

**WeP1**

Marquis Ballroom B

**The Trusting of Cyber-Physical Systems: How AI Influences Human Behavior** (Plenary Session)

Chair: Zhang, Fumin

Georgia Institute of Technology

Co-Chair: Barton, Kira

University of Michigan, Ann Arbor

08:30-09:30

WeP1.1

*The Trusting of Cyber-Physical Systems: How AI Influences Human Behavior\**.

Howard, Ayanna

Ohio State University

<b>WeA01</b>	International 4
<b>Adaptive Control I (Regular Session)</b>	
Chair: Richards, Christopher	University of Louisville
Co-Chair: Vahid, Azimi	Auburn University
10:00-10:15 (video presentation)	WeA01.1
<i>Adaptive Flight Stabilization Framework for a Planar 4R-Foldable Quadrotor: Utilizing Morphing to Navigate in Confined Environments</i> , pp. 1-7.	
Butt, Jawad Mehmood	The Chinese University of Hong Kong
Ma, Xin	Chinese University of Hong Kong
Chu, Xiangyu	The Chinese University of Hong Kong
Au, Kwok Wai Samuel	CUHK
10:15-10:30	WeA01.2
<i>Prescribed-Time Seeking of a Repulsive Source by Angular Velocity Tuning</i> , pp. 8-13.	
Todorovski, Velimir	Technical University of Munich
Krstic, Miroslav	University of California, San Diego
10:30-10:45	WeA01.3
<i>Adaptive Control and Parameter-Dependent Anti-Windup Compensation for Inertia Varying Quadcopters</i> , pp. 14-21.	
Farber, Benjamin	University of Louisville
Richards, Christopher	University of Louisville
10:45-11:00	WeA01.4
<i>A New Augmented L1 Adaptive Control for Wheel-Legged Robots: Design and Experiments</i> , pp. 22-27.	
Raza, Fahad	Tohoku University
Chemori, Ahmed	LIRMM, University of Montpellier, CNRS
Hayashibe, Mitsuhiro	INRIA
11:00-11:15	WeA01.5
<i>Adaptive Stabilization of Thermoacoustic Oscillations in a Rijke Tube</i> , pp. 28-33.	
Paredes, Juan	University of Michigan
Islam, Syed Aseem Ul	University of Michigan
Bernstein, Dennis S.	Univ. of Michigan
11:15-11:30	WeA01.6
<i>Filtering-Based Concurrent Learning Adaptive Control: Exponential Convergence of System Parameters and Control Coefficient</i> , pp. 34-39.	
Vahid, Azimi	Auburn University
Hutchinson, Seth	Georgia Tech

<b>WeA02</b>	International 5
<b>Networked Control Systems I (Regular Session)</b>	
Chair: Tanaka, Takashi	University of Texas at Austin
Co-Chair: Batista, Pedro	Instituto Superior Técnico / University of Lisbon
10:00-10:15 (video presentation)	WeA02.1
<i>Optimal Partial Observation for Estimating Network Connectivity</i> , pp. 40-47.	
Ikeuchi, Hiroki	NTT Corporation
Saito, Hiroshi	The University of Tokyo
Matsuda, Kotaro	NTT
10:15-10:30	WeA02.2
<i>Discrete-Time Control of Multiagent Systems with a Misbehaving Node</i> , pp. 48-53.	
Yildirim, Emre	University of South Florida
Yucelen, Tansel	University of South Florida
10:30-10:45	WeA02.3
<i>Consensus: Optimal Coupling Gain Design</i> , pp. 54-59.	
Trindade, Pedro	Institute for Systems and Robotics, Instituto Superior Técnico,
Cunha, Rita	Instituto Superior Técnico, Universidade De Lisboa
Batista, Pedro	Instituto Superior Técnico / University of Lisbon
10:45-11:00	WeA02.4
<i>Optimal Sensor Gain Control for Minimum-Information Estimation of Continuous-Time Gauss-Markov Processes</i> , pp. 60-66.	
Zinage, Vrushabh	University of Texas at Austin
Tanaka, Takashi	University of Texas at Austin
Ugrinovskii, Valery	University of New South Wales
11:00-11:15	WeA02.5
<i>SOURCE: Towards Solar-Uncertainty-Aware E-Taxi Coordination under Dynamic Passenger Mobility</i> , pp. 67-74.	
Yuan, Yukun	Stony Brook University
Zhao, Yue	Stony Brook University
Lin, Shan	State University of New York
11:15-11:30	WeA02.6
<i>Dynamic Quantizer Synthesis for Encrypted State-Feedback Control Systems with Partially Homomorphic Encryption (I)</i> , pp. 75-81.	
Kawase, Hiroaki	The University of Electro-Communications
Teranishi, Kaoru	The University of Electro-Communications
Kogiso, Kiminao	The University of Electro-Communications

<b>WeA03</b>	International 6
<b>Learning, Optimization and Safety in Control Design of Cyber-Physical Systems (Invited Session)</b>	
Chair: Cao, Yongcan	University of Texas, San Antonio
Co-Chair: Garcia, Eloy	Air Force Research Laboratory
Organizer: Cao, Yongcan	University of Texas, San Antonio
Organizer: Zhang, Fumin	Georgia Institute of Technology
Organizer: Garcia, Eloy	Air Force Research Laboratory
10:00-10:15	WeA03.1
<i>Risk-Perception-Aware Control Design under Dynamic Spatial Risks</i> , pp. 82-87.	
Suresh, Aamodh	UC San Diego
Martinez, Sonia	University of California at San Diego
10:15-10:30	WeA03.2
<i>Blending Controllers Via Multi-Objective Bandits (I)</i> , pp. 88-95.	
Gohari, Parham	The University of Texas at Austin
Djeumou, Franck	University of Texas at Austin
P. Vinod, Abraham	Mitsubishi Electric Research Lab
Topcu, Ufuk	The University of Texas at Austin
10:30-10:45	WeA03.3
<i>Distributed State Estimation for Nonlinear Systems with Unknown Parameters (I)</i> , pp. 96-101.	
Heredia, Paulo	Purdue
Garcia, Eloy	Air Force Research Laboratory
Mou, Shaoshuai	Purdue University
10:45-11:00	WeA03.4
<i>Optimal Strategies for the Game of Protecting a Plane in 3-D (I)</i> , pp. 102-107.	
Garcia, Eloy	Air Force Research Laboratory
Weintraub, Isaac	Air Force Research Laboratory
Casbeer, David W.	Air Force Research Laboratory
Pachter, Meir	AFIT/ENG
11:00-11:15	WeA03.5
<i>Risk-Aware Model Predictive Control Enabled by Bayesian Learning</i> , pp. 108-113.	
Li, Yingke	Georgia Institute of Technology
Lin, Yifan	Georgia Institute of Technology
Zhou, Enlu	Georgia Institute of Technology
Zhang, Fumin	Georgia Institute of Technology
11:15-11:30	WeA03.6
<i>Data-Driven Control of Linear-Threshold Network Dynamics (I)</i> , pp. 114-119.	
Wang, Xuan	George Mason University
Cortes, Jorge	University of California, San Diego

<b>WeA04</b>	International 7
<b>Stability of Nonlinear Systems I (Regular Session)</b>	
Chair: Kamaldar, Mohammadreza	University of Kentucky
Co-Chair: Coogan, Samuel	Georgia Institute of Technology
10:00-10:15	WeA04.1
<i>Global Stabilization of Polynomial Systems Using Equilibrium-Independent Dissipativity</i> , pp. 120-125.	
Madeira, Diego de S.	Federal University of Ceará (UFC)
Alves Lima, Thiago	Université Catholique De Louvain
10:15-10:30	WeA04.2
<i>Resilience of Input Metering in Dynamic Flow Networks</i> , pp. 126-131.	
Jafarpour, Saber	Georgia Institute of Technology
Coogan, Samuel	Georgia Institute of Technology
10:30-10:45	WeA04.3
<i>On the Asymptotic Stability of Proximal Algorithms for Convex Optimization Problems with Multiple Non-Smooth Regularizers</i> , pp. 132-137.	
Ozaslan, Ibrahim Kurban	University of Southern California
Hassan Moghaddam, Sepideh	University of Southern California
Jovanovic, Mihailo R.	University of Southern California
10:45-11:00	WeA04.4
<i>Exponential Stability with RISE Controllers</i> , pp. 138-143.	
Patil, Omkar Sudhir	University of Florida
Isaly, Axton	University of Florida
Xian, Bin	Tianjin University
Dixon, Warren E.	University of Florida
11:00-11:15	WeA04.5
<i>Dynamic Routing and Queuing for Mixed Autonomy with Traffic Responsive Intersection Signaling</i> , pp. 144-151.	
Li, Ruolin	University of California, Berkeley
Horowitz, Roberto	Univ. of California at Berkeley
11:15-11:30	WeA04.6
<i>Results on Lyapunov-Like Functions for Almost Global Convergence in Discrete-Time Systems</i> , pp. 152-157.	
Kamaldar, Mohammadreza	University of Kentucky
Hoagg, Jesse B.	University of Kentucky

<b>WeA05</b>	International 8
<b>Formal Verification/Synthesis (Regular Session)</b>	
Chair: Liu, Jinfeng	University of Alberta
Co-Chair: Leung, Karen	University of Washington
10:00-10:15	WeA05.1
<i>Set-Based Reachability and the Explicit Solution of Linear MPC Using Hybrid Zonotopes</i> , pp. 158-165.	
Bird, Trevor J.	Purdue University
Jain, Neera	Purdue University
Pangborn, Herschel	Pennsylvania State University
Koeln, Justin	University of Texas at Dallas
10:15-10:30	WeA05.2
<i>Disturbance Bounds for Signal Temporal Logic Task Satisfaction: A Dynamics Perspective</i> , pp. 166-171.	
Akella, Prithvi	California Institute of Technology
Ames, Aaron D.	California Institute of Technology
10:30-10:45	WeA05.3
<i>A Distributed Control Invariant Set Computing Algorithm for Nonlinear Cascade Systems</i> , pp. 172-177.	
Decardi-Nelson, Benjamin	University of Alberta
Liu, Jinfeng	University of Alberta
10:45-11:00	WeA05.4
<i>Semi-Supervised Trajectory-Feedback Controller Synthesis for Signal Temporal Logic Specifications</i> , pp. 178-185.	
Leung, Karen	University of Washington
Pavone, Marco	Stanford University
11:00-11:15	WeA05.5
<i>Discrete Reachability Analysis with Bounded Error Sets</i> , pp. 186-191.	
Siefert, Jacob	Pennsylvania State University
Leister, Daniel Dias	The University of Texas at Dallas
Koeln, Justin	University of Texas at Dallas
Pangborn, Herschel	Pennsylvania State University
11:15-11:30	WeA05.6
<i>A Constructive Method for Designing Safe Multirate Controllers for Differentially-Flat Systems</i> , pp. 192-197.	
Agrawal, Devansh Ramgopal	University of Michigan
Parwana, Hardik	University of Michigan
Cosner, Ryan	California Institute of Techno
Rosolia, Ugo	Caltech
Ames, Aaron D.	California Institute of Technology
Panagou, Dimitra	University of Michigan, Ann Arbor

<b>WeA06</b>	International 9
<b>Optimization I (Regular Session)</b>	
Chair: Kelkar, Atul	Clemson University
Co-Chair: Bianchin, Gianluca	University of Colorado Boulder
10:00-10:15 (video presentation)	WeA06.1
<i>Fixed-Time Dynamical System Approach for Solving Time-Varying Convex Optimization Problems</i> , pp. 198-203.	
Raveendran, Rejitha	IIT MADRAS
Mahindrakar, Arun D.	Indian Institute of Technology Madras
Vaidya, Umesh	Clemson University
10:15-10:30	WeA06.2
<i>A Distributed Second-Order Gradient Continuous-Time Algorithm for Resource Allocation</i> , pp. 204-209.	
Alaviani, Seyyed Shaho	University of Georgia
Kelkar, Atul	Clemson University
Vaidya, Umesh	Clemson University
10:30-10:45	WeA06.3
<i>Online Projected Gradient Descent for Stochastic Optimization with Decision-Dependent Distributions</i> , pp. 210-215.	
Wood, Killian	University of Colorado, Boulder
Bianchin, Gianluca	University of Colorado Boulder
Dall'Anese, Emiliano	University of Colorado Boulder
10:45-11:00	WeA06.4
<i>Asynchronous Algorithms for Distributed Consensus-Based Optimization and Distributed Resource Allocation Over Random Networks</i> , pp. 216-221.	
Alaviani, Seyyed Shaho	University of Georgia
Kelkar, Atul	Clemson University
11:00-11:15 (video presentation)	WeA06.5
<i>Distributed Online Optimization with Byzantine Adversarial Agents</i> , pp. 222-227.	
Sahoo, Sourav	Indian Institute of Technology Madras
Gokhale, Anand	Indian Institute of Technology Madras
Kalaimani, Rachel Kalpana	Indian Institute of Technology Madras
11:15-11:30 (video presentation)	WeA06.6
<i>Dynamic Regret Bounds without Lipschitz Continuity: Online Convex Optimization with Multiple Mirror Descent Steps</i> , pp. 228-235.	
Eshraghi, Nima	University of Toronto
Liang, Ben	University of Toronto

<b>WeA07</b>	International 10
<b>Estimation I (Regular Session)</b>	
Chair: Silvestre, Daniel	ISR
Co-Chair: Berntorp, Karl	Mitsubishi Electric Research Labs
10:00-10:15	WeA07.1
<i>Blown Film Thickness Control with a Scanning Down-The-Line Measurement</i> , pp. 236-241.	
Salo, Mikko	Tampere University
Ritala, Risto	Tampere University of Technology
10:15-10:30	WeA07.2
<i>Decomposition of the Retrospective Performance Variable in Adaptive Input Estimation</i> , pp. 242-247.	
Sanjeevini, Sneha	University of Michigan
Bernstein, Dennis S.	Univ. of Michigan
10:30-10:45 (video presentation)	WeA07.3
<i>On Distributed Sampling for Mismatched Estimation of Remote Sources</i> , pp. 248-253.	
Pandit, Yash	Indian Institute of Technology Kharagpur
Budkuley, Amitalok Jayant	IIT Kharagpur
10:45-11:00 (video presentation)	WeA07.4
<i>Filtering of Systems with Heavy Tailed Noise: Application to 3D Target Tracking with Glint Noise</i> , pp. 254-259.	
d'Angelo, Massimiliano	Università Milano-Bicocca
Battilotti, Stefano	Univ. La Sapienza
Cacace, Filippo	Università Campus Biomedico Di Roma
Della Corte, Emanuele	Fater S.p.A
Germani, Alfredo	Universita' Dell'Aquila
11:00-11:15	WeA07.5
<i>Minimax Adaptive Estimation for Finite Sets of Linear Systems</i> , pp. 260-265.	
Kjellqvist, Olle	Lund University
Rantzer, Anders	Lund University



<b>WeA08</b>	International 2
<b>Estimation and Control of Infinite Dimensional Systems I (Invited Session)</b>	
Chair: Demetriou, Michael A.	Worcester Polytechnic Institute
Co-Chair: Burns, John A	Virginia Tech
Organizer: Demetriou, Michael A.	Worcester Polytechnic Institute
Organizer: Burns, John A	Virginia Tech
10:00-10:15	WeA08.1
<i>Physics-Informed Learning: Distributed Parameter Systems, Hidden Markov Models, and the Viterbi Algorithm (I)</i> , pp. 266-271.	
Oszkinat, Clemens	University of Southern California
Luczak, Susan	University of Southern California
Rosen, I. Gary	Univ. of Southern California
10:15-10:30	WeA08.2
<i>Fault Detection and Accommodation of Positive Real Infinite Dimensional Systems Using Adaptive RKHS-Based Functional Estimation (I)</i> , pp. 272-277.	
Demetriou, Michael A.	Worcester Polytechnic Institute
10:30-10:45	WeA08.3
<i>Estimation of the Electron Temperature Profile in Tokamaks Using Analytical and Neural Network Models (I)</i> , pp. 278-283.	
Morosohk, Shira	Lehigh University
Pajares, Andres	Lehigh University
Schuster, Eugenio	Lehigh University
10:45-11:00	WeA08.4
<i>Boundary Control of Semilinear Parabolic Equations with Non-Smooth Pointwise-Integral Control Constraints in Time-Space (I)</i> , pp. 284-289.	
Casas Rentería, Eduardo	Universidad De Cantabria
Karl, Kunish	University of Graz
11:00-11:15	WeA08.5
<i>Optimal Control of Velocity and Nonlocal Interactions in the Mean-Field Kuramoto Model</i> , pp. 290-295.	
Sinigaglia, Carlo	Politecnico Di Milano
Braghin, Francesco	Politecnico Di Milano
Berman, Spring	Arizona State University
11:15-11:30	WeA08.6
<i>Kalman Filtering for Discrete-Time Linear Systems with Infinite-Dimensional Observations</i> , pp. 296-303.	
Varley, Maxwell	University of Melbourne
Molloy, Timothy L.	University of Melbourne
Nair, Girish N.	University of Melbourne

<b>WeA09</b>	International 3
<b>Cybersecurity in Connected and Autonomous Vehicles (Invited Session)</b>	
Chair: Mohammadi, Alireza	University of Michigan, Dearborn
Co-Chair: Malik, Hafiz	University of Michigan-Dearborn
Organizer: Mohammadi, Alireza	University of Michigan, Dearborn
Organizer: Malik, Hafiz	University of Michigan-Dearborn
Organizer: Akbas, Mustafa Ilhan	Embry-Riddle Aeronautical University
10:00-10:15	WeA09.1
<i>Robust State Estimation in the Presence of Stealthy Cyberattacks</i> , pp. 304-309.	
Khan, Shiraz	Purdue University
Hwang, Inseok	Purdue University
Goppert, James	Purdue University
10:15-10:30	WeA09.2
<i>Performance Analysis of Event-Triggered Consensus Control for Multi-Agent Systems under Cyber-Physical Attacks (I)</i> , pp. 310-315.	
Tatari, Farzaneh	Michigan State University, Mechanical Engineering Department, MI
Mustafa, Aquib	University of Michigan, Ann Arbor
Mazouchi, Majid	Michigan State University
Modares, Hamidreza	Michigan State University
Panayiotou, Christos	University of Cyprus
Polycarpou, Marios M.	University of Cyprus
10:30-10:45	WeA09.3
<i>On String Stability of Mixed Autonomous and Human-Driven Vehicle Platoons with Transmissibility-Based Health Monitoring (I)</i> , pp. 316-321.	
Khalil, Abdelrahman	Memorial University of Newfoundland
Aljanaideh, Khaled	The MathWorks
Al Janaideh, Mohammad	Memorial University of Newfoundland
10:45-11:00	WeA09.4
<i>Resilient Interval Observer for Simultaneous Estimation of States, Modes and Attack Policies (I)</i> , pp. 322-329.	
Khajenejad, Mohammad	Arizona State University
Jin, Zeyuan	Arizona State University
Yong, Sze Zheng	Arizona State University
11:00-11:15	WeA09.5
<i>Cooperative Systems in Presence of Cyber-Attacks: A Unified Framework for Resilient Control and Attack Identification</i> , pp. 330-335.	
Gusrialdi, Azwirman	Tampere University
Qu, Zhihua	Univ. of Central Florida
11:15-11:30 (video presentation)	WeA09.6
<i>Arbitrarily Fast Switched Distributed Stabilization of Partially Unknown Interconnected Multiagent Systems: A Proactive Cyber Defense Perspective</i> , pp. 336-341.	
Rezaei, Vahid	University of Colorado at Denver
Jafarian, Jafar Haadi	University of Colorado Denver
Sicker, Douglas	University of Colorado Denver

<b>WeA10</b>	International C
<b>A Tutorial on Nonlinear Model Predictive Control (Tutorial Session)</b>	
Chair: Mesbah, Ali	University of California, Berkeley
Co-Chair: Paulson, Joel	The Ohio State University
Organizer: Mesbah, Ali	University of California, Berkeley
Organizer: Paulson, Joel	The Ohio State University
10:00-11:00	WeA10.1
<i>Fusion of Machine Learning and MPC under Uncertainty: What Advances Are on the Horizon? (I)</i> , pp. 342-357.	
Mesbah, Ali	University of California, Berkeley
Wabersich, Kim Peter	ETH Zurich
Schoellig, Angela P	University of Toronto
Zeilinger, Melanie N.	ETH Zurich
Lucia, Sergio	TU Dortmund University
Badgwell, Thomas A.	Collaborative Systems Integration
Paulson, Joel	The Ohio State University
11:00-11:15	WeA10.2
<i>Distributed MPC with ALADIN---A Tutorial (I)</i> , pp. 358-363.	
Houska, Boris	ShanghaiTech University
Shi, Jiahe	ShanghaiTech University
11:15-11:30	WeA10.3
<i>Advances in Mixed-Integer Model Predictive Control (I)</i> , pp. 364-369.	
McAllister, Robert D.	University of California, Santa Barbara
Rawlings, James B.	University of California, Santa Barbara

<b>WeA11</b>	International 1
<b>Data-Oriented Learning Techniques for Battery Modeling, Estimation and Identification (Invited Session)</b>	
Chair: Fang, Huazhen	University of Kansas
Co-Chair: Cortés, Andrés	University of California, San Diego
Organizer: Fang, Huazhen	University of Kansas
Organizer: Dey, Satadru	The Pennsylvania State University
Organizer: Soubakhsh, Damoon	Temple University
Organizer: Jain, Neera	Purdue University
Organizer: Zhang, Dong	University of Oklahoma
Organizer: Danielson, Claus	University of New Mexico
Organizer: Lin, Xinfan	University of California, Davis
Organizer: Park, Saehong	University of California, Berkeley
Organizer: Donkers, M.C.F.	Eindhoven University of Technology
Organizer: Kim, Youngki	University of Michigan - Dearborn
Organizer: Parvini, Yasha	Clemson University
Organizer: Docimo, Donald	Texas Tech University
Organizer: Cortes, Andres	Fluence Energy
10:00-10:15	WeA11.1
<i>State of Charge Estimation for Lithium-Ion Batteries in Electric Vehicles by Transformer Neural Network and L<sub>1</sub> Robust Observer (I)</i> , pp. 370-375.	
Shen, Heran	The University of Texas at Austin
Zhou, Xingyu	University of Texas at Austin
Wang, Zejiang	University of Texas at Austin
Wang, Junmin	University of Texas at Austin
10:15-10:30	WeA11.2
<i>System Identification of Battery Single Particle Model Parameters Using New Data Optimization Approach (I)</i> , pp. 376-383.	
Lai, Qingzhi	University of California, Davis
Fogelquist, Jackson	University of California, Davis
Lin, Xinfan	University of California, Davis
10:30-10:45	WeA11.3
<i>Uncertainty-Aware Data Selection Framework for Parameter Estimation with Application to Li-Ion Battery (I)</i> , pp. 384-391.	
Fogelquist, Jackson	University of California, Davis
Lin, Xinfan	University of California, Davis
10:45-11:00	WeA11.4
<i>Modeling of Li-Ion Batteries for Real-Time Analysis and Control: A Data-Driven Approach (I)</i> , pp. 392-397.	
Ahmadzadeh, Omidreza	Temple University
Rodriguez Nunez, Renato	Temple University
Soubakhsh, Damoon	Temple University
11:00-11:15	WeA11.5
<i>Model Predictive Control for Automotive Climate Control Systems Via Value Function Approximation</i> , pp. 398-403.	
Kibalama, Dennis	The Ohio State University
Liu, Yuxing	The Ohio State University
Stockar, Stephanie	The Ohio State University
Canova, Marcello	The Ohio State University
11:15-11:30	WeA11.6
<i>Integrated Optimization of Powertrain Energy Management and Vehicle Motion Control for Autonomous Hybrid Electric Vehicles (I)</i> , pp. 404-409.	
Kargar, Mohammadali	Texas A&M University
Zhang, Chen	University of Minnesota
Song, Xingyong	Texas A&M University, College Station

