shelf" tags for over 80,000 young adult books, I construct a bipartite network linking books to their associated tags and apply community detection methods to identify clusters of books that share similar patterns of reader classification. This approach captures how readers collectively organize genre and content in ways that extend beyond producer-assigned categories, offering insight into how genre distinctions are socially constructed, layered, and contested.

Speaker

Margaret Palmer

Ph.D. Candidate | University of North Carolina--Chapel Hill

Structural Differentiation Across Competition Stages: Evaluative Structure in the 19th International Chopin Competition

2:20 PM – 2:40 PM

NETWORKS AND CULTURE

This study examines how jurors' evaluations change across stages in the 19th International Chopin Competition. Using score data from all four stages, I analyze how jurors' evaluations shift as the competition progresses.

Latent dimensions are extracted from jurors' scoring patterns, and two indicators are used to assess structural differentiation. The first measures the average magnitude of each juror's highest loading, capturing alignment with a particular evaluative axis. The second measures the average gap between each juror's highest and second-highest absolute loadings, capturing how distinct a juror's primary alignment is relative to alternative tendencies. Together, these indicators summarize the clarity and exclusivity of jurors' positions within the latent evaluative structure.

The results show that, in the first stage, jurors primarily evaluate along a single dominant dimension, indicating shared standards. From the second stage onward, additional dimensions become salient, and jurors' positions differentiate along separate axes. Differentiation peaks in the third stage and lessens in the final stage.

These findings suggest that collective evaluation undergoes measurable structural shifts across stages, as patterns of agreement and divergence among jurors reorganize over the course of the competition, reshaping the overall evaluative structure.

Speaker

Ryuhei Tsuji

Professor | Kindai University

Spatial and Geographic Social Networks

1:40 PM – 2:40 PM | Location: Coquina G

SESSION

IN-PERSON

Storytelling with Maps of Social Networks: A Tour of Geographic and Spatial Network Case Studies

1:40 PM – 2:00 PM

SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

Social networks are affected by place and space, and we advocate for mapping social networks in geographic space. When viewing a spatialized social network instead of / alongside a traditional sociogram, new perspectives emerge, including how a network can interact with geographic features, how it spatially clusters, how edges cross boundaries, the distance between nodes, and the network's spatial extent/expanse.

We describe the benefits for geospatial integration and perspectives by sharing a set of case studies on the topic of storytelling with geographic social networks. These case studies are solicited from researchers across the fields of social sciences, computational sciences, and humanities and range from the scale of the street-level to international ties. We take the approach of case studies, visualization, and storytelling in an academic setting to draw the attention of researchers with similar datasets who can benefit from these approaches. Finally, we advocate for geographic and spatial perspectives when visualizing and analyzing social networks.

Speaker

Clio Andris

Associate Professor | Georgia Tech

Imputing Suppressed Data with Exponential-family Constrained Allocation Models (ECAMs): An Application to Migration Flow Data

2:00 PM – 2:20 PM

SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

STATISTICAL APPROACHES FOR MODELING NETWORK DYNAMICS

A common challenge in analyzing migration networks is that many datasets suppress small flows to protect confidentiality, leaving analysts with partially observed count arrays that must still satisfy accounting constraints. This presentation develops the exponential-family constrained allocation model (ECAM) for imputing suppressed migration flows. The approach first identifies the finite set of feasible allocations that satisfy hard constraints, including integer counts, censoring bounds, and known totals. It then assigns probabilities over this feasible support using exponential-family models whose sufficient statistics encode substantive information about plausible migration patterns. The model is flexible in its entropy term and sufficient-statistic specification, and can incorporate information from auxiliary data. It can be estimated exactly when enumeration is feasible, or approximately using Markov chain Monte Carlo when the number of suppressed variables is large.

