NERCCS 2024 - Program

March 20 - Wednesday

9:15 - 10:00 **(Location: Barben rooms - “upstairs”)**

Using Machine Learning to Improve Modeling of Complex Dynamical Systems
Brian Hunt, University of Maryland

10:30 - 12:30 - Contributed talks sessions

Dynamic Network - (Location: Barben rooms - “upstairs”)

10:30 - 11:00
Uncovering the universal nature of citation networks: From science of science to law of law and patterns of patents
Sadamori Kojaku, Binghamton University

11:00 - 11:30
Q-Learning Dynamics in Vaccination: A Double-Edged Sword for Addressing Vaccine Hesitancy
Atticus McWhorter, Dartmouth College

11:30 - 12:00
TBA
Edmilson Roque dos Santos, Clarkson University

12:00 - 12:30
Deriving Dynamical Model Equations from Temporal Network Data Using a Graph Rewriting Framework
Hiroki Sayama, Binghamton University

Network applications - (Location: Cheel Commons - “downstairs”)

10:30 - 11:00
Redefining Complexity Science Using Functional State Spaces
Andy E. Williams, Nobeah Foundation

11:00 - 11:30
Revealing the Transition of Exploration Modes in Human Mobility Networks
Lu Zhong, Rensselaer Polytechnic Institute

11:30 - 12:00
Tangent functional connectomes uncover more unique phenotypic traits
Mintao Liu, Purdue University

12:00 - 12:30
Evaluating trajectories derived from dynamic functional connectivity across fMRI conditions
Si Thu Aung, State University of New York at Buffalo

14:45 - 15:30 (Location: Barben rooms - "upstairs")

Modeling Biological Networks using Omics Data
Kimberly Glass, Harvard Medical School

16:00 - 18:00

Data-driven Methods for Complex Systems - (Location: Barben rooms - "upstairs")

16:00 - 16:30
Spatio-Temporal Multivariate Correlation Analysis of the Global Human Rights Dataset
Amanda Goodrick, State University of New York at Binghamton

16:30 - 17:00
Enhancing Electrical Network Vulnerability Assessment with Ensemble and Deep Learning Techniques
Ayman S. Akash, North Dakota State University

17:00 - 17:30
Data-driven time-dependent three-dimensional magnetohydrodynamics (MHD) simulation for the solar corona
Keiji Hayashi, New Jersey Institute of Technology

17:30 - 18:00
Non-Spatial Hash Chemistry as a Minimalistic Open-Ended Evolutionary System
Hiroki Sayama, Binghamton University

Social Networks - (Location: Cheel Commons - "downstairs")

16:00 - 16:30
Why can't we agree? The Consensus Problem in Polities of Heterogeneous Agents
Damian Sowinski, University of Rochester

16:30 - 17:00
Effect of recommending users and opinions on the network connectivity and idea generation process
Sriniwas Pandey, Binghamton University

17:00 - 17:30
Exploring Social Networks: An Analysis of Intra-organizational Networks
Ximeng Chen, Sacred Heart University

17:30 - 18:00
Game Theory and Nuclear Strategy: An Abstract Model for Evaluating Risk of Thermonuclear War
Matthew Christ, Binghamton University

March 21 - Thursday

9:15 - 10:00 **(Location: Barben rooms - "upstairs")**

Predictive and affordable simulation of wall-bounded turbulent flows
George Ilhwan Park, University of Pennsylvania

10:30 - 12:30

Dynamic Network - (Location: Barben rooms - "upstairs")

10:30 - 11:00
Group-structured evolutionary game dynamics with environmental feedback
Katherine Betz, State University of New York at Buffalo

11:00 - 11:30
An Application of Tensors in the Stochastic Reaction Diffusion Master Equation
Md Mustafijur Rahman, The University of Alabama

11:30 - 12:00
Dunbar's Number in Motion: Agent-Based Simulations of Friendship Formation
Christopher Cooke, Binghamton University

12:00 - 12:30
A Measure of Interactive Complexity in Network Models
Will Deter, Binghamton University

Network applications - (Location: Cheel Commons - "downstairs")

10:30 - 11:00
Urban Circuitry: Unveiling Accessibility in Complex Networks
Bibandhan Poudyal, University of Rochester

11:00 - 11:30
Network-based analysis of the effect of blast-induced concussions on animal brains
Zeynep Ertem, Binghamton University

11:30 - 12:00
A S3XY Analysis of Tesla's North America Supercharger Network
Luke Netto, Binghamton University

