2020 Dynamical Systems and Control Theory Program Review

Dr. Fred Leve | August 3-6, 2020 | Arlington, VA

Agenda Day 1 | August 3, 2020

Time	Topic	Speaker
8:00-8:30	**Zoom Login**	
8:30-9:00	**Introductions**	Dr. Frederick Leve AFOSR
9:00-9:30	Variational Principles for Fluid Dynamics on Rough Paths	Dr. James Michael Leahy Imperial College London
9:30-10:00	Large-scale Pursuit-evasion Differential Games	Dr. Eloy Garcia AFRL/RQ
10:00-10:15	**BREAK**	
10:15-10:45	Thermal Management for Aircraft	Dr. Michael Oppenheimer AFRL/RQ
10:45-11:15	Intelligent Control in Adversarial and Stochastic Environments Multi-Player Pursuit-Evasion Differential Games	Dr. Meir Pachter AFIT
11:15-11:45	Explicitly Solvable Control Problems with Non-Gaussian Noise	Dr. Tyrone Duncan & Bozenna Pasik-Duncan KU
11:45-12:00	**BREAK**	
12:00-12:30	Graphon Mean Field Games: A Dynamical Equilibrium Theory for a Networked World	Dr. Peter Caines McGill
12:30-13:00	Robust Stability of Population Games: New Tools, Methods and Concepts	Dr. Nuno Martins Umaryland
13:00-13	Interval Reachability Analysis	Dr. Murat Arcak UC Berkeley
13:30-14:30	**LUNCH**	
14:30-15:00	Conversion of second-order HJ PDE problems into first-order HJ PDE problems	Dr. Bill Mceneaney UCSD
15:00-15:30	Controlled Systems Involving McKean-Vlasov Equations and Applications	Drs. George Yin and Le Yi Wang Wayne State and Uconn
15:30-16:00	Multi-scale analysis of deployment and coverage control problems	Dr. Sonia Martinez-Diaz UCSD
16:00-16:30	V&V and Optimization using Nonlinear Dynamical Systems Theory in EP Devices	Dr. Daniel Eckhardt AFRL/RQ
16:30-17:00	Al'brekht's Method in In nite Dimensions	Dr. Art Krener UC Davis
1700-17:30	Null Controllability Properties for Multi-D Fractional Heat Equations	Dr. Mahamadi Warma GMU

Agenda Day 2 | August 4, 2020		
Time	**Topic**	**Speaker**
8:00-8:30	**Zoom Login**	
8:30-9:00	AFOSR	Col Jason Mello AFOSR
9:00-9:30	New Results on Risk Sensitive Control for Quantum Linear Systems	Dr. Ian Peterson and Matthew James ANU
9:30-10:00	Control Systems and Differential Inclusions on Metric Spaces	Dr. Helene Frankowska CNRS U Paris
10:00-10:30	Scalable Reinforcement Learning of Localized Policies for Multi-Agent Networked Systems	Dr. Na Li Harvard
10:30-10:45	**BREAK**	
10:45-11:15	A Switched Systems Approach for Navigation and Control with Intermittent Feedback	Dr. Warren Dixon UFL
11:15-11:45	Systematic Tools to Satisfy Temporal Logic Specifications in Hybrid Dynamical Systems	Dr. Ricardo Sanfelice UCSC
11:45-12:15	Analyzing the Effect of Persistent, Abrupt Asset Changes on the Performance of Nove Online Optimization Algorithms	Dr. Andy Teel UCSB
12:15-12:30	**BREAK**	
12:30-1300	Convexification of Motion Planning Through Liftings and Hypercomplex Numbers	Drs. Behcet Acikmese and Mehran Mesbahi University of Washington
13:00-1330	Distributed Asynchronous Constrained Optimization in Blocks	Dr. Matthew Hale UFL
13:30-1400	Estimation and Verification of Hybrid Systems with Data-rate Guarantees	Dr. Sayan Mitra UIUC
14:00-14:30	Progress on a Perimeter Surveillance Problem	Dr. Jeremy Avigad CMU
14:30-15:30	**LUNCH**	
15:30-16:00	Pixel Array Method using the Catlab Framework	Dr. David Spivak MIT
16:00-16:30	Retrospective Cost Optimization Adaptive Control	Dr. Jesse Hoagg Umich and Ukentucky
16:30-17:00	Security-Aware Control of Systems with Varying Levels of Autonomy	Dr. Miroslav Pajic Duke
1700	**MEETING ADJOURN FOR THE DAY**	

Agenda Day 3 | August 5, 2020		
Time	**Topic**	**Speaker**
8:00-8:30	**Zoom Login**	
8:30-9:00	Morning Welcome and Discussions	Dr. Frederick Leve AFOSR
9:00-9:30	Interactive 2D3D Vision-Based Operator Control	Dr. Romei Sandhu Stoneybrook U
9:30-10:00	Cooperation and Autonomy in Spatially Constrained Environments	Dr. Naira Hovakimyan UIUC
10:00-10:30	Perception-based Motion Planning: Preliminary Results	Dr. Tanaka Takashi UT Austin
10:30-10:45	**BREAK**	
10:45-11:15	Synthesis and Analysis of Multi-Agent Systems under Spatial and Temporal Specifications	Dr. Dimitra Panagou U Mich
11:15-11:45	Distributed Control of Multi-Channel Linear Systems Across Networks with Transmission Delay	Dr. Steve Morse Yale
11:45-12:15	Tractable Algorithms to Design Nonlinear Systems using Lifting Opera	Dr. Nader Motee Lehigh U
12:15-12:30	**BREAK**	
12:30-13:00	Bayesian Attitude Estimation with Matrix Fisher–Gaussian Distribution	Drs. Taeyoung Lee and Melvin Leok GWU and UCSD
13:00=13:30	Moment-Based Ensemble Control using Aggregated Measurements	Dr. Jrshin Li Wash U
13:30-14:00	Observability of Ensemble Systems with Unknown Population Density	Dr. Xudong Chen Ucolorado Boulder
14:00-15:00	**LUNCH**	
15:00-15:30	Data Driven Systems and Control Framework for Multiway Dynamical Systems	Dr. Indika Rajapakse, et al U Mich and UTRC
15:30-16:00	Prescribed–Time Control and Estimation of PDEs	Dr. Miroslav Krstic UCSD
16:00-16:30	Condensed Matter Physics and Hybrid Thermodynamic Control Protocols for Networked Systems with Intermittent Information	Dr. Wassim Haddad GaTech
16:30-17:00	Mixed Monotonicity for Reachability and Safety in Dynamical Systems	Dr. Sam Coogan GaTech
1700	**MEETING ADJOURN**	