<b>WeA12</b>	International A
<b>Safe Spacecraft Control (Invited Session)</b>	
Chair: Petersen, Christopher	Air Force Research Laboratory
Co-Chair: Phillips, Sean	Air Force Research Laboratory
Organizer: Petersen, Christopher	Air Force Research Laboratory
Organizer: Phillips, Sean	Air Force Research Laboratory
10:00-10:15	WeA12.1
<i>Comparing Run Time Assurance Approaches for Safe Spacecraft Docking</i> , pp. 410-415.	
Dunlap, Kyle	Parallax Advanced Research
Hibbard, Michael	University of Texas, Austin
Mote, Mark	Georgia Institute of Technology
Hobbs, Kerianne	Air Force Research Laboratory
10:15-10:30	WeA12.2
<i>Robust Passively Safe Spacecraft Swarming Via Closed-Form and Optimization-Based Control Approaches (I)</i> , pp. 416-423.	
Guffanti, Tommaso	Stanford University
D'Amico, Simone	Stanford University
10:30-10:45	WeA12.3
<i>Guaranteed Safe Spacecraft Docking with Control Barrier Functions</i> , pp. 424-429.	
Breeden, Joseph	University of Michigan, Ann Arbor
Panagou, Dimitra	University of Michigan, Ann Arbor
10:45-11:00	WeA12.4
<i>Guaranteeing Safety Via Active-Set Invariance Filters for Multi-Agent Space Systems with Coupled Dynamics</i> , pp. 430-436.	
Hibbard, Michael	University of Texas, Austin
Topcu, Ufuk	The University of Texas at Austin
Hobbs, Kerianne	Air Force Research Laboratory
11:00-11:15	WeA12.5
<i>Evaluations on Uncertainty Characterization of an SE(3) Variational Filter (I)</i> , pp. 437-442.	
Hays, Christopher	Embry-Riddle Aeronautical University
Henderson, Troy	Embry-Riddle Aeronautical University
11:15-11:30	WeA12.6
<i>A Nonlinear Predictive Control Strategy for Landing on an Asteroid (I)</i> , pp. 443-449.	
van Leeuwen, Steven	John Hopkins University Applied Physics Lab
Skibik, Terrence	University of Colorado Boulder
Nicotra, Marco M	University of Colorado Boulder
Kolmanovsky, Ilya V.	The University of Michigan
Liao-McPherson, Dominic	ETH Zurich

<b>WeA13</b>	International B
<b>Biological Systems (Regular Session)</b>	
Chair: He, Qinghua	Auburn University
Co-Chair: Wang, Jin	Auburn University
10:00-10:15	WeA13.1
<i>Understanding the Evolution of Interspecies Metabolic Interactions Using Dynamic Genome-Scale Metabolic Modeling</i> , pp. 450-455.	
Badr, Kiumars	Auburn University
He, Qinghua	Auburn University
Wang, Jin	Auburn University
10:15-10:30	WeA13.2
<i>Internal Feedback in Biological Control: Architectures and Examples</i> , pp. 456-461.	
Sarma, Anish	California Institute of Technology
Li, Jing Shuang	California Institute of Technology
Stenberg, Josefin	KTH Royal Institute of Technology
Card, Gwyneth	HHMI Janelia Research Campus
Heckscher, Elizabeth	University of Chicago
Kasthuri, Narayan	University of Chicago
Sejnowski, Terrence	Salk Institute
Doyle, John C.	Caltech
10:30-10:45	WeA13.3
<i>Internal Feedback in Biological Control: Diversity, Delays, and Standard Theory</i> , pp. 462-467.	
Stenberg, Josefin	KTH Royal Institute of Technology
Li, Jing Shuang	California Institute of Technology
Sarma, Anish	California Institute of Technology
Doyle, John C.	Caltech
10:45-11:00	WeA13.4
<i>Enhanced Social Cognitive Theory Dynamic Modeling and Simulation towards Improving the Estimation of "Just-In-Time" States</i> , pp. 468-473.	
El Mistiri, Mohamed	Arizona State University
Rivera, Daniel E.	Arizona State Univ
Klasnja, Predrag	University of Michigan
Park, Junghwan	University of California, San Diego
Hekler, Eric	UC San Diego
11:00-11:15	WeA13.5
<i>Internal Feedback in Biological Control: Locality and System Level Synthesis</i> , pp. 474-479.	
Li, Jing Shuang	California Institute of Technology
11:15-11:30	WeA13.6
<i>An Anticipatory Scheme for the Model Predictive Control of Circadian Phase for Expected Environmental Light Changes</i> , pp. 480-485.	
Brown, Lindsey S.	Harvard John A. Paulson School of Engineering and Applied Scienc
Klerman, Elizabeth B.	Harvard Medical School, Brigham and Women's Hospital
Doyle III, Francis J.	Harvard University

<b>WeA14</b>	Marquis Ballroom D
<b>Robotics I (R) (RI Session)</b>	
Chair: Andersson, Sean B.	Boston University
Co-Chair: Zheng, Minghui	University at Buffalo
10:00-10:03	WeA14.1
<i>Bearing-Based Formation Control with Optimal Motion Trajectory</i> , pp. 486-493.	
Wang, Zili	Boston University
Andersson, Sean B.	Boston University
Tron, Roberto	Boston University
10:03-10:06 (video presentation)	WeA14.2
<i>Aerial Interception of Non-Cooperative Intruder Using Model Predictive Control</i> , pp. 494-499.	
Srivastava, Raunak	TCS
Lima, Rolif	Tata Consultancy Services
Das, Kaushik	TATA Consultancy Services
10:06-10:09	WeA14.3
<i>Towards Contact Point and Surface Normal Estimation for Control of Flexible Tool</i> , pp. 500-505.	
Sloth, Christoffer	University of Southern Denmark
Kram, Alk	SDU
Diget, Emil Lykke	University of Southern Denmark
Iturrate, Iñigo	University of Southern Denmark
10:09-10:12	WeA14.4
<i>Single-Leg Forward Hopping Via Nonlinear Modes</i> , pp. 506-513.	
Calzolari, Davide	Technical University of Munich (TUM), German Aerospace Center (D
Della Santina, Cosimo	TU Delft
Giordano, Alessandro Massimo	Technical University of Munich (TUM)
Albu-Schaeffer, Alin	German Aerospace Center (DLR)
10:12-10:15	WeA14.5
<i>Control of an Assembly of Aerial Vehicles under Uncertainty</i> , pp. 514-519.	
Shahab, Mohamad T.	KAUST
Garanger, Kevin	Georgia Institute of Technology
Feron, Eric	King Abdullah University of Science and Technology
10:15-10:18	WeA14.6
<i>Learning to Control Robot Hopping Over Uneven Terrain</i> , pp. 520-525.	
Lemmon, Michael D.	Univ. of Notre Dame
Wensing, Patrick	University of Notre Dame
Kurtz, Vincent	University of Notre Dame
Lin, Hai	University of Notre Dame
10:18-10:21	WeA14.7
<i>Globally-Attractive Logarithmic Geometric Control of a Quadrotor for Aggressive Trajectory Tracking</i> , pp. 526-531.	
Johnson, Jacob Collin	Brigham Young University
Beard, Randal W.	Brigham Young Univ
10:21-10:24	WeA14.8
<i>Safe and Sample-Efficient Reinforcement Learning for Clustered Dynamic Environments</i> , pp. 532-537.	
Chen, Hongyi	Georgia Institute of Technology
Liu, Changliu	Carnegie Mellon University
10:24-10:27	WeA14.9
<i>Robust Walking Control Based on the Extended Variable Stiffness SLIP Model</i> , pp. 538-543.	
Pelit, Mustafa Melih	Tokyo Institute of Technology
Yamakita, Masaki	Tokyo Inst. of Tech

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10:27-10:30

WeA14.10

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*A Novel Lightweight Cable-Driven Integrated-Finger Robotic Hand for Dexterous Manipulation*, pp. 544-549.

Wei, Xingsheng

University at Buffalo

Xu, Kuiyuan

University at Buffalo

Liu, Wansong

University at Buffalo

Mountain, Eric

University at Buffalo

Liang, Xiao

University at Buffalo

Zheng, Minghui

University at Buffalo

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10:30-10:33

WeA14.11

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*Motion Planning of Planar Snake Robots in Viscous Environments*, pp. 550-555.

Itani, Omar

American University of Beirut

Shammas, Elie

American University of Beirut

Abou Jaoude, Dany

American University of Beirut



<b>WeA15</b>	Imperial Ballroom A
<b>Game Theory I (R) (RI Session)</b>	
Chair: Bakolas, Efstathios	The University of Texas at Austin
Co-Chair: Marden, Jason R.	University of California, Santa Barbara
10:00-10:03 (video presentation)	WeA15.1
<i>A Robust Mean-Field Game of Boltzmann-Vlasov-Like Traffic Flow</i> , pp. 556-561.	
Tirumalai, Amoolya	University of Maryland, Institute for Systems Research
Baras, John S.	University of Maryland
10:03-10:06	WeA15.2
<i>Towards Cyber-Physical Systems Robust to Communication Delays: A Differential Game Approach</i> , pp. 562-567.	
Deka, Shankar	University of California, Berkeley
Lee, Donggun	University of California, Berkeley
Tomlin, Claire J.	UC Berkeley
10:06-10:09	WeA15.3
<i>EPROACH: A Population Vaccination Game for Strategic Information Design to Enable Responsible COVID Reopening</i> , pp. 568-573.	
Liu, Shutian	New York University
Zhu, Quanyan	New York University
10:09-10:12	WeA15.4
<i>Guarding a Target Set from a Single Attacker in the Euclidean Space</i> , pp. 574-579.	
Lee, Yoonjae	The University of Texas at Austin
Bakolas, Efstathios	The University of Texas at Austin
10:12-10:15	WeA15.5
<i>Incentive Design for Noncooperative Dynamical Systems under Sustainable Budget Constraint for Pareto Improvement</i> , pp. 580-585.	
Yan, Yuyue	Tokyo Institute of Technology
Hayakawa, Tomohisa	Tokyo Institute of Technology
10:15-10:18	WeA15.6
<i>When Shall I Estimate Your Intent? Costs and Benefits of Intent Inference in Multi-Agent Interactions</i> , pp. 586-592.	
Amatya, Sunny	Arizona State University
Ghimire, Mukesh	Arizona State University
Ren, Yi	Arizona State University
Xu, Zhe	Arizona State University
Zhang, Wenlong	Arizona State University
10:18-10:21	WeA15.7
<i>Understanding the Interplay between Herd Behaviors and Epidemic Spreading Using Federated Evolutionary Games</i> , pp. 593-598.	
Liu, Shutian	New York University
Zhao, Yuhan	New York University
Zhu, Quanyan	New York University
10:21-10:24	WeA15.8
<i>Bargaining-Based Load Control Mechanism Design for Microgrids</i> , pp. 599-604.	
Miaomiao, Hu	University of Florida
Biron, Zoleikha	University of Florida
10:24-10:27	WeA15.9
<i>Common Information Belief Based Dynamic Programs for Stochastic Zero-Sum Games with Competing Teams</i> , pp. 605-612.	
Kartik, Dhruva	University of Southern California
Nayyar, Ashutosh	University of Southern California
Mitra, Urbashi	The University of Southern California

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10:27-10:30 WeA15.10

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*Network Inspection from Locations with Imperfect Detection Capabilities*, pp. 613-620.

Bahamondes, Bastian

Georgia Institute of Technology

Dahan, Mathieu

Georgia Institute of Technology

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10:30-10:33

WeA15.11

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*The Importance of Randomization in Resource Assignment Problems*, pp. 621-626.

Paarporn, Keith

University of California, Santa Barbara

Chandan, Rahul

University of California, Santa Barbara

Alizadeh, Mahnoosh

University of California Santa Barbara

Marden, Jason R.

University of California, Santa Barbara

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10:33-10:36

WeA15.12

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*On Partial Adoption of Vehicle-To-Vehicle Communication: When Should Cars Warn Each Other of Hazards?*, pp. 627-632.

Gould, Brendan

University of Colorado Colorado Springs

Brown, Philip N.

University of Colorado, Colorado Springs

<b>WeA16</b>	M103-M105
<b>Human-In-The-Loop: Modelling and Interaction (R) (RI Session)</b>	
Chair: Diaz-Mercado, Yancy	University of Maryland
Co-Chair: Yildiz, Yildiray	Bilkent University
10:00-10:03 (video presentation)	WeA16.1
<i>Stable Interaction of Autonomous Vehicle Platoons with Human-Driven Vehicles</i> , pp. 633-640.	
N2I 3g1, N2I 3g1	University of Waterloo
She, Yining	ShanghaiTech University
Tang, Renzhi	Shanghaitech University
Jiang, Zhihao	ShanghaiTech University
Pant, Yash Vardhan	University of California, Berkeley
10:03-10:06	WeA16.2
<i>Robust Leader-Follower Formation Control for Human-Robot Scenario</i> , pp. 641-646.	
L Gilbert, Alia	University of Michigan
Chipade, Vishnu S.	University of Michigan, Ann Arbor
Panagou, Dimitra	University of Michigan, Ann Arbor
10:06-10:09 (video presentation)	WeA16.3
<i>Strict Zeroing Control Barrier Function for Continuous Safety Assist Control</i> , pp. 647-652.	
Tezuka, Issei	Tokyo University of Science
Nakamura, Hisakazu	Tokyo University of Science
10:09-10:12	WeA16.4
<i>Whole Body Control for Haptic Interaction with VR</i> , pp. 653-658.	
Beiter, Benjamin	Virginia Tech
Herron, Connor	Virginia Polytechnic Institute and State University
Leonessa, Alexander	Virginia Tech
10:12-10:15 (video presentation)	WeA16.5
<i>A Generalized Human-In-The-Loop Stability Analysis in the Presence of Uncertain and Redundant Actuator Dynamics</i> , pp. 659-664.	
Tohidi, Seyed Shahabaldin	Denmark Technical University
Yildiz, Yildiray	Bilkent University
10:15-10:18	WeA16.6
<i>Individual and Team Trust Preferences for Robotic Swarm Behaviors</i> , pp. 665-670.	
Vella, Elena	University of Melbourne
Williams, Daniel A.	University of Melbourne
Chapman, Airlie	University of Melbourne
Manzie, Chris	The University of Melbourne
10:18-10:21	WeA16.7
<i>Model Personalization in Behavioral Interventions Using Model-On-Demand Estimation and Discrete Simultaneous Perturbation Stochastic Approximation</i> , pp. 671-676.	
Kha, Rachael	Arizona State University
Rivera, Daniel E.	Arizona State Univ
Klasnja, Predrag	University of Michigan
Hekler, Eric	UC San Diego
10:21-10:24	WeA16.8
<i>Modeling Human-Human Collaboration: A Connection between Inter-Personal Motor Synergy and Consensus Algorithms</i> , pp. 677-682.	
Honarvar, Sara	University of Maryland, College Park
Hahn, Jin-Oh	University of Maryland
Kiemel, Tim	University of Maryland
Shim, Jae Kun	University of Maryland, College Park

Diaz-Mercado, Yancy	University of Maryland
10:24-10:27	WeA16.9
<i>Towards Modeling Human Motor Learning Dynamics in High-Dimensional Spaces</i> , pp. 683-688.	
Kamboj, Ankur	Michigan State University
Ranganathan, Rajiv	Michigan State University
Tan, Xiaobo	Michigan State University
Srivastava, Vaibhav	Michigan State University
10:27-10:30	WeA16.10
<i>Applying a Deep Q-Network for Human Operator Behavioral Modeling and Decision Support in a Twin-Roll Casting Process</i> , pp. 689-696.	
Ruan, Jianqi	Purdue University
Chiu, George T.-C.	Purdue University
Jain, Neera	Purdue University
10:30-10:33	WeA16.11
<i>Safe Policy Design for Controlling Epidemic Spreading under Heterogeneous Testing Capabilities</i> , pp. 697-702.	
Mestres, Pol	University of California, San Diego
Cortes, Jorge	University of California, San Diego
10:33-10:36	WeA16.12
<i>Online Estimation of Bio-Mechanical Properties of a Human Driver Using Dual Adaptive Unscented Kalman Filter</i> , pp. 703-708.	
Saraphis, Daniel	University of North Carolina Charlotte
Ghasemi, Amirhossein	University of North Carolina Charlotte

<b>WeB01</b>	International 4
<b>Adaptive Control II (Regular Session)</b>	
Chair: Xu, Xiangru	University of Wisconsin-Madison
Co-Chair: Nguyen, Quan	University of Southern California
14:00-14:15	WeB01.1
<i>Observer-Based Control Barrier Functions for Safety Critical Systems</i> , pp. 709-714.	
Wang, Yujie	University of Wisconsin-Madison
Xu, Xiangru	University of Wisconsin-Madison
14:15-14:30 (video presentation)	WeB01.2
<i>A Variable Frequency Internal Model Controller Inspired by Synchronverter Theory</i> , pp. 715-720.	
Lorenzetti, Pietro	Tel Aviv University
Weiss, George	Tel Aviv University
14:30-14:45	WeB01.3
<i>L1 Adaptive Control Barrier Functions for Nonlinear Underactuated Systems</i> , pp. 721-728.	
Nguyen, Quan	University of Southern California
Sreenath, Koushil	University of California, Berkeley
14:45-15:00 (video presentation)	WeB01.4
<i>Indirect Adaptive Control of Piecewise Affine Systems without Common Lyapunov Functions</i> , pp. 729-734.	
Liu, Tong	Technische Universität München
Liu, Fangzhou	Technische Universität München
Buss, Martin	Technical University of Munich
15:00-15:15	WeB01.5
<i>Spacecraft Attitude Control Using Derivative-Free Purely Adaptive Controller</i> , pp. 735-740.	
Karot Polson, Irene Grace	Indian Institute of Technology, Kanpur
Giri, Dipak Kumar	IIT Kanpur
15:15-15:30	WeB01.6
<i>Fixed-Time Inflection Point Seeking</i> , pp. 741-746.	
Alsuwaidan, Mohammad	UCSD
Krstic, Miroslav	University of California, San Diego

<b>WeB02</b>	International 5
<b>Networked Control Systems II (Regular Session)</b>	
Chair: Ishii, Hideaki	Tokyo Institute of Technology
Co-Chair: Zamani, Majid	University of Colorado Boulder
14:00-14:15	WeB02.1
<i>Estimation and Control for Collective Motion with Intermittent Locomotion</i> , pp. 747-754.	
Thompson, Anthony	University of Maryland, College Park
Cañuelas, Leela Sofía	Brown University
Paley, Derek A.	University of Maryland
14:15-14:30	WeB02.2
<i>Asynchronous Approximate Byzantine Consensus Via Multi-Hop Communication</i> , pp. 755-760.	
Yuan, Liwei	Tokyo Institute of Technology
Ishii, Hideaki	Tokyo Institute of Technology
14:30-14:45	WeB02.3
<i>Swarm Intelligence in Cooperative Environments: N-Step Dynamic Tree Search Algorithm Extended Analysis</i> , pp. 761-766.	
Espinós Longa, Marc	Cranfield University
Tsourdos, Antonios	Cranfield University
Inalhan, Gokhan	Cranfield University
14:45-15:00	WeB02.4
<i>Data-Guided Distributed Intersection Management for Connected and Automated Vehicles</i> , pp. 767-774.	
Gadginmath, Darshan	University of California, Riverside
Tallapragada, Pavankumar	Indian Institute of Science
15:00-15:15 (video presentation)	WeB02.5
<i>Minimal Laplacian Controllability of Directed Threshold Graphs</i> , pp. 775-780.	
Hsu, Shun-Pin	National Chung-Hsing University
15:15-15:30	WeB02.6
<i>On a Notion of Entropy for Reachability Properties</i> , pp. 781-786.	
Tomar, Mahendra Singh	University of Colorado Boulder
Zamani, Majid	University of Colorado Boulder

<b>WeB03</b>	International 6
<b>Learning-Based Control and Games</b> (Invited Session)	
Chair: Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Co-Chair: Doan, Thinh T.	Virginia Tech
Organizer: Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Organizer: Doan, Thinh T.	Virginia Tech
14:00-14:15 (video presentation)	WeB03.1
<i>Adversarial Multi-Agent Leader-Follower Graphical Game with Local and Global Objectives (I)</i> , pp. 787-793.	
Kartal, Yusuf	University of Texas at Arlington Research Institute
Koru, Ahmet Taha	University of Texas at Arlington
Lewis, Frank L.	University of Texas at Arlington
Dogan, Atilla	University of Texas at Arlington
14:15-14:30	WeB03.2
<i>Fixed-Time Seeking and Tracking of Time-Varying Nash Equilibria in Noncooperative Games (I)</i> , pp. 794-799.	
Poveda, Jorge I.	University of Colorado at Boulder
Krstic, Miroslav	University of California, San Diego
Basar, Tamer	Univ of Illinois, Urbana-Champaign
14:30-14:45	WeB03.3
<i>Prescribed-Time Extremum Seeking with Chirpy Probing for PDEs—Part II: Heat PDE (I)</i> , pp. 800-805.	
Yilmaz, Cemal Tugrul	UC San Diego
Krstic, Miroslav	University of California, San Diego
14:45-15:00	WeB03.4
<i>Integral Concurrent Learning-Based Accelerated Gradient Adaptive Control of Uncertain Euler-Lagrange Systems</i> , pp. 806-811.	
Le, Duc M.	University of Florida
Patil, Omkar Sudhir	University of Florida
Amy, Patrick	University of Florida
Dixon, Warren E.	University of Florida
15:00-15:15	WeB03.5
<i>Online Learning-Based Optimal Control of Nonlinear Systems with Finite-Time Convergence Guarantees (I)</i> , pp. 812-817.	
Kokolakis, Nick-Marios	Georgia Institute of Technology
Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
15:15-15:30	WeB03.6
<i>Identifying the Dynamics of a System by Leveraging Data from Similar Systems (I)</i> , pp. 818-824.	
Xin, Lei	Purdue University
Ye, Lintao	Huazhong University of Science and Technology
Chiu, George T.-C.	Purdue University
Sundaram, Shreyas	Purdue University

