

TUESDAY 17th Feb	
School morning session 1	
9:00-10:15	Meso-scale organization of networks: theory and applications (1/2) – Eduardo Altman
School morning session 2	
10:45-12:00	Meso-scale organization of networks: theory and applications (2/2) – Eduardo Altman
School afternoon session 1	
1:15-2:30	Indigenous Data Sovereignty – Daniel Wilson
School afternoon session 2	
2:30-3:45	Gentle Introduction to Deep Graph Learning for Network Scientists – Ingo Sholtes
School afternoon session 3	
4:15-5:30	Ecological Networks: from data reconstruction to dynamical insights – Kate Wootton and Anshuman Swain
Social session 1	
5:30-late	Welcome reception

WEDNESDAY 18th Feb						
Keynote 1						
9:00-10:00		Tina Eliassi-Rad				
Parallel 1		Stream 1	Stream 2	Stream 3	Stream 4	
10:30 - 12:30	Start time	Graph Neural Networks and Generative Graph Models	Network Control, Synchronization, and Interventions	Spreading Dynamics and Polarization	Higher-Order Networks and Hypergraphs (I)	
MORNING	10:30	Deep Graph Generation for Microcanonical Graph Ensemble. Hoyun Choi, Deok-Sun Lee	Multiscale Organization of the Human Connectome via Laplacian Renormalization. Gabriele Poidomani, Pablo Villegas, Tommaso Gili	Political Information Dissemination by Domestic Political Actors in Pakistan. Hassan Mustafa	Loops, not groups: Long loops are responsible for discontinuous phase transitions in higher-order network contagions. Leah A. Keating, Laurent Hébert-Dufresne	
	10:45	Efficient "Neural" Community Detection in Attributed Graphs with a Temporal Modularity Loss Function. Nelson Aloysio Reis de Almeida Passos	Distinct Synchronization Profile of the Gate Node in a Modular Power Grid. Jonghoon Kim, Cook Hyun Kim, Heetae Kim	How Social Ties Mobilize and Polarize: Social Network Determinants of Election Outcomes. Yuliia Kazmina	Discovering Higher-Order Interactions in Hypergraphs via Projections: Concepts & Algorithms. Elise Tate, Joshua Grochow	
	11:00	Multiscale Network Renormalization. Diego Garlaschelli	Selecting controlled edges in edge-based pinning control synchronization. Siyang Jiang	Social network heterogeneity promotes depolarization of multidimensional opinions. Jaume Ojer, Michele Starnini, romualdo pastor satorras	SIRS processes competing on simplicial complexes. Haiying Wang, Lina Zhao, Huijie Yang, Changgui Gu, Jack Murdoch Moore	
	11:15	Characterizing the dynamics of unlabelled temporal network trajectories. Annalisa Caligiuri, Tobias Galla, Lucas Lacasa	Hierarchical structure of redundancy and synergy in brain networks across goal-directed learning. Leonardo Di Gaetano, Alain Barrat, Andrea Brovelli	Social compensation strategies in response to individual loss in natural populations. Eloise F. Newman, Adelaide Daisy Abraham, Josh A Firth	Symbolic Higher-Order Analysis of Multivariate Time Series. Andrea Civilini, Fabrizio de Vico Fallani, Vito Latora	
	11:30	Graph Theory Signatures of Seizure Susceptibility in scn1lab-/Zebrafish Network. Wei Qin, Ethan Scott	Oscillatory adaptive networks in cognition-like processes: from slime moulds to brain organoids. Linnea Gyllingberg	Quantifying Influence of Network Structure on Opinion Dynamics. Yu Xing		

