

40th Southern California Control Workshop

8:00 - 9:00 Check-in + Breakfast

9:00 - 9:15 Opening Remarks

Session I, Chair: Aaron D. Ames	
9:15 - 9:30	Control theory for biology: internal feedback and other models Lisa Li (Caltech) Advisor: John Doyle abstract
9:30 - 9:45	On the Linearizing Effect of Spatio-Temporal Averaging in Nonlinear Systems Sabbir Ahmed (UCR) Advisor: Erfan Nozari abstract
9:45 - 10:00	Coverage Control on the Special Euclidean Groups Ruoyu Lin (UCI) Advisor: Magnus Egerstedt abstract
10:00 - 10:15	Distributed Data-Driven Control of Network Systems Federico Celi (UCR) Advisor: Fabio Pasqualetti abstract
10:15 - 10:30	Distributed Resilient Interval Observers for LTI Systems Subject to Attacks Scott Brown (UCSD) Advisor: Sonia Martinez abstract

10:30 - 11:15 Coffee Break

Session II, Chair: Jorge Cortes	
11:15 - 11:30	Optimal Control of Partially Observable Markov Decision Processes with Finite Linear Temporal Logic Constraints Dhruva Kartik (USC) Advisor: Rahul Jain abstract
11:30 - 11:45	Maximum Likelihood Estimation of Linear Disturbance Models for Offset-free Model Predictive Control Steven Kuntz (UCSB) Advisor: James B. Rawlings abstract
11:45 - 12:00	Constructing Control Lyapunov-Value Functions using Hamilton-Jacobi Reachability Analysis Zheng Gong (UCSD) Advisor: Sylvia Herbert abstract
12:00 - 12:15	Safety-critical Control by Control Barrier Functions and Reduced Order Models Tamas Molnar (Caltech) Advisor: Aaron D. Ames abstract
12:15 - 12:30	Synthesizing Reactive Test Environments for Autonomous Systems: Testing Reach-Avoid Specifications with Multi-Commodity Flows Apurva Badithela (Caltech) Advisor: Richard Murray abstract

12:30 - 14:00 Lunch at Caltech Hall Pond

13:30 - 14:00 Lab Tour at AMBER Lab (Gates-Thomas B121)

Session III, Chair: Andrew Teel

14:00 - 14:15	Tradeoffs between convergence rate and noise amplification for momentum-based accelerated optimization algorithms Hesameddin Mohammadi (USC) Advisor: Mihailo Jovanovic abstract
14:15 - 14:30	Model-Free Global Optimization under Topological Obstructions: Exploration and Exploitation via Hybrid Control Daniel Ochoa (UCSD) Advisor: Jorge I. Poveda abstract
14:30 - 14:45	How do sperm find the egg? Mahmoud Abdelgalil (UCI) Advisor: Haithem Taha abstract
14:45 - 15:00	Optimal Design of Best Response Dynamics in Resource Allocation Games Rohit Konda (UCSB) Advisor: Jason Marden abstract

15:00 - 15:45 Coffee Break

Session IV, Chair: Tryphon Georgiou

15:45 - 16:00	Network flow estimation via physics-informed learning Francesco Seccamonte (UCSB) Advisor: Francesco Bullo abstract
16:00 - 16:15	Maximizing the Saturation Limit of Freeway Networks by Ramp Metering Milad Pooladsanj (USC) Advisor: Petros Ioannou, Ketan Savla abstract
16:15 - 16:30	Monge-Kantorovich transport through constrictions & flow rate constraints Anqi Dong (UCI) Advisor: Tryphon Georgiou abstract
16:30 - 16:45	Finite Sample Identification of Bilinear Dynamical Systems Yahya Sattar (UCR) Advisor: Samet Oymak abstract
16:45 - 17:00	Controlling Phase Separating Droplets Through Chemistry Dino Osmanovic (UCLA) Advisor: Elisa Franco abstract

17:00-18:00 Social Event (Gates-Thomas, 2nd floor lounge and terrace)