<b>WeB04</b>	International 7
<b>Stability of Nonlinear Systems II (Regular Session)</b>	
Chair: Chen, Yongxin	Georgia Institute of Technology
Co-Chair: Nicotra, Marco M	University of Colorado Boulder
14:00-14:15	WeB04.1
<i>Navigation with Probabilistic Safety Constraints: ConvexFormulation</i> , pp. 825-830.	
Moyalán, Joseph	Clemson University
Chen, Yongxin	Georgia Institute of Technology
Vaidya, Umesh	Clemson University
14:15-14:30 (video presentation)	WeB04.2
<i>On Singular Perturbation for a Class of Discrete-Time Nonlinear Systems in the Presence of Limit Cycles of Fast Dynamics</i> , pp. 831-837.	
Liu, Hengchang	University of Melbourne
Tan, Ying	The University of Melbourne
Bacek, Tomislav	University of Melbourne
Sun, Mingrui	University of Melbourne
Chen, Zhongxiang	Monash University
Kulic, Dana	Monash University
Oetomo, Denny Nurjanto	The University of Melbourne
Manzie, Chris	The University of Melbourne
14:30-14:45	WeB04.3
<i>Dissipativity Theory for Discrete-Time Nonlinear Stochastic Dynamical Systems, Part II: Kalman-Yakubovich-Popov Conditions and Stability of Feedback Interconnections</i> , pp. 838-843.	
Haddad, Wassim M.	Georgia Inst. of Tech
Lancharés, Manuel	Georgia Institute of Technology
14:45-15:00 (video presentation)	WeB04.4
<i>Discretization and Stabilization of Energy-Based Controller for Period Switching Control and Flexible Scheduling</i> , pp. 844-849.	
Tafrishi, Seyed Amir	Tohoku University
Dai, Xiaotian	University of York
Hirata, Yasuhisa	Tohoku University
Burns, Alan	University of York
15:00-15:15	WeB04.5
<i>A Lyapunov-Based Shaking Function for a Class of Non-Bilinear Quantum Systems</i> , pp. 850-855.	
Shao, Jieqiu	University of Colorado Boulder
Nicotra, Marco M	University of Colorado Boulder
15:15-15:30	WeB04.6
<i>On Tracking and Capture in Proportional-Control Bearing-Only Unicycle Pursuit</i> , pp. 856-861.	
Dovrat, David	Technion
Tripathy, Twinkle	IIT Kanpur
Bruckstein, Alfred	Technion



<b>WeB05</b>	International 8
<b>Hybrid Systems I (Regular Session)</b>	
Chair: Mizoguchi, Masashi	Osaka University
Co-Chair: Poveda, Jorge I.	University of Colorado at Boulder
14:00-14:15 (video presentation)	WeB05.1
<i>Abstraction-Based Control under Quantized Observation with Approximate Opacity Using Symbolic Control Barrier Functions</i> , pp. 862-867.	
Mizoguchi, Masashi	Osaka University
Ushio, Toshimitsu	Osaka University
14:15-14:30 (video presentation)	WeB05.2
<i>Output Regulation of Linear Aperiodic Sampled-Data Systems</i> , pp. 868-873.	
Basu, Himadri	University of New Hampshire
Ferrante, Francesco	Universita Degli Studi Di Perugia
Yoon, Se Young (Pablo)	University of New Hampshire
14:30-14:45	WeB05.3
<i>A Class of Hybrid Geometric Controllers for Robust Global Asymptotic Stabilization on <math>S^1</math></i> , pp. 874-879.	
Akhtar, Adeel	University of California at Santa Cruz
Sanfelice, Ricardo G.	University of California at Santa Cruz
14:45-15:00 (video presentation)	WeB05.4
<i>Safety Barrier Certificates for Stochastic Hybrid Systems</i> , pp. 880-885.	
Lavaei, Abolfazl	ETH Zurich
Soudjani, Sadegh	Newcastle University
Frazzoli, Emilio	ETH Zürich
15:00-15:15	WeB05.5
<i>Data-Assisted Vision-Based Hybrid Control for Robust Stabilization with Obstacle Avoidance Via Learning of Perception Maps</i> , pp. 886-892.	
Murillo-González, Alejandro	Universidad EAFIT
Poveda, Jorge I.	University of Colorado at Boulder
15:15-15:30 (video presentation)	WeB05.6
<i>Stacking Integrators without Sacrificing the Overshoot in Reset Control Systems</i> , pp. 893-899.	
Karbasizadeh, Nima	Delft University of Technology
HosseiniNia, S. Hassan	Technical University of Delft

<b>WeB06</b>	International 9
<b>Optimization II (Regular Session)</b>	
Chair: Scampicchio, Anna	ETH Zurich
Co-Chair: Jovanovic, Mihailo R.	University of Southern California
14:00-14:15	WeB06.1
<i>A Computationally Governed Log-Domain Interior-Point Method for Model Predictive Control</i> , pp. 900-905.	
Leung, Jordan, M	University of Michigan
Permenter, Frank	Toyota Research Institute
Kolmanovsky, Ilya V.	The University of Michigan
14:15-14:30	WeB06.2
<i>Adaptive Robust Model Predictive Control with Matched and Unmatched Uncertainty</i> , pp. 906-913.	
Sinha, Rohan	Stanford University
Harrison, James	Stanford University
Richards, Spencer M.	Stanford University
Pavone, Marco	Stanford University
14:30-14:45 (video presentation)	WeB06.3
<i>A Safe Control Architecture Based on Robust Model Predictive Control for Autonomous Driving</i> , pp. 914-919.	
Nezami, Maryam	University of Lübeck
Nguyen, Ngoc Thinh	University of Luebeck
Männel, Georg	Fraunhofer IMTE
Abbas, Hossam	University of Lübeck
Schildbach, Georg	University of Luebeck
14:45-15:00	WeB06.4
<i>A Fully Parallel Distributed Algorithm for Non-Smooth Convex Optimization with Coupled Constraints: Application to Linear Algebraic Equations</i> , pp. 920-925.	
Alaviani, Seyyed Shaho	University of Georgia
Kelkar, Atul	Clemson University
Vaidya, Umesh	Clemson University
15:00-15:15	WeB06.5
<i>On the Noise Amplification of Primal-Dual Gradient Flow Dynamics Based on Proximal Augmented Lagrangian</i> , pp. 926-931.	
Mohammadi, Hesameddin	University of Southern California
Jovanovic, Mihailo R.	University of Southern California
15:15-15:30	WeB06.6
<i>An Update-And-Design Scheme for Scenario-Based LQR Synthesis</i> , pp. 932-939.	
Scampicchio, Anna	ETH Zurich
Iannelli, Andrea	ETH Zurich

<b>WeB07</b>	International 10
<b>Estimation II (Regular Session)</b>	
Chair: Silvestre, Daniel	NOVA University of Lisbon
Co-Chair: Berntorp, Karl	Mitsubishi Electric Research Labs
14:00-14:15	WeB07.1
<i>Online Constrained Bayesian Inference and Learning of Gaussian-Process State-Space Models</i> , pp. 940-945.	
Berntorp, Karl	Mitsubishi Electric Research Labs
Menner, Marcel	Mitsubishi Electric Research Labs
14:15-14:30	WeB07.2
<i>Differential Private Discrete Noise Adding Mechanism: Conditions and Properties</i> , pp. 946-951.	
Qin, Shuying	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
Fang, Chongrong	Shanghai Jiao Tong University
Lam, James	The University of Hong Kong
14:30-14:45	WeB07.3
<i>Finite-Horizon Strictly Stealthy Deterministic Attacks on Cyber-Physical Systems</i> , pp. 952-957.	
Cheng, Donny	University of Alberta
Shang, Jun	University of Alberta
Chen, Tongwen	University of Alberta
14:45-15:00	WeB07.4
<i>Deep Interacting Multiple Model Filtering</i> , pp. 958-963.	
Rotithor, Ghananeel	University of Connecticut
Dani, Ashwin	University of Connecticut
15:00-15:15	WeB07.5
<i>Constrained Convex Generators: A Tool Suitable for Set-Based Estimation with Range and Bearing Measurements</i> , pp. 964-969.	
Silvestre, Daniel	ISR
15:15-15:30	WeB07.6
<i>On the Feedback Law in Stochastic Optimal Nonlinear Control</i> , pp. 970-975.	
Gul Mohamed, Mohamed Naveed	Texas A&M University
Chakravorty, Suman	Texas A&M University
Goyal, Raman	Texas A&M University
Wang, Ran	Texas A&M University

<b>WeB08</b>	International 2
<b>Estimation and Control of Infinite Dimensional Systems II (Invited Session)</b>	
Chair: Demetriou, Michael A.	Worcester Polytechnic Institute
Co-Chair: Burns, John A	Virginia Tech
Organizer: Demetriou, Michael A.	Worcester Polytechnic Institute
Organizer: Burns, John A	Virginia Tech
14:00-14:15	WeB08.1
<i>Approximate Error Feedback Controller for Tracking and Disturbance Rejection for Linear Distributed Parameter Systems (I)</i> , pp. 976-981.	
Aulisa, Eugenio	Texas Tech University
Gilliam, David S.	Texas Tech University
Burns, John A	Virginia Tech
14:15-14:30	WeB08.2
<i>Cooperative Filtering and Parameter Estimation for Polynomial PDEs Using a Mobile Sensor Network</i> , pp. 982-987.	
Zhang, Ziqiao	Georgia Institute of Technology
Wu, Wencen	San Jose State University
Zhang, Fumin	Georgia Institute of Technology
14:30-14:45 (video presentation)	WeB08.3
<i>A Finite-Dimensional Controller for Robust Output Tracking of an Euler–Bernoulli Beam (I)</i> , pp. 988-993.	
Govindaraj, Thavamani	Tampere University
Humaloja, Jukka-Pekka	University of Alberta
Paunonen, Lassi	Tampere University
14:45-15:00	WeB08.4
<i>Fast Nonlinear Model Predictive Control of Distributed Parameter Systems (I)</i> , pp. 994-999.	
Nikolakopoulou, Anastasia	Massachusetts Institute of Technology
Braatz, Richard D.	Massachusetts Institute of Technology
15:00-15:15	WeB08.5
<i>Prescribed-Time Extremum Seeking with Chirpy Probing for PDEs—Part I: Delay (I)</i> , pp. 1000-1005.	
Yilmaz, Cemal Tugrul	UC San Diego
Krstic, Miroslav	University of California, San Diego
15:15-15:30	WeB08.6
<i>Detection of Cyber-Attacks in Automotive Traffic Using Macroscopic Models and Gaussian Processes</i> , pp. 1006-1011.	
Kashyap, Abhishek	University of Texas at Arlington
Chakravarthy, Animesh	University of Texas at Arlington
Menon, Prathyush P	University of Exeter

<b>WeB09</b>	<b>International 3</b>
<b>Traffic Awareness and Vehicle Control (Invited Session)</b>	
Chair: Jerath, Kshitij	University of Massachusetts Lowell
Co-Chair: Ma, Yao	Texas Tech University
Organizer: Jerath, Kshitij	University of Massachusetts Lowell
Organizer: Amini, Mohammad Reza	University of Michigan
Organizer: Borhan, Hoseinali	Cummins Inc
Organizer: Chen, Pinggen	Tennessee Technological University
14:00-14:15	WeB09.1
<i>Socially Compatible Control Design of Automated Vehicle in Mixed Traffic (I)</i> , pp. 1012-1017.	
Ozkan, Mehmet	Texas Tech University
Ma, Yao	Texas Tech University
14:15-14:30	WeB09.2
<i>Suggestion-Based Fuel Efficient Control of Connected and Automated Vehicles in a Multi-Lane Urban Traffic (I)</i> , pp. 1018-1023.	
Vellamattathil Baby, Tinu	Illinois Institute of Technology
Ghasemi, Amirhossein	University of North Carolina Charlotte
HomChaudhuri, Baisravan	Illinois Institute of Technology
14:30-14:45	WeB09.3
<i>A Spatial Data-Driven Vehicle Speed Prediction Framework for Energy Management of HEVs Using Multi-Horizon MPC with Non-Uniform Sampling (I)</i> , pp. 1024-1029.	
Hu, Qiuhaohao	University of Michigan
Amini, Mohammad Reza	University of Michigan
Wiese, Ashley Peter	Ford Motor Company
Tascillo, Mark	Ford Motor Company
Buckland Seeds, Julia	Ford Motor Company
Kolmanovsky, Ilya V.	The University of Michigan
Sun, Jing	University of Michigan
14:45-15:00	WeB09.4
<i>Coordination of Autonomous Vehicles and Dynamic Traffic Rules in Mixed Automated/Manual Traffic (I)</i> , pp. 1030-1035.	
Firoozi, Roya	University of California Berkeley
Quirynen, Rien	Mitsubishi Electric Research Laboratories (MERL)
Di Cairano, Stefano	Mitsubishi Electric Research Labs
15:00-15:15	WeB09.5
<i>On-Board Traffic Prediction for Connected Vehicles: Implementation and Experiments on Highways (I)</i> , pp. 1036-1041.	
Molnar, Tamas G.	California Institute of Technology
Ji, Xunbi	University of Michigan
Oh, Sanghoon	University of Michigan
Takacs, Denes	Budapest University of Technology and Economics
Hopka, Mike	Ford Motor Company
Upadhyay, Devesh	Ford
van Nieuwstadt, Michiel J.	Ford Research and Innovation Center
Orosz, Gabor	University of Michigan
15:15-15:30	WeB09.6
<i>Stability Analysis of Nonlinear Inviscid Traffic Flow Models of Bidirectional Cruise Controlled Vehicles</i> , pp. 1042-1047.	
Karafyllis, Iasson	National Technical University of Athens
Theodosis, Dionysios	Technical University of Crete
Papageorgiou, Markos	Technical Univ. of Crete

<b>WeB10</b>	International C
<b>AI for Process Control</b> (Tutorial Session)	
Chair: Daoutidis, Prodromos	Univ. of Minnesota
Co-Chair: Tang, Wentao	University of Minnesota
Organizer: Daoutidis, Prodromos	Univ. of Minnesota
Organizer: Tang, Wentao	NC State University
Organizer: Venkatasubramanian, Venkat	Purdue Univ
14:00-14:35	WeB10.1
<i>Data-Driven Control: Overview and Perspectives (I)</i> , pp. 1048-1064.	
Tang, Wentao	University of Minnesota
Daoutidis, Prodromos	Univ. of Minnesota
14:35-15:00	WeB10.2
<i>Artificial Intelligence in Fault Diagnosis, Supervisory Control, and Process Safety Analysis: Challenges and Opportunities (I)*</i> .	
Venkatasubramanian, Venkat	Purdue Univ.
15:00-15:15	WeB10.3
<i>Machine Learning in Industrial Advanced Process Control (I)*</i> .	
Claussen, Heiko	Aspen Technology Inc.
Serneels, Sven	Aspen Technology Inc.
15:15-15:30	WeB10.4
<i>Advancing Industrial Analytics Using Machine Learning (ML) and Mathematical Optimization (I)</i> , pp. 1065-1065.	
Rajagopalan, Sreekanth	The Dow Chemical Company
Iyer, Shachit Shankaran	The Dow Chemical Company

<b>WeB11</b>	<b>International 1</b>
<b>Estimation, Characterization, and Control of Batteries (Invited Session)</b>	
Chair: Jain, Neera	Purdue University
Co-Chair: Soudbakhsh, Damoon	Temple University
Organizer: Dey, Satadru	The Pennsylvania State University
Organizer: Soudbakhsh, Damoon	Temple University
Organizer: Jain, Neera	Purdue University
Organizer: Zhang, Dong	University of Oklahoma
Organizer: Danielson, Claus	University of New Mexico
Organizer: Lin, Xinfan	University of California, Davis
Organizer: Park, Saehong	University of California, Berkeley
Organizer: Donkers, M.C.F.	Eindhoven University of Technology
Organizer: Kim, Youngki	University of Michigan - Dearborn
Organizer: Parvini, Yasha	Clemson University
Organizer: Docimo, Donald	Texas Tech University
Organizer: Fang, Huazhen	University of Kansas
14:00-14:15	WeB11.1
<i>Pack Level State-Of-Power Prediction for Heterogeneous Cells (I)</i> , pp. 1066-1073.	
Dangwal, Chitra	University of California Berkeley
Zhang, Dong	University of Oklahoma
Couto, Luis Daniel	Université Libre De Bruxelles
Gill, Preet	University of California Berkeley
Benjamin, Sebastien	Saft S.A
Zeng, Went	Total S.A
Moura, Scott	University of California, Berkeley
14:15-14:30	WeB11.2
<i>Combined Cell-Level Estimation of State-Of-Charge and Temperature in Battery Packs (I)</i> , pp. 1074-1079.	
van de Ven, Bjorn	Eindhoven University of Technology
Sneijders, Ron	Eindhoven University of Technology
Hoekstra, Feye	Eindhoven University of Technology
Bergveld, Hendrik Johannes	Eindhoven University of Technology
Donkers, M.C.F.	Eindhoven University of Technology
14:30-14:45	WeB11.3
<i>State-Of-Health Estimation Pipeline for Li-Ion Battery Packs with Heterogeneous Cells (I)</i> , pp. 1080-1086.	
Gill, Preet	University of California Berkeley
Zhang, Dong	University of Oklahoma
Couto, Luis Daniel	Université Libre De Bruxelles
Dangwal, Chitra	University of California Berkeley
Benjamin, Sebastien	Saft S.A
Zeng, Went	Total S.A
Moura, Scott	University of California, Berkeley
14:45-15:00	WeB11.4
<i>Identifiability of Lithium-Ion Battery Electrolyte Dynamics (I)</i> , pp. 1087-1093.	
Couto, Luis Daniel	Université Libre De Bruxelles
Drummond, Ross	University of Oxford
Zhang, Dong	University of Oklahoma
Kirk, Toby	University of Oxford
Howey, David A.	University of Oxford
15:00-15:15	WeB11.5
<i>Temperature-Dependent Time Constants of Li-Ion Batteries</i> , pp. 1094-1099.	

Derakhshan, Mohsen  
Soudbakhsh, Damoon

Temple University  
Temple University

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15:15-15:30

WeB11.6

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*Parametric Solution for Efficient Li-Ion Battery Charging with Current and SOC Constraints (I)*, pp. 1100-1107.

Mirzaei, Hamidreza

Clemson University-International Center for  
Automotive Research

Zhu, Qilun

Clemson University, CU-ICAR

Prucka, Robert

Clemson University - International Center for  
AutomotiveResearch



<b>WeB12</b>	International A
<b>Satellite Attitude Control</b> (Invited Session)	
Chair: Petersen, Christopher	Air Force Research Laboratory
Co-Chair: Phillips, Sean	Air Force Research Laboratory
Organizer: Petersen, Christopher	Air Force Research Laboratory
Organizer: Phillips, Sean	Air Force Research Laboratory
14:00-14:15	WeB12.1
<i>A State-Dependent Riccati Equation-Based Robust Approach for Nonlinear Systems with Parametric Uncertainties (I)</i> , pp. 1108-1113.	
Bhusal, Rajnish	The University of Texas at Arlington
Bhattacharjee, Diganta	The University of Minnesota, Twin Cities
Subbarao, Kamesh	The University of Texas, Arlington
14:15-14:30	WeB12.2
<i>Reaching Law Based SMC for Spacecraft Applications with Actuators Constraints</i> , pp. 1114-1119.	
Mancini, Mauro	Politecnico Di Torino
Capello, Elisa	Politecnico Di Torino, CNR-IEIT
14:30-14:45	WeB12.3
<i>Flexible Spacecraft Model and Robust Control Techniques for Attitude Maneuvers (I)</i> , pp. 1120-1126.	
Morga, Pierangela	Politecnico Di Torino
Mancini, Mauro	Politecnico Di Torino
Capello, Elisa	Politecnico Di Torino, CNR-IEIT
14:45-15:00	WeB12.4
<i>Small-Satellite Attitude Control Using Stroke-Limited Vibrating-Mass Actuators with Piecewise Constant Control Signals (I)</i> , pp. 1127-1132.	
Chavan, Roshan A.	University of Kentucky
Seigler, Thomas Michael	University of Kentucky
Hoagg, Jesse B.	University of Kentucky
15:00-15:15	WeB12.5
<i>Spacecraft Attitude Control Using the Invariant-Set Motion-Planner</i> , pp. 1133-1138.	
Danielson, Claus	University of New Mexico
Kloeppel, Joseph	University of New Mexico
Petersen, Christopher	Air Force Research Laboratory
15:15-15:30	WeB12.6
<i>Exponential Stabilization of the Complete Attitude of an Underactuated Spacecraft (I)</i> , pp. 1139-1144.	
Brewer, John Matthew	Georgia Institute of Technology
Tsiotras, Panagiotis	Georgia Institute of Technology

<b>WeB13</b>	International B
<b>Robust Control I (Regular Session)</b>	
Chair: Seiler, Peter	University of Michigan, Ann Arbor
Co-Chair: Aguilar, Luis T.	Instituto Politecnico Nacional
14:00-14:15	WeB13.1
<i>Actuator Fault Recovery in Formation Control of Uncertain Multi-Agent Systems on the Lie Group SE(3)</i> , pp. 1145-1150.	
Abdollahi, Farzaneh	Concordia Univ
Chhabra, Robin	Carleton University
14:15-14:30	WeB13.2
<i>Approximating the Fractional-Order Element for the Robust Control Framework</i> , pp. 1151-1157.	
Mihaly, Vlad Mihai	Technical University of Cluj-Napoca
Susca, Mircea	Technical University of Cluj-Napoca
Dulf, Eva-Henrietta	Technical University of Cluj-Napoca
Dobra, Petru	Technical University of Cluj
14:30-14:45	WeB13.3
<i>Control Barrier Functions with Unmodeled Dynamics Using Integral Quadratic Constraints</i> , pp. 1158-1163.	
Seiler, Peter	University of Michigan, Ann Arbor
Jankovic, Mrdjan	Ford Research & Advanced Engineering
Hellstrom, Erik	Ford Research and Advanced Engineering
14:45-15:00	WeB13.4
<i>Mean-Square Stabilizability under Unstructured Stochastic Multiplicative Uncertainties: A Mean-Square Small-Gain Perspective</i> , pp. 1164-1169.	
Chen, Jianqi	City University of Hong Kong
Qi, Tian	South China University of Technology
Ding, Yanling	City University of Hong Kong
Peng, Hui	Guangdong University of Technology, School of Automation
Chen, Jie	City University of Hong Kong
Hara, Shinji	Tokyo Institute of Technology
15:00-15:15	WeB13.5
<i>Robust Control Barrier Functions with Sector-Bounded Uncertainties</i> , pp. 1170-1175.	
Buch, Jyot	University of Minnesota, Minneapolis
Liao, Shih-Chi	University of Michigan
Seiler, Peter	University of Michigan, Ann Arbor
15:15-15:30	WeB13.6
<i>Synthesis of Computationally Efficient Recursively Feasible Multi-Stage Predictive Controllers for Uncertain Linear Systems</i> , pp. 1176-1181.	
Abdelsalam, Yehia	Technical University of Dortmund (TU Dortmund)
Subramanian, Sankaranarayanan	TU Dortmund
Engell, Sebastian	Technische Universität Dortmund

<b>WeB14</b>	Marquis Ballroom D
<b>Robotics II (R) (RI Session)</b>	
Chair: Song, Lei	Shanghai Jiao Tong University
Co-Chair: Meraglia, Salvatore	Politecnico Di Milano
14:00-14:03	WeB14.1
<i>Tracking Control of UAVs with Uncertainty and Input Constraints</i> , pp. 1182-1187.	
Ahmed, S.	UTRRG
Dong, Wenjie	The University of Texas Rio Grande Valley
14:03-14:06	WeB14.2
<i>Minimum Energy-Time Optimal Control of Wheeled Mobile Robots: Application to Parallel Parking</i> , pp. 1188-1193.	
Kim, Youngjin	University at Buffalo
Singh, Tarunraj	State Univ. of New York at Buffalo
14:06-14:09	WeB14.3
<i>Moving Target Interception Considering Dynamic Environment</i> , pp. 1194-1199.	
Qu, Chendi	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
Li, Jialun	Shanghai Jiao Tong University
Fang, Chongrong	Shanghai Jiao Tong University
Mo, Yilin	Tsinghua University
14:09-14:12 (video presentation)	WeB14.4
<i>LADFN: Learning Actions for Drift-Free Navigation in Highly Dynamic Scenes</i> , pp. 1200-1207.	
Omama, Mohd	IIT-Hyderabad
Venugopalaswamy Sriraman, Sundar Sripada	IIT-Hyderabad
Chinchali, Sandeep	Stanford
Krishna, K. Madhava	IIT-Hyderabad
14:12-14:15	WeB14.5
<i>Planning for Package Deliveries in Risky Environments Over Multiple Epochs</i> , pp. 1208-1213.	
Wilson, Blake	Purdue University
Hudack, Jeffrey	Air Force Research Laboratory
Sundaram, Shreyas	Purdue University
14:15-14:18	WeB14.6
<i>Probabilistically Safe Mobile Manipulation in an Unmodeled Environment with Automated Feedback Tuning</i> , pp. 1214-1221.	
Toner, Tyler	University of Michigan
Tilbury, Dawn M.	University of Michigan
Barton, Kira	University of Michigan, Ann Arbor
14:18-14:21 (video presentation)	WeB14.7
<i>Minimum Norm Coverage Control of AUVs for Underwater Surveillance with Communication Constraints</i> , pp. 1222-1229.	
Wang, Chenggang	Shanghai Jiao Tong University
Zhu, Shanying	Shanghai Jiao Tong University
Yu, Wenbin	Shanghai Jiao Tong University
Song, Lei	Shanghai Jiao Tong University
Guan, Xin-Ping	Shanghai Jiao Tong University
14:21-14:24	WeB14.8
<i>Coordinated Path Following for a Class of Underactuated Multi-Agent System Using Nested Set Stabilization</i> , pp. 1230-1235.	
Akhtar, Adeel	University of California at Santa Cruz
14:24-14:27	WeB14.9

*Invariant-EKF Design for Quadcopter Wind Estimation*, pp. 1236-1241.