	11:45	Enhancing Graph Neural Networks with Random Graph Ensembles. Jan von Pichowski, Vincenzo Perri, Ingo Scholtes		Explaining the Game: Network Science in Soccer. Javier M. Buldú	
	12:00	Using Temporal Graph Isomorphism to Understand the Expressivity of Temporal Graph Neural Networks. Franziska Heeg, Jonas Sauer, Petra Mutzel, Ingo Scholtes			
	12:15	Quantum Preferential Attachment. Istvan A. Kovacs			
Keynote 2					
2:45-3:45		Lewis Mitchell			
Parallel 2		Stream 1	Stream 2	Stream 3	Stream 4
14:15 - 15:45	Start time	Mobility, Accessibility, and Urban Networks	Culture, Knowledge, and Online Information	Community Structure and Detection	Higher-Order Networks and Hypergraphs (II)
AFTERNOON	14:15	Impact of network structures on emergency services - Examples from Germany. Melanie Reuter-Oppermann	Cultural Evolution of Human Beauty Standards. Louis Boucherie, Karolina Sliwa, August Lohse, Sagar Kumar, Katharina Ledebur	Beyond NMI: Reliable Community Detection Evaluation Using Kappa Index and F-Score. Xin Liu, Huimin Cheng, Zhong-Yuan Zhang	Disentangling the role of heterogeneity and hyperedge overlap in explosive contagion on higher-order networks. Federico Malizia, Andrés Guzman, Iacopo Iacopini, István Z. Kiss
	14:30	Women mobility networks enable more efficient travel. Silvia De Sojo, Sune Lehmann, Laura Maria Alessandretti	How Collective Memory Gets Forgotten: The Origins of Relaxation Speed in Social Video Sharing Platform. Kiminori Ito	Individual Fairness in Community Detection: Metrics and Insights. Fabrizio Corriera, Frank W. Takes, Akrati Saxena	Global Supply Chain Resilience and Geopolitical Uncertainty. Xinyi Zhao, Prasanna Gai, Chanelle Duley
	14:45	ATGreen(GO): A multi-dimensional framework to measure accessibility and promote exposure to urban green.	The dichotomy of knowledge: Evolutionary dynamics with game transitions on social networks. Amit Basak, Supratim Sengupta, Maria Kleshnina	Local epidemic thresholds on networks: community-specific risk from mobility-driven interactions. Eugenio Valdano, boxuan wang	Weak higher-order interactions enhance synchronization: a study on the Kuramoto model - Contributed Talk.

		Rossano Schifanella, Alice Battiston			Riccardo Muolo, Hiroya Nakao, Marco Coraggio
	15:00	Mixture models uncover polycentric urban structure from mobility networks. Andrew Renninger	Who Gets the Blame? A Structural Theory of Scapegoating in Social Networks. Qinyang Yu	Bipartite Patent Networks Reveal Hidden Diversity in Innovation: Communities, Market Structure, and Fitness. Complexity. FEI WANG	Pairwise approximations of simplicial contagion models on hypergraphs. Eugene Tan
	15:15	Exploring Pedestrian Permeability in Urban Sidewalk Networks. Albert Sole-Ribalta, Javier Borge-Holthoefer, Robert Benassai-Dalmau	Mapping emergent knowledge in Wikipedia through complex networks. Gustavo A. Schwartz	Synchronisation Detection Using Spatial Ordinal Partitions in Networks. Zahra Shahriari, David M. Walker, Shannon D. Algar, Michael Small	Multi-Order Hypergraph Stochastic Block Model. Kazuki Nakajima, Yuya Sasaki, Takeaki Uno, Masaki Aida
	15:30			Meso-scale Structures in Signed Networks. Wei Zhang, Olga Boichak, Tristram Alexander, Tiago P. Peixoto, Eduardo Altmann	
Short talks plenary 1					
4:15-5:30	Spotlight talks				
Social session 2					
5:30-7:30	Poster session and reception				

THURSDAY 19th Feb					
Keynote 3					
9:00-10:00		Rio Sun			
Thematic sessions 1		Stream 1	Stream 2	Stream 3	Stream 4
10:30 - 12:00	Start time	Discrete network models in biology	Networks in Science of Science	The Scales of Movement (1/2)	
MORNING		TBA	TBA	TBA	
Thematic sessions 2		Stream 1	Stream 2	Stream 3	Stream 4
1:15-2:45	Start time	Algorithmic Fairness in Network Science		The scales of Movement (2/2)	
AFTERNOON		TBA		TBA	
Keynote 4					
2:45-3:45		Yukie Sano			
Short talks plenary 2					
4:15-5:30		Lightning Talks			
Social session 3					
7:00-late		Conference dinner at the Hilton			

FRIDAY 20th Feb					
Keynote 5					
10:00-11:00		Clare Postlethwaite			
Parallel 3		Stream 1	Stream 2	Stream 3	Stream 4
11:00 - 12:00	Start time	Multilayer Social Networks: Perception, Fairness, and Influence	Optimal Transport, Embeddings, and Network Inference	Health and Biological Networks	Collaboration and Influence
MORNING	11:00	DQ4FairIM: Fairness-aware Influence Maximization using Deep Reinforcement Learning. Akrati Saxena, E Harshith Kumar Yadav, Shashi Shekhar Jha	Cost and preferences in bipartite complex systems: inverting the (sub-)optimal transport problem. Dario Mazzilli	Cell Interrupted - Modeling Epithelial to Mesenchymal Transition vs. Mitochondrial Dysfunction-Associated Senescence Tug of War. Erzsebet Ravasz Regan	Network Dynamics of Scientific Fields: Centralization and Stability in Conceptual and Citation Structures. Csaba Kiss, Dr. Roland Molontay
	11:15	Fairness-Aware PageRank Approximation. Mukesh Kumar, Gaurav Dixit, Akrati Saxena	Hyperbolic Embedding of Multilayer Networks. Mario Chavez	Nested Networks in Health: Linking Microbiomes and Interspecies Contact to Address Cross-Scale Complexity. David T S Hayman	Spatial-Temporal Information Processing Pathways and Mechanisms Identified in AI Citation Networks Tsung-Wen Yen, Siew Ann Cheong, YiFei Li, Kelin Xia
	11:30	Applicability of the Minimal Dominating Set for Influence Maximisation in Multilayer Networks. Michał Czuba, Mingshan Jia, Katarzyna Musial-Gabrys, Piotr Brzozka	Estimation, Experimental Design, and Optimal Policy when Facing Partial Network Data from a Single Network. Tyler McCormick	Robust Basins, Fragile Attractors: A New View on Biological Network Dynamics. Claus Kadelka, Venkata Sai Narayana Bavisetty, Matthew Wheeler	Using Temporal Collaboration Networks to Understand Activity Cascades in OSS Communities. Lisi Qarkaxhija, Ingo Scholtes
	11:45	Unmasking Covert Control in Global Corporate Governance. Takayuki Mizuno, Shuhei Kurizaki		Association between oral microbiota and close-range proximity of children in primary school. Lorenzo Dall'Amico, Xiangning Bai, Sandra Marie Weltzien, Simon Rayner, Daniela Paolotti, Isabelle Sylvie Budin Ljsne, Andreas Matussek, Anne-Sofie Furberg, Ciro Cattuto, Christopher Sivert Nielsen	A Multiplex Lens on Influencer Performance, Group Synergy, and Network Centralization Keywords: Multiplex Networks, Team Performance, Group Synergy, Motivation, Influence. Megan Alexis Chan, Shraeya Iyer, Isabel Su, Jeffrey Tu, Noshir Contractor

Parallel 4		Stream 1	Stream 2	Stream 3	Stream 4
14:15 - 15:45	Start time	Finance, Trade, and Systemic Risk Networks	Network Theory and Measures	Dynamics on Networks Across Domains	
AFTERNOON	14:15	Filtering amplitude dependence of correlation dynamics in the cryptocurrency market. Marcin Wątorek, Jarosław Kwapień, Stanisław Drożdż	Learning by Surprise: Surplexity for Mitigating Model Collapse in Generative AI. Daniele Gambetta, Gizem Gezici, Fosca Giannotti, Dino Pedreschi, Alistair Knott, Luca Pappalardo	Extending Earthquake Network Models with a Magnitude-Based Time-Window Approach. Jennifer Ribeiro Silvão da Conceição, Douglas Santos Rodrigues Ferreira	
	14:30	Temporal Motif Structures in Japanese Corporate Shareholding Networks. Shinichiro Tanabe, Takaaki Ohnishi	Similarity and complementarity in generalized random geometric graphs. Szymon Talaga, Brennan Klein	Balancing Stability and Complexity in Boolean Models of Biological Networks. Venkata Sai Narayana Bavisetty, Matthew Wheeler, Claus Kadelka, Reinhard Laubenbacher	
	14:45	Complementary network models to assess social-ecological fit: A case of flood planning in the Wolastoq. Bridget McGlynn, Angela Guerrero Gonzalez, Julia Baird, Úñirjan Bodin, Ryan Plummer	Extension of shortest path based Betweenness centrality to the multicriteria case. Andrea Raith, Clara Simóñ De Blas, Daniel Gomez	A network analysis of collective motions in a three-species Vicsek model. Seung-Woo Son	
	15:00	Information Processing Pathways in the Stock Markets. Kang Zheng Tien, Peter Yen Tsung-Wen, Siew Ann Cheong, Tiziana Di Matteo, Kelin Xia	The ultrametric backbone is the union of all minimum spanning forests. Luis M Rocha, Jordan C. Rozum	Structural dynamics of plant-pollinator mutualistic networks. Albert Sole-Ribalta, Aniello Lampo, Javier Borge-Holthoefer, Marisa J. Palazzi	
	15:15	US and EU Aid and Trade, and the Relationships with Human and Environmental Crises. Rosie Hayward, Peter Klimek, Asjad Naqvi	First return processes of non-backtracking random walks on random networks. Ofer Biham, Dor Lev-Ari, Ido Tishby, Eytan Katzav, Diego Krapf	Influence of networked partisans on perceptions of media bias. Yutong Bu, Andrew Melatos	
	15:30	Network Security under Heterogeneous Cyber-Risk Profiles and Contagion. Elisa Botteghi, Martino			