Speaker

Peng Huang

Assistant Professor of Sociology | The University of Georgia · Full-time

In the Pursuit of Happiness: Labor Mobility Networks in Kazakhstan from Administrative Employment Contract Data (2020–2024)

2:20 PM – 2:40 PM

SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

This project analyzes the geographical aspects of labor mobility in Kazakhstan using restricted-use register data on employment contracts from 2020 to 2024, drawn from the Unified System for Accounting for Employment Contracts (USAEC). Utilizing data on more than 9 million contracts, we construct labor mobility networks across second-level administrative units, disaggregating labor flows by age, gender, and economic activity sector. In the exploratory stage, we document varying structural properties of networks by age and gender, map supra-regional mobility clusters that cut across administrative boundaries, and identify a unique waypoint role for middle-sized regional centers in the labor careers of Kazakhstanis. In the modeling stage, we employ Exponential Random Graph Models on binarized networks and MoNaN models on sampled weighted adjacency matrices to gain insight into possible network-generating mechanisms. Our preliminary analysis shows network centralization and the role of explicit economic factors such as regional median salary. Besides these somewhat expected findings, our results also suggest the salience of cultural closeness: net of other factors, mobility links are less likely between regions with dissimilar fertility rates.

Speaker

Darkhan Medeuov

Authors

Adilkhan Ospanov (The Economic Research Institute), Madiyar Aldiyarov (JSC Workforce Development Center), Aslanbek Amrin (El Umiti Corporate Foundation)

Virtual Presentations

1:40 PM – 2:40 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

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IN-PERSON VIRTUAL

A Comparative Analysis of Legislative Cosponsorship Networks Related to Environmental Policies in Japan and South Korea, 2020–2025

1:40 PM – 2:00 PM

SOCIAL NETWORKS AND CLIMATE CHANGE

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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ABOUT THIS PRESENTATION:

Although environmental issues are universally recognized as urgent, nonpartisan emergencies, translating this consensus into legislation remains challenging. Japan and South Korea offer a useful comparison because they share similar baseline conditions: geographic proximity, advanced industrial economies, democratic political systems, heavy dependence on imported fossil fuels, and participation in the global climate change regime. This similarity allows the analysis to focus more directly on legislative dynamics within the domestic political environment.

South Korea frequently experiences abrupt policy reversals across administrative transitions, reflecting strong executive influence. Japan, in contrast, tends to maintain continuity in long-term targets through its administrative structure, but this continuity can delay immediate policy intervention.

The aim of this study is to analyze the cosponsorship networks for environment-related legislation from 2020 to 2025 in Japan and South Korea. It examines how cosponsorship formations and patterns vary with legislators' characteristics, institutional arrangements, including differences in chamber structure, temporal periods, governing coalitions, major political events, and cabinet configurations. This analysis identifies which factors consistently predict cosponsorship and how network structures shift around major political changes, including changes in the concentration and fragmentation of legislative collaboration.

Speaker

Junku Lee

Toyo Gakuen University

Uncovering the E-I index: On reference values and significance testing

2:00 PM – 2:20 PM

ADVANCED MATHEMATICAL AND STATISTICAL NETWORK METHODOLOGY

TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

HOW TO JOIN THIS SESSION:

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ABOUT THIS PRESENTATION:

Suppose we consider a social network in which the actors belong to some group indicated by a categorical covariate (e.g., gender, ethnicity, team). The E-I index is a classical measure of homophily in social network analysis. It is defined as the number of between-group (external) minus the number of within-group (internal) edges divided by the total number of edges in a network. Smaller values of the E-I index indicate greater homophily. Hypotheses involving the E-I index are commonly tested through permutation tests. We will demonstrate that the results of these tests are often misinterpreted and present an analytical expression for the null distribution of the E-I index in random graphs with a given group distribution and a specified number of edges. Using the classical dataset on the information flow between organizations, collected by Knoke and Wood in 1978, we argue the importance of selecting the correct reference value for E-I index interpretation and how the choice of null distribution can impact the results of significance tests. We discuss how our results extend to E-I indices that measure homophily at the group and individual level.

Speaker

Nynke Niezink

Associate Professor | Carnegie Mellon University

Kin, Care, and Connectivity: Network-Derived Positions and Well-Being of Older Adults in the Philippines

2:20 PM – 2:40 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING

RESEARCH AND METHODS IN LOW- AND MIDDLE-INCOME SETTINGS

HOW TO JOIN THIS SESSION:

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ABOUT THIS PRESENTATION:

In many low- and middle-income countries, surveys of older adults capture rich information on household members and support roles but do not identify specific social contacts by name. This study uses the Longitudinal Study of Ageing and Health in the Philippines (LSAHP) to recover network-derived social positions from such role-based data and link them to health and well-being. I construct ego-like indicators from household rosters, intergenerational financial and care exchanges, and technology-related support (for example, who helps the older person with mobile phones or social media). Using these patterns of role relations, I classify older adults into structural positions that capture distinct configurations of coresidence, kin dependence, and extra-household support, approximating different support network types without name generators. I then compare health, loneliness, and subjective well-being across these positions, separating compositional factors (age, gender, education, wealth, and urban–rural residence) from differences associated with relational structure. The findings highlight which intergenerational support configurations are most strongly associated with lower loneliness and better outcomes for Filipino older adults, and illustrate how network concepts can be applied in LMIC ageing surveys that lack explicit name-based social network modules.

