WEDNESDAY JUNE 4

NetSci Berkeley, California June 2–6 2014
International School and Conference on Network Science

GARDEN ROOM

COMMUNITY STRUCTURE

CHAIR: AARON CLAUSET

1:30 **Leveraging Community Structure to Predict Successful Memes**
Lilian Weng

1:50 **Do Community Detection Methods Find Real Clusters?**
Darko Hric

2:10 **Structural Preferential Attachment of Community Structure and Its Relation to Dunbar's Number** Jean-Gabriel Young

2:30 **10-MINUTE BREAK**

2:40 **Community Structure and Social Contagion**
Young-Yeol Ahn

3:00 **The Map Equation and the Resolution Limit in Community Detection**
Tatsuro Kawamoto

3:20 **30-MINUTE BREAK**

THEORY I

CHAIR: PIERRE--ANDRE NOEL

3:50 **Revealing the Hidden Language of Complex Networks**
Omer Yaveroglu

4:10 **Subgraph Frequencies: Mapping the Empirical and Extremal Geography of Large Graph Collections**
Johan Ugander

4:30 **Think Globally, Act Locally: From Network Motifs to Graph Spectra**
Victor Preciado

4:50 **10-MINUTE BREAK**

5:00 **Self-Healing Networks: Redundancy and Structure**
Guido Calderelli

5:20 **Fluctuations of Motifs in Complex Networks: A Self-Non-Self-Averaging Phase Transition Scenario** Massimo Ostilli

KRUTCH

PHASE TRANSITIONS

CHAIR: BOB ZIFF

1:30 **News and Views in the Emergence of Large-Scale Connectedness and the Prediction of Tipping Points**
Jan Nagler

1:50 **Structural Properties of Complex Networks**
Jose Mendes

2:10 **Necessary Condition for Non-Trivial Discontinuous Percolation Transitions**
Byungnam Kahng

2:30 **10-MINUTE BREAK**

2:40 **Noise Induces Explosive Synchronization**
Per S. Skardal

3:00 **Double Percolation Phase Transition in Clustered Complex Networks**
Pol Colomer

3:20 **30-MINUTE BREAK**

MULTIPLEX I

CHAIR: GINESTRA BIANCONI

3:50 **Driving Interconnected Networks to Supercriticality**
Filippo Radicchi

4:10 **Dynamics on Modular Networks with Heterogeneous Correlations**
Sergey Melnik

4:30 **Quantifying Correlated Edge Dynamics in Co-Evolving Multiplex Networks**
Vikram Vijayaraghavan

4:50 **10-MINUTE BREAK**

5:00 **Layered Percolation**
Saikut Guha

5:20 **Multiple Resource Demands and Viability in Multiplex Networks**
Byungjoon Min

EDR

SOCIAL GROUPS

CHAIR: PRITWISH BASU

1:30 **Analyzing Expert Behaviors in Collaborative Networks**
Huan Sun

1:50 **Predicting Group Decisions from Communication Structure**
Daniel Romero

2:10 **Do Ideas, Products, Messages, and Behaviors Really Spread Just Like Viruses?**
Julia Poncela-Casasnovas

2:30 **10-MINUTE BREAK**

2:40 **Synergistic and Redundant Strategy Extraction from Time Series Data**
Chris Ellison

3:00 **Degree Correlations in Signed Social Networks**
Valerio Ciotti

3:20 **30-MINUTE BREAK**

OSNs

CHAIR: MARTA GONZALEZ

3:50 **Extracting Tag Hierarchies**
Gergely Palla

4:10 **The Geography of Friendship: Classifying Social Ties by Spatial Similarity**
Jameson Toole

4:30 **Design and Analysis of Experiments in Networks**
Brian Karrer

4:50 **10-MINUTE BREAK**

5:00 **Modeling and Predicting the Growth and Death of Websites**
Bruno Ribeiro

5:20 **Co-evolutionary Dynamics in Social Networks: A Case Study of Twitter**
Constantine Dovrolis

ROOM 102

BIOLOGY & ECOLOGY

CHAIR: JAVIER GALEANO PRIETO

1:30 **Tissue Specificity of Human Disease**
Maksim Kitsak

1:50 **Brain Networks Reveal the Effects of Antipsychotic Drugs on Schizophrenia Patients and Controls**
Emma Towlson

2:10 **Biconnectivity of Cellular Metabolism**
Deok-Sun Lee

2:30 **10-MINUTE BREAK**

2:40 **Adaptive Foraging Stabilizes Pollination Networks via Apparent Altruism**
Fernanda Valdovinos

3:00 **The Importance of a Meso-Scale Approach to Quantifying Ecological Network Structure**
Nick Baker

3:20 **30-MINUTE BREAK**

EPIDEMICS

CHAIR: SHWETA BANSAL

3:50 **Bayesian Inference of Epidemics on Networks via Belief Propagation**
Alfredo Braunstein

4:10 **Persistence of Rapidly Mutating Pathogens on a Metapipulation Network**
Chiara Poletto

4:30 **Network Models for Population-Wide Disease Forecasts**
Peter Klimek

4:50 **10-MINUTE BREAK**

5:00 **Selective Latent Factor Analysis for Epidemic Spreading in Time-Varying Networks**
Laetitia Gauvin