	Centonze, Davide Pastorello, Daniele Tantari		
--	---	--	--

Lightning talks order

Order	Title and authors
1	Tie Strength characterization in Dutch Cocaine Trafficking Networks. Frederike Oetker, Rick Quax
2	Biclique in Global Bank Shareholder Networks. Oscar M. Granados
3	Evolution and determinants of firm-level systemic risk in local production networks. Giulio Cimini, Riccardo Di Clemente, Anna Mancini, BalV°zs Lengyel
4	Discerning media bias within a network of political allies and opponents: the idealized example of a biased coin. Nicholas Kah Yean Low, Andrew Melatos
5	Interactive Web Interface for Korea's Statute Network Using Community-Aware Layout. Maryam Shakeri, Juyong Park
6	Higher-order correlations reveal complex memory in temporal hypergraphs. Luca Gallo, Lucas Lacasa, Vito Latora, Federico Battiston
7	Work Engagement through Collective Emotions of Japanese Workers. KANTARO KAWAI, Koutarou Tamura, Yukie Sano
8	Dependency Networks of Emotional Facial-Expression in Mood and Anxiety Disorders. Yael Jacob, Giada Dirupo, James Murrough, Laurel Morris
9	Network-Theoretic Mapping of Breast Cancer in India through Functional Cartography in Gene Regulatory and Protein-Protein Interactions Yanjusha Madhu, Dr. Jasleen Gund, Dr. Priyanka Jain
10	myAURA: a personalized health library for epilepsy management via knowledge graph sparsification and visualization. Luis M Rocha
11	Structure matters: bipartite contact networks and vaccination. Zoe Kumbaroff, Emily Harvey, Dion O'Neale, Jesse Whitehead
12	Disentangling individual-level from location-based income uncovers socio-economic preferential mobility and impacts segregation estimates. Andrew Renninger
13	Collaborative Networks in Tourism Disaster Management: A Case Study of Rural, Nature-based Destinations in New Zealand. Lucia Danzi, Caroline Orchiston, James Higham, Rodolfo Baggio
14	The network Liouville equation and the quest to understand complex networks on a general dynamical trajectory. Andrea Filippo Beretta

15	Individual Navigation Strategies in the Knowledge Space. Manran Zhu, Janos Kertesz
16	Analysing community-level spending behaviour contributing to high carbon emissions using stochastic block models. Ognyan Simeonov, Valerio Restocchi, Benjamin Goddard
17	Latent Preferences: Friendship and Peer Tutor Networks. Fatimah Abdul Razak
18	The Ethics of Networks: Fairness, Power, and Responsibility in Venture Capital. Marta Zava