Speaker

Jem Marie Nario

Lecturer | De La Salle University

Organizational Networks

2:00 PM – 2:40 PM | Location: Coquina C

ORGANIZED SESSION

The networked nature of organizations creates a complex ecosystem where individuals, groups, units, and other organizations are entangled. Such an entanglement shapes organizations in a dynamic way and affects their outcomes at multiple levels. This session aims to bring together studies on organizational networks addressing antecedents, dynamics, cross-level processes, and outcomes.

Submissions can refer, but are not limited, to the following areas of research:

– Micro-foundations of organizational networks: How individual characteristics and cognitions affect the emergence of network structures and how these network structures affect individuals.

– Dynamics of organizational networks: How network structures at various levels co-evolve and affect one another, as well as organizational processes and outcomes.

– Time-dependence in organizational networks: How organizational networks at various levels change at different paces over time.

– Overlap and interplay between social and other kinds of networks within and across organizational settings: How organizational networks are affected by the affiliation of individuals, or organizations to events or contexts.

– Organizational networks and the future of work: How new technologies (e.g., digital platforms, Artificial Intelligence, Virtual Reality) and new forms of organizing (e.g., distributed, boundaryless, and hybrid organizations) shape, support or hinder organizational networks.

We welcome both theoretical and empirical contributions addressing various aspects and implications of organizational networks research.

IN-PERSON

Authors

Francesca Pallotti (University of Exeter Business School), Spyros Angelopoulos (Durham University Business School), Olaf Rank (University of Freiburg), Paola Zappa (UCL)

Economic Embeddedness and Organizational Survival of U.S. Environmental Nonprofits

2:00 PM – 2:20 PM

ORGANIZATIONAL NETWORKS SOCIAL MOVEMENT ORGANIZATIONS AND POLICY NETWORKS SOCIAL NETWORKS AND CLIMATE CHANGE

When do organizations survive, and when do they fail? Prior research has demonstrated the relationships among field-level density, concentration, organizational specialization, and survival. However, we know relatively little about how economic interrelations among organizations within the same field relate to survival. I investigate how embeddedness in an economic network of grant-making and -receiving impacts organizational mortality. Using electronic tax filings from the Internal Revenue Service (IRS), I map the population of U.S. environmental non-profits from 2016-2023. Preliminary descriptive findings show consistent turnover among environmental non-profits, with mortality rates higher for organizations that neither made nor received a grant from another environmental organization. Moreover, employing methods from social network analysis, I analyze the patterns of grantmaking and find a field marked by a few grantmaking hubs with limited reciprocity and transitivity.

Speaker

J

Jenna Wertsching

University of North Carolina at Chapel Hill

Purposeful Food Access Network Structure: A Longitudinal Social Network Analysis of a Food Access Network in rural Southwest Virginia

2:20 PM – 2:40 PM

ORGANIZATIONAL NETWORKS

Ensuring food access in rural communities requires coordinated action among diverse and interdependent organizations. This study examines the change in interorganizational relations of *Thrive*, a food access-focused Purpose-oriented network (PON) established in 2015 in rural Southwestern Virginia, using longitudinal network data collected in 2018 and 2026.The PON was created in part to reduce heavy dependence on key actors—particularly large food distributors such as Feeding America—and to strengthen regional food system capacity as well as the sharing of fresh foods.

Network data were collected through a roster-based online questionnaire administered to all organizations addressing food security in the region, thus a whole network analysis (Provan et al., 2007). Respondents were asked to indicate five different types of relationships: (1) Information Sharing, (2) Food Exchange, (3) Client Referral, (4) Shared Resources, and (5) Program Coordination. Tie strength was also assessed.

This study examines (1) structural changes from 2018 to 2026; (2) shifts in dependency patterns on key actors; and (3) variation across the relationship structures. Particular attention is paid to whether the network has reduced high centralization or brokerage concentration while maintaining or enhancing coordination capacity.

