

Dynamics Days US 2024 Schedule

All sessions in ARC Ballroom, unless specified. I = Invited, C = Contributed

Monday, January 8				
8:30 AM	8:50 AM	Coffee and Pastries		
8:50 AM	9:00 AM	Opening Remarks / Key information		
9:00 AM	9:30 AM	I	Alexandra Volkening (Purdue University)	Quantifying models of biological pattern formation using topological techniques
9:30 AM	9:50 AM	C	Andrey Shilnikov (Georgia State Univ)	Pairing cellular and synaptic dynamics into building blocks of neural circuits
9:50 AM	10:10 AM	C	Andrea Welsh (Univ of Pittsburgh)	A Gut Feeling: Developing a Model of Mouse Colon Motility through Data
10:10 AM	10:30 AM	C	Matthew Smart (Flatiron Institute)	Emergence and coordination of stable cellular states in tissue
10:30 AM	10:50 AM	Coffee Break / Poster viewing		
10:50 AM	11:20 AM	I	Jurgen Kurths (Humboldt University)	Climate Meets Complex Systems: Exploring Teleconnections in the Climate System via a Complex Network Approach
11:20 AM	11:40 AM	C	Istvan Kovács (Northwestern Univ.)	Spatial and temporal cluster tomography
11:40 AM	12:00 PM	C	Sebastian Schreiber (UC Davis)	Community assembly via invasion graphs
12:00 PM	2:05 PM	Lunch Break		
2:05 PM	2:10PM	Announcements		
2:10 PM	2:40 PM	I	Maïke Sonnewald (UC Davis)	Equations as emergent phenomena determined using machine learning: An ocean case study
2:40 PM	3:00 PM	C	John Rundle (UC Davis)	Nowcasting Earthquakes with QuakeGPT
3:00 PM	3:20 PM	C	Matthew Levine (Broad Institute)	Machine learning of model errors in dynamical systems
3:20 PM	3:40 PM	C	Dan Wilson (Univ of Tennessee)	Data-Driven Inference of Reduced Order Models for Limit Cycle Oscillators
3:40 PM	4:05 PM	Coffee & Poster viewing / 4:05pm Walk to 66 Roessler Hall		
4:30 PM	5:00 PM	I	Omar Hurricane (LLNL)	How Ignition and Target Gain > 1 were achieved in inertial fusion
5:00 PM	5:30 PM	I	Liz Bradley (University of Colorado)	Towards Automated Extraction and Characterization of Scaling Regions
5:45 PM	7:00PM		WELCOME RECEPTION	MATH BUILDING, 1147 MSB

Tuesday, January 9				
8:30 AM	9:00 AM	Coffee and Pastries; 8:55am Announcements		
9:00 AM	9:30 AM	I	Dave Albers (Univ of Colorado, School of Medicine)	Why dynamics matter for data assimilation with sparse physiological data
9:30 AM	9:50 AM	C	Ioana Triandaf (Naval Research Lab)	Delay Induced Swarm Pattern Bifurcations in Mixed Reality Experiments
9:50 AM	10:10 AM	C	George Stepaniants (MIT)	Discovering dynamics and parameters of nonlinear oscillatory and chaotic systems from partial observations
10:10 AM	10:30 AM	C	Kieran Murphy (Univ of Pennsylvania)	Optimized measurements of chaotic systems via the information bottleneck
10:30 AM	10:50 AM	Coffee Break / Poster viewing		
10:50 AM	11:20 AM	I	Rishi Chaudhuri (UC Davis)	Harnessing chaos for generative modeling in the brain
11:20 AM	11:40 AM	C	Claudia Lainscsek (Salk Institute/UCSD)	Network-Motif Delay Differential Analysis of Brain Activity During Seizures
11:40 AM	12:00 PM	C	Kevin Lin (Univ of Arizona)	Coarse-grained models of cortical circuits
12:00 PM	12:20 PM	C	Zach Nicolaou (Univ of Washington)	Complex localization mechanisms in networks of coupled oscillators
12:20 PM	2:25 PM	Lunch Break		
2:25 PM	2:30 PM	Announcements		
2:30 PM	3:00 PM	I	Ying-Cheng Lai (Arizona State Univ)	Predicting tipping point with machine learning
3:00 PM	3:20 PM	C	Lou Pecora (Univ of Maryland)	Statistics of Attractor Embeddings in Reservoir Computing
3:20 PM	3:40 PM	C	Alexander Haluszczynski (risklab, Allianz Global Investors)	Controlling dynamical systems to arbitrary target states using classical-, next-generation- and the new minimal reservoir computing
3:40 PM	4:00 PM	C	Juan G. Restrepo (Univ of Colorado, Boulder)	Suppressing unknown disturbances to dynamical systems using machine learning
4:00 PM	6:00 PM	Main poster session with refreshments		