12:00 - 12:30
Exploring the Impacts of the Complex Interplay Between Waning Immunity and Disease Fatality on the Topology of Scale Free Networks
ThankGod Ifreke Sylvanus Ikpe, Tohoku University, Japan

14:45 - 15:30 (Location: Barben rooms - "upstairs")

Environment-adaptive machine learning potentials for atomistic simulations of materials under extreme conditions
Ngoc Cuong Nguyen, MIT

16:00 - 18:00

Fluid Dynamics - (Location: Barben rooms - "upstairs")

16:00 - 16:30
The role and impact of converging flows toward Bipolar Magnetic Regions
Kinfe Gebreegzabihar, Aksum University

16:30 - 17:00
Insights into Chemical Mechanical Polishing (CMP) performance using Computational Fluid Dynamics (CFD)
Atefeh Sadrimofakham, Clarkson University

17:00 - 17:30
Large-Eddy Simulation of Turbulent Flows Around Two Canoe Paddles
Peter Parrish, Clarkson University

17:30 - 18:00
Generalising Convective Instability Analysis for Spatially Varying Non-constant Problems with a Finite Domain
Tony Abrantes, Clarkson University

Data-driven Methods for Complex Systems - (Location: Cheel Commons - "downstairs")

16:00 - 16:30
DYNAMICS AND DRIVERS OF GENDER REPRESENTATION IN MATHEMATICS
Phil Chodrow, Middlebury College

16:30 - 17:00
Network Classification Based on Network Structural Properties
Saiful Islam, State University of New York at Buffalo

17:00 - 17:30
TBA
Jeremie Fish, Clarkson University

March 22 - Friday

9:15 - 10:00 **(Location: Barben rooms - “upstairs”)**

TBA
Golshan Madraki, Clarkson University

Microplastics Pollution in the Rural Rivers of Upstate New York
Abul Baki, Clarkson University

10:30 - 12:30

Fluid Dynamics - (Location: Barben rooms - “upstairs”)

10:30 - 11:00
Rolling Detachment Mechanism in Turbulent Flows for Charged Rough Bumpy Particles
Abbas Khanmohammadi, Clarkson University

11:00 - 11:30
Numerical Investigation of Indoor Particle Transport Using Lagrangian Method
Amirmasoud Anvari, Clarkson University

11:30 - 12:00
CHORUS++ Simulation Jupiter’s Convection Zone
Maxwell Stephan, Clarkson University

12:00 - 12:30
Explicit Large Eddy Simulations of Two Naval Propulsion Units
Stephen Monroe, Clarkson University

10:30 - 12:30

Data-driven Methods for Complex Systems - (Location: Cheel Commons - “downstairs”)

10:30 - 11:00
Spatial and Temporal Variability of Dissolved Organic Carbon in Adirondack Lakes
Manas Bhole, Syracuse University

11:00 - 11:30
The Preservation of Input/Output Directed Graph Informativeness under Crossover
Andreas Pape, Binghamton University

11:30 - 12:00
A Qualitative Approach for Detection of Emergent Behaviors in Dynamical Systems
Shweta Singh, Northeastern University

12:00 - 12:30
TBA
Anil Kumar, Clarkson University

Poster session

March 21, Thursday 18:00 - 20:00

Location: Cheel Commons - "downstairs"

Adaptability reveals the healthcare system resilience to pandemics
Dimitri Lopez, Rensselaer Polytechnic Institute

Self-Organization in Non-Equilibrium Thermodynamic Systems
Georgi Georgiev, Assumption University

Analyzing the Feature Space of Physiological Signals in Relation to Mental Workload
Martin Duffy, Clarkson University

Graph Neural Network Model Reveals Transcriptomic Differentiation in Bronchopulmonary Dysplasia
Matthew Jehrio, University of Rochester

Bio-Inspired Drone Swarm Movement via Boid and Evolutionary Algorithms
Michael Magid, Binghamton University

Exploring Urban Traffic Dynamics: A Simulation-Based Study of Autonomous and Traditional Vehicles
Miriam Flores Castillo, Binghamton University

Toward understanding genomic segmental duplications by network analysis across multiple species
Saiful Islam, State University of New York at Buffalo

Analyzing Patient Reviews on Google Map Hospital Profiles through Neural Embedding and Network Modeling
Xin Wang, Binghamton University

Enhancing Prenatal Care through Machine Learning: A Comprehensive Analysis of Maternal Factors for Predicting Neonatal Birth Weight
Zahra Mahdavi, Clarkson University