Our study demonstrates how SNA can inform both scholarly and practitioner understandings of the relational structure behind food systems in rural contexts.

Speaker

R

Robin Lemaire

Associate Professor | Louisiana State University

Networks & Sustainability; Networks in Agriculture

2:00 PM – 2:40 PM | Location: Coquina F

SESSION

IN-PERSON

The Dark Side of Connectivity: Network Centrality and the Paradox of Carbon Performance in Mexican.

2:00 PM – 2:20 PM

NETWORKS & SUSTAINABILITY | SOCIAL NETWORKS AND CLIMATE CHANGE

This research investigates the relationship between corporate network positioning and carbon performance (CP) among 97 firms listed on the Mexican Stock Exchange (BMV) in 2022. Using Social Network Analysis (SNA), we map board interlocks to evaluate the effect of degree, closeness, eigenvector, and betweenness centrality on CP—measured as carbon intensity (CI) via Scope 1 and 2 emissions—within an emerging market context.

Using OLS Multiple Regression Analysis, findings suggest that degree, closeness, and eigenvector centrality yield no statistically significant associations with CP. However, betweenness centrality emerges as the sole significant predictor, with firms in bridging positions exhibiting higher carbon intensity. This suggests that network bridges may reinforce carbon-intensive behavior rather than facilitating decarbonization. Interpreted through institutional theory, these findings indicate that influential intermediaries may propagate symbolic sustainability commitments instead of substantive climate action, potentially contributing to carbon inertia in the absence of binding decarbonization incentives.

Speaker

Isaac Hernandez

PhD Student | Universidad Autonoma de Tamaulipas, Mexico

Co-speakers

Arturo Briseño Garcia

PhD Professor | UNIVERSIDAD AUTONOMA DE TAMAULIPAS

J

Joel Alejandro Cumpean Luna

Undergraduate Professor | UNIVERSIDAD AUTONOMA DE TAMAULIPAS

Structural challenges in regional swine production research system. Case Europe

2:20 PM – 2:40 PM

NETWORKS & SUSTAINABILITY | NETWORKS IN AGRICULTURE

The constant growth of the meat system production in the world has generated urgent challenges mainly for the systematic impact on several organizational levels and environment attributes in the societies. One of these could be related with the pig production system. The meat pork is the second most consumed and commercialized meat worldwide. So pig farming has experienced a unique global commercial growth in terms of the numbers the size of production units, their yields and degree of specialization that have generated a highly competitive regional and worldwide market. For example, at Europe. The european pork production system has developed: a) a regional system of massive confinement, divided between European countries b) specific technological innovations about production and animal health and c) scientific structures to manage such complex system. All of this suggest an underlying highly social and technological ecosystem agglomerated around swine production. The objective of this work was to characterize structural patterns in the research of the swine production sector in European countries in order to analyzed innovation attributes, strongholds and vulnerabilities. It was used a mixed methodological proposal: Social Networks Approach. It was possible identify: a) convergence and influence and a highly centralization of the information; and b) biosafety gaps that could be related with the predetermined information flows in the social structure.

Speaker

Juan-Felipe Nuñez

Pd.D. | Colegio de Postgraduados

Coffee Break

3:00 PM – 3:20 PM | Location: Coquina Pre-Function

Enjoy coffee and light refreshments!

Break Menu

- Assorted vegetables, spinach dip, and chips
- Freshly brewed regular and decaffeinated coffee
- Inced tea

Virtual Presentations

3:20 PM – 5:00 PM | Location: Coquina H

VIRTUAL SESSION

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

IN-PERSON VIRTUAL

You are the company you keep: The role of social networks in subjective socioeconomic selfplacement

3:20 PM – 3:40 PM

NETWORKS, SOCIAL RESOURCES, AND SUBJECTIVE WELL-BEING SOCIAL CAPITAL AND SOCIAL INEQUALITY SOCIAL NETWORKS & INEQUALITY

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

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https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

How do personal networks shape how people perceive their position in the social hierarchy? Research on subjective social status has mainly focused on individual attributes such as income, education, and occupation, paying less attention to the relational contexts through which people evaluate their place in society. This paper argues that subjective status is shaped not only by objective class position, but also by the class composition of personal networks. To examine this relationship, we use original data from a representative survey conducted in Santiago de Chile in 2025, which includes a position generator based on 27 occupations to measure the class composition of respondents' personal networks. We distinguish between all ties and strong ties, and between absolute and proportional measures of network composition. Results show that networks are socially stratified and that these differences are associated with subjective status in systematic ways. Individuals with more higher-status contacts tend to report higher subjective status, while networks concentrated in low status positions are associated with lower self-placement. These patterns are particularly strong for strong ties and high-status contacts. The paper contributes to research on stratification by showing that subjective status is shaped not only by what people's own class, but also by whom they know.