Wednesday, January 10				
8:30 AM	9:00 AM	Coffee and Pastries; 8:55am Announcements		
9:00 AM	9:30 AM	I	Leon Glass (McGill University)	Universal aspects of cardiac dynamics
9:30 AM	9:50 AM	C	Anastasiya Salova (Northwestern Univ)	Emergent node hierarchy in a centrality-based preferential attachment model
9:50 AM	10:10 AM	C	Kwang-Il Goh (Korea University)	Contagion dynamics on hypergraphs with nested hyperedges
10:10 AM	10:30 AM	C	Yuanzhao Zhang (Santa Fe Institute)	Deeper but smaller: Higher-order interactions increase linear stability but shrink basins
10:30 AM	10:50 AM	Coffee Break / Poster viewing		
10:50 AM	11:20 AM	I	Daniel Cooney (UIUC)	Evolutionary Dynamics Within and Among Competing Groups
11:20 AM	11:40 AM	C	Will Thompson (Univ of Vermont)	Understanding Polarization In the Higher Order Non-Linear Voter Model
11:40 AM	12:00 PM	C	Ekaterina Landgren (Univ of Colorado, Boulder)	Modeling misperception of public support for climate policy
12:00 PM	2:05 PM	Lunch Break		
2:05 PM	2:10 PM	Announcements		
2:10 PM	2:40 PM	I	Stephanie Dodson (Colby College)	Accurate numerical computations of spiral spectra using exponentially weighted spaces
2:40 PM	3:00 PM	C	Kevin Mitchell (UC Merced)	Controlling chaotic advection in 2D active nematic materials
3:00 PM	3:20 PM	C	Deborah Tonne (UC Irvine)	Mathematical Modeling of Word-Meaning Association
3:20 PM	3:40 PM	C	Melvyn Tyloo (LANL)	Cyber-physical attacks on coupled phase oscillators
3:40 PM	4:10 PM	Coffee Break / Poster viewing		
4:10 PM	4:30 PM	C	Adrian van Kan (UC Berkeley)	Collisions of localized patterns in a nonvariational Swift-Hohenberg equation
4:30 PM	4:50 PM	C	Christian Pratt (UC Davis)	Universal Dynamical Computing on the Nanoscale
4:50 PM	5:10 PM	C	Krishna Balasubramanian (UC Davis)	From Stability to Chaos: Gradient Descent in Quadratic Regression
5:10 PM	5:20 PM	Poster Awards and Closing Remarks		

Sessions Chairs:

	Monday, January 8	Tuesday, January 9	Wednesday, January 10
AM Session 1	Kevin Mitchell (UC Merced)	Korana Burke (UC Davis)	Chris Heggerud (UC Davis)
AM Session 2	Alexandra Volkening (Purdue University)	Dave Albers (Univ of Colorado, School of Medicine)	Kwan-II Goh (Korea University)
PM Session 1	Juan Restrepo (University of Colorado, Bolder)	Istvan Kovács (Northwestern Univ.)	Paul Hurtado (University of Nevada, Reno)
PM Session 2	Raissa D'Souza (UC Davis)	Guga Mikaberidze Poster session chair (UC Davis)	Claudia Lainscsek (Salk Institute/UCSD)