NERCCS 2023

Clarkson University

Conference Chair: Erik Bollt
Program Chair: Jeremie Fish
Poster Chair: Golshan Madraki
Publication Chair: Chunlei Charles Liang
March 7, 23

Overview of the Conference

Time	Wed. March 22		Thr. March 23		Time	Fri. March 24	
9:00 - 9:20	Welcome & Remarks		——		8:20-8:30	Farewell & Remarks	
9:20-10:05	Invited Talk (7742)		Invited Talk (6803)		8:30-9:15	Invited Talk (5177)	
	Coffee Break		*Coffee Break*		9:15 -9:45	*Coffee Break*	
	Location: Room X	Location: Room XX	Location : Room X	Location: Room XX		Location: Room X	Location: Room XX
10:35 - 1:05	Network Theory Session	Social Networks Session	Biology Session	Social Networks Session	9:45-11:45	Computer Science/ Machine Learning	Social Networks Session
	Lunch Break		*Lunch Break*			*Break & Refreshments*	
2:00-2:45	Invited Talk (6437)		Invited Talk (Yanis- #??)		12:15-1:00	Invited Talk (2994)	
2:45-3:45	Dynamic Networks Session	Network Theory Session	Flow	Dynamic Network	1:00-2:00	Math Biology Session	Network Application Session
	Coffee Break		*Coffee Break*				
4:15-5:15	Dynamic Networks Session	Network Theory Session	Flow Session	Dynamic Network Session			
			Break & Refreshments				
5:45-7:30	——		Poster Session				

Time	Wed. March 22	
9:00 - 9:20	Welcome & Remarks	
9:20- 10:05	Mason Porter Bounded-Confidence Models of Opinion Dynamics on Networks	
	Coffee Break (sponsored by the Conference	
	Location: Room X	Location: Room XX
10:35- 11:05	Yan Hao, Daniel Graham and Marc-Thorsten Hütt Propagation lifetimes of collidable messages on complex networks	Yiding Cao, Suraj Rajendran, Prathic Sundararajan, Royal Law, Sarah Bacon, Steven Sumner and Naoki Masuda Twitter following networks of individuals with adverse childhood experiences
11:05- 11:36	Zachary Boyd The structure of genealogical networks	Zexun Chen, Sean Kelty, Alexandre Evsukoff, Brooke Foucault Welles, James Bagrow, Ronaldo Menezes and Gourab Ghoshal Contrasting social and non-social sources of predictability in human mobility
12:05- 12:35	Jean-François de Kemmeter, Malbor Asllani and Timoteo Carletti Emergence of irregular vegetation patterns in reaction-diffusion systems	Adithya Narayanan Lakshmi Narayanan, Sarah Muldoon, Matthew Jehrio and Rachael Hageman Blair Informing pandemic intervention strategies through coupled contact tracing and network node prioritization

12:35- 1:05	Felipe Xavier Costa, Rion Brattig Correia and Luis M. Rocha Structural Redundancy in Directed Weighted Graphs	Damian Sowinski, Jonathan Carrol-Nellenbeck, Robert Marwick, Jordi Pinero, Marcelo Gleiser, Gourab Ghoshal, Artemy Kolchinsky and Adam Frank Finding Meaning in Finding Food: Semantic Information Theory applied to Agent-based Forager Models
	Lunch Break	
2:00- 2:45	Ying-Cheng Lai Model-Free Tracking Control of Nonlinear Dynamical Systems Using Machine Learning	
2:45- 3:15	Yuanzhao Zhang and Sean Cornelius "Tempological" Control: Synchronizing Unstable Networks Through Strategic Switching	Harrison Hartle, Fragkiskos Papadopoulos and Dmitri Krioukov Dynamic hidden-variable network models
3:15- 3:45	Malbor Asllani Coherent and incoherent oscillations in real-world networks	Emmanuel Adara and Roger Sidje An implementation of the method of moments on chemical systems with constant and time-dependent rates
	Coffee Break (sponsored by the Conference	
4:15- 4:45	Xie He, Amir Ghasemian, Eun Lee, Aaron Clauset and Peter Mucha Sequential Stacking Link Prediction Algorithms for Temporal Networks	Issa Moussa Diop, Cherif Diallo, Chantal Cherifi and Hocine Cherifi Robustness and Component Structure in Complex Networks
4:45- 5:15	Felipe Xavier Costa, Jordan Rozum, Austin Marcus and Luis M. Rocha Canalization and entropy improve prediction of disorder in Boolean network dynamics	Jeremy Kazimer and Dane Taylor An Entropic Measure for the Spectral Entanglement of Network Substructures

Time	Thr. March 23	
9:00 - 9:20	Remarks	
9:20- 10:05	Yu-Ru Lin Measuring The Mediated Public Sphere	
	Coffee Break (sponsored by the Conference	
	Location: Room X	Location: Room XX
10:35- 11:05	Xuan Wang, Rion Correia, Alexander Gates and Luis Rocha Uncovering Dynamic Modules in Biochemical Networks Using Effective Graphs	Gil Zeevi and Osnat Mokryn She is an Expert in this Research Field: The Signal of Recent publications' Relevance
11:05- 11:36	Minjun Kim and Hiroki Sayama Determining Trade Execution Timing with Stock Market Networks: Performance Comparison between Network Node Degree-based EMA and Traditional EMA	Ximeng Chen Incorporating Complexity Theory in Collaborative Educational Programs
12:05- 12:35	Christopher Diggans and Abd Alrahman Almomani Geometric Partition Entropy for Dimensionality Reduction	Matthew Steffen, Benjamin Webb and Zachary Boyd Clustering the Labor Market for Job Placement Prediction
12:35- 1:05	Alice Schwarze, Peter Mucha Tolerance in weighted coevolving network dynamics	Sriniwas Pandey and Hiroki Sayama Characterizing controversiality of topics utilizing eccentricity of opinions

	Lunch Break	
2:00- 2:45	Yannis Kevrekidis	
2:45- 3:15	Farid Rousta and Goodarz Ahmadi Enhancing Accuracy of Large Eddy Simulation for Turbulent Particle-Laden Flows with Stochastic Sub-Grid Model	Edmilson Roque dos Santos, Sebastian van Strien and Tiago Pereira Ergodic Basis Pursuit induces robust network reconstruction
3:15- 3:45	Chunlei Liang Faster boundary-conforming simulations of solar convection	Keanu Rock, Hamza Dirie and Sean Cornelius Temporality-induced chaos in the Kuramoto Model
	Coffee Break (sponsored by the Conference	
4:15- 4:45	Nojan Bagheri-Sadeghi and Brian Helenbrook Chaotic Flow Due to Marangoni and Buoyancy Effects in Solidification	Erik Bollt How Random and Fully Trained Neural Networks Work: Unraveling the Mystery of Extreme Learning Machines For Functions and Forecasting Chaotic Dynamical Systems
4:45- 5:15	Russell Hankey, Huijing Dong and Chunlei Liang Extending the Spectral Differencing Method with Divergence Cleaning (SDDC) to the Hall MHD Equations	Anthony Nguyen and Chris McNorgan Multiple Constraint Network Classification Reveals Functional Brain Networks Distinguishing 0-back and 2-back Task
	Break & Refreshments	
5:45- 7:30	Poster Session	

Time	Fri. March 24	
8:20-8:30	Farewell & Remarks	
8:30- 9:15	Krzysztof Fidkowski Computing Sensitivities in Chaotic Turbulent Flows using Dynamic Closures	
9:15 -9:45	*Coffee Break (sponsored by the Conference*	
	Location: Room X	Location: Room XX
9:45- 10:15	Ngoc-Cuong Nguyen Proper Orthogonal Descriptors for Multi-element Chemical Systems	Jack Felag, Rion Brattig Correia and Luis M. Rocha 27 Years of Discourse Polarization in the US Congress
10:15-10:45	Lulu Alarfaj and Surendra Orupalli Cascading Failure Modeling & Simulation of Python Dependency Network	Louis Shekhtman, Alexander Gates and Albert-László Barabási Mapping Philanthropic Support of Science
10:45 – 11:15	Neranjaka Jayarathne and Erik Bollt Deep Autoencoders for Model Order Reduction	Golshan Madraki The longest path problem in Directed Acyclic graph and its application in Manufacturing systems.
11:15-11:45	Neil Maclaren, Baruch Barzel and Naoki Masuda Low-dimensional Approximations to Nonlinear Dynamics on Networks: A Sentinel Node Approach	

11:45-12:15	*Break & Refreshments*	
12:15- 1:00	Laurent Hébert-Dufresne Contagion models that challenge the assumption of a linear relationship between exposure and transmission	
1:00-1:30	Ruodan Liu and Naoki Masuda Fixation probability on hypergraphs	Jeremie Fish Cluster states and the rareness of external equitable partitions on graphs.
1:30-2:00	Sudam Suraginghe, Victor Meszaros, Marisabel Rodriguez Messan, Jane Molofsky, Salvador Almagro-Moreno and C. Brandon Ogbunugafor Pathogen emergence as complex biological invasion: Lessons from mathematical and computational models	Maryam Eghbali-Zarch, Fahime Yargholi and Sara Masoud A Multi-Objective Green Medicine Supply Chain Network Design under Fuzzy Environment with an M/M/C Queuing Framework

	Poster Session	
	Thursday March 23rd. 5:45- 7:30 pm	
ID	**Author/s**	**Title**

8573	Dan Li	The Missing Links in Inferences with Climate Networks
9273	Abigial Matthews, Jacqueline Otala, Esma Wali, Gillian Kurtic, Lynden Millington, Michael Simpson, Jeanna Matthews and Golshan Madraki	Politicians, Pundits, and Platform Migration: A Comparison of Political Polarization on Parler and Twitter
894	Jeremy Paton, Harrison Hartle, Huck Stepanyants, Pim van der Hoorn and Dmitri Krioukov	Entropy of labeled versus unlabeled networks
6074	Drake Brown, Cole Hanson, Stoney Carson and Zachary M. Boyd	Connecting the performance of GNN architectures to the properties of training data
6343	Lavanya Shri Seplanatham Anjapuli, Jeremie Fish and Mahesh Banavar	An SEIRS model for COVID-19
1248	Jeremie Fish, Daniel Ben-Avraham and Sterling Avellino	The Robustness Exponent
1811	Jnanajyoti Bhaumik and Naoki Masuda	Fixation probability of switching temporal networks
3899	Abbas Khanmohammadi, Goodarz Ahmadi, Suresh Dhaniyala and Andrea Ferro	Bumpy Particles Removal from Rough Surfaces in the Presence of Electric Field
7116	Madison Russell, Marie Saitou, Omer Gokcumen and Naoki Masuda	Co-expression networks across different organs reveal physically clustered gene communities
8827	Ziqi Guo, Jack Felag, Jordan Rozum and Luis Rocha	Selection of relevant patient cohorts from social media using the metric backbone of knowledge networks
6671	Amirmasoud Anvari,Sohaib Obeid, Andrea Ferro and Goodarz Ahmadi	Simulations of Respiratory Droplet Distribution in an Office Space
7634	Anil Kumar, Jeremie Fish, Paul Laurienti and Erik Bollt	Fractal Basins: A Mechanism for the Nimble Brain

5852	Jie Sun, Fernando Quevedo and Erik Bollt	Data Fusion Reconstruction of Spatially Embedded Complex Networks