Speaker

Camila Joustra

Junior Researcher | LUT University

Co-speaker

Gabriel Otero

Assistant professor | Universidad Diego Portales

Inter-professional Brokerage and The Emergence of Innovation Catalysts in Healthcare Organizations

3:40 PM – 4:00 PM

ORGANIZATIONAL NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Innovation and change are central challenges for contemporary health care organizations, which must continuously adapt clinical practices and care delivery models in response to evolving patient needs. Although prior research shows that innovation increasingly emerges from the distributed contributions of organizational members, individuals do not contribute equally to these processes. Some health professionals play a distinctive role by supporting and enabling others' creative efforts. These individuals have been conceptualized as innovation catalysts. Drawing on social network theory and recent brokerage research, this study examines how different forms of advice-network brokerage shape individuals' likelihood of being perceived as innovation catalysts in health care settings. We argue that brokerage is not a homogeneous structural advantage: brokerage confined within professional groups may reinforce existing practices therefore reducing innovation potential, whereas brokerage spanning professional boundaries may enhance creativity and innovation by enabling access to diverse knowledge and cross-group legitimacy. We test these arguments using social network data from over 200 health professionals in the Italian National Health Service. Our findings show that inter-professional brokerage is positively associated with innovation catalysis, whereas brokerage confined within homogeneous professional groups is negatively related.

Speaker

Camilla Mola

PhD Candidate | LUISS University

Authors

Daniele Mascia (LUISS University)

Russian state organ, state-aligned proxy, and European amplifiers in adversarial narrative dissemination

4:00 PM – 4:20 PM

NETWORKS, NARRATIVES, AND QUALITATIVE ANALYSIS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

Russia's information operations rely on a distributed network of state organs, state-aligned proxies, and foreign amplifiers to shape perceptions, weaken adversary cohesion, and reinforce domestic legitimacy. This presentation examines how these actor networks contribute to the dissemination, amplification, and adaptation of Russian narratives within the European information environment. Leveraging large-scale collections of European media enriched with high-volume narrative, quote-level, and speaker metadata—including identification of state, proxy, and local actors—we analyze how narratives originate, diffuse, and evolve across interconnected media ecosystems. Using network-analytic and qualitative interpretive methods, we characterize the relational structure between Russian sources and European partners, identify key nodes and pathways of influence, and track shifts in narrative performance over time. This work demonstrates how social network analysis can reveal hidden coordination mechanisms, cross-actor dependencies, and narrative propagation dynamics that shape contemporary influence operations.

Speaker

Elise Thorsen

Data Engineering, Management, and Governance Manager | Accenture Federal Services

Building Collective Capacity for Impact Investment: Drivers of Relational and Substantive Organizational Outcomes

4:20 PM – 4:40 PM

ORGANIZATIONAL NETWORKS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

This study examines how organizational engagement with a purpose-oriented network (PON), by participation in workgroups, shapes both the relational and substantive outcomes of interorganizational collaboration. Using longitudinal survey and network data from a PON's Impact Investing Initiative survey (2022, 2025), we analyze how engagement processes such as communication frequency and intensity of collaboration affect tie formation, strengthening, and persistence over time (social networking outcomes), as well as joint implementation, adoption and co-funding outcomes (substantive outcomes). We use Multiple Regression Quadratic
Assignment Procedure (MRQAP) to find that PON workgroups build collective capacity through distinct pathways: relational outcomes are driven primarily by path dependence and cross-sector heterophily, whereas substantive outcomes, such as co-implementation and co-adoption of goals, are driven by collaboration intensity and organizational size similarity. This research contributes to understanding how engagement with PON workgroups can strengthen social impact ecosystems to address broader complex problems. It also addresses the current gap in public management literature on the linkage between network processes and outcomes.