Accepted posters

Title and authors
Toward a First-Principles Theory of Resilience for Complex Quantum Networks Vignesh Raman, Riccardo Bassoli, Frank H.P. Fitzek
Reinforcement Learning For Respondent-Driven Sampling Justin David Naggar Weltz, Angel Yoon, Yichi Zhang, Alexander Volfovsky, Eric Laber
PrEParados Model: Developing and Implementing a Community-Engaged Social Network Approach to HIV Prevention Edda Rodriguez, Lacey Despres, Ana Bravo, Ariana L. Johnson, Lilliana Vilchez, John Skvoretz, Mariano Kanamori
Sexual Partnership Contexts among Latino Men in Miami, Florida: A Multilevel Latent Class Analysis of Egocentric Network Data Lacey Despres, Edda Rodriguez, Ariana L. Johnson, Ana Bravo, Lilliana Vilchez, Susanne Doblecki-Lewis, Stephen Fallon, Mariano Kanamori
Entropy-based node centralities in networks: Targeted attacks on Watts, Strogatz and power grid systems Davide Fallara
Citation Distance Matters: Towards a New Metric for Evaluating Journal Impact Roland Molontay, Kate Barnes, Levente Török
ROADS - A Unified Network-Based Framework for Road System Indicators Nita Andreea
Stratification of Cancer Patients Using Visit Trajectory Analysis Simon D. Lindner
Quantifying Rhythmic Creativity in Classical Music Halla Kim, Juyong Park
From Local Hubs to Global Effects: A Multilayer Network Approach to Earthquake Dynamics Jennifer Ribeiro Silveira da Conceição, Douglas Santos Rodrigues Ferreira
Testing Most Influential Sets Nikolas Kuschnig, Lucas Darius Konrad

A Novel Ant Colony Optimization Approach for Core, Periphery Detection in Networks Imran Ansari, Dr. Qazi J Azhad, Dr. Niteesh Sahni
Polarization and Opinion Shifts in HPV Vaccine Discourse on Twitter(X) Mami Iida, Ai Hori, Yukie Sano
Inferring the Contact Network Structure of Infectious Diseases: Applications of Likelihood-Free Inference for Epidemiological Agent-Based Modelling James Bristow, David T S Hayman, Matthieu Vignes
Shopping Abroad: Cross-Border Venture Capitalism in Artificial Intelligence Marta Zava
Dynamics and Diversity of a Cross-feeding Microbial Ecosystem Takashi Shimada, Kunihiko Kaneko
Spectral fluctuations and crossovers in multilayer network Himanshu Shekhar, Ashotosh Dheer, Santosh Kumar(deceased), N. Sukumar
Vehicular Mobility Networks in a Regional City: A Preliminary Case Study Takahiko Sakuma, Yingshuai Wang, Takashi Miyata, Yukie Sano
The trickle down from environmental innovation to productive complexity Francesco de Cunzo, Alberto Petri, Andrea Zaccaria, Angelica Sbardella
Predict Sales Demand from People Flow Data and Point of Interest Data using Spatio-Temporal Graph Convolutional Network Divya Bala, Yudai Ueno, Rinko Shinzato, Keisuke Chujo, Toshiki Murata, Yoshiya Shigeeda, Kosti Koistinen, Chandreyee Roy, Fumiko Ogushi, Takashi Shimada, Kimmo Kaski
Reliability assessment of Australia's Internet infrastructure using a multilayer network model Benjamin Lang, Matthew Roughan, Hung Nguyen
Extracting Area Characteristics from People Flow and POI Data Using Graph Neural Networks Yudai Ueno, Divya Bala, Rinko Shinzato, Keisuke Chujo, Toshiki Murata, Yoshiya Shigeeda, Koistinen Kosti, Roy Chandreyee, Fumiko Ogushi, Takashi Shimada, Kimmo Kaski
Personalized PageRank centrality from a Fixed Point Theory perspective Miguel Romance
Toward a Multi-Dimensional Valuation of Personal Data in the Digital Economy Junaid Haseeb, Vimal Kumar, Mubashir Qasim, Sara Rawlence
Direct Quantification for Stability from Linear Dynamical Systems on Networks Jieru Liao
Optimal sensor placement for data assimilation applied to dynamics on networks Lauren Smith
Inferring missing edges from Cartesian products of graphs Adam H. Hamilton, Hung Nguyen, Matthew Roughan
Spatial Analysis of Starbucks and BEP Stores in Seoul Examined by Subway Network SeGi Yu

Critical threshold for synchronizability of high-dimensional Kuramoto oscillators under higher-order interactions Dohyun Kim
Thermal Conductance Graph (TCG): A Novel Physics-Inspired Method for Time Series to Complex Network Mapping Subhayan Nag, K. Satheesh Kumar, Manoj Kumar T. K.
Countering counterfeiters: The Mittheilungen des Museen-Verbandes and forgery networks in the 20th century Demival Vasques Filho, Jaap Geraerts, Henry Keazor, Rebecca Welkens, Thorsten Wöbbena
Unveiling the importance of nonshortest paths in quantum networks Xinqi Hu, Gaogao Dong, Kim Christensen, Hanlin Sun, Jingfang Fan, Zihao Tian, Jianxi Gao, Shlomo Havlin, Renaud Lambiotte, Xiangyi Meng
Comparison of link prediction methods on synthetic and real networks Alexey Vlaskin, Eduardo Altmann
Mechanisms and emergent properties of social structure: the duality of actors and social circles Demival Vasques Filho
Networks meet mating systems – a new approach to studying animal behaviour Zita Roithmair, Dion O'Neale, Eileen Hebets, Matjaž Kuntner, Christina Painting
Efficient quantification of canalization in automata networks Luis M Rocha, Jordan C. Rozum, Herbert Szeik
Interdisciplinary Training in Complex Networks and Systems Luis M Rocha, Deborah S. Rocha
Task-Focused Dynamic Network Inference from Node Attribute Time Series Namrata Banerji, Tanya Berger-Wolf
Measuring Cascade Networks on X: The Hyogo Gubernatorial Election Genta Toya, Bruno T. Sugano, Shuhei Saigusa, Yasuhiro Hashimoto, Masashi Toyoda, Naoki Yoshinaga, Kazutoshi Sasahara
Behavioural responses to the loss of key social relationships in a wild bird system Adelaide Daisy Abraham, Ben Sheldon, Josh Firth
A Forecast Model for COVID-19 Spread Trends Using Blog and GPS Data from Smartphones Kenta Yamada, Ryosuke Susuta, Hideki Takayasu, Misako Takayasu
Transitions to synchronization in adaptive multilayer networks with higher-order interactions Richita Ghosh, Md Sayeed Anwar, Dibakar Ghosh, Juergen Kurths, Manish Dev Shrimali
Impact of innovation on opinion diversity in voter models Byungjoon Min
Control Spread via Multilayer Network Manipulation Michał Czuba, Łukasz Krajński, Mateusz Stolarski, Bogumił Kamiński, Paweł Pralat, Katarzyna Musiał-Gabrys, Piotr Brzdek
Graph Reduction in Multirelational Networks: A Spreading-Oriented Benchmark Mateusz Stolarski, Michał Czuba, Piotr Bielak, Piotr Brzdek

Comparing Network Similarity Metrics for Structural Change Detection in Evolving Mineral Trade Networks
Yashar Perhat

Probing Persistent Structures in Stock Markets and Citation Networks at Multiple Length Scales
Siew Ann Cheong, Kang Zheng Tien, Peter Tsung-Wen Yen, Kelin Xia

Multilayer Artificial Benchmark for Community Detection (mABCD)
Łukasz Kraiński, Michał Czuba, Piotr Brzdek, Paweł Pralat, Bogumił Kamiński, François Bois Thibierge

Disparate effects of resonances in delay-based reservoir computers for chaotic attractor reconstruction
Kathy L'vov, Lina Jaurigue

Network spreading from network dimension
Jack Murdoch Moore, Michael Small, Gang Yan, Huijie Yang, Changgui Gu, Haiying Wang

Predicting higher-order spreading dynamics with unknown topology
Cong Li, Zili Zhou, Piet Mieghem, Bo Qu, Xiang Li

Modeling Opinion Dynamics and Social Network Algorithms
Henrique Ferraz de Arruda, Kleber A. Oliveira, Yamir Moreno

Using the power of community detection in marine networks
Ane Pastor Rollan, Eric L. Berlow, Rich Williams, Eric A. Treml

Analysis of Dynamic Trade Network Under Attacks
Reetendra Singh, Shivshanker Singh Patel

A route to higher-order Kuramoto models through phase reduction theory - Lightning Talk
Riccardo Muolo, Ivn Le, Shigefumi Hata, Hiroya Nakao

On modularity-based fair community detection
Georgios Panayiotou