



## The 2nd Workshop on Information in Networks (WIN)

Friday September 24th

7:30-8:30 am **Breakfast and Opening Remarks (Tisch UC-50)**

8:30-10:00am **Plenary Session A (Tisch UC-50)**

*Session Chair: Sinan Aral*

**Identifying 'Influencers' on Twitter.** *Duncan Watts (Yahoo! Research).*

**Peer Effects and Networks: Social Multipliers and Stabilizers.** *Rachel Kranton (Duke University).*

**Social Contagions and the Signal Importance of Noise.** *Michael Macy (Cornell University).*

10:00-10:45am **Coffee Break**

10:45-12:00pm **Parallel Session B (Tisch 200)**

*Session Chair: David Lazer*

**On the Origins of Rich and Poor Country Clusters.** *César A. Hidalgo (MIT).*

**Digital Access, Political Networks, and the Diffusion of Democracy.**  
*Lauren Rhue (NYU Stern), Arun Sundararajan (NYU Stern).*

**Promoting National Initiatives for Technology-Mediated Social Participation.** *Ben Shneiderman (University of Maryland) and Jennifer Preece (University of Maryland).*

**Parallel Session C (Tisch 201)**

*Session Chair: Tony Jebara*

**Relational Blocking for Causal Discovery in Networks.** *Matthew J.H. Rattigan (Univ. of Massachusetts, Amherst), Marc Maier (Univ. of Massachusetts Amherst), David Jensen (Univ. of Massachusetts Amherst).*

**Linking in Social Media Does Not A Community Make.** *Sofus Macskassy (Fetch Technologies), Matthew Michaelson (Fetch Technologies).*

**Network Traces On The Dissemination: How Degree Distribution Can Be Estimated Based on the Penetration and How It Can Be Used to Improve Forecasting.** *Jacob Goldenberg (The Hebrew University of Jerusalem), Yaniv Dover (The Hebrew University of Jerusalem), Daniel Shapira (The Hebrew*

12:00-1:45pm **Lunch and Poster Slam I (Tisch UC-50)**

1:45-3:45pm **Plenary Session D (Tisch UC-50)**

*Session Chair: Foster Provost*

**Network Science: Some History, Some Perspectives (and Some Comments on Data Mining).** *Stanley Wasserman (Indiana University).*

**Learning from Mobile Data Using Graphs and Matching.** *Tony Jebara (Columbia University).*

**Pricing in Networks.** *Nicholas Economides (NYU Stern School of Business).*

**Big Data, Global Development, and Complex Social Systems.** *Nathan Eagle (Northeastern University).*

3:45-4:30pm **Coffee Break**

4:30-6:15pm **Parallel Session E (Tisch 200)**

*Session Chair: Duncan Watts*

**Ranking Information in Networks.** *Tina Eliassi-Rad (Rutgers University), Keith Henderson (Lawrence Livermore Lab).*

**Reconsidering the Foundations of Network Sampling.** *Jennifer Neville (Purdue University), Nesreen K. Ahmed (Purdue University), Ramana Kompella (Purdue University).*

**A Predictive Perspective on Measures of Influence in Networks.** *Prem Melville (IBM), Karthik Subbian (IBM), Richard Lawrence (IBM), Estepen Meliksetian (IBM), Claudia Perlich (Media 6 Degrees).*

**An Active Learning Approach for Identifying Key Opinion Leaders.** *Hossam Sharara (Univ. of Maryland), Lise Getoor (University of Maryland), Myra Norton (Community Analytics).*

**Parallel Session F (Tisch 201)**

*Session Chair: Alex (Sandy) Pentland*

**Crowdsourcing Creativity: Combining Ideas in Networks.** *Jeff Nickerson (Stevens Institute of Technology), Yasuaki Sakamoto (Stevens Institute of Technology).*

**Do More Edges Help Groups Solve Coordination Problems?** *Nicholas Weller (University of Southern California), Daniel Enemark (Univ. of California, San Diego), Matthew McCubbins (Univ. of Southern California),*

**Community Detection in Tagging-Induced Hypergraphs.** *Nicolas Neubauer (Technische Universität Berlin), Klaus Obermayer (Technische Universität Berlin).*

**Social Exposure in Face-to-Face Networks.** *Anmol Madan (MIT Media Laboratory), Sai T. Moturu (MIT Media Laboratory), Alex (Sandy) Pentland (MIT Media Laboratory).*



6:00-8:00pm

Poster Session and Reception (Tisch UC-50)

**How Collective Problem-Solving Discourse Emerges during Extreme Events: A Rumor Theory View of Twitter of Haiti Earthquake, 2010.** *Onook Oh (SUNY Buffalo), H. Raghav Rao (SUNY Buffalo).*

**Digitizing the R&D Social Network; Revisiting the Technological Gatekeeper.** *Eoin Whelan (University of Limerick).*

**A Bayesian Rationality to Follow Opinion Leaders? - Belief Formation and Social Influence in Communication Networks and Their Influence on Macrobbehavior.** *Christian Henning (University of Kiel).*

**Follow the Crowd.** *Yizong Cheng (University of Cincinnati), Nan Wang (University of Cincinnati).*

**Patterns of Individual Shopping Behavior.** *Coco Krumme (MIT Media Laboratory), Manuel Cebrian (MIT Media Laboratory), Alex (Sandy) Pentland (MIT Media Laboratory).*

**Changing the Competitive Dynamics in the US Automotive Network - An Empirical Investigation of the Roles of Information Technology.** *Lei Chi (Rensselaer Polytechnic Institute), T. Ravi (Rensselaer Polytechnic Institute), Goce Andreovski (Queen's University).*

**Constructing and Sampling Graphs with a Given Joint Degree Distribution.** *Isabelle Stanton (UC Berkeley), Ali Pinar (Sandia National Laboratories).*

**Quantifying the Effects of Centrality and Tie Strength on Performance in Face-to-Face Networks.** *Daniel Olguin-Olguin (MIT Media Lab), Michelle Kam (MIT Media Lab), Alex Pentland (MIT Media Lab).*

**Network Effects and Personal Influences: The Diffusion of an Online Social Network.** *Peter Pal Zubcsek (University of Florida), Zsolt Katona (UC Berkeley), Miklos Sarvary (INSEAD).*

**A Behavioral Study of Bargaining in Social Networks.** *Tanmoy Chakraborty (University of Pennsylvania), Stephen Judd (University of Pennsylvania), Michael Kearns (University of Pennsylvania), Jinsong Tan (University of Pennsylvania).*

**A Clustering Coefficient Network Formation Game.** *Mickey Brautbar (University of Pennsylvania), Michael Kearns (University of Pennsylvania).*

**Detecting Novel Discrepancies in Highly Dynamic Information Networks.** *Nishchal Devanur (Rutgers University), Tina Eliassi-Rad (Rutgers University), James Abello (Rutgers University).*

**Modeling Corporate Epidemiology.** *Benjamin Weber (MIT Media Laboratory), Ellen Brooks Pollock (London School of Hygiene and Tropical Medicine), Manuel Cebrian (MIT Media Lab), Riley Crane (MIT Media Lab), Leon Danon (University of Warwick), Alex (Sandy) Pentland (MIT Media Laboratory).*

**Understanding Micro-scale Individual Interaction Diversity and Discretionary Spending.** *Wei Pan (MIT Media Laboratory), Nadav Aharony (MIT Media Laboratory), Cory Ip (MIT Media Laboratory), Alex Pentland (MIT Media Laboratory).*

**Stealing Reality.** *Nadav Aharony (MIT Media Laboratory), Yaniv Altshuler (Technion), Yuval Elovici (Ben Gurion University), Alex Pentland (MIT Media Laboratory), Manuel Cebrian (MIT Media Laboratory).*

**A Framework for Computing the Privacy Score of Users in Online Social Networks.** *Evmaria Terzi (Boston University), Kun Liu (Yahoo! Labs).*

**Overlapping Community Mining in Social Networks.** *Guanying Hua (Bentley University).*

**Disentangling Social Networks Inferred from Call Logs.** *Manuel Cebrian (MIT Media Laboratory), Alex Pentland (MIT Media Laboratory).*

**Sharing Revenue of Online Ads over Social Networks.** *Zeinab Abbassi (Columbia University), Vishal Misra (Columbia University).*

**Reciprocity and Degree Assortativity in Social Networks.** *David Hachen Jr. (University of Notre Dame), Omar Lizardo, Cheng Wang, Zoltan Toroczkai, Nitesh Chawla, Ryan Lichtenwalter, Troy Raeder, Anthony Strathman, Zhechao Zhou.*



## Saturday September 25th

8:30-9:30am **Breakfast (KMC 5-50)**

9:30-11:30am **Plenary Session G (KMC 5-50)**

*Session Chair: Arun Sundararajan*

**Behavioral Network Formation.** *Michael Kearns (University of Pennsylvania).*

**Reaction-Diffusion Processes in Complex Techno-Social Networks.** *Alessandro Vespignani (Indiana University).*

**Social Networks and Research Output.** *Sanjeev Goyal (University of Cambridge).*

**How We Think Together: The Role of Social Networks in Collective Problem Solving.** *David Lazer (Harvard University).*

11:45-1:00pm **Lunch and Poster Slam II (KMC 5-50)**

1:00-2:15pm **Parallel Session H (KMC 1-70)**

*Session Chair: Michael Kearns*

**Opinion Leadership in Small Groups.** *Eitan Muller (NYU Stern), Sarit Moldovan (Israel Institute of Technology), Yossi Richter (IBM Haifa Research Lab, Israel), Elad Yom-Tov (IBM Haifa Research Lab, Israel).*

**Distribution Channels in a Network Perspective: How Word-of-Mouth Among Customers Impacts the Benefits of New Product Exclusivity to Distributors.** *Christophe Van den Bulte (University of Pennsylvania), Renana Peres (University of Pennsylvania).*

**Engineering Social Contagions: Optimal Network Seeding and Incentive Strategies.** *Lev Muchnik (NYU Stern), Sinan Aral (NYU Stern), Arun Sundararajan (NYU Stern).*

**Parallel Session I (KMC 2-60)**

*Session Chair: David Jensen*

**Predicting Adoption with Social Networks.** *Sharad Goel (Yahoo! Research), Daniel G. Goldstein (Yahoo! Research).*

**Learning and Predicting Dynamic Network Behavior with Graphical Multiagent Models.** *Quang Duong (Univ. of Michigan), Michael P. Wellman (Univ. of Michigan), Satinder Singh (Univ. of Michigan), Michael Kearns (Univ. of Pennsylvania).*

**From Excursion to Exploitation: An Adaptive Cognition Theory of User Behavior in Online Social Networking Activities.** *Qing Hu (Iowa State University), Shuo Ma (Nanjing University).*

2:30-4:15pm **Parallel Session J KMC 1-70**

*Session Chair: Ron Burt*

**Reality Mining Africa.** *Shawndra Hill (University of Pennsylvania), Anita Banser (University of Pennsylvania), Getachew Berhan (Addis Ababa University), Nathan Eagle (Santa Fe Institute)*

**Discerning Meaning in Complex Structure: Understanding Personal Lending in A Multiple-Network Ecology.** *Neha Gondal (Rutgers University), Paul D. McLean (Rutgers University)*

**Cooperation and Contagion in Networked Public Goods Experiments.** *Siddharth Suri (Yahoo! Research), Duncan J. Watts (Yahoo! Research)*

**Creating Social Contagion Through Viral Product Design: A Randomized Trial of Peer Influence in Networks.** *Dylan Walker (NYU Stern), Sinan Aral (NYU Stern).*

**Parallel Session K KMC 2-60**

*Session Chair: Sanjeev Goyal*

**Media, Aggregators and the Link Economy: Strategic Hyperlink Formation in Content Networks.** *Chrysanthos Dellarocas (Boston University), Zsolt Katona (University of California at Berkeley), William Rand (University of*

*Cooperation in Anonymous Dynamic Social Networks.* *Brendan Lucier (University of Toronto), Nicole Immorlica (Northwestern University), Brian Rogers (Northwestern University)*

**Capturing Correlated Effects in Diffusion in Large Virtual Networks.** *Elema R. Dugundji (Universiteit van Amsterdam), Ate Poorthuis (Universiteit van Amsterdam), Michiel van Meeteren (Universiteit van Amsterdam).*

**Social Learning in Networks.** *PJ Lamberson (MIT)*

4:15-5:00pm **Coffee Break (KMC 5-50)**

5:00-6:30pm **Plenary Session L (KMC 5-50)**

*Session Chair: Sinan Aral*

**Structural Holes in Virtual Worlds.** *Ron Burt (University of Chicago)*

**Causal Discovery in Social Systems.** *David Jensen (University of Massachusetts, Amherst).*

**Red Balloons and More: Mechanism Design on Networks.** *Alex (Sandy) Pentland (MIT).*



6:30-8:30pm

Poster Session and Reception (KMC 5-50)

**Stable, Fair Societies As The Natural Product of Local Exchange Networks.** *A. Mani (MIT), A. Ozdaglar (MIT), A. Pentland (MIT).*

**Positioning and Performance in Information Technology Collaboration Networks.** *Ali Tafti (University of Illinois), Vishal Sachdeo (University of Illinois), Sunil Mithas (University of Maryland).*

**Early Warning Signals of Complex Systems: Network Spectrum and Critical Transitions.** *Hankyu Moon (HRL Laboratories, LLC), Tsai-Ching Lu (HRL Laboratories, LLC).*

**Localizing Externalities in Social Networks: Inducing Peer Pressure to Enforce Socially Efficient Outcomes.** *Iyad Rahwan (ACM), Ankur Mani (MIT), Alex (Sandy) Pentland (MIT).*

**Examining ICT Profiles and E-Government Readiness of World Nations.** *Anteneh Ayanso (Brock University), Danny I. Cho (Brock University).*

**The Evolution of the Internet AS Graph - A Case Study Using "Whole-Network" Metrics.** *Peter Boothe (Manhattan College).*

**False-Name-Proofness in Social Networks.** *Joshua Letchford (Duke University), Vincent Conitzer (Duke University), Nicole Immorlica (Northwestern University), Kamesh Munagala (Duke University), Liad Wagman (Illinois Institute of Technology).*

**Time Critical Social Mobilization: The DARPA Network Challenge Winning Strategy.** *Galen Pickard (MIT), Iyad Rahwan (MIT), Wei Pan (MIT), Manuel Cebrian (MIT), Riley Crane (MIT), Anmol Madan (MIT), Alex Pentland (MIT).*

**A Renewal Theory Approach to Anomaly Detection in Communication Networks.** *Brian Thompson (Rutgers University), Tina Eliassi-Rad (Rutgers University).*

**Information Propagation During Large-Scale Emergencies.** *James P. Bagrow (Northeastern University), Dashun Wang (Northeastern University), Albert-Laszlo Barabasi (Northeastern University).*

**Limited Information and Overlapping Community Structure of Networks.** *Yong-Yeol Ahn (Northeastern University), Sun Lehmann (Northeastern University), James P. Bagrow (Northeastern University).*

**Tracing Mobile Phone App Installations in the "Friends and Family" Study.** *Nadav Aharony (MIT Media Laboratory), Wei Pan (MIT Media Laboratory), Cory Ip (MIT Media Laboratory), Alex Pentland (MIT Media Laboratory).*

**Importance of Ties in Information Diffusion.** *Cindy Hui (Rensselaer Polytechnic Institute), Malik Magdon-Ismael (Rensselaer Polytechnic Institute), William A. Wallace (Rensselaer Polytechnic Institute), Mark Goldberg (Rensselaer Polytechnic Institute).*

**Who's in Charge? Mobile Phones as Platforms for Social Influence.** *Kwan Hong Lee (MIT), Andrew Lippman (MIT).*

**Discovering Viral Marketing Strategies for Social Networks.** *Forrest Stonedahl (Northwestern University), William Rand (University of Maryland), Uri Wilensky (Northwestern University).*

**Auctions with Positive Network Externalities.** *Nima Haghipanah (Northwestern University), Nicole Immorlica (Northwestern University), Vahab Mirrokni (Google Research), Kamesh Munagala (Duke University).*

**Using Link Mining for Investment Decisions: Extending the Black Litterman Model.** *German Creamer (Stevens Institute of Technology).*

**Statistics for Reidentification in Social Networks.** *Justin Vastola (Georgia Institute of Technology), Kobi Abayomi (Georgia Institute of Technology), Shaundra Hill (University of Pennsylvania).*

**Identifying Influential and Susceptible Individuals in Social Networks: Evidence from a Randomized Experiment.** *Sinan Aral (NYU Stern), Dylan Walker (NYU Stern).*

8:30pm-

Workshop Dinner and Social at *i tre merli*

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