Speaker

Kate Albrecht

Assistant Professor | University of Illinois Chicago

Estimating Foreign-Born Scientists and Engineers: An application of the Network Scale-Up Method

4:40 PM – 5:00 PM

GRAPH ANALYTICS FOR GOVERNMENT APPLICATIONS

HOW TO JOIN THIS SESSION:

If you are presenting virtually or attending this session virtually, click the below zoom link to join.

Join Zoom Meeting
https://us06web.zoom.us/j/87027460459?pwd=MOCexDfEQue70IBDL2bk8mKEkdwNxw.1

Meeting ID: 870 2746 0459
Passcode: 610768

If you are **in-person at Sunbelt**, join this session in the **Coquina H room**, but **do not click the zoom link**. The session will be broadcast from the screen in the room.

ABOUT THIS PRESENTATION:

With the increasing prevalence of social media platforms and online survey tools, the Network Scale-Up Method (NSUM) has emerged as a cost-effective and reliable approach for estimating the size of hard-to-reach or under-represented populations. NSUM leverages respondents' social networks and their knowledge of known sub-populations to estimate the size of target groups, addressing challenges associated with sampling and response bias. In this study, we investigate the application of the NSUM method to estimate the population size of foreign-born scientists and engineers (FBSE) in the US who are contemplating returning to their home countries, comparing findings from surveys conducted on Amazon Mechanical Turk (AMT) and Facebook Advertising Technology (Ad-Tech). With both data sources finding that there could be as many as 1 million FBSE considering returning to their home countries, the results emphasize the critical need for updated U.S. policies to retain foreign-born scientists and engineers, as their potential migration represents a substantial risk to the nation's economic and scientific leadership.

Speaker

Heather Patsolic

Data Science Manager | Accenture Federal Services

Authors

Amir Bagherpour, Nolan Phillips (Accenture Federal Services), Alisha Kim, Dan Gause, Katie Hitchcock-Smith

Organizational Networks

3:20 PM – 4:20 PM | Location: Coquina C

ORGANIZED SESSION

The networked nature of organizations creates a complex ecosystem where individuals, groups, units, and other organizations are entangled. Such an entanglement shapes organizations in a dynamic way and affects their outcomes at multiple levels. This session aims to bring together studies on organizational networks addressing antecedents, dynamics, cross-level processes, and outcomes.

Submissions can refer, but are not limited, to the following areas of research:

– Micro-foundations of organizational networks: How individual characteristics and cognitions affect the emergence of network structures and how these network structures affect individuals.

– Dynamics of organizational networks: How network structures at various levels co-evolve and affect one another, as well as organizational processes and outcomes.

– Time-dependence in organizational networks: How organizational networks at various levels change at different paces over time.

– Overlap and interplay between social and other kinds of networks within and across organizational settings: How organizational networks are affected by the affiliation of individuals, or organizations to events or contexts.

– Organizational networks and the future of work: How new technologies (e.g., digital platforms, Artificial Intelligence, Virtual Reality) and new forms of organizing (e.g., distributed, boundaryless, and hybrid organizations) shape, support or hinder organizational networks.

We welcome both theoretical and empirical contributions addressing various aspects and implications of organizational networks research.

IN-PERSON

Authors

Francesca Pallotti (University of Exeter Business School), Spyros Angelopoulos (Durham University Business School), Olaf Rank (University of Freiburg), Paola Zappa (UCL)

Isomorphism Between Formal and Informal Leadership in Teams and Small Groups: Implications for Network Evolution and Outcomes

3:20 PM – 3:40 PM

NETWORK LEADERSHIP: PERSPECTIVES, METHODS, AND APPLICATIONS

What makes for successful teams and groups, particularly those operating in extreme, isolated environments? In most teams and groups, leadership is ascribed and assigned, reflecting a formal structure. There are historical examples of expeditions to extreme environments such as the Arctic and Antarctic, where leadership was critical for not only the success of the expedition, but ultimately the lives of expedition members. This paper provides several examples of teams and groups in extreme and isolated environments and examines the isomorphism between formal and informal leadership and its relationship to the evolution of network structure and to elements of expedition and mission success. Examples include historical expeditions to the Antarctic (e.g., Amundsen), Antarctic research stations, and simulated space missions. The findings point to the importance of role isomorphism in the evolution of network cohesion and various psychological and group outcomes.

Speaker

Jeffrey Johnson
Professor | University of Florida

Co-speakers

Noshir Contractor
Professor | Northwestern University

Leslie DeChurch
Professor | Northwestern University

Networks or Mentors? How supportive professional networks and advisors relate to graduate student outcomes

3:40 PM – 4:00 PM

ORGANIZATIONAL NETWORKS

Graduate eduction is a unique experience, involving a long-term period of professional training and academic acculturation. Researchers have shown that advisors have a large influence on the success and well-being of their mentees. Recent work has theorized and found initial evidence that graduate students also benefit from other types of professional relationships, such as peer mentoring. In this project, we look at the broader structure of graduate students' professional relationships—examining colleague support networks through the lens of social network analysis and social capital theory. We conducted a large-scale ego network survey of over 400 STEMM graduate students. We provide a descriptive analysis of the composition of professional networks and a Bayesian analysis of the relationship between network structures and multiple outcomes. We find some modest evidence that bonding and bridging capital predict some beneficial graduate student outcomes. However, the quality of mentorship from advisors is by far the strongest predictor of outcomes, vastly exceeding network measures of social capital and also attenuating their influence.

Speaker

Jeremy Foote
Assistant Professor | Purdue University

Authors

Alejandra Durán Trinidad (Purdue University), Husen-Chi Chiu (Purdue University), Bedadyuti Jha (Purdue University), Melanie Morgan (Oklahoma State University), Joshua Becker (University College London)

Measuring node-level homophily

4:00 PM – 4:20 PM

ORGANIZATIONAL NETWORKS TOOLS AND DATA FOR SOCIAL NETWORK ANALYSIS

Researchers distinguish between raw homophily (the observed rate of interaction with similar others) and choice homophily (raw homophily adjusted for opportunity). The paper begins with a surprising statistical fact: regressing an outcome on a raw homophily measure while controlling for the node attribute on which homophily was calculated mathematically transforms raw homophily into a measure of preference homophily. This explains why raw and preference homophily measures often yield similar regression results. It also explains why researchers whose theories depend on raw homophily must not include the node attribute as a control. To make the relationship between raw and preference homophily exact and transparent, we construct a new measure of choice homophily called h*, which has several attractive properties, but most of all serves as a conceptual device — in Lévi-Strauss's words, an idea that is good to think with -- that enables us to discuss the key issue in constructing homophily measures, which is selecting an appropriate baseline model to compare against. We review several existing baseline strategies and discuss the trade-offs they embody.

Speaker

Steve Borgatti
Professor | University of Kentucky

Authors

Ajay Mehra (University of Kentucky), Diane Kang (University of Michigan, Flint), Theresa Floyd (University of Montana)

Networks, Philanthropy, and Social Impact

3:40 PM – 4:00 PM | Location: Coquina F

SESSION

IN-PERSON

When the Past Knocks: An Altercentric Perspective on Helping

3:40 PM – 4:00 PM

NETWORKS, PHILANTHROPY, AND SOCIAL IMPACT ORGANIZATIONAL NETWORKS

Social connections, both present and past, comprise a form of social capital that can deliver a range of benefits, such as information, referrals, and support. Although social capital provides access to critical resources, this access is potential rather than automatic. To transform social capital into realized value, individuals must mobilize their networks. This paper addresses two persistent limitations in the emerging line of work on network mobilization. First, existing research focuses primarily on the focal actor (ego), neglecting the psychological and relational reactions of the network contact (alter). Second, the literature remains centered on active, current ties, leaving the mobilization of dormant or past connections under-theorized. To help address these limitations, we investigate how individuals think, feel, and act upon receiving a request for task-related help from their connections with a particular interest in requests from dormant ties. To do so, we created grounded theory by investigating the network mobilization process of 40 animal welfare workers. Based upon these findings, we generated a process model originating from network activation (reaching out to someone) through network mobilization (securing the resources) and ultimately to the outcomes for alter after completing the process. Our work shifts the focus of network mobilization research away from the ego to the alter and broadens candidates for network mobilization to include dormant ties.

Speaker

J

Jason Ross

Assistant Professor of Management | Western Carolina University College of Business

Authors

Ajay Mehra (University of Kentucky), Kirsten Robertson (Brock University)

Social Networks and Climate Change

4:00 PM – 4:20 PM | Location: Coquina B

SESSION

IN-PERSON

A Network Model of South African Internal Migration Highlights Integration Across Long-term Climate Regimes

4:00 PM – 4:20 PM

SOCIAL NETWORKS AND CLIMATE CHANGE SPATIAL AND GEOGRAPHIC SOCIAL NETWORKS

Migration in South Africa is driven by diverse social, demographic, and environmental processes. In the future, South Africa is projected to experience shifts in near-surface temperature and precipitation patterns. Using the Köppen-Geiger climate zones, which summarize temperature and precipitation climatology in a single indicator, we investigate the role of long-term climatic conditions in facilitating internal migration in the country. Exponential-family Random Graph Models (ERGMs) for valued networks are used to model the inter-district migration flows. We augment the base model, which captures the complex interdependencies among migration flows, by incorporating demographic, socioeconomic, and climate drivers. Our results highlight the importance of the population integration process, indicating that migration flows tend to occur between long-term climate zones rather than within the same zone. Knock-out experiments removing the effects of several categories of social and physical processes demonstrate how much population integration across climatic conditions impacts overall migration patterns. Our results indicate that long-term climate conditions do pattern internal migration, with migrants tending to move from the hotter, drier regions of the country. As hot and arid zones are projected to expand in South Africa, our findings emphasize the role of climatology in shaping migration patterns and the potential mobility challenges posed by future shifts in climate zones.

Speaker

L

Loring Thomas

Assistant Professor of Environmental Studies | University of Colorado Boulder

Authors

Tingyin Xiao (Princeton University), Michael Oppenheimer (Princeton University)

Online Health Communities

4:00 PM – 4:40 PM | Location: Coquina F

SESSION

IN-PERSON

Reply Network Characteristics, Bow-Tie Structure, and Homophily Patterns in Online Eating Disorder Support Communities

4:00 PM – 4:20 PM

ONLINE HEALTH COMMUNITIES

Online support communities provide an opportunity for individuals with eating disorders (EDs) to connect with similar others and exchange support. Based on who responded to whom in these communities, I constructed large-scale directed reply networks for three forums on Reddit. Subreddit A included 19,643 nodes and 118,326 edges, Subreddit B contained 5,980 nodes and 22,843 edges, whereas Subreddit C had 2,009 nodes and 8,798 edges, over eight months. These reply networks demonstrated higher reciprocity and local clustering coefficient than random networks. Each network also showed a strong bow-tie structure, with roughly half of the nodes (49.7% in Subreddit A, 50.2% in Subreddit B, and 57.7% in Subreddit C) residing within the large strongly connected component. Additionally, the IN component was consistently larger than the OUT component across all three networks. Regarding homophily, users with higher degrees were more likely to respond to users with lower degrees in each subreddit. However, no topical homophily was found among users who had posted triggering posts (e.g., body weight and calories) in these networks. Partial support for topical homophily was observed in recovery-related interactions. In two subreddits, users who posted recovery content were more likely to engage with others doing the same, while in the third subreddit this pattern was reversed.

Speaker

Kun Yan

University of Arizona

"I'm Crushed, Ashamed, and Shattered": Moral Sentiment, Network Position, and Recovery Communities on Reddit

4:20 PM – 4:40 PM

ONLINE HEALTH COMMUNITIES

The opioid epidemic in the United States is an ongoing public health crisis, causing devastating harms at the individual, interpersonal, community, and societal levels. Morality-based discourse around addiction and treatment, particularly medication-assisted treatment (MAT), is pervasive in society. It informs attitudes toward harm reduction efforts, treatment approaches, clinical care, and the self-image of substance users. These moral framings can stigmatize individuals, shape and limit access to supportive others, and contribute to marginalization and stigmatization.

Social support from online communities can play a key role in recovery, particularly for individuals who lack access to supportive offline networks. Reddit has emerged as a platform in which self-organized communities, known as subreddits, can discuss sensitive, stigmatized health. Multiple subreddits focus on opioid use disorder (OUD), recovery, and harm reduction, enabling discussion of such topics under conditions of pseudonymity.

This work examines four OUD-related communities through the lens of Moral Foundations Theory, examining theses networks through the moral framing of their discourse, the resonance of this discourse through the network, and the behaviors of central actors within these networks over time, given their potential role in shaping norms, engagement, and community dynamics.

Speaker

Kimberly Glasgow

group chief scientist | The Johns Hopkins University Applied Physics Laboratory

Hospitality Suite Open

8:00 PM – 10:00 PM | Location: Hospitality Suite