Chen, Hao

Oklahoma State University

Bai, He

Oklahoma State University

Taylor, Clark N.

Air Force Institute of Technology

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14:27-14:30 (video presentation)

WeB14.10

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*Structured Online Learning for Low-Level Control of Quadrotors*, pp. 1242-1247.

Farsi, Milad

Department of Applied Mathematics, University of  
Waterloo

Liu, Jun

University of Waterloo

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14:30-14:33

WeB14.11

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*Smoother-Based Iterative Learning Control for UAV Trajectory Tracking*, pp. 1248-1253.

Meraglia, Salvatore

Politecnico Di Milano

Lovera, Marco

Politecnico Di Milano

<b>WeB15</b>	Imperial Ballroom A
<b>Game Theory II (R) (RI Session)</b>	
Chair: Hu, Jianghai	Purdue University
Co-Chair: Marden, Jason R.	University of California, Santa Barbara
14:00-14:03	WeB15.1
<i>An Analytical Study of a Two-Sided Mobility Game</i> , pp. 1254-1259.	
Chremos, Ioannis Vasileios	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
14:03-14:06	WeB15.2
<i>The Tension between Anarchy and Stability in Congestion Games</i> , pp. 1260-1265.	
Chandan, Rahul	University of California, Santa Barbara
Paccagnan, Dario	Imperial College London
Marden, Jason R.	University of California, Santa Barbara
14:06-14:09 (video presentation)	WeB15.3
<i>Sequential Decomposition of Stochastic Stackelberg Games</i> , pp. 1266-1271.	
Vasal, Deepanshu	University of Michigan, Ann Arbor
14:09-14:12	WeB15.4
<i>A Distributed Douglas-Rachford Based Algorithm for Stochastic GNE Seeking with Partial Information</i> , pp. 1272-1278.	
Huang, Yuanhanqing	Purdue University
Hu, Jianghai	Purdue University
14:12-14:15 (video presentation)	WeB15.5
<i>Robust Incentive Stackelberg Games with a Large Population for Stochastic Mean-Field Systems</i> , pp. 1279-1284.	
Mukaidani, Hiroaki	Hiroshima University
Irie, Shunpei	Hiroshima University
Xu, Hua	Univ. of Tsukuba
Zhuang, Weihua	University of Waterloo
14:15-14:18	WeB15.6
<i>Differential Games Based on Invariant Sets Generation</i> , pp. 1285-1292.	
Xue, Bai	Institute of Software, Chinese Academy of Sciences
Wang, Qiuye	Institute of Software, Chinese Academy of Sciences
Zhan, Naijun	Institute of Software, Chinese Academy of Sciences
Fränzle, Martin	Carl Von Ossietzky Universität Oldenburg
Feng, Shenghua	Institute of Software, Chinese Academy of Sciences
14:18-14:21 (video presentation)	WeB15.7
<i>Distributed <math>\epsilon</math>-Nash Equilibrium Seeking in Aggregative Games with Approximation</i> , pp. 1293-1298.	
Xu, Gehui	Chinese Academy of Sciences
Chen, Guanpu	Academy of Mathematics and Systems Science, Chinese Academy of S
Qi, Hongsheng	AMSS, Chinese Academy of Sciences
Hong, Yiguang	Chinese Academy of Sciences
14:21-14:24 (video presentation)	WeB15.8
<i>Pursuit-Evasion Differential Games of Players with Different Speeds in Spaces of Different Dimensions</i> , pp. 1299-1304.	
Li, Shuai	Peking University
Wang, Chen	Peking University
Xie, Guangming	Peking University
14:24-14:27	WeB15.9
<i>Execution Order Matters in Greedy Algorithms with Limited Information</i> , pp. 1305-1310.	

Konda, Rohit	UC Santa Barbara
Grimsman, David	Brigham Young University
Marden, Jason R.	University of California, Santa Barbara
14:27-14:30	WeB15.10
<i>Tuning Cooperative Behavior in Games with Nonlinear Opinion Dynamics</i> , pp. 1311-1316.	
Park, Shinkyu	KAUST
Bizyaeva, Anastasia	Princeton University
Kawakatsu, Mari	Princeton University
Franci, Alessio	Universidad Nacional Autónoma De Mexico (UNAM)
Leonard, Naomi Ehrich	Princeton University
14:30-14:33	WeB15.11
<i>Koopman-Based Policy Iteration for Robust Optimal Control</i> , pp. 1317-1322.	
Krolicki, Alexander	Clemson University
Sutavani, Sarang	Clemson University
Vaidya, Umesh	Clemson University
14:33-14:36	WeB15.12
<i>Linear Quadratic Mean-Field Games with Communication Constraints</i> , pp. 1323-1329.	
Aggarwal, Shubham	University of Illinois, Urbana Champaign
Zaman, Muhammad Aneeq uz	UIUC
Basar, Tamer	Univ of Illinois, Urbana-Champaign

<b>WeB16</b>	M103-M105
<b>Biological and Biomedical Systems (R) (RI Session)</b>	
Chair: Zemouche, Ali	CRAN UMR CNRS 7039 & Inria: EPI-DISCO
Co-Chair: Imani, Mahdi	Northeastern University
14:00-14:03	WeB16.1
<i>A Feedback SAIR Model for the Spread of Infectious Disease with Application to COVID-19 Pandemic</i> , pp. 1330-1335.	
March, Daniel	Biola University
Bond, Jeston	Biola University
Buzi, Gentian	Biola University
14:03-14:06	WeB16.2
<i>A High-Gain Observer for Stage-Structured Susceptible-Infectious Epidemic Model with Linear Incidence Rate</i> , pp. 1336-1340.	
Bouhadjra, Dyhia	University of Genoa, Italy
Alessandri, Angelo	University of Genoa
Bagnerini, Patrizia	University of Genoa
Zemouche, Ali	CRAN UMR CNRS 7039 & Inria: EPI-DISCO
14:06-14:09	WeB16.3
<i>Threshold-Crossing Time Statistics for Size-Dependent Gene Expression in Growing Cells</i> , pp. 1341-1346.	
Nieto, Cesar	University of Delaware
Ghusinga, Khem Raj	University of North Carolina at Chapel Hill
Vargas-Garcia, Cesar A.	Fundación Universitaria Konrad Lorenz
Singh, Abhyudai	University of Delaware
14:09-14:12	WeB16.4
<i>Data Driven Modeling and Model Predictive Control of Bioreactor for Production of Monoclonal Antibodies</i> , pp. 1347-1352.	
Sarna, Samardeep	McMaster University
Patel, Nikesh	McMaster University
Mhaskar, Prashant	McMaster University
Corbett, Brandon	McMaster University
McCready, Christopher	Umetrics
14:12-14:15	WeB16.5
<i>Efficient Identification for Modeling High-Dimensional Brain Dynamics</i> , pp. 1353-1358.	
Singh, Matthew	Washington University in St. Louis; Rutgers University
Wang, Chong	Washington University in St. Louis
Cole, Michael	Rutgers University
Ching, ShiNung	Washington University in St. Louis
14:15-14:18	WeB16.6
<i>Control-Oriented Modeling of Bend Propagation in an Octopus Arm</i> , pp. 1359-1366.	
Wang, Tixian	University of Illinois at Urbana-Champaign
Halder, Udit	University of Illinois at Urbana Champaign
Gribkova, Ekaterina	University of Illinois, Urbana-Champaign
Gazzola, Mattia	University of Illinois at Urbana-Champaign
Mehta, Prashant G.	Univ of Illinois, Urbana-Champaign
14:18-14:21	WeB16.7
<i>High-Performance Uncertainty Quantification in Large-Scale Virtual Clinical Trials of Closed-Loop Diabetes Treatment</i> , pp. 1367-1372.	
Reenberg, Asbjørn Thode	Technical University of Denmark
Ritschel, Tobias K. S.	Technical University of Denmark
Dammann, Bernd	Dept. of Applied Mathematics and Computer Science, Technical Uni

Jorgensen, John Bagterp	Technical University of Denmark
14:21-14:24	WeB16.8
<i>Robust Set-Point Regulation of Gene Expression Using Resource Competition Couplings in Mammalian Cells</i> , pp. 1373-1378.	
Perrino, Giansimone	Imperial College London
Stan, Guy-Bart Vincent	Imperial College London
14:24-14:27	WeB16.9
<i>Optimal Bayesian Biomarker Selection for Gene Regulatory Networks under Regulatory Model Uncertainty</i> , pp. 1379-1385.	
Imani, Mahdi	Northeastern University
Imani, Mohsen	University of California Irvine
Ghoreishi, Seyede Fatemeh	Northeastern University
14:27-14:30	WeB16.10
<i>Kinetic Constraints on Noise Reduction in Feedback Gene Regulatory Networks</i> , pp. 1386-1391.	
Mahajan, Tarun	University of Illinois at Urbana-Champaign
Singh, Abhyudai	University of Delaware
Dar, Roy	University of Illinois at Urbana-Champaign
14:30-14:33	WeB16.11
<i>Model Predictive Control Strategies for Optimized mHealth Interventions for Physical Activity</i> , pp. 1392-1397.	
El Mistiri, Mohamed	Arizona State University
Rivera, Daniel E.	Arizona State Univ
Klasnja, Predrag	University of Michigan
Park, Junghwan	University of California, San Diego
Hekler, Eric	UC San Diego
14:33-14:36 (video presentation)	WeB16.12
<i>Detection of Bias Injection Attacks on the Glucose Sensor in the Artificial Pancreas under Meal Disturbance</i> , pp. 1398-1405.	
Tosun, Fatih Emre	Uppsala University
Teixeira, André M. H.	Uppsala University
Ahlen, Anders	Uppsala University
Dey, Subhrakanti	Uppsala University



<b>WeC01</b>	International 4
<b>Identification for Control (Regular Session)</b>	
Chair: Allgöwer, Frank	University of Stuttgart
Co-Chair: Loria, Antonio	CNRS
16:00-16:15	WeC01.1
<i>Discrete Approximate Information States in Partially Observable Environments</i> , pp. 1406-1413.	
Yang, Lujie	MIT
Zhang, Kaiqing	University of Illinois at Urbana-Champaign (UIUC)
Amice, Alexandre	MIT
Li, Yunzhu	MIT
Tedrake, Russ	MIT
16:15-16:30	WeC01.2
<i>Applications of System Identification with Sparse Bayesian Regression Discovery of Unmodeled Dynamics of an Airship</i> , pp. 1414-1419.	
Messinger, Steven	Penn State Applied Research Laboratory
Fehl, Matthew	Penn State University
Miller, Simon	Penn State University
Zugger, Michael	Penn State University
Yukish, Michael	Penn State
16:30-16:45	WeC01.3
<i>Data-Driven Synthesis of Robust Invariant Sets and Controllers</i> , pp. 1420-1425.	
Mulagaleti, Sampath Kumar	IMT School of Advanced Studies Lucca
Bemporad, Alberto	IMT School for Advanced Studies Lucca
Zanon, Mario	IMT Institute for Advanced Studies Lucca
16:45-17:00	WeC01.4
<i>On Data-Driven Control: Informativity of Noisy Input-Output Data with Cross-Covariance Bounds</i> , pp. 1426-1431.	
Steentjes, Tom R.V.	Eindhoven University of Technology
Lazar, Mircea	Eindhoven University of Technology
Van den Hof, Paul M.J.	Eindhoven University of Technology
17:00-17:15	WeC01.5
<i>Determining Dissipativity for Nonlinear Systems from Noisy Data Using Taylor Polynomial Approximation</i> , pp. 1432-1437.	
Martin, Tim	University of Stuttgart
Allgöwer, Frank	University of Stuttgart
17:15-17:30	WeC01.6
<i>Data-Driven Model Predictive Control for Real-Time Stormwater Management</i> , pp. 1438-1443.	
Ning, Jingyun	University of Virginia
Bowes, Benjamin	University of Virginia
Goodall, Jonathan	University of Virginia
Behl, Madhur	University of Virginia

<b>WeC02</b>	International 5
<b>Network Analysis and Control (Regular Session)</b>	
Chair: Zamani, Majid	University of Colorado Boulder
Co-Chair: Siami, Milad	Northeastern University
16:00-16:15 (video presentation)	WeC02.1
<i>Leader Selection for Strong Structural Controllability in Networks Using Zero Forcing Sets</i> , pp. 1444-1449.	
Abbas, Waseem	University of Texas at Dallas
Shabbir, Mudassir	Information Technology University
Yazicioglu, Yasin	University of Minnesota
Koutsoukos, Xenofon	Vanderbilt University
16:15-16:30 (video presentation)	WeC02.2
<i>On the Robust Network Design for MUM-T</i> , pp. 1450-1452.	
Hamdipoor, Vahid	Gyeongsang National University
Kim, Yoonsoo	Gyeongsang National University
16:30-16:45	WeC02.3
<i>A Linear Programming Approach to the Minimum Cost Sparsest Input Selection for Structured Systems</i> , pp. 1453-1458.	
Zhang, Yuan	School of Automation, Beijing Institute of Technology
Xia, Yuanqing	Beijing Institute of Technology
Zhan, Yufeng	Beijing Institute of Technology
16:45-17:00	WeC02.4
<i>Learning-Based Sensor Selection with Guaranteed Performance Bounds</i> , pp. 1459-1465.	
Vafaei, Reza	Northeastern University
Siami, Milad	Northeastern University
17:00-17:15 (video presentation)	WeC02.5
<i>Resilient Average Consensus of Second-Order Multi-Agent Systems</i> , pp. 1466-1471.	
Zheng, Wenzhe	Shanghai Jiao Tong University
Fang, Chongrong	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
Peng, Yunfeng	Shanghai Jiao Tong University

<b>WeC03</b>	International 6
<b>Concurrent Learning and Resilient Control Systems (Invited Session)</b>	
Chair: Anubi, Olugbenga, M	Florida State University
Co-Chair: Dixon, Warren E.	University of Florida
Organizer: Anubi, Olugbenga, M	Florida State University
Organizer: Dixon, Warren E.	University of Florida
16:00-16:15	WeC03.1
<i>Modified Error Bounds for Matrix Completion and Application to Reinforcement Learning</i> , pp. 1472-1472.	
Burnwal, Shantanu Prasad	Cadence Design Systems India Pvt. Ltd
Vidyasagar, Mathukumalli	Indian Institute of Technology Hyderabad
16:15-16:30 (video presentation)	WeC03.2
<i>Distributed Partial State Estimation Via Virtual Distributed Observers (I)</i> , pp. 1473-1478.	
Namerikawa, Ryo	Keio University
Namerikawa, Toru	Keio University
16:30-16:45	WeC03.3
<i>A Graph-Theoretic Security Index Based on Undetectability for Cyber-Physical Systems (I)</i> , pp. 1479-1484.	
Zhai, Lijing	Georgia Institute of Technology
Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Hugues, Jerome	Carnegie Mellon University / Software Engineering Institute
16:45-17:00	WeC03.4
<i>Learning Monotone Dynamics by Neural Networks (I)</i> , pp. 1485-1490.	
Wang, Yu	University of Florida
Gao, Qitong	Duke Univeristy
Pajic, Miroslav	Duke University
17:00-17:15	WeC03.5
<i>Fully Decentralized and Federated Low Rank Compressive Sensing (I)</i> , pp. 1491-1496.	
Moothedath, Shana	Iowa State University
Vaswani, Namrata	Iowa State University
17:15-17:30	WeC03.6
<i>Chance-Constrained System Identification of Nonlinear Discrete Systems with Safety and Stability Guarantees</i> , pp. 1497-1502.	
Salehi, Iman	University of Connecticut
Taplin, Tyler	University of Connecticut
Dani, Ashwin	University of Connecticut

<b>WeC04</b>	International 7
<b>Neural Networks</b> (Regular Session)	
Chair: Jin, Ming	Virginia Tech
Co-Chair: Sojoudi, Somayeh	UC Berkeley
16:00-16:15	WeC04.1
<i>Lyapunov-Derived Control and Adaptive Update Laws for Inner and Outer Layer Weights of a Deep Neural Network</i> , pp. 1503-1508.	
Patil, Omkar Sudhir	University of Florida
Le, Duc M.	University of Florida
Greene, Max L.	University of Florida
Dixon, Warren E.	University of Florida
16:15-16:30	WeC04.2
<i>Multiple Shooting for Training Neural Differential Equations on Time Series</i> , pp. 1509-1514.	
Turan, Evren Mert	Norwegian University of Science and Technology
Jäschke, Johannes	Norwegian University of Science and Technology
16:30-16:45	WeC04.3
<i>Learning Neural Networks under Input-Output Specifications</i> , pp. 1515-1520.	
Abdeen, Zain ul	Virginia Polytechnic Institute and State University
Yin, He	University of California, Berkeley
Kekatos, Vassilis	Virginia Tech
Jin, Ming	Virginia Tech
16:45-17:00	WeC04.4
<i>Improving Neural Network Robustness Via Persistency of Excitation</i> , pp. 1521-1526.	
Sridhar, Kaustubh	University of Pennsylvania
Sokolsky, Oleg	University of Pennsylvania
Lee, Insup	University of Pennsylvania
Weimer, James	University of Pennsylvania
17:00-17:15	WeC04.5
<i>Non-Euclidean Contractivity of Recurrent Neural Networks</i> , pp. 1527-1534.	
Davydov, Alexander	University of California, Santa Barbara
Proskurnikov, Anton V.	Politecnico Di Torino
Bullo, Francesco	Univ of California at Santa Barbara
17:15-17:30	WeC04.6
<i>Practical Convex Formulations of One-Hidden-Layer Neural Network Adversarial Training</i> , pp. 1535-1542.	
Bai, Yatong	University of California, Berkeley
Gautam, Tanmay	University of California, Berkeley
Gai, Yu	UC Berkeley
Sojoudi, Somayeh	UC Berkeley

<b>WeC05</b>	<b>International 8</b>
<b>Hybrid Systems II (Regular Session)</b>	
Chair: Sanfelice, Ricardo G.	University of California at Santa Cruz
Co-Chair: Zamani, Majid	University of Colorado Boulder
16:00-16:15	WeC05.1
<i>Robust Approximate Simulation for Hierarchical Control of Piecewise Affine Systems under Bounded Disturbances</i> , pp. 1543-1548.	
Song, Zihao	University of Notre Dame
Kurtz, Vincent	University of Notre Dame
Welikala, Shirantha	Boston University
Antsaklis, Panos J.	University of Notre Dame
Lin, Hai	University of Notre Dame
16:15-16:30	WeC05.2
<i>Global Asymptotic Stability of Nonlinear Systems While Exploiting Properties of Uncertified Feedback Controllers Via Opportunistic Switching</i> , pp. 1549-1554.	
Wintz, Paul K.	University of California, Santa Cruz
Sanfelice, Ricardo G.	University of California at Santa Cruz
Hespanha, Joao P.	Univ. of California, Santa Barbara
16:30-16:45	WeC05.3
<i>Risk-Bounded Temporal Logic Control of Continuous-Time Stochastic Systems</i> , pp. 1555-1562.	
Safaoui, Sleiman	University of Texas at Dallas
Lindemann, Lars	University of Pennsylvania
Shames, Iman	Australian National University
Summers, Tyler H.	University of Texas at Dallas
16:45-17:00	WeC05.4
<i>Continuous-Time Behavior Trees As Discontinuous Dynamical Systems</i> , pp. 1563-1568.	
Sprague, Christopher Iliffe	KTH Royal Institute of Technology
Ogren, Petter	KTH Royal Institute of Technology
17:00-17:15	WeC05.5
<i>Practical Consensus Tracking of Homogeneous Sampled-Data Multi-Agent Systems</i> , pp. 1569-1574.	
Josse, Florence	XLIM, Université De Poitiers
Bernuau, Emmanuel	AgroParisTech
Moulay, Emmanuel	Université De Poitiers
Coirault, Patrick	ENSIP-LIAS
Hui, Qing	University of Nebraska-Lincoln
Allen, Josh	University of Nebraska-Lincoln
17:15-17:30	WeC05.6
<i>A Set-Based Approach for Synthesizing Controllers Enforcing Omega-Regular Properties Over Uncertain Linear Control Systems</i> , pp. 1575-1581.	
Zhong, Bingzhuo	Technical University of Munich
Zamani, Majid	University of Colorado Boulder
Caccamo, Marco	Technical University of Munich

<b>WeC06</b>	International 9
<b>Optimization III (Regular Session)</b>	
Chair: Alleyne, Andrew G.	Univ of Illinois, Urbana-Champaign
Co-Chair: Boone, Spencer	University of Colorado Boulder
16:00-16:15	WeC06.1
<i>Accelerated Simultaneous Perturbation Stochastic Approximation for Tracking under Unknown-But-Bounded Disturbances</i> , pp. 1582-1587.	
Erofeeva, Victoria	Skolkovo Institute of Science and Technology
Granichin, Oleg	Saint Petersburg State University
Tursunova, Munira	Saint Petersburg State University
Sergeenko, Anna	St. Petersburg State University
Jiang, Yuming	Norwegian University of Science and Technology
16:15-16:30	WeC06.2
<i>Gradient-Based Optimization for Anti-Windup PID Controls (I)</i> , pp. 1588-1594.	
Aksland, Christopher	University of Illinois at Urbana-Champaign
Lupp, Christopher	Air Force Research Laboratory
Clark, Daniel	Air Force Research Laboratory
Alleyne, Andrew G.	Univ of Illinois, Urbana-Champaign
16:30-16:45	WeC06.3
<i>Hierarchical Optimal Control with Information Aggregation for Groups with Different Numbers of Agents</i> , pp. 1595-1600.	
Fujita, Kento	Nagoya University
Tsubakino, Daisuke	Nagoya University
16:45-17:00	WeC06.4
<i>JEM: Joint Entropy Minimization for Active State Estimation with Linear POMDP Costs</i> , pp. 1601-1607.	
Molloy, Timothy L.	University of Melbourne
Nair, Girish N.	University of Melbourne
17:00-17:15	WeC06.5
<i>Semi-Analytic Spacecraft Maneuver Design with Stochastic Constraints</i> , pp. 1608-1613.	
Boone, Spencer	University of Colorado Boulder
McMahon, Jay	University of Colorado
17:15-17:30	WeC06.6
<i>Proportional Tracking Control of Positive Linear Systems</i> , pp. 1614-1619.	
Yang, Nachuan	Hong Kong University of Science and Technology
Li, Yuzhe	Northeastern University
Shi, Ling	Hong Kong University of Science and Technology

<b>WeC07</b>	International 10
<b>Estimation III (Regular Session)</b>	
Chair: Wu, Dan	MIT
Co-Chair: Cousin, Christian A.	University of Alabama
16:00-16:15	WeC07.1
<i>New Finite-Time and Fast Converging Observers with a Single Delay</i> , pp. 1620-1625.	
Mazenc, Frederic	Inria Saclay
Malisoff, Michael	Louisiana State University
16:15-16:30	WeC07.2
<i>Passivity-Based Target Tracking Robust to Intermittent Measurements</i> , pp. 1626-1631.	
McCourt, Michael J.	University of Washington Tacoma
Bell, Zachary I.	Air Force
Nivison, Scott	Air Force Research Laboratory
16:30-16:45	WeC07.3
<i>Embodied Hydrodynamic Sensing and Estimation Using Koopman Modes in an Underwater Environment</i> , pp. 1632-1637.	
Rodwell, Colin	Clemson University
Tallapragada, Phanindra	Clemson University
16:45-17:00	WeC07.4
<i>Cyber-Physical Secure Observer-Based Corrective Control under Compromised Sensor Measurements</i> , pp. 1638-1645.	
Wu, Dan	MIT
Bharadwaj, Pallavi	MIT
Rowles, Premila	MIT
Ilic, Marija	Massachusetts Inst. of Tech
17:00-17:15	WeC07.5
<i>Optimal Moving Average Estimation of Noisy Random Walks Using Allan Variance-Informed Window Length</i> , pp. 1646-1651.	
Haeri, Hossein	University of Massachusetts Lowell
Soleimani, Behrad	University of Maryland
Jerath, Kshitij	University of Massachusetts Lowell
17:15-17:30	WeC07.6
<i>A Multi-Parametric Method for Active Model Discrimination of Nonlinear Systems with Temporal Logic-Constrained Switching</i> , pp. 1652-1658.	
Niu, Ruochen	Arizona State University
Hassaan, Syed	Arizona State University
Yong, Sze Zheng	Arizona State University

<b>WeC08</b>	International 2
<b>Estimation and Control of Infinite Dimensional Systems III (Invited Session)</b>	
Chair: Demetriou, Michael A.	Worcester Polytechnic Institute
Co-Chair: Burns, John A	Virginia Tech
Organizer: Demetriou, Michael A.	Worcester Polytechnic Institute
Organizer: Burns, John A	Virginia Tech
16:00-16:15	WeC08.1
<i>A PIE Representation of Coupled Linear 2D PDEs and Stability Analysis Using LPIs (I)</i> , pp. 1659-1666.	
Jagt, Declan S.	Arizona State University
Peet, Matthew M.	Arizona State University
16:15-16:30	WeC08.2
<i>Finite-Dimensional Observer-Based Control of Stochastic Parabolic PDEs (I)</i> , pp. 1667-1672.	
Wang, Pengfei	Tel Aviv University
Katz, Rami	Tel Aviv University
Fridman, Emilia	Tel-Aviv Univ
16:30-16:45	WeC08.3
<i>Inducing Persistence of Excitation through Sensor Motion in the Adaptive Estimation of Spatial Fields (I)</i> , pp. 1673-1678.	
Demetriou, Michael A.	Worcester Polytechnic Institute
16:45-17:00 (video presentation)	WeC08.4
<i>Optimal Observer-Based LQ-Feedback Regulation for Hyperbolic Model of a Countercurrent Heat Exchanger</i> , pp. 1679-1684.	
Kadima Kazaku, Jacques	Université Catholique De Louvain
Dochain, Denis	Univ. Catholique De Louvain
Kalenga Kaunde Kasongo, Jimmy	Université De Lubumbashi
Mukepe Kahilu, Moïse	Université De Lubumbashi
17:00-17:15	WeC08.5
<i>Estimation Via Mobile Sensors for Semilinear Time-Fractional Diffusion Processes</i> , pp. 1685-1690.	
Ge, Fudong	China University of Geosciences, Wuhan
Chen, YangQuan	University of California, Merced
17:15-17:30 (video presentation)	WeC08.6
<i>Probabilistic Sufficient Conditions for Prediction-Based Stabilization of Linear Systems with Random Input Delay</i> , pp. 1691-1696.	
Kong, Sijia	MINES ParisTech
Bresch-Pietri, Delphine	MINES ParisTech



<b>WeC09</b>	International 3
<b>Automated Vehicle Controls (Invited Session)</b>	
Chair: Chen, Yan	Arizona State University
Co-Chair: Jerath, Kshitij	University of Massachusetts Lowell
Organizer: HomChaudhuri, Baisravan	Illinois Institute of Technology
Organizer: Jerath, Kshitij	University of Massachusetts Lowell
Organizer: Chen, Pinggen	Tennessee Technological University
16:00-16:15	WeC09.1
<i>Multi-Stage Perception-Aware Chance-Constrained MPC with Applications to Automated Driving (I)</i> , pp. 1697-1702.	
Bonzanini, Angelo Domenico	UC Berkeley
Mesbah, Ali	University of California, Berkeley
Di Cairano, Stefano	Mitsubishi Electric Research Labs
16:15-16:30	WeC09.2
<i>A Biquadratic-Lyapunov-Function-Based Adaptive Control Methodology with Application to Automated Ground Vehicle Path Tracking (I)</i> , pp. 1703-1708.	
Zhou, Xingyu	University of Texas at Austin
Wang, Zejiang	University of Texas at Austin
Shen, Heran	The University of Texas at Austin
Wang, Junmin	University of Texas at Austin
16:30-16:45	WeC09.3
<i>Socially Compatible Control Design of Automated Vehicle in Mixed Traffic</i> , pp. 1709-1714.	
Ozkan, Mehmet	Texas Tech University
Ma, Yao	Texas Tech University
16:45-17:00	WeC09.4
<i>Self-Scheduled L<sub>1</sub> Robust Vehicular Sideslip Angle Estimation (I)</i> , pp. 1715-1720.	
Zhou, Xingyu	University of Texas at Austin
Shen, Heran	The University of Texas at Austin
Wang, Zejiang	University of Texas at Austin
Wang, Junmin	University of Texas at Austin
17:00-17:15	WeC09.5
<i>Estimation of Three-Dimensional Center of Gravity Relocation for Ground Vehicles with Tire Blowout (I)</i> , pp. 1721-1726.	
Li, Ao	Arizona State University
Chen, Yan	Arizona State University
Lin, Wen-Chiao	General Motors Global R&D
Du, Xinyu	General Motors Global R&D
17:15-17:30	WeC09.6
<i>Considerate and Cooperative Model Predictive Control for Energy-Efficient Truck Platooning of Heterogeneous Fleets (I)</i> , pp. 1727-1732.	
Ard, Tyler	Clemson University
Nataraja Pattel, Bibin	Cummins Inc
Vahidi, Ardalan	Clemson University
Borhan, Hoseinali	Cummins Inc

<b>WeC10</b>	International C
<b>Recent Advances in Event-Triggered Control (Invited Session)</b>	
Chair: Yao, Ningshi	George Mason University
Co-Chair: Malisoff, Michael	Louisiana State University
Organizer: Yao, Ningshi	George Mason University
Organizer: Malisoff, Michael	Louisiana State University
Organizer: Nowzari, Cameron	George Mason University
Organizer: Heemels, Maurice	TU Eindhoven
16:00-16:15	WeC10.1
<i>Event-Triggered Scheduling and Control Co-Design for Networked Control Systems with Sub-Schedulability (I)</i> , pp. 1733-1738.	
Yao, Ningshi	George Mason University
Zhang, Fumin	Georgia Institute of Technology
16:15-16:30	WeC10.2
<i>Agent-Supervisor Coordination for Decentralized Event-Triggered Optimization</i> , pp. 1739-1744.	
Srivastava, Priyank	Massachusetts Institute of Technology
Cavvaro, Guido	National Renewable Energy Laboratory
Cortes, Jorge	University of California, San Diego
16:30-16:45	WeC10.3
<i>Event-Triggered Control for Discrete-Time Systems Using a Positive Systems Approach</i> , pp. 1745-1750.	
Mazenc, Frederic	Inria Saclay
Malisoff, Michael	Louisiana State University
Barbalata, Corina	Louisiana State University
Jiang, Zhong-Ping	New York University
16:45-17:00	WeC10.4
<i>Event-Triggered Adaptive Control of a Parabolic PDE-ODE Cascade (I)</i> , pp. 1751-1756.	
Wang, Ji	Xiamen University
Krstic, Miroslav	University of California, San Diego
17:00-17:15	WeC10.5
<i>Event-Triggered Trajectory Tracking Control of an Underactuated Autonomous Surface Vessel</i> , pp. 1757-1762.	
Casau, Pedro	Instituto Superior Técnico, University of Lisbon, IST-ID, VAT 50
Reis, Joel	University of Macau
Silvestre, Carlos	University of Macau
17:15-17:30	WeC10.6
<i>Distributed Event-Triggered Control with Local Solution-Predictor Curves for Linear Multiagent Systems</i> , pp. 1763-1768.	
Ristevski, Stefan	University of South Florida
Yucelen, Tansel	University of South Florida
Muse, Jonathan	Wright Patterson Air Force Base

<b>WeC11</b>	<b>International 1</b>
<b>Modeling and Simulation of Battery Systems (Invited Session)</b>	
Chair: Docimo, Donald	Texas Tech University
Co-Chair: Danielson, Claus	University of New Mexico
Organizer: Docimo, Donald	Texas Tech University
Organizer: Dey, Satadru	The Pennsylvania State University
Organizer: Soudbakhsh, Damoon	Temple University
Organizer: Jain, Neera	Purdue University
Organizer: Zhang, Dong	University of Oklahoma
Organizer: Danielson, Claus	University of New Mexico
Organizer: Lin, Xinfan	University of California, Davis
Organizer: Park, Saehong	University of California, Berkeley
Organizer: Donkers, M.C.F.	Eindhoven University of Technology
Organizer: Kim, Youngki	University of Michigan - Dearborn
Organizer: Parvini, Yasha	Clemson University
Organizer: Fang, Huazhen	University of Kansas
16:00-16:15 (video presentation)	WeC11.1
<i>Core-Shell Enhanced Single Particle Model for LiFePO<sub>4</sub> Batteries (I)</i> , pp. 1769-1774.	
Takahashi, Aki	Stanford University
Pozzato, Gabriele	Stanford University
Allam, Anirudh	Stanford University
Azimi, Vahid	Stanford University
Li, Xueyan	LG Energy Solutions
Lee, Donghoon	LG Energy Solutions
Ko, Johan	LG Energy Solutions
Onori, Simona	Stanford University
16:15-16:30	WeC11.2
<i>A PDE Model Simplification Framework for All-Solid-State Batteries (I)</i> , pp. 1775-1781.	
Li, Yang	Chalmers University of Technology
Wik, Torsten	Chalmers University of Technology
Huang, Yicun	Chalmers University of Technology
Zou, Changfu	Chalmers University of Technology
16:30-16:45	WeC11.3
<i>Equivalent Circuit Model for High C-Rate Discharge with an External Short Circuit (I)</i> , pp. 1782-1787.	
Tran, Vivian	University of Michigan, Ann Arbor
Cai, Ting	University of Michigan
Stefanopoulou, Anna G.	University of Michigan
Siegel, Jason B.	University of Michigan
16:45-17:00	WeC11.4
<i>Methodology for Accelerated Inter-Cycle Simulations of Li-Ion Battery Degradation with Intra-Cycle Resolved Degradation Mechanisms (I)</i> , pp. 1788-1793.	
Pannala, Sravan	University of Michigan
Sulzer, Valentin	Carnegie Mellon University
Siegel, Jason B.	University of Michigan
Stefanopoulou, Anna G.	University of Michigan
17:00-17:15	WeC11.5
<i>A Model Predictive Control Scheme for Fast Charging Via Accurate Quadratic Battery Models (I)</i> , pp. 1794-1800.	
Bills, Alexander	Carnegie Mellon University
Salazar, Mauro	Eindhoven University of Technology
Zhang, Dong	University of Oklahoma
Viswanathan, Venkatasubramanian	Carnegie Mellon University
17:15-17:30	WeC11.6
<i>Maximizing Harvested Energy in Coulomb Force Parametric Generators</i> , pp. 1801-1807.	
Roudneshin, Masoud	Concordia University
Sayrafian, Kamran	National Institute of Standard & Technology
Aghdam, Amir G.	Concordia University

<b>WeC12</b>	International A
<b>Autonomous Satellite Control Systems (Invited Session)</b>	
Chair: Petersen, Christopher	Air Force Research Laboratory
Co-Chair: Phillips, Sean	Air Force Research Laboratory
Organizer: Petersen, Christopher	Air Force Research Laboratory
Organizer: Phillips, Sean	Air Force Research Laboratory
16:00-16:15	WeC12.1
<i>Shielded Deep Reinforcement Learning for Multi-Sensor Spacecraft Imaging (I)</i> , pp. 1808-1813.	
Nazmy, Islam	Colorado Center for Astrodynamics Research
Harris, Andrew	University of Colorado Boulder
Lahijanjan, Morteza	University of Colorado Boulder
Schaub, Hanspeter	University of Colorado
16:15-16:30	WeC12.2
<i>Approximate Quantiles for Stochastic Optimal Control of LTI Systems with Arbitrary Disturbances (I)</i> , pp. 1814-1821.	
Priore, Shawn	University of New Mexico
Petersen, Christopher	Air Force Research Laboratory
Oishi, Meeko	University of New Mexico
16:30-16:45	WeC12.3
<i>Local Eigenmotion Control for Near Rectilinear Halo Orbits (I)</i> , pp. 1822-1827.	
Elango, Purnanand	University of Washington
Di Cairano, Stefano	Mitsubishi Electric Research Labs
Kalabic, Uros V.	Mitsubishi Electric Research Laboratories (MERL)
Weiss, Avishai	Mitsubishi Electric Research Labs
16:45-17:00	WeC12.4
<i>Towards Stable Interstellar Flight: Levitation of a Laser-Propelled Sailcraft (I)</i> , pp. 1828-1834.	
Shirin, Afroza	University of New Mexico
Schamiloglu, Edl	The University of New Mexico
Fierro, Rafael	University of New Mexico
17:00-17:15	WeC12.5
<i>Impulsive Spacecraft Formation Control on Quasi-Periodic Orbits (I)</i> , pp. 1835-1840.	
Henry, Damennick	University of Colorado Boulder
Scheeres, Daniel J.	The University of Colorado
17:15-17:30	WeC12.6
<i>Distributed and Resilient Planning-Control for Optimal LEO Satellite Constellation Coverage</i> , pp. 1841-1846.	
Zhao, Yuhan	New York University
Zhu, Quanyan	New York University

<b>WeC13</b>	International B
<b>Robust Control II (Regular Session)</b>	
Chair: Aguilar, Luis T.	Instituto Politecnico Nacional
Co-Chair: Seiler, Peter	University of Michigan, Ann Arbor
16:00-16:15 (video presentation)	WeC13.1
<i>Prescribed-Time Stabilization of Controllable Arbitrary Order Systems Using Switched State Feedback</i> , pp. 1847-1852.	
Verdés Kairuz, Ramón Imad	Comisión De Operación Y Fomento De Actividades Académicas Del In
Orlov, Yury	CICESE
Aguilar, Luis T.	Instituto Politecnico Nacional
16:15-16:30	WeC13.2
<i>Polynomial Chaos Approximation of the Quadratic Performance of Uncertain Time-Varying Linear Systems</i> , pp. 1853-1858.	
Evangelisti, Luca Luciano	German Aerospace Center (DLR)
Pfifer, Harald	Technische Universität Dresden
16:30-16:45	WeC13.3
<i>Model Reduction of Consensus Network Systems Via Selection of Optimal Edge Weights and Nodal Time-Scales</i> , pp. 1859-1866.	
Sabbagh, Ralph	American University of Beirut
Abou Jaoude, Dany	American University of Beirut
16:45-17:00	WeC13.4
<i>A Priori Error Bounds for Model Reduction of Interconnected Linear Systems Using Robust Performance Analysis</i> , pp. 1867-1872.	
Janssen, Lars	Eindhoven University of Technology
Besselink, Bart	University of Groningen
Fey, Rob H.B.	Eindhoven University of Technology
Abbasi, Mohammad Hossein	Eindhoven University of Technology
Van De Wouw, Nathan	Eindhoven University of Technology
17:00-17:15	WeC13.5
<i>Equivalent Linear Programming Formulations for Robust Trajectory Planning under Input Dependent Uncertainties</i> , pp. 1873-1878.	
Sheridan, Oliver	University of Washington
Acikmese, Behcet	University of Washington
17:15-17:30	WeC13.6
<i>Unions and Complements of Hybrid Zonotopes</i> , pp. 1879-1884.	
Bird, Trevor J.	Purdue University
Jain, Neera	Purdue University

<b>WeC14</b>	Marquis Ballroom D
<b>Robotics III (R)</b> (RI Session)	
Chair: Akbari Hamed, Kaveh	Virginia Tech
Co-Chair: Ashrafiun, Hashem	Villanova University
16:00-16:03 (video presentation)	WeC14.1
<i>A Necessary Condition for Passive Dynamic Walking</i> , pp. 1885-1890.	
Iwatani, Yasushi	Hirosaki University
Kinugasa, Tetsuya	Okayama University of Science
16:03-16:06	WeC14.2
<i>BPOMP: A Bilevel Path Optimization Formulation for Motion Planning</i> , pp. 1891-1897.	
Wang, Changhao	University of California, Berkeley
Lin, Hsien-Chung	UC Berkeley
Jin, Shiyu	University of California, Berkeley
Zhu, Xinghao	UCB
Sun, Liting	University of California, Berkeley
Tomizuka, Masayoshi	Univ of California, Berkeley
16:06-16:09	WeC14.3
<i>Distributed Fuzzy Semi-Infinite Auction Based Optimization for Cooperative Robots Tasks Allocation</i> , pp. 1898-1903.	
Zenati, Abdelhafid	City Univesity of London
Odysseas, Kechagias-Stamatis	School of Mathematics, Computer Science and Engineering Departme
Aouf, Nabil	Cranfield University
16:09-16:12	WeC14.4
<i>Quasi-LPV Control Design for a Class of Underactuated Mechanical Systems</i> , pp. 1904-1909.	
Wang, Bo	Villanova University
Nersesov, Sergey	Villanova University
Ashrafiun, Hashem	Villanova University
16:12-16:15 (video presentation)	WeC14.5
<i>Vibration Control of an Overhead Crane with Hoisting Motion Using Input Shaping Technique</i> , pp. 1910-1914.	
Ho, Duc Tho	Nagaoka University of Technology
Terashima, Kazuhiko	Toyohashi Univ. of Tech
Miyoshi, Takanori	Nagaoka Univ. of Tech
16:15-16:18 (video presentation)	WeC14.6
<i>Catching Objects with a Robot Arm Using Model Predictive Control</i> , pp. 1915-1920.	
Gold, Tobias	University Erlangen-Nürnberg (FAU)
Römer, Ralf	Technical University of Munich
Völz, Andreas	Friedrich-Alexander-University Erlangen-Nürnberg
Graichen, Knut	University Erlangen-Nürnberg (FAU)
16:18-16:21	WeC14.7
<i>Meta Navigation Functions: Adaptive Associations for Coordination of Multi-Agent Systems</i> , pp. 1921-1926.	
Macktoobian, Matin	University of Alberta
Duc, Guillaume	EPFL
16:21-16:24	WeC14.8
<i>Output-Feedback Consensus of Delayed Networks of Euler Lagrange Agents with Bounded Controllers</i> , pp. 1927-1932.	
Paredes López, Angel Ignacio	University of Guadalajara
Nuño, Emmanuel	University of Guadalajara
Cruz-Zavala, Emmanuel	University of Guadalajara (UdG)
Aldana, Carlos Ivan	University of Guadalajara (UDG)

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16:24-16:27 WeC14.9

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*A Comparative Experimental Study of Multi-Tasking Tracking and Interaction Control on a Torque-Controlled Humanoid Robot*, pp. 1933-1940.

Wu, Xuwei	German Aerospace Center (DLR)
Ott, Christian	German Aerospace Center (DLR)
Dietrich, Alexander	DLR (German Aerospace Center)

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16:27-16:30 WeC14.10

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*Experimental and Analytical Prescribed-Time Trajectory Tracking Control of a 7-DOF Robot Manipulator*, pp. 1941-1946.

Bertino, Alexander	San Diego State University
Naseradinmousavi, Peiman	San Diego State University
Krstic, Miroslav	University of California, San Diego

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16:30-16:33 WeC14.11

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*Transmissibility-Based Fault Detection in Robotic Applications with Time-Varying Parameters*, pp. 1947-1951.

Khalil, Abdelrahman	Memorial University of Newfoundland
Aljanaideh, Khaled	The MathWorks
Al Janaideh, Mohammad	Memorial University of Newfoundland

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16:33-16:36 WeC14.12

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*Robust Stabilization of Periodic Gaits for Quadrupedal Locomotion Via QP-Based Virtual Constraint Controllers*, pp. 1952-1957.

Fawcett, Randall	Virginia Tech
Pandala, Abhishek	Virginia Polytechnic Institute and State University
Ames, Aaron D.	California Institute of Technology
Akbari Hamed, Kaveh	Virginia Tech

<b>WeC15</b>	Imperial Ballroom A
<b>Autonomous Driving &amp; Intelligent Transportation (R) (RI Session)</b>	
Chair: Berntorp, Karl	Mitsubishi Electric Research Labs
Co-Chair: Velenis, Efstathios	Cranfield University
16:00-16:03	WeC15.1
<i>Online Learning-Based Trajectory Tracking for Underactuated Vehicles with Uncertain Dynamics</i> , pp. 1958-1963.	
Beckers, Thomas	University of Pennsylvania
Colombo, Leonardo Jesus	Universidad Autonoma De Madrid
Hirche, Sandra	Technische Universität München
Pappas, George J.	University of Pennsylvania
16:03-16:06	WeC15.2
<i>Optimal Platoon Merging and Catch-Up Approach for Connected Electric Vehicles</i> , pp. 1964-1969.	
Su, Zifei	Tennessee Technological University
Chen, Pinggen	Tennessee Technological University
16:06-16:09	WeC15.3
<i>Friction-Adaptive Stochastic Predictive Control for Trajectory Tracking of Autonomous Vehicles</i> , pp. 1970-1975.	
Vaskov, Sean	University of Michigan
Quirynen, Rien	Mitsubishi Electric Research Laboratories (MERL)
Menner, Marcel	Mitsubishi Electric Research Labs
Berntorp, Karl	Mitsubishi Electric Research Labs
16:09-16:12	WeC15.4
<i>Dynamic Vehicle Drifting with Nonlinear MPC and a Fused Kinematic-Dynamic Bicycle Model</i> , pp. 1976-1981.	
Bellegarda, Guillaume	Ecole Polytechnique Federale De Lausanne (EPFL)
Nguyen, Quan	University of Southern California
16:12-16:15	WeC15.5
<i>Real-Time Nonlinear MPC Strategy with Full Vehicle Validation for Autonomous Driving</i> , pp. 1982-1987.	
Allamaa, Jean Pierre	Siemens Digital Industries Software
Listov, Petr	Ecole Polytechnique Federale De Lausanne
Herman, Van der Auweraer	Siemens Industry Software NV
Jones, Colin N.	EPFL
Tong, Son	Siemens Digital Industries Software
16:15-16:18 (video presentation)	WeC15.6
<i>Look-Up Table Based Tire-Road Friction Coefficient Estimation of Each Driving Wheel</i> , pp. 1988-1993.	
Hsu, Chih-Hsien	Institute of Electrical Control Engineering, National Yang Ming
Ni, Sheng-Ping	National Yang Ming Chiao Tung University
Hsiao, Tesheng	National Yang Ming Chiao Tung University
16:18-16:21	WeC15.7
<i>Generation of Wheel Lockup Attacks on Nonlinear Dynamics of Vehicle Traction (I)</i> , pp. 1994-1999.	
Mohammadi, Alireza	University of Michigan, Dearborn
Malik, Hafiz	University of Michigan-Dearborn
Abbaszadeh, Masoud	GE Global Research
16:21-16:24	WeC15.8
<i>Real-Time On-Ramp Merging Control of Connected and Automated Vehicles Using Pseudospectral Convex Optimization</i> , pp. 2000-2005.	
Shi, Yang	University of Tennessee Knoxville
Wang, Zhenbo	University of Tennessee Knoxville
LaClair, Tim	Oak Ridge National Laboratory



Wang, Chieh (Ross)	Oak Ridge National Laboratory
Yuan, Jinghui	Oak Ridge National Laboratory
16:24-16:27	WeC15.9
<i>Real-Time Path-Tracking MPC for an Over-Actuated Autonomous Electric Vehicle</i> , pp. 2006-2011.	
Lin, Chenhui	Cranfield University
Siampis, Efstathios	Cranfield University
Velenis, Efstathios	Cranfield University
16:27-16:30	WeC15.10
<i>Power Control Optimization for Autonomous Hybrid Electric Vehicles with Flexible Driveline Torque Demand</i> , pp. 2012-2017.	
Kargar, Mohammadali	Texas A&M University
Song, Xingyong	Texas A&M University, College Station
16:30-16:33	WeC15.11
<i>A Numerical Approach for Solving the Inversion Problem for N-Trailer Systems</i> , pp. 2018-2024.	
Dahlmann, Julian	Friedrich-Alexander-Universität Erlangen-Nürnberg
Völz, Andreas	Friedrich-Alexander-University Erlangen-Nürnberg
Szabo, Tomas	Universität Ulm
Graichen, Knut	University Erlangen-Nürnberg (FAU)

**Safe Control: CBF and MPC (R) (RI Session)**

Chair: Paulson, Joel	The Ohio State University
Co-Chair: Cáceres Rodríguez, Gabriela	Universidad Loyola De Andalucía
16:00-16:03	WeC16.1
<i>Corridor MPC: Towards Optimal and Safe Trajectory Tracking</i> , pp. 2025-2032.	
Roque, Pedro	KTH Royal Institute of Technology
Shaw Cortez, Wenceslao	Pacific Northwest National Laboratory
Lindemann, Lars	University of Pennsylvania
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
16:03-16:06	WeC16.2
<i>Safe PDE Backstepping QP Control with High Relative Degree CBFs: Stefan Model with Actuator Dynamics</i> , pp. 2033-2038.	
Koga, Shumon	University of California, San Diego
Krstic, Miroslav	University of California, San Diego
16:06-16:09	WeC16.3
<i>A Mixed-Integer MPC with Polyhedral Potential Field Cost for Obstacle Avoidance</i> , pp. 2039-2044.	
Stoican, Florin	UPB (Politehnica UNiversity of Bucharest)
Nicu, Theodor-Gabriel	University Politehnica of Bucharest
Prodan, Ionela	Grenoble Institute of Technology (Grenoble INP) - Esisar
16:09-16:12	WeC16.4
<i>Pulse-Based, Periodic MPC for Irrigation in Smart and Sustainable Agriculture</i> , pp. 2045-2050.	
Cáceres Rodríguez, Gabriela	Universidad Loyola De Andalucía
Pereira, Mario	Universidad Loyola Andalucía
Millan, Pablo	Universidad Loyola Andalucía
Lozano, David	IFAPA
16:12-16:15	WeC16.5
<i>A Real-Time GP Based MPC for Quadcopters with Unknown Disturbances</i> , pp. 2051-2056.	
Schmid, Niklas	Universität Zu Lübeck
Gruner, Jonas	Universität Zu Lübeck
Abbas, Hossam	University of Lübeck
Rostalski, Philipp	University of Luebeck
16:15-16:18 (video presentation)	WeC16.6
<i>Sinkhorn MPC: Model Predictive Optimal Transport Over Dynamical Systems</i> , pp. 2057-2062.	
Ito, Kaito	Kyoto University
Kashima, Kenji	Kyoto University
16:18-16:21	WeC16.7
<i>Autonomous Wheel Loader Trajectory Tracking Control Using LPV-MPC</i> , pp. 2063-2069.	
Song, Ruitao	Baidu USA
Ye, Zhixian	Baidu USA
Wang, Liyang	Rutgers University
He, Tianyi	Utah State University
Zhang, Liangjun	Baidu Research
16:21-16:24	WeC16.8
<i>A Nonlinear Real-Time Pulse-Pattern MPC Scheme for Power-Electronics Circuits Operating in the Microseconds Range</i> , pp. 2070-2077.	
Stickan, Benjamin	Institute for Solar Energy Systems Freiburg
Frison, Gianluca	University of Freiburg
Burger, Bruno	Fraunhofer ISE

Diehl, Moritz	University of Freiburg
16:24-16:27	WeC16.9
<i>Reachability-Based Control Synthesis under Signal Temporal Logic Specifications</i> , pp. 2078-2083.	
Ren, Wei	Univeristy of Louvain
Jungers, Raphaël M.	University of Louvain
16:27-16:30	WeC16.10
<i>Sampling-Based Nonlinear MPC of Neural Network Dynamics with Application to Autonomous Vehicle Motion Planning</i> , pp. 2084-2090.	
Askari, Iman	University of Kansas
Badnava, Babak	University of Kansas
Woodruff, Thomas	University of Kansas
Zeng, Shen	Washington University in St. Louis
Fang, Huazhen	University of Kansas
16:30-16:33	WeC16.11
<i>Efficient Robust Global Optimization for Simulation-Based Problems Using Decomposed Gaussian Processes: Application to MPC Calibration</i> , pp. 2091-2097.	
Kudva, Akshay	The Ohio State University
Sorourifar, Farshud	Ohio State University
Paulson, Joel	The Ohio State University
16:33-16:36	WeC16.12
<i>Quadcopter Trajectory Tracking in the Presence of 4 Faulty Actuators: A Nonlinear MHE and MPC Approach</i> , pp. 2098-2103.	
Eltrabyly, Akram	Université Paris-Saclay, Univ. Evry, IBISC
Ichalal, Dalil	IBISC-Lab, Univ Evry, Paris Saclay University
Mammar, Said	Université d'Evry IBISC

<b>ThSP1</b>	Marquis Ballroom B
<b>Translating Control Technology for Personalized Medicine (Plenary Session)</b>	
Chair: Ferri, Bonnie	Georgia Inst. of Tech
Co-Chair: Wu, Wencen	San Jose State University
08:30-09:30	ThSP1.1
<i>Translating Control Technology for Personalized Medicine*</i> .	
Doyle III, Francis J.	Harvard University

<b>ThSP2</b>	Marquis Ballroom C
<b>Fish and Robot: Bio-Inspiration, Underwater Sensing, and the Role of Dynamics and Control (Plenary Session)</b>	
Chair: Ozay, Necmiye	Univ. of Michigan
Co-Chair: Dai, Ran	Purdue University
08:30-09:30	ThSP2.1
<i>Fish and Robot: Bio-Inspiration, Underwater Sensing, and the Role of Dynamics and Control*</i> .	
Tan, Xiaobo	Michigan State University

ThA01	International 4
<b>Learning</b> (Regular Session)	
Chair: Wang, Ruigang	The University of Sydney
Co-Chair: Manchester, Ian R.	University of Sydney
10:00-10:15 (video presentation)	ThA01.1
<i>Optimal Dynamic Regret for Online Convex Optimization with Squared <math>\ell_2</math> Norm Switching Cost</i> , pp. 2104-2109.	
Liu, Qingsong	Tsinghua University
Zhang, Yaoyu	Tsinghua University
10:15-10:30	ThA01.2
<i>Reduced SARX Modeling and Control Via Regression Trees</i> , pp. 2110-2115.	
Florenzan Reyes, Luis Felipe	UNIVAQ
Smarra, Francesco	University of L'Aquila
D'Innocenzo, Alessandro	University of L'Aquila
10:30-10:45	ThA01.3
<i>Youla-REN: Learning Nonlinear Feedback Policies with Robust Stability Guarantees</i> , pp. 2116-2123.	
Wang, Ruigang	The University of Sydney
Manchester, Ian R.	University of Sydney
10:45-11:00 (video presentation)	ThA01.4
<i>Quasi-Newton Iteration in Deterministic Policy Gradient</i> , pp. 2124-2129.	
Bahari Kordabad, Arash	Norwegian University of Science and Technology
Nejatbakhsh Esfahani, Hossein	Norwegian University of Science and Technology
Cai, Wenqi	King Abdullah University of Science and Technology
Gros, Sebastien	NTNU
11:00-11:15	ThA01.5
<i>Representation Learning for Context-Dependent Decision-Making</i> , pp. 2130-2135.	
Qin, Yuzhen	University of California, Riverside
Menara, Tommaso	University of California, San Diego
Oymak, Samet	University of California, Riverside
Ching, ShiNung	Washington University in St. Louis
Pasqualetti, Fabio	University of California, Riverside
11:15-11:30	ThA01.6
<i>Adaptive Gradient Online Control</i> , pp. 2136-2141.	
Muthirayan, Deepan	University of California at Irvine
Yuan, Jianjun	University of Minnesota
Khargonekar, Pramod	Univ. of California, Irvine

<b>ThA02</b>	<b>International 5</b>
<b>Cooperative Control (Regular Session)</b>	
Chair: Motee, Nader	Lehigh University
Co-Chair: Malikopoulos, Andreas A.	University of Delaware
10:00-10:15 (video presentation)	ThA02.1
<i>Direction-Only Orientation Alignment of Leader-Follower Networks</i> , pp. 2142-2147.	
Tran, Quoc Van	KAIST; Hanoi Univ. of Sci & Tech (HUST)
Ahn, Hyo-Sung	Gwangju Institute of Science and Technology (GIST)
Kim, Jinwhan	KAIST
10:15-10:30	ThA02.2
<i>Heterogeneous Coverage Control with Mobility-Based Operating Regions</i> , pp. 2148-2153.	
Kim, Soobum	Georgia Institute of Technology
Egerstedt, Magnus	University of California, Irvine
10:30-10:45	ThA02.3
<i>Robust Learning-Based Trajectory Planning for Emerging Mobility Systems</i> , pp. 2154-2159.	
Chalaki, Behdad	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
10:45-11:00	ThA02.4
<i>Distributed Cooperative Navigation with Communication Graph Maintenance Using Single-Agent Navigation Fields</i> , pp. 2160-2165.	
Guralnik, Dan	University of Florida
Stiller, Peter	Texas A&M University
Zegers, Federico	Air Force Research Laboratory
Dixon, Warren E.	University of Florida
11:00-11:15	ThA02.5
<i>Distributed Topology-Preserving Collaboration Algorithm against Inference Attack</i> , pp. 2166-2171.	
Wang, Zitong	Shanghai Jiao Tong University
Li, Yushan	Shanghai Jiao Tong University
Fang, Chongrong	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
11:15-11:30	ThA02.6
<i>Risk of Cascading Failures in Multi-Agent Rendezvous with Communication Time Delay</i> , pp. 2172-2177.	
Liu, Guangyi	Lehigh University
Pandey, Vivek	Lehigh University
Somarakis, Christoforos	Palo Alto Research Center
Motee, Nader	Lehigh University

ThA03	International 6
<b>Assured Resilience Via Learning and Controls (Invited Session)</b>	
Chair: Nazir, Nawaf	University of Vermont
Co-Chair: Kundu, Soumya	Pacific Northwest National Laboratory
Organizer: Nazir, Nawaf	Pacific Northwest National Laboratory
Organizer: Kundu, Soumya	Pacific Northwest National Laboratory
10:00-10:15	ThA03.1
<i>Large-Scale System Identification Using a Randomized SVD (I)</i> , pp. 2178-2185.	
Wang, Han	Columbia University
Anderson, James	Columbia University
10:15-10:30	ThA03.2
<i>Data-Driven Resilience Characterization of Control Dynamical Systems (I)</i> , pp. 2186-2193.	
Sinha, Subhrajit	Pacific Northwest National Laboratory
Nandanoori, Sai Pushpak	Pacific Northwest National Laboratory
Ramachandran, Thiagarajan	Pacific Northwest National Laboratory
Bakker, Craig	Pacific Northwest National Laboratory
Singhal, Ankit	Pacific Northwest National Lab
10:30-10:45	ThA03.3
<i>Koopman-Based Differentiable Predictive Control for the Dynamics-Aware Economic Dispatch Problem (I)</i> , pp. 2194-2201.	
King, Ethan	Pacific Northwest National Laboratory
Drgona, Jan	Pacific Northwest National Laboratory
Tuor, Aaron	Pacific Northwest National Laboratory
Abhyankar, Shrirang	Pacific Northwest National Laboratory
Bakker, Craig	Pacific Northwest National Laboratory
Bhattacharya, Arnab	Pacific Northwest National Laboratory
Vrabie, Draguna	Pacific Northwest National Laboratory
10:45-11:00	ThA03.4
<i>Distributed Transient Safety Verification Via Robust Control Invariant Sets: A Microgrid Application (I)</i> , pp. 2202-2207.	
Bouvier, JeanBaptiste	University of Illinois at Urbana-Champaign
Nandanoori, Sai Pushpak	Pacific Northwest National Laboratory
Ornik, Melkior	University of Illinois Urbana-Champaign
Kundu, Soumya	Pacific Northwest National Laboratory
11:00-11:15	ThA03.5
<i>Secure Control Regions for Distributed Stochastic Systems with Application to Distributed Energy Resource Dispatch (I)</i> , pp. 2208-2213.	
Comden, Joshua	National Renewable Energy Laboratory
Zamzam, Ahmed S.	National Renewable Energy Laboratory
Bernstein, Andrey	National Renewable Energy Lab (NREL)
11:15-11:30	ThA03.6
<i>Optimization-Based Resiliency Verification in Microgrids Via Maximal Adversarial Set Characterization (I)</i> , pp. 2214-2220.	
Nazir, Nawaf	University of Vermont
Ramachandran, Thiagarajan	Pacific Northwest National Laboratory
Bhattacharya, Saptarshi	Pacific Northwest National Laboratory
Singhal, Ankit	Pacific Northwest National Lab
Kundu, Soumya	Pacific Northwest National Laboratory
Adetola, Veronica	Pacific Northwest National Lab



<b>ThA04</b>	International 7
<b>Lyapunov Methods (Regular Session)</b>	
Chair: Xiao, Wei	Massachusetts Institute of Technology
Co-Chair: Li, Huayi	University of Michigan, Ann Arbor
10:00-10:15	ThA04.1
<i>Control Barrier Functions for Systems with Multiple Control Inputs</i> , pp. 2221-2226.	
Xiao, Wei	Massachusetts Institute of Technology
Cassandras, Christos G.	Boston University
Belta, Calin	Boston University
Rus, Daniela	MIT
10:15-10:30 (video presentation)	ThA04.2
<i>Boundary Control of the Kuramoto-Sivashinsky Equation under Intermittent Data Availability</i> , pp. 2227-2232.	
Maghenem, Mohamed Adlene	Gipsa Lab, CNRS, France
Prieur, Christophe	CNRS
Witrant, Emmanuel	Cnrs - Gipsa Lab
10:30-10:45	ThA04.3
<i>High Order Robust Adaptive Control Barrier Functions and Exponentially Stabilizing Adaptive Control Lyapunov Functions</i> , pp. 2233-2238.	
Cohen, Max	Boston University
Belta, Calin	Boston University
10:45-11:00 (video presentation)	ThA04.4
<i>Duality-Based Convex Optimization for Real-Time Obstacle Avoidance between Polytopes with Control Barrier Functions</i> , pp. 2239-2246.	
Thirugnanam, Akshay	University of California, Berkeley
Zeng, Jun	University of California, Berkeley
Sreenath, Koushil	University of California, Berkeley
11:00-11:15	ThA04.5
<i>Data-Driven Optimal Control of Nonlinear Dynamics under Safety Constraints</i> , pp. 2247-2252.	
Yu, Hongzhe	Georgia Institute of Technology
Moyalán, Joseph	Clemson University
Vaidya, Umesh	Clemson University
Chen, Yongxin	Georgia Institute of Technology
11:15-11:30	ThA04.6
<i>Radio Frequency Impedance Matching Based on Control Lyapunov Function</i> , pp. 2253-2258.	
Rodríguez, Carlos	CICESE
Viola, Jairo	University of California, Merced
Alvarez, Joaquin	CICESE
Chen, YangQuan	University of California, Merced

<b>ThA05</b>	International 8
<b>Recent Advances in Reachability Analysis and Its Applications (Invited Session)</b>	
Chair: Yang, Liren	University of Michigan
Co-Chair: Yong, Sze Zheng	Arizona State University
Organizer: Yang, Liren	University of Michigan
Organizer: Yong, Sze Zheng	Arizona State University
Organizer: Liu, Jun	University of Waterloo
10:00-10:15	ThA05.1
<i>Scalable Zonotopic Under-Approximation of Backward Reachable Sets for Uncertain Linear Systems</i> , pp. 2259-2264.	
Yang, Liren	University of Michigan
Ozay, Necmiye	Univ. of Michigan
10:15-10:30	ThA05.2
<i>Guaranteed State Estimation Via Direct Polytopic Set Computation for Nonlinear Discrete-Time Systems</i> , pp. 2265-2270.	
Khajenejad, Mohammad	Arizona State University
Shoaib, Fatima	Arizona State University
Yong, Sze Zheng	Arizona State University
10:30-10:45	ThA05.3
<i>Robust Interval Observer for Systems Described by the Fornasini-Marchesini Second Model</i> , pp. 2271-2276.	
Chevet, Thomas	ONERA
Rauh, Andreas	Carl Von Ossietzky Universität Oldenburg
Dinh, Thach N.	CNAM Paris
Marzat, Julien	ONERA - the French Aerospace Lab
Raïssi, Tarek	Conservatoire National Des Arts Et Métiers
10:45-11:00	ThA05.4
<i>Decomposition Functions for Interconnected Mixed Monotone Systems</i> , pp. 2277-2282.	
Abate, Matthew	Georgia Institute of Technology
Coogan, Samuel	Georgia Institute of Technology
11:00-11:15 (video presentation)	ThA05.5
<i>Sufficient Conditions for Robust Probabilistic Reach-Avoid-Stay Specifications Using Stochastic Lyapunov-Barrier Functions (I)</i> , pp. 2283-2288.	
Meng, Yiming	University of Waterloo
Liu, Jun	University of Waterloo
11:15-11:30 (video presentation)	ThA05.6
<i>Reachability Set Analysis of Closed-Loop Nonlinear Systems with Neural Network Controllers</i> , pp. 2289-2294.	
Sadeghzadeh, Arash	Eindhoven University of Technology
Garoche, Pierre Loic	ENAC

<b>ThA06</b>	<b>International 9</b>
<b>Optimal Control I (Regular Session)</b>	
Chair: Cassandras, Christos G.	Boston University
Co-Chair: Taheri, Ehsan	Auburn University
10:00-10:15	ThA06.1
<i>Flow Control of Wireless Mesh Networks Using LQR and Factor Graphs</i> , pp. 2295-2302.	
Darnley, Ryan	Carnegie Mellon University
Travers, Matthew	Carnegie Mellon University
10:15-10:30	ThA06.2
<i>Fast Computation of Tight Funnels for Piecewise Polynomial Systems</i> , pp. 2303-2308.	
Jang, Inkyu	Seoul National University
Seo, Hoseong	Samsung Electronics
Kim, H. Jin	Seoul National University
10:30-10:45	ThA06.3
<i>Feasibility Guaranteed Traffic Merging Control Using Control Barrier Functions</i> , pp. 2309-2314.	
Xu, Kaiyuan	Boston University
Xiao, Wei	Massachusetts Institute of Technology
Cassandras, Christos G.	Boston University
10:45-11:00	ThA06.4
<i>Rope-Assisted Docking Maneuvers for Autonomous Surface Vessels</i> , pp. 2315-2320.	
Bartels, Sönke	Kiel University
Helling, Simon	Kiel University
Meurer, Thomas	Kiel University
11:00-11:15 (video presentation)	ThA06.5
<i>Distance-Based Formation Control of Nonlinear Agents Over Planar Directed Graphs</i> , pp. 2321-2326.	
Babazadeh, Reza	Concordia University
Selmic, Rastko	Concordia University
11:15-11:30	ThA06.6
<i>Optimal Resource Scheduling and Allocation in Distributed Computing Systems</i> , pp. 2327-2332.	
Ren, Wei	Univeristy of Louvain
Vlahakis, Eleftherios	Queen's University Belfast
Athanasopoulos, Nikolaos	Queen's University Belfast
Jungers, Raphaël M.	University of Louvain

**ThA07** International 10

**Kalman Filtering** (Regular Session)

Chair: Ziaukas, Zygimantas Institute of Mechatronic Systems, Leibniz Universität Hannover

Co-Chair: Xu, Jie University of California, Riverside

10:00-10:15 ThA07.1

*Constrained Smoothers for State Estimation of Vapor Compression Cycles*, pp. 2333-2340.

Deshpande, Vedang M. Texas A&M University

Laughman, Christopher R. Mitsubishi Electric Research Labs

Ma, Yingbo Julia Computing

Rackauckas, Christopher Julia Computing

10:15-10:30 ThA07.2

*Uncertainty Quantification for the Extended and the Deterministic-Gain Kalman Filters*, pp. 2341-2346.

Wei, Shihong Johns Hopkins University

Spall, James C. Johns Hopkins Univ

10:30-10:45 (video presentation) ThA07.3

*Multi-Kernel Maximum Correntropy Kalman Filter*, pp. 2347-2352.

Li, Shilei Hong Kong University of Science and Technology

Shi, Dawei Beijing Institute of Technology

Zou, Wulin Hong Kong University of Science and Technology

Shi, Ling Hong Kong University of Science and Technology

10:45-11:00 ThA07.4

*State and Parameter Estimation in a Semitrailer for Different Loading Conditions Only Based on Trailer Signals*, pp. 2353-2360.

Ehlers, Simon F. G. Leibniz University Hannover

Ziaukas, Zygimantas Institute of Mechatronic Systems, Leibniz Universität Hannover

Kobler, Jan-Philipp BPW Bergische Achsen KG

Jacob, Hans-Georg Leibniz University Hannover

11:00-11:15 ThA07.5

*A Secure Communication Protocol with Application to Networked Kalman Filtering*, pp. 2361-2366.

Fioravanti, Camilla University Campus Bio-Medico of Rome

Oliva, Gabriele University Campus Bio-Medico of Rome

Panzieri, Stefano Univ. "Roma Tre"

Hadjicostis, Christoforos N. University of Cyprus

11:15-11:30 ThA07.6

*Distributed Invariant Extended Kalman Filter for 3-D Dynamic State Estimation Using Lie Groups*, pp. 2367-2372.

Xu, Jie University of California, Riverside

Zhu, Pengxiang University of California, Riverside

Ren, Wei University of California, Riverside

<b>ThA08</b>	International 2
<b>Estimation and Control of Infinite Dimensional Systems IV (Invited Session)</b>	
Chair: Demetriou, Michael A.	Worcester Polytechnic Institute
Co-Chair: Zheng, Tongjia	University of Notre Dame
Organizer: Demetriou, Michael A.	Worcester Polytechnic Institute
Organizer: Burns, John A	Virginia Tech
10:00-10:15	ThA08.1
<i>Neural Network Optimal Feedback Control with Enhanced Closed Loop Stability</i> , pp. 2373-2378.	
Nakamura-Zimmerer, Tenavi	University of California, Santa Cruz
Gong, Qi	University of California, Santa Cruz
Kang, Wei	Naval Postgraduate School
10:15-10:30	ThA08.2
<i>Multi-Band Modal Consensus Filters for Parabolic Partial Differential Equations (I)</i> , pp. 2379-2384.	
Demetriou, Michael A.	Worcester Polytechnic Institute
10:30-10:45	ThA08.3
<i>Spill-Free Transfer and Stabilization of Viscous Liquid (I)</i> , pp. 2385-2390.	
Karafyllis, Iasson	National Technical University of Athens
Krstic, Miroslav	University of California, San Diego
10:45-11:00	ThA08.4
<i>Switching Control of Semilinear Vector Reaction-Convection-Diffusion PDE (I)</i> , pp. 2391-2396.	
Kang, Wen	Beijing Institute of Technology
Fridman, Emilia	Tel-Aviv Univ
Liu, Chuan-Xin	University of Science and Technology Beijing
11:00-11:15 (video presentation)	ThA08.5
<i>Available Energy-Based Interconnection and Entropy Assignment (ABI-EA) Boundary Control of the Heat Equation: An Irreversible Port Hamiltonian Approach (I)</i> , pp. 2397-2402.	
Mora, Luis	University of Waterloo
Le Gorrec, Yann	Ensmm, Femto-St / As2m
Ramirez, Hector	Universidad Federico Santa Maria
11:15-11:30	ThA08.6
<i>Event-Based Boundary Control of One-Phase Stefan Problem: A Static Triggering Approach</i> , pp. 2403-2408.	
Rathnayake, Bhatiya	Student (Rensselaer Polytechnic Institute, New York 12180, USA)
Diagne, Mamadou	Rensselaer Polytechnic Institute

<b>ThA09</b>	<b>International 3</b>
<b>Controls in Advanced Driver-Assistance Systems (Invited Session)</b>	
Chair: Dadras, Sara	Company
Co-Chair: Chen, Pingen	Tennessee Technological University
Organizer: Dadras, Sara	Company
Organizer: Dadras, Soodeh	Utah State University
Organizer: Chen, Pingen	Tennessee Technological University
10:00-10:15	ThA09.1
<i>Driver Assistance Eco-Driving and Transmission Control with Deep Reinforcement Learning (I)</i> , pp. 2409-2415.	
Kerbel, Lindsey	Clemson University
Ayalew, Beshah	Clemson University
Ivanco, Andrej	Allison Transmission
Loiselle, Keith	Allison Transmission
10:15-10:30	ThA09.2
<i>A Topology Based Virtual Co-Driver for Country Roads (I)</i> , pp. 2416-2423.	
Adelberger, Daniel	Johannes Kepler University Linz
Singer, Gunda	Johannes Kepler University
Del Re, Luigi	Johannes Kepler University Linz
10:30-10:45	ThA09.3
<i>Designing the Loss Function of Vehicle Speed Predictors to Enhance Ecological Adaptive Cruise Control Performance (I)</i> , pp. 2424-2429.	
Hyeon, Eunjeong	University of Michigan
Ersal, Tulga	University of Michigan
Kim, Youngki	University of Michigan - Dearborn
Stefanopoulou, Anna G.	University of Michigan
10:45-11:00	ThA09.4
<i>Cautious Merging Assistant (I)</i> , pp. 2430-2436.	
Assadi, Amin	Johannes Kepler University Linz
Meier, Florian	Johannes Kepler University Linz
Del Re, Luigi	Johannes Kepler University Linz
11:00-11:15	ThA09.5
<i>Terrain Parameter Estimation from Proprioceptive Sensing of the Suspension Dynamics in Off-Road Vehicles</i> , pp. 2437-2442.	
Buzhardt, Jake	Clemson University
Tallapragada, Phanindra	Clemson University
11:15-11:30	ThA09.6
<i>Koopman Model Predictive Control for Eco-Driving of Automated Vehicles</i> , pp. 2443-2448.	
Gupta, Shobhit	The Ohio State University
Shen, Daliang	Argonne National Laboratory
Karbowski, Dominik	Argonne National Laboratory
Rousseau, Aymeric	Argonne National Laboratory

ThA10	International C
<b>Sustainability and Industry 4.0</b> (Tutorial Session)	
Chair: Braun, Birgit	The Dow Chemical Company
Co-Chair: Bakshi, Bhavik R.	Ohio State Univ
Organizer: Braun, Birgit	The Dow Chemical Company
Organizer: Bakshi, Bhavik R.	Ohio State Univ
10:00-10:45	ThA10.1
<i>Sustainability and Industry 4.0: Obstacles and Opportunities (I)</i> , pp. 2449-2460.	
Bakshi, Bhavik R.	Ohio State Univ
Paulson, Joel	The Ohio State University
10:45-11:00	ThA10.2
<i>Science-Based Data Analytics for Molecular-To-Systems Engineering (I)*</i> .	
Dowling, Alexander	University of Notre Dame
11:00-11:15	ThA10.3
<i>Systematic Dimensionality Reduction for Optimization and Control with Many Sustainability Objectives (I)*</i> .	
Allman, Andrew	University of Michigan
11:15-11:30	ThA10.4
<i>Configurable Graph-Based Modeling and Optimization Framework for Energy Systems (I)*</i> .	
Ellis, Matthew	University of California, Davis

ThA11	International 1
<b>Process Control (Regular Session)</b>	
Chair: El-Farra, Nael H.	University of California, Davis
Co-Chair: Durand, Helen	Wayne State University
10:00-10:15 (video presentation)	ThA11.1
<i>Robust Feedback Controller Design Based on Bode's Integrals for General Minimum-Phase Systems</i> , pp. 2461-2466.	
Yuan, Jie	Southeast University
Jiao, Yiping	Southeast University
Wu, Zhenlong	Zhengzhou University
Ma, Jiali	Southeast University
Fei, Shumin	Southeast Univ
Ding, Yichen	The University of Texas at Dallas
10:15-10:30	ThA11.2
<i>Discovery of Alarm Correlations Based on Pattern Mining and Network Analysis</i> , pp. 2467-2472.	
Mohan Rao, Harikrishna Rao	University of Alberta
Zhou, Boyuan	University of Alberta
Chen, Tongwen	University of Alberta
Shah, Sirish L.	Univ. of Alberta
10:30-10:45	ThA11.3
<i>Controller Switching-Enabled Active Detection of Multiplicative Cyberattacks on Process Control Systems</i> , pp. 2473-2478.	
Narasimhan, Shilpa	University of California, Davis
El-Farra, Nael H.	University of California, Davis
Ellis, Matthew	University of California, Davis
10:45-11:00	ThA11.4
<i>On-Line Process Physics Tests Via Lyapunov-Based Economic Model Predictive Control and Simulation-Based Testing of Image-Based Process Control</i> , pp. 2479-2484.	
Oyama, Henrique	Wayne State University
Akkarakaran Francis Leonard, Fnu	Wayne State University
Rahman, Minhazur	Wayne State University
Gjonaj, Giovanni	Wayne State University
Williamson, Michael	Wayne State University
Durand, Helen	Wayne State University
11:00-11:15	ThA11.5
<i>Application of Economic Model Predictive Control to a Lab Scale Industrial Process</i> , pp. 2485-2490.	
Chandrasekar, Aswin	McMaster University
Garg, Abhinav	McMaster University
Abdulhussain, Hassan	McMaster University
Gritsichine, Vladimir	McMaster University
Thompson, Michael R.	McMaster University
Mhaskar, Prashant	McMaster University
11:15-11:30	ThA11.6
<i>Model Predictive Control of Fiber Deformation in a Batch Pulp Digester</i> , pp. 2491-2496.	
Jung, Juyeong	Korea Advanced Institute of Science and Technology (KAIST)
Choi, Hyun-Kyu	Texas A&M University
Son, Sang Hwan	Texas A&M University
Kwon, Joseph	Texas A&M University
Lee, Jay H.	Korea Advanced Institute of Science and Technology



<b>ThA12</b>	International A
<b>Flight Control (Regular Session)</b>	
Chair: Shtessel, Yuri	Univ. of Alabama at Huntsville
Co-Chair: Ulrich, Steve	Carleton University
10:00-10:15	ThA12.1
<i>Practical Generalized Relative Degree Approach to Sliding Mode Control Design</i> , pp. 2497-2502.	
Jesionowski, Robert	The University of Alabama in Huntsville
Shtessel, Yuri	Univ. of Alabama at Huntsville
Plestan, Franck	Ecole Centrale De Nantes-LS2N
10:15-10:30	ThA12.2
<i>Towards Prescribed Accuracy in Under-Tuned Super-Twisting Sliding Mode Control Loops - Experimental Verification</i> , pp. 2503-2508.	
Papageorgiou, Dimitrios	Technical University of Denmark
10:30-10:45	ThA12.3
<i>Accuracy Improvement of Inertial Measurement Units Via Second Order Sliding Mode Observer and Dynamic Inversion</i> , pp. 2509-2514.	
Shtessel, Yuri	Univ. of Alabama at Huntsville
Tournes, Christian H.	Univ. of Alabama at Huntsville
Spencer, Allen	Aero Thermo Technology
Montgomery, Laddin	Aero Thermo Technology
10:45-11:00	ThA12.4
<i>Adaptive Force Control for Small Celestial Body Sampling</i> , pp. 2515-2520.	
Mohseni, Nima	University of Michigan, Ann Arbor
Bernstein, Dennis S.	Univ. of Michigan
Quadrelli, Marco	NASA-JPL
11:00-11:15	ThA12.5
<i>Nonlinear Generalized Predictive Control for Earth-Orbiting Formation-Flying Spacecraft</i> , pp. 2521-2526.	
Rao, Divya	Carleton University
Ulrich, Steve	Carleton University
11:15-11:30	ThA12.6
<i>A Physics-Based Safety Recovery Approach for Fault-Resilient Multi-Quadcopter Coordination</i> , pp. 2527-2532.	
Emadi, Hamid	University of Arizona
Uppaluru, Harshvardhan	University of Arizona
Rastgoftar, Hossein	University of Arizona

<b>ThA13</b>	International B
<b>Control Applications I (Regular Session)</b>	
Chair: Fekih, Afef	University of Louisiana at Lafayette
Co-Chair: Liu, Jinfeng	University of Alberta
10:00-10:15	ThA13.1
<i>A Priority-Aware Replanning and Resequencing Framework for Coordination of Connected and Automated Vehicles</i> , pp. 2533-2538.	
Chalaki, Behdad	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
10:15-10:30	ThA13.2
<i>Grid-Interactive Electric Vehicle and Building Coordination Using Coupled Distributed Control (I)</i> , pp. 2539-2545.	
Wald, Dylan	Colorado School of Mines, National Renewable Energy Laboratory
Johnson, Kathryn	Colorado School of Mines
Bay, Christopher	National Renewable Energy Laboratory
King, Jennifer	National Renewable Energy Laboratory
Chintala, Rohit	Texas A&M University
10:30-10:45	ThA13.3
<i>Comparing Digital Implementations of Torque Control for BLDC Motors with Trapezoidal Back-Emf</i> , pp. 2546-2552.	
Pozo Fortunić, Edmundo	Technische Universität München
Swikir, Abdalla	Technical University of Munich
Abdolshah, Saeed	Technical University of Munich
Haddadin, Sami	Technische Universität München
10:45-11:00	ThA13.4
<i>Fractional Order SMC Design to Enhance the Dynamic Stability of PV Systems During Unexpected Network Events</i> , pp. 2553-2558.	
Musarrat, Md	University of Louisiana at Lafayette
Fekih, Afef	University of Louisiana at Lafayette
11:00-11:15	ThA13.5
<i>Adaptive Model Reduction and State Estimation of Agro-Hydrological Systems</i> , pp. 2559-2564.	
Sahoo, Soumya	University of Alberta
Liu, Jinfeng	University of Alberta
11:15-11:30	ThA13.6
<i>A Learning-Based Model Predictive Control Framework for Real-Time SIR Epidemic Mitigation</i> , pp. 2565-2570.	
She, Baike	Purdue University
Sundaram, Shreyas	Purdue University
Pare, Philip E.	Purdue University

ThA15	Imperial Ballroom A
<b>Machine Learning I (R) (RI Session)</b>	
Chair: Findeisen, Rolf	TU Darmstadt
Co-Chair: Biswas, Gautam	Vanderbilt University
10:00-10:03	ThA15.1
<i>Data-Driven Learning Control for Building Energy Management</i> , pp. 2571-2577.	
Naug, Avisek	Vanderbilt University
Quinones-Grueiro, Marcos	Vanderbilt University
Biswas, Gautam	Vanderbilt University
10:03-10:06	ThA15.2
<i>State-Space Kriging: A Data-Driven Method to Forecast Nonlinear Dynamical Systems</i> , pp. 2578-2583.	
Carnerero, A. Daniel	University of Seville
Ramirez, Daniel R.	Univ. of Sevilla
Alamo, Teodoro	Universidad De Sevilla
10:06-10:09	ThA15.3
<i>Koopman Methods for Estimation of Motion Over Unknown, Regularly Embedded Submanifolds</i> , pp. 2584-2591.	
Powell, Nathan	Virginia Tech
Liu, Bowei	Virginia Tech
Kurdila, Andrew J.	Virginia Tech
10:09-10:12	ThA15.4
<i>Improving Linear Separability of Pulse Wave Laser Additive Manufacturing Classifiers with Rational Feature Engineering and Selection</i> , pp. 2592-2597.	
Summers, Alexander	Auburn University
Yin, Houshang	Auburn University
Fischer, Ralf	Auburn University
Prorok, Barton	Auburn University
Lou, Xiaoyuan	Auburn University
He, Qinghua	Auburn University
10:12-10:15	ThA15.5
<i>Learning from Demonstrations under Stochastic Temporal Logic Constraints</i> , pp. 2598-2603.	
Kyriakis, Panagiotis	University of Southern California
Deshmukh, Jyotirmoy	University of Southern California
Bogdan, Paul	USC
10:15-10:18	ThA15.6
<i>Competitive Control with Delayed Imperfect Information</i> , pp. 2604-2610.	
Yu, Chenkai	Columbia University
Shi, Guanya	California Institute of Technology
Chung, Soon-Jo	California Institute of Technology
Yue, Yisong	California Institute of Technology
Wierman, Adam	California Institute of Technology
10:18-10:21 (video presentation)	ThA15.7
<i>Soft Actor-Critic with Integer Actions</i> , pp. 2611-2616.	

Fan, Ting-Han	Princeton University
Wang, Yubo	Siemens
10:21-10:24	ThA15.8
<i>Probabilistic Modeling Using Tree Linear Cascades</i> , pp. 2617-2622.	
Landolfi, Nicholas Charles	Stanford University
Lall, Sanjay	Stanford University
10:24-10:27	ThA15.9
<i>Learning-Based Initialization Strategy for Safety of Multi-Vehicle Systems</i> , pp. 2623-2630.	
Shih, Jennifer C.	UC Berkeley
Rai, Akshara	Facebook AI Research
El Ghaoui, Laurent	Univ. of California at Berkeley
10:27-10:30	ThA15.10
<i>Safe Exploration Using Learning Supported Tube-Based Robust Model Predictive Control for Repetitive Processes</i> , pp. 2631-2636.	
Morabito, Bruno	OVG University Magdeburg
Nguyen, Hoang Hai	Otto-Von-Guericke University Magdeburg
Matschek, Janine	Otto-Von-Guericke-Universität Magdeburg
Findeisen, Rolf	TU Darmstadt
10:30-10:33	ThA15.11
<i>Optimal Operation and Control of Towing Kites Using Online and Offline Gaussian Process Learning Supported Model Predictive Control</i> , pp. 2637-2643.	
Eckel, Christina	Hamburg University of Technology
Maiworm, Michael	OVGU Magdeburg
Findeisen, Rolf	TU Darmstadt
10:33-10:36	ThA15.12
<i>Localized Motion Dynamics Modeling of a Soft Robot: A Data-Driven Adaptive Learning Approach</i> , pp. 2644-2649.	
Chen, Xiaotian	University of Rhode Island
Stegagno, Paolo	University of Rhode Island
Zeng, Wei	South China University of Technology
Yuan, Chengzhi	University of Rhode Island

<b>ThA16</b>	M103-M105
<b>Reinforcement Learning I (R)</b> (RI Session)	
Chair: Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Co-Chair: Tomizuka, Masayoshi	Univ of California, Berkeley
10:00-10:03 (video presentation)	ThA16.1
<i>A Novel Reinforcement Learning-Based Unsupervised Fault Detection for Industrial Manufacturing Systems</i> , pp. 2650-2655.	
Acernese, Antonio	Università Degli Studi Del Sannio
Yerudkar, Amol	University of Sannio
Del Vecchio, Carmen	Università Del Sannio
10:03-10:06	ThA16.2
<i>Active Fault-Tolerant Control Integrated with Reinforcement Learning Application to Robotic Manipulator</i> , pp. 2656-2662.	
Yan, Zichen	Tsinghua University
Tan, Junbo	Tsinghua University
Liang, Bin	Tsinghua University
Liu, Houde	Tsinghua University
Yang, Jun	Tsinghua University
10:06-10:09	ThA16.3
<i>Hysteresis-Based RL: Robustifying Reinforcement Learning-Based Control Policies Via Hybrid Control</i> , pp. 2663-2668.	
de Priester, Jan	University of California, Santa Cruz
Sanfelice, Ricardo G.	University of California at Santa Cruz
Van De Wouw, Nathan	Eindhoven University of Technology
10:09-10:12	ThA16.4
<i>Impact of Sensor and Actuator Clock Offsets on Reinforcement Learning</i> , pp. 2669-2674.	
Fotiadis, Filippos	Georgia Institute of Technology
Kanellopoulos, Aris	Georgia Institute of Technology
Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Hugues, Jerome	Carnegie Mellon University / Software Engineering Institute
10:12-10:15	ThA16.5
<i>Reinforcement Learning Based Online Parameter Adaptation for Model Predictive Tracking Control under Slippery Condition</i> , pp. 2675-2682.	
Gao, Huidong	University of California-Berkeley
Zhou, Rui	University of California, Berkeley
Tomizuka, Masayoshi	Univ of California, Berkeley
Xu, Zhuo	UC Berkeley
10:15-10:18	ThA16.6
<i>Causal versus Marginal Shapley Values for Robotic Lever Manipulation Controlled Using Deep Reinforcement Learning</i> , pp. 2683-2690.	
Remman, Sindre Benjamin	Norwegian University of Science and Technology
Strumke, Inga	Norwegian University of Science and Technology
Lekkas, Anastasios	Norwegian University of Science and Technology
10:18-10:21 (video presentation)	ThA16.7
<i>Reinforcement Learning Approach to Autonomous PID Tuning</i> , pp. 2691-2696.	
Dogru, Oguzhan	University of Alberta
Velswamy, Kirubakaran	National Institute of Technology, Tiruchirappalli
Ibrahim, Fadi	University of Alberta
Wu, Yuqi	University of Alberta

Sundaramoorthy, Arun Senthil	University of Alberta
Huang, Biao	Univ. of Alberta
Xu, Richard(Shu)	Emerson Automation Solutions
Mark Nixon, Mark	Emerson Process Management
Bell, Noel	Emerson Automation Solutions
10:21-10:24	ThA16.8
<i>A Probabilistic Perspective on Risk-Sensitive Reinforcement Learning</i> , pp. 2697-2702.	
Noorani, Erfan	University of Maryland College Park
Baras, John S.	University of Maryland
10:24-10:27	ThA16.9
<i>Embracing Risk in Reinforcement Learning: The Connection between Risk-Sensitive Exponential and Distributionally Robust Criteria</i> , pp. 2703-2708.	
Noorani, Erfan	University of Maryland College Park
Baras, John S.	University of Maryland
10:27-10:30	ThA16.10
<i>Intermittent Reinforcement Learning with Sparse Rewards</i> , pp. 2709-2714.	
Sahoo, Prachi	Georgia Inst. of Tech
Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
10:30-10:33	ThA16.11
<i>Stability Constrained Reinforcement Learning for Real-Time Voltage Control</i> , pp. 2715-2721.	
Shi, Yuanyuan	University of California San Diego
Qu, Guannan	California Institute of Technology
Low, Steven	California Institute of Technology
Anandkumar, Animashree	California Institute of Technology
Wierman, Adam	California Institute of Technology
10:33-10:36	ThA16.12
<i>A Reinforcement Learning-Based Adaptive Time-Delay Control and Its Application to Robot Manipulators</i> , pp. 2722-2729.	
Baek, Seungmin	POSTECH
Baek, Jongchan	Pohang University of Science and Technology (POSTECH)
Choi, Jinsuk	Postech
Han, Soohye	Pohang University of Science and Technology

<b>ThB01</b>	International 4
<b>Learning in Nonlinear Systems</b> (Regular Session)	
Chair: Sanyal, Amit	Syracuse University
Co-Chair: Sojoudi, Somayeh	UC Berkeley
14:30-14:45	ThB01.1
<i>Input Influence Matrix Design for MIMO Discrete-Time Ultra-Local Model</i> , pp. 2730-2735.	
Teng, Sangli	University of Michigan
Sanyal, Amit	Syracuse University
Vasudevan, Ramanarayan	University of Michigan
Bloch, Anthony M.	Univ. of Michigan
Ghaffari, Maani	University of Michigan
14:45-15:00	ThB01.2
<i>Learning the Koopman Eigendecomposition: A Diffeomorphic Approach</i> , pp. 2736-2741.	
Bevanda, Petar	Technical University of Munich
Kirmayr, Johannes	Technische Universität München (TUM)
Sosnowski, Stefan	Technical University of Munich
Hirche, Sandra	Technische Universität München
15:00-15:15	ThB01.3
<i>Learning Stable Koopman Embeddings</i> , pp. 2742-2747.	
Fan, Fletcher	The University of Sydney
Yi, Bowen	The University of Sydney
Rye, David C	The University of Sydney
Shi, Guodong	The University of Sydney
Manchester, Ian R.	University of Sydney
15:15-15:30	ThB01.4
<i>Control and Uncertainty Propagation in the Presence of Outliers by Utilizing Student-T Process Regression</i> , pp. 2748-2754.	
Papadimitriou, Dimitris	UC Berkeley
Sojoudi, Somayeh	UC Berkeley
15:30-15:45	ThB01.5
<i>Variational Message Passing for Online Polynomial NARMAX Identification</i> , pp. 2755-2760.	
Kouw, Wouter Marco	TU Eindhoven
Podusenko, Albert	TU Eindhoven
Koudahl, Magnus Tønder	TU Eindhoven
Schoukens, Maarten	Eindhoven University of Technology
15:45-16:00	ThB01.6
<i>Collaborative Multi-Agent Stochastic Linear Bandits</i> , pp. 2761-2766.	
Moradipari, Ahmadreza	University of California Santa Barbara
Ghavamzadeh, Mohammad	Adobe Systems Inc
Alizadeh, Mahnoosh	University of California Santa Barbara

<b>ThB02</b>	International 5
<b>Distributed Control (Regular Session)</b>	
Chair: Beck, Carolyn L.	Univ of Illinois, Urbana-Champaign
Co-Chair: Guay, Martin	Queens University
14:30-14:45	ThB02.1
<i>RCP: A Temporal Clustering Algorithm for Real-Time Controller Placement in Mobile SDN Systems</i> , pp. 2767-2772.	
Soleymanifar, Reza	University of Illinois at Urbana-Champaign
Beck, Carolyn L.	Univ of Illinois, Urbana-Champaign
14:45-15:00 (video presentation)	ThB02.2
<i>Resilient Approximation-Based Distributed Nonconvex Optimization</i> , pp. 2773-2778.	
Zhang, Yilin	Shanghai Jiao Tong University
He, Zhiyu	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
15:00-15:15	ThB02.3
<i>Distributed Continuous-Time Optimization for Networked Lagrangian Systems with Time-Varying Cost Functions under Fixed Graphs</i> , pp. 2779-2784.	
Ding, Yong	University of California, Riverside
Wang, Hanlei	Beijing Institute of Control Engineering
Ren, Wei	University of California, Riverside
15:15-15:30	ThB02.4
<i>A Modified Gradient Flow for Distributed Convex Optimization on Directed Networks</i> , pp. 2785-2790.	
Jahvani, Mohammad	Queen's University
Guay, Martin	Queens University
15:30-15:45	ThB02.5
<i>Distributed Optimization Over Time-Varying Networks: Imperfect Information with Feedback Is As Good As Perfect Information</i> , pp. 2791-2796.	
Reisizadeh, Hadi	University of Minnesota
Touri, Behrouz	University of California San Diego
Mohajer, Soheil	Department of Electrical and Computer Engineering, University Of
15:45-16:00 (video presentation)	ThB02.6
<i>On Strong Structural Controllability of Temporal Networks</i> , pp. 2797-2802.	
Srighakollapu, Manikya Valli	Indian Institute of Technology Madras
Kalaimani, Rachel Kalpana	Indian Institute of Technology Madras
Pasumarthy, Ramkrishna	Indian Institute of Technology, Madras



<b>ThB03</b>	International 6
<b>Predictive Control for Nonlinear Systems (Regular Session)</b>	
Chair: Findeisen, Rolf	TU Darmstadt
Co-Chair: Alves Lima, Thiago	Université Catholique De Louvain
14:30-14:45	ThB03.1
<i>Data-Driven Safe Predictive Control Using Spatial Temporal Filter-Based Function Approximators</i> , pp. 2803-2809.	
Vahidi-Moghaddam, Amin	Michigan State University
Chen, Kaian	Michigan State University
Li, Zhaojian	Michigan State University
Wang, Yan	Ford Research and Advanced Engineering, Ford Motor Company
Wu, Kai	Ford Motor Company
14:45-15:00	ThB03.2
<i>Machine-Learning-Based Predictive Control of Nonlinear Processes with Uncertainty</i> , pp. 2810-2816.	
Wu, Zhe	National University of Singapore
Alnajdi, Aisha	University of California, Los Angeles
Gu, Quanquan	University of California, Los Angeles
Christofides, Panagiotis D.	Univ. of California at Los Angeles
15:00-15:15	ThB03.3
<i>Nonlinear Model Predictive Control for Thermal Management of Bio-Implants</i> , pp. 2817-2822.	
Ermis, Ayca	Georgia Institute of Technology
Lai, Yen-Pang	Georgia Institute of Technology
Zhang, Ying	Georgia Institute of Technology
15:15-15:30	ThB03.4
<i>A Control Barrier Function Perspective on Lyapunov-Based Economic Model Predictive Control</i> , pp. 2823-2828.	
Durand, Helen	Wayne State University
Ames, Aaron D.	California Institute of Technology
15:30-15:45	ThB03.5
<i>Exact Multiple-Step Predictions in Gaussian Process-Based Model Predictive Control: Observations, Possibilities, and Challenges</i> , pp. 2829-2836.	
Pfefferkorn, Maik	Otto-Von-Guericke-Universität Magdeburg
Maiworm, Michael	OVGU Magdeburg
Findeisen, Rolf	TU Darmstadt

<b>ThB04</b>	International 7
<b>Markov Processes</b> (Regular Session)	
Chair: Komae, Arash	Southern Illinois University
Co-Chair: Chapman, Margaret P	University of Toronto
14:30-14:45	ThB04.1
<i>On the Dynamics of Interacting Agents on an Ising Lattice</i> , pp. 2837-2842.	
Komae, Arash	Southern Illinois University
14:45-15:00	ThB04.2
<i>Balancing Detectability and Performance of Attacks on the Control Channel of Markov Decision Processes</i> , pp. 2843-2850.	
Russo, Alessio	KTH Royal Institute of Technology
Proutiere, Alexandre	KTH
15:00-15:15	ThB04.3
<i>Convergence and Optimality of Policy Gradient Primal-Dual Method for Constrained Markov Decision Processes</i> , pp. 2851-2856.	
Ding, Dongsheng	University of Southern California
Zhang, Kaiqing	MIT
Basar, Tamer	Univ of Illinois, Urbana-Champaign
Jovanovic, Mihailo R.	University of Southern California
15:15-15:30	ThB04.4
<i>Optimal Path-Planning with Random Breakdowns</i> , pp. 2857-2862.	
Gee, Marissa	Cornell University
Vladimirsky, Alexander	Cornell University
15:30-15:45	ThB04.5
<i>CVaR-Based Safety Analysis in the Infinite Time Horizon Setting</i> , pp. 2863-2870.	
Wei, Chuanning	University of Toronto
Fauss, Michael	Princeton University
Chapman, Margaret P	University of Toronto
15:45-16:00	ThB04.6
<i>Certainty Equivalent Quadratic Control for Markov Jump Systems</i> , pp. 2871-2878.	
Sattar, Yahya	University of California Riverside
Du, Zhe	University of Michigan
Ataee Tarzanagh, Davoud	University of Michigan
Oymak, Samet	University of California, Riverside
Balzano, Laura	University of Michigan
Ozay, Necmiye	Univ. of Michigan

**Control of Additive Manufacturing Processes and Soft Material Systems (Invited Session)**

Chair: Bristow, Douglas A.	Missouri University of Science & Technology
Co-Chair: Vikas, Vishesh	University of Alabama
Organizer: Bristow, Douglas A.	Missouri University of Science & Technology
Organizer: Barton, Kira	University of Michigan, Ann Arbor
Organizer: Chen, Xu	University of Washington
Organizer: Hoelzle, David	Ohio State University
Organizer: Landers, Robert G.	Missouri University of Science and Technology
Organizer: Mishra, Sandipan	Rensselaer Polytechnic Institute
14:30-14:45	ThB05.1
<i>Model-Free Multi-Objective Iterative Learning Control for Selective Laser Melting (I)</i> , pp. 2879-2885.	
Inyang-Udoh, Uduak	Rensselaer Polytechnic Institute
Hu, Ruixiong	Rensselaer Polytechnic Institute
Mishra, Sandipan	Rensselaer Polytechnic Institute
Wen, John	Rensselaer Polytechnic Inst
Maniatty, Antoinette	Rensselaer Polytechnic Institute
14:45-15:00	ThB05.2
<i>A Spatial Transformation of a Layer-To-Layer Control Model for Selective Laser Melting (I)</i> , pp. 2886-2891.	
Wang, Xin	Missouri University of Science and Technology
Bristow, Douglas A.	Missouri University of Science & Technology
Landers, Robert G.	Missouri University of Science and Technology
15:00-15:15	ThB05.3
<i>Sample Efficient Transfer in Reinforcement Learning for High Variable Cost Environments with an Inaccurate Source Reward Model (I)</i> , pp. 2892-2898.	
Alam, Md Ferdous	The Ohio State University
Shtein, Max	University of Michigan
Barton, Kira	University of Michigan, Ann Arbor
Hoelzle, David	Ohio State University
15:15-15:30	ThB05.4
<i>Learning-Based State-Dependent Coefficient Form Task Space Tracking Control of Soft Robot (I)</i> , pp. 2899-2904.	
Bhattacharya, Rounak	Univeristy of Connecticut
Rotithor, Ghananeel	University of Connecticut
Dani, Ashwin	University of Connecticut
15:30-15:45	ThB05.5
<i>Shape Estimation of Soft Manipulators Using Piecewise Continuous Pythagorean-Hodograph Curves (I)</i> , pp. 2905-2910.	
Bezawada, Harish	The University of Alabama
Woods, Cole	University of Alabama
Vikas, Vishesh	University of Alabama
15:45-16:00	ThB05.6
<i>Modeling and Simulation of Soft Robots Driven by Artificial Muscles: An Example Using Twisted-And-Coiled Actuators (I)</i> , pp. 2911-2916.	
Sun, Jiefeng	Colorado State University
Zhao, Jianguo	Colorado State University

<b>ThB06</b>	International 9
<b>Optimal Control II (Regular Session)</b>	
Chair: Dai, Ran	Purdue University
Co-Chair: Taheri, Ehsan	Auburn University
14:30-14:45	ThB06.1
<i>Feature Learning for Optimal Control with B-Spline Representations</i> , pp. 2917-2923.	
Kenny, Vinay	Purdue University
You, Sixiong	Purdue University
Chaoying, Pei	Purdue University
Dai, Ran	Purdue University
14:45-15:00	ThB06.2
<i>Minimum Robust Invariant Sets and Kalman Filtering in Cyber Attacking and Defending</i> , pp. 2924-2931.	
Leko, Dorijan	University of Zagreb, Faculty of Electrical Engineering and Comp
Vasak, Mario	University of Zagreb Faculty of Electrical Engineering and Compu
15:00-15:15 (video presentation)	ThB06.3
<i>Optimization Landscape of Gradient Descent for Discrete-Time Static Output Feedback</i> , pp. 2932-2937.	
Duan, Jingliang	National University of Singapore
Li, Jie	Tsinghua University
Li, Shengbo Eben	Tsinghua University
Zhao, Lin	National University of Singapore
15:15-15:30	ThB06.4
<i>Minimum-Time and Minimum-Fuel Low-Thrust Trajectory Design for Satellite Formation in Low-Earth Orbits</i> , pp. 2938-2943.	
Sowell, Samuel	Auburn University
Taheri, Ehsan	Auburn University
15:30-15:45	ThB06.5
<i>Time-Optimal Paths for Simple Cars with Moving Obstacles in the Hamilton-Jacobi Formulation</i> , pp. 2944-2949.	
Parkinson, Christian	University of Arizona
Ceccia, Madeline	California State University, Fullerton
15:45-16:00	ThB06.6
<i>Control-Theoretic, Recursive Smoothing Splines</i> , pp. 2950-2955.	
Egerstedt, Magnus	University of California, Irvine
Martin, Clyde F.	Texas Tech Univ

ThB07	International 10
<b>Observers for Nonlinear Systems (Regular Session)</b>	
Chair: Pfifer, Harald	Technische Universität Dresden
Co-Chair: Marconi, Lorenzo	Univ. Di Bologna
14:30-14:45	ThB07.1
<i>Observer-Based Synthesis of Finite Horizon Linear Time-Varying Controllers</i> , pp. 2956-2961.	
Biertümpfel, Felix	Technische Universität Dresden
Theis, Julian	University of Minnesota
Pfifer, Harald	Technische Universität Dresden
14:45-15:00	ThB07.2
<i>Networked Filtering with Feedback for Continuous-Time Observations</i> , pp. 2962-2969.	
Liu, Zhenyu	Massachusetts Institute of Technology
Conti, Andrea	University of Ferrara
Mitter, Sanjoy K.	Massachusetts Inst. of Tech
Win, Moe Z.	Massachusetts Institute of Technology (MIT)
15:00-15:15	ThB07.3
<i>Interval Observer Synthesis for Locally Lipschitz Nonlinear Dynamical Systems Via Mixed-Monotone Decompositions</i> , pp. 2970-2975.	
Khajenejad, Mohammad	Arizona State University
Shoaib, Fatima	Arizona State University
Yong, Sze Zheng	Arizona State University
15:15-15:30	ThB07.4
<i>Controller Confidentiality for Nonlinear Systems under Sensor Attacks</i> , pp. 2976-2981.	
Chong, Michelle	Eindhoven University of Technology
15:30-15:45 (video presentation)	ThB07.5
<i>On the Existence of Robust Functional KKL Observers</i> , pp. 2982-2987.	
Spirito, Mario	University of Bologna
Bernard, Pauline	MINES ParisTech, Université PSL
Marconi, Lorenzo	Univ. Di Bologna
15:45-16:00	ThB07.6
<i>Stability under State Estimate Feedback Using an Observer Characterized by Uniform Semi-Global Practical Asymptotic Stability</i> , pp. 2988-2993.	
Chen, Ying-Chun	Virginia Polytechnic Institute and State University
Woolsey, Craig	Virginia Tech

ThB08	International 2
<b>Estimation and Control in Bio, Healthcare, and Medical Systems (Invited Session)</b>	
Chair: Zhang, Wenlong	Arizona State University
Co-Chair: Hahn, Jin-Oh	University of Maryland
Organizer: Zhang, Wenlong	Arizona State University
Organizer: Hahn, Jin-Oh	University of Maryland
Organizer: Rajamani, Rajesh	Univ. of Minnesota
Organizer: Ashrafiuon, Hashem	Villanova University
Organizer: Sharma, Nitin	North Carolina State University
14:30-14:45	ThB08.1
<i>Limitations of Time-Delayed Case Isolation in Heterogeneous SIR Models (I)</i> , pp. 2994-2999.	
Hansson, Jonas	Lund University
Govaert, Alain	Lund University
Pates, Richard	Lund University
Tegling, Emma	Lund University
Soltesz, Kristian	Lund University
14:45-15:00	ThB08.2
<i>Estimating the Impact of Peritoneal Perfluorocarbon Perfusion on Carbon Dioxide Transport Dynamics in a Laboratory Animal</i> , pp. 3000-3005.	
Doosthosseini, Mahsa	University of Maryland
Moon, Yejin	University of Maryland
Commins, Annina	University of Maryland
Wood, Sam	University of Maryland - College Park
Naselsky, Warren	University of Maryland School of Medicine
Culligan, Melissa	University of Maryland
Aroom, Kevin	University of Maryland
Aroom, Majid	University of Maryland College Park
Shah, Aakash	University of Maryland Medical Center
Bittle, Gregory	University of Maryland School of Medicine
Thamire, Chandrasekhar	University of Maryland
Zaleski, Nadia	University of Maryland
Fang, Catherine	University of Maryland
O'Leary, Joseph, Ferdinand	University of Maryland, College Park
Hopkins, Grace	University of Maryland
Friedberg, Joseph	University of Maryland
Hahn, Jin-Oh	University of Maryland
Fathy, Hosam K.	University of Maryland
15:00-15:15 (video presentation)	ThB08.3
<i>The Differential-Algebraic Windkessel Model with Power As Input (I)</i> , pp. 3006-3011.	
Pigot, Henry	Lund University
Soltesz, Kristian	Lund University
15:15-15:30	ThB08.4
<i>Invariant Extended Kalman Filtering for Human Motion Estimation with Imperfect Sensor Placement (I)</i> , pp. 3012-3018.	
Zhu, Zenan	UMass Lowell
Rezayat, Seyed Mostafa	Arizona State University
Gu, Yan	University of Massachusetts Lowell
Zhang, Wenlong	Arizona State University
15:30-15:45	ThB08.5
<i>Concurrent Learning Control for Treadmill Walking Using a Cable-Driven Exoskeleton with FES (I)</i> , pp. 3019-3024.	

Casas, Jonathan  
Chang, Chen-Hao  
Duenas, Victor H

Syracuse University  
Syracuse University  
Syracuse University

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15:45-16:00

ThB08.6

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*A Hybrid Systems Approach to Dual-Objective Functional Electrical Stimulation Cycling*, pp. 3025-3030.

Akbari, Saiedeh  
Merritt, Glen  
Zegers, Federico  
Cousin, Christian A.

University of Alabama  
University of Alabama  
Air Force Research Laboratory  
University of Alabama

ThB09	International 3
<b>Advanced Powertrain Controls (Invited Session)</b>	
Chair: Hall, Carrie	Illinois Institute of Technology
Co-Chair: Ma, Yao	Texas Tech University
Organizer: Amini, Mohammad Reza	University of Michigan
Organizer: Ma, Yao	Texas Tech University
Organizer: Lodaya, Dhaval	Gamma Technologies
Organizer: Chen, Pinggen	Tennessee Technological University
14:30-14:45	ThB09.1
<i>A Comparison of Neural Network-Based Strategies for Diesel Engine Air Handling Control (I)</i> , pp. 3031-3037.	
Peng, Qian	Illinois Institute of Technology
Huo, Da	Illinois Institute of Technology
Hall, Carrie	Illinois Institute of Technology
14:45-15:00	ThB09.2
<i>Borderline Knock Detection Using Machine Learned Kriging Model (I)</i> , pp. 3038-3043.	
Tang, Jian	Michigan State University
Pal, Anuj	Michigan State University
Dai, Wen	Ford Motor Company
Archer, Chad	Ford Motor Company
Yi, James	Ford Motor Company
Zhu, Guoming	Michigan State University
15:00-15:15 (video presentation)	ThB09.3
<i>A Computationally Efficient Control Allocation Method for Four-Wheel-Drive and Four-Wheel Independent-Steering Electric Vehicles (I)</i> , pp. 3044-3049.	
Koysuren, Muhammed Kemal	Bilkent University
Cakmakci, Melih	Bilkent University
15:15-15:30	ThB09.4
<i>Efficiency-Aware and Constraint-Aware Control of PEMFC Air-Path Using a Reference Governor and MIMO Internal Model Controller (I)</i> , pp. 3050-3057.	
Bacher-Chong, Eli	University of Vermont
Ayubirad, Mostafaali	University of Vermont
Qiu, Zeng	Univeristy of Michigan, Ann Arbor
Wang, Hao	Ford Motor Company
Goshtasbi, Alireza	University of Michigan
Ossareh, Hamid	University of Vermont
15:30-15:45	ThB09.5
<i>Development of a Model Predictive Airpath Controller for a Diesel Engine on a High-Fidelity Engine Model with Transient Thermal Dynamics (I)</i> , pp. 3058-3063.	
Zhang, Jiadi	University of Michigan
Amini, Mohammad Reza	University of Michigan
Kolmanovsky, Ilya V.	The University of Michigan
Tsutsumi, Munechika	Hino Motors, Ltd
Nakada, Hayato	Hino Motors, Ltd
15:45-16:00	ThB09.6
<i>Drive Mode Control with a Catalyst Temperature Model for Fuel and Emissions Reduction in Plug-In Hybrid Electric Vehicles</i> , pp. 3064-3070.	
Watanabe, Ryunosuke	Tokyo Institute of Technology
Nishimoto, Koju	Tokyo Institute of Technology
Ibuki, Tatsuya	Meiji University
Sakayanagi, Yoshihiro	Toyota Motor Corporation
Funada, Riku	Tokyo Institute of Technology
Sampei, Mitsuji	Tokyