Siam Workshop on Network Science

July 13-14, 2017
David Lawrence Convention Center
Pittsburgh, Pennsylvania, USA

Thursday, July 13

8:15	8:45	Coffee break	
8:45	8:50	Welcome	Mason Porter and Michelle Girvan
8:50	9:50	Invited Talk #1	Mark Newman
9:50	10:30	Contributed Session 1: 2 20-minute contributed talks	
10:30	11:00	Coffee Break	
11:00	11:40	Contributed Session 2: 2 20-minute contributed talks	
11:40	12:15	Short Talk Session 1: 5 5-minute short talks	
12:15	1:45	Lunch on your own	
1:45	3:25	Contributed Session 3: 5 20-minute contributed talks	
3:25	3:55	Coffee break	
3:55	5:15	Contributed Session 4: 4 20-minute contribute talks	
5:15	5:45	Short Talk Session 2: 4 5-minute short talks	

Friday, July 14

8:30	9:00	Coffee break	
9:00	10:00	Invited Talk #2:	Stefano Allesina
10:00	10:20	Short Talk Session 3: 3 5-minute contributed talks	
10:20	11:30	Poster Session and coffee break	
11:30	12:30	Contributed Session 5: 2 20-minute contributed talks	
12:30	2:00	Lunch on your own	
2:00	2:30	Short Talk Session 4: 4 5-minute short talks	
2:30	2:40	NS17 Closing remarks	Mason Porter and Michelle Girvan
2:45	3:30	AN17 and SN17 Joint Invited Talk	Dan Spielman
3:30	4:00	Coffee break (joint with AN17)	

Time	Session	Abstract #	Authors	Title
Thursday, July 13, 2017				
Th 8:15-8:45 AM	Coffee Break			
Th 8:45-8:50 AM	Welcome			
Th 8:50-9:50 AM	Invited Talk 1		Mark Newman	Estimating structure in networks from complex or uncertain data
Th 9:50-10:30 AM	Contributed Session 1	2	Christian Persson, Ludvig Bohlin, Daniel Edler, and Martin Rosvall	How to efficiently reveal community structure in memory and multilayer networks
		87	Sarthak Chandra, David Hathcock, Kimberly Crain, Thomas Antonsen, Michelle Girvan and Edward Ott	Modeling the Network Dynamics of Pulse-Coupled Neurons
Th 10:30-11:00 AM	Coffee Break			
Th 11:00-11:40 AM	Contributed Session 2	16	Roxana Pamfil, Sam Howison and Mason Porter	Analysing consumer preference in grocery stores using annotated networks
		18	Saleh Soltan, Mihalis Yannakakis and Gil Zussman	Theoretical Approach to Power Grid Islanding
Th 11:40 AM -12:15 PM	Short Talk Session 1	33	Nishant Malik, Ian Barnett, Marieke Kuijjer, Peter Mucha and Jukka-Pekka Onnela	Feature-based classification of networks
		35	Biswadip Dey, Elizabeth N. Davison and Naomi Ehrich Leonard	Controllability in a Network of Linear Dynamical Systems
		37	Kevin Hannay, Daniel Forger and Victoria Booth	Macroscopic Models for Networks of Coupled Biological Oscillators
		46	Giona Casiraghi, Vahan Nanumyan, Ingo Scholtes and Frank Schweitzer	Generalized Hypergeometric Ensembles: Statistical Hypothesis Testing in Complex Networks
		47	Tarik Roukny and Marco D'Errico	Compressing over-the-counter markets
Th 12:15-1:45 PM	Lunch on on your own			
Th 1:45 - 3:25 PM	Contributed Session 3	17	Dane Taylor, Sean Myers, Aaron Clauset, Mason Porter and Peter Mucha	Eigenvector-Based Centrality Measures for Temporal Networks
		24	Yuanzhao Zhang, Takashi Nishikawa and Adilson Motter	Asymmetry-induced synchronization in multilayer networks
		25	Eisha Nathan, Geoffrey Sanders and David Bader	Ranking in Graphs by Numerically Approximating Katz Centrality
		39	Malgorzata Turalska and Ananthram Swami	Propagation of cascading overload failures in interconnected networks
		42	Austin Benson, Hao Yin, Jure Leskovec and David Gleich	Higher-order clustering coefficients
Th 3:25-3:55 PM	Coffee break			
Th 3:55-5:15 PM	Contributed Session 4	45	Mingwu Li, Vikyath D. Rao, Tim Gernat and Harry Dankowicz	Temporal-structure-preserving network transformations for characterizing information spreading capacity
		55	Rebekka Burkholz and Frank Schweitzer	A framework for cascade size calculations on random networks
		64	Kanika Bansal, John Medaglia, Danielle Bassett, Jean Vettel and Sarah Muldoon	Data-driven models of brain network dynamics predict individual differences in performance on cognitively demanding tasks
		67	David Choi	A Semidefinite Program for Structured Blockmodels
Th 5:15-5:45 PM	Short Talk Session 2	48	Daryl Deford and Scott Pauls	Partitions, clustering, and communities in multiplex networks.
		57	Daniel L. Sussman and Vince Lyzinski	Graph Matching the Matchable Nodes when some Nodes are Unmatchable
		70	Samuel Heroy, Dane Taylor, Feng Shi, Greg Forest and Peter Mucha	Rigidity percolation in composite materials
		84	Yu-Ru Lin and Xingsheng He	Measuring and Monitoring Collective Attention During Disasters
Friday, July 14, 2017				
Fr 8:30-9:00 AM	Coffee Break			
Fr 9:00-10:00 AM	Invited Talk 2		Stefano Allesina	Higher-order interactions stabilize dynamics in competitive networks
Fr 10:00-10:20 AM	Short Talk Session 3	10	Lenore Cowen	Detangling the Hairball: Lessons from the DREAM 2016 Disease Module Detection Challenge
		90	Jeffrey D. Hyman, Aric Hagberg, Gowri Srinivasan, Jamaludin Mohd-Yusof, and Hari Viswanthan	Accurate and efficient predictions of first-passage times in sparse discrete fracture networks using graph-based reductions
		32	Supun Perera, Dharshana Kasthurirathna and Michael Bell	Interplay between system rationality and topological structure of supply chain networks
Fr 10:20-11:30 AM	Poster Session and Coffee Break	*Posters listed below*		
Fr 11:30 AM -12:30 PM	Contributed Session 5	72	Ewan Colman, Andreas Modlmeier, David Hughes and Shweta Bansal	Spatial and social organization of an ant colony: a network analysis
		14	Francesca Arrigo, Peter Grindrod, Desmond J. Higham, and Vanni Noferini	Nonbacktracking walk centrality for directed networks
		93	Chunxing Yin, Jason Riedy, and David A. Bader	A New Algorithm Model for Massive-Scale Streaming Graph Analysis
Fr 12:30 -2:00 PM	Lunch on your own			
Fr 2:00-2:30 PM	Short Talk Session 4	89	Philip Kegelmeyer, Jeremy Wendt, Ali Pinar and Kristen Altenburger	Adversarial Analysis of Community Detection
		20	Erik Bollt and Jie Sun	Identifying the Coupling Structure in Complex Systems through the Optimal Causation Entropy Principle, Information Flow and Information Fragility
		91	John Palowitch, Shankar Bhamidi and Andrew Nobel	The Continuous Configuration Model: A Null for Community Detection on Weighted Networks
		95	C. Titus Brown, Dominik Moritz, Michael P. O'Brien, Felix Reidl and Blair D. Sullivan	Extracting Neighborhood Structure from Very Large DNA Graphs
Fr 2:30-2:40 PM	Closing Remarks			
Fr 2:45-3:30 PM	AN17 and SN17 Joint Invited Talk		Daniel Spielman	Laplacian Matrices of Graphs: Algorithms and Applications
Fr 3:30-4:00 PM	Coffee Break (joint with AN17)			

List of Posters

#	Authors	Title
5	Egemen Cetinkaya and Tristan Shatto	Eigenvalues for Resilience Analysis of Backbone Networks
6	David Burstein	Convergence of the spectral radii for random directed graphs with community structure
9	Paulina Volosov	The Relation between Architectural and Functional Connectivity in the Cerebral Cortex
12	Sören Schwenker	Generic steady state bifurcations in homogeneous coupled cell networks and related equivariant dynamics
13	David Hill, Tao Liu and Yue Song	Power Network Science
21	Thiwanka Fernando	Modulus metrics on networks
28	Lisa Kreusser and Peter Markowich	Discrete and continuum modeling of biological network formation
29	Yury Sokolov and G. Bard Ermentrout	Network induced phase-locked patterns of the Kuramoto flow on cubic graphs
31	Richard Burkhart	Clustering Techniques for a Network Derived from Voting
36	Nicole Eikmeier and David Gleich	Revisiting power-law distributions in spectra of real world networks
40	Supun Perera, Somwrita Sarkar and Michael Bell	Identifying Trade Communities in the Global CO2 Supply Chain Network Using Singular Value Decomposition
49	Tatsuro Kawamoto and Yoshiyuki Kabashima	Cross-validation estimate of the number of clusters in community detection
56	Vince Lyzinski and Daniel Sussman	Core detection: Sifting through the junk in graph matching
60	Alan Ballard and Marcus Perry	Efficient Likelihood-Based Network Clustering
65	Ahmet Erdem Sarıyüce and Ali Pinar	Peeling Bipartite Networks for Dense Subgraph Discovery
68	Rashad Eletreby and Osman Yagan	Information Diffusion in Common-Interest Social Networks
69	Shuang Gao and Peter Caines	The Control of Arbitrary Size Networks of Linear Systems via Graphon Limits: An Initial Investigation
71	Kathleen Hamilton, Neena Imam and Travis Humble	Community identification using spiking neural networks
73	Nathan Cahill and Alexander Cloninger	Soft Pairwise Constraints in Clustering and Community Detection
75	Andrey Lokhov and David Saad	Optimal deployment of resources for maximizing impact in spreading processes
77	Ilya Safro	Symmetric and asymmetric coarsening schemes for large-scale networks
78	Zizhen Chen, David Matula and Eli Olinick	The Evolution of Flow-Based Hierarchy in Networks
79	Reihaneh Rabbany, Dhivya Eswaran, Artur W. Dubrawski and Christos Faloutsos	Proclivity Patterns in Attributed Graphs
80	Feng Shi and James Evans	Measuring novelty and impact in science and technology with hypergraphs
82	Sanjukta Bhowmick, Soumya Sarkar, Sandipan Sikdar and Animesh Mukherjee	Predicting High Centrality Vertices in Time Varying Networks
85	Fabian Ying, Mason A. Porter, Sam Howison and Mariano Beguerisse	Minimizing congestion in supermarkets with queuing networks
86	Jianzhong Su, Honghui Zhang, and Ariel Bowman	Brain Network Modeling for Epilepsy Based on EEG Signals
88	Xian Teng and Yu-Ru Lin	Anomaly detection in dynamic networks using multi-view hypersphere learning
94	Catherine Stamoulis	Network complexity, redundancy and efficiency in the developing human brain
96	Simon Stolarczyk, Daniel Poll, Zachary Kilpatrick and Kresimir Josic	Evidence Accumulation on Networks
97	Xin-Zeng Wu, Allon Percus and Kristina Lerman	Higher Order Structure Distorts Local Information in Networks
98	Warren Lord, Erik Bollt and Jie Sun	Inference of interaction networks by causation entropy
99	Drew Williamson and Jacob Scott	Network Gibbs Homology And Betti Number Identify Novel Therapeutic Targets in Ewing Sarcoma