5:20 **Efficient Detection of Contagious Outbreaks in Massive Metropolitan Encounter Networks**
Lijun Sun

THURSDAY JUNE 5

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GARDEN ROOM

MOBILITY

CHAIR: L. DUENAS--OSORIO

1:30 **On the Role of Spatial Dynamics and Topology on Network Flows**
Marta Gonzalez

1:50 **Systemic Delay Propagation in the US Airport Network**
Jose Ramasco

2:10 **A Generative model of an Urban Social Network**
Rory McGrath

2:30 10-MINUTE BREAK

2:40 **Investigating Transportation Network Resilience to Extreme Events**
Amirhassan Kermanshah

3:00 **A Comparative Study of Congestion in Spatial Networks**
Serdar Colak

3:20 30-MINUTE BREAK

THEORY III

CHAIR: YANG--YU LIU

3:50 **Versatile Nodes in Complex Interconnected Networks**
Albert Sole

4:10 **Probabilistic Centrality Measures and their Statistical Comparison**
Abigail Jacobs

4:30 **Weighting the Weights: K-Shell Decomposition and Applications to Weighted Economic Networks** Antonios Garas

4:50 10-MINUTE BREAK

5:00 **Energy Distance on an Electric Power Grid**
Heetae Kim

5:20 **Epidemic Threshold in Directed Networks**
Huijuan Wang

KRUTCH

THEORY II

CHAIR: MAKSIM KITSAK

1:30 **Detecting Change Points in the Large-Scale Structure of Evolving Networks**
Leto Peel

1:50 **Slow, Bursty Dynamics on Complex Networks**
Geza Odor

2:10 **Modeling Time-Varying Networks with Memory**
Enrico Ubaldi

2:30 10-MINUTE BREAK

2:40 **Feedback Between Node and Network Dynamics Can Produce Real World Network Properties**
Hilla Brot

3:00 **Fractional Calculus Approach to Constructing Equations of Motion for Nodes Interacting within a Complex Network** Malgorzata Tutalska

3:20 30-MINUTE BREAK

MULTIPLEX II

CHAIR: IAN DOBSON

3:50 **Robustness of Network of Networks**
Ginestra Bianconi

4:10 **Percolation in Multiplex Networks with Overlap**
Davide Cellai

4:30 **Activation and Pruning on Multiplex Networks**
Gareth Baxter

4:50 10-MINUTE BREAK

5:00 **Enhancing the Interdependent Network Design Problem by Applying Clustering Based Recursive Decomposition**
Andres Gonzalez

EDR

EMPIRICAL

CHAIR: CATERINA SCOGLIO

1:30 **Citation Graph Analysis to Identity Memes in Scientific Literature**
Tobias Kuhn

1:50 **Focus Shifting Patterns in Software Dependency Networks**
Qi Xuan

2:10 **Success in Tennis: Performance and Recognition**
Burcu Yucesoy

2:30 10-MINUTE BREAK

2:40 **Shadow Networks: Discovering Hidden Nodes with Models of Information Flow**
James Bagrow

3:00 **Wisdom of the Network**
Erez Shmueli

3:20 30-MINUTE BREAK

SOCIAL / POLITICAL

CHAIR: IRENA VODENSKA

3:50 **Networks of Military Alliances, Wars, and International Trade**
Stephen Nei

4:10 **The Effects of Shocks on International Networks: Changes in the Attributes of States and the Structure of International Trade Alliance Networks** Zeev Maoz

4:30 **Competing Effects of Social Balance and Influence**
Pramesh Singh

4:50 10-MINUTE BREAK

5:00 **Positions, Strategies, and Electoral Performance: Analyzing Brazilian Party Switching Networks**
Hugo Barbosa Filho

5:20

ROOM 102

FINANCE

CHAIR: GUIDO CALDARELLI

1:30 **Interdependencies and Causality in Coupled Financial Networks**
Irena Vodenska

1:50 **Challenges in Modeling Systemic Risk in Financial Networks**
Charles Brummitt

2:10 **Evolution of the Transaction Network and the Wealth Distribution in Bitcoin**
Daniel Kondor

2:30 10-MINUTE BREAK

2:40 **MLR Fit-Network of Global Balance Payments**
Andreas Joseph

3:00 **Elimination of Systemic Risk in financial Networks by Means of a Systemic Risk Transaction Tax** Sebastian Poledna

3:20 30-MINUTE BREAK

SPREADING PROCESSES

CHAIR: ANTONIO SCALLA

3:50 **Complex Contagion on Noisy Geometric Networks**
Dane Taylor

4:10 **Phase Transitions in Cooperative Coinfections: Simulation Results for Networks and Lattices**
Fakhteh Ghanbarnejad

4:30 **Cascades in the Threshold Model with Multiple Initiators and Heterogeneous Threshold Values in Social Networks** P. Karampourniostis

4:50 10-MINUTE BREAK

5:00 **Percolation Processes and Topological Properties of a Time-Integrated, Activity-Driven Network**
Michele Starnini

5:20 **Spread Optimization Problems by Message-Passing Algorithms**
Luca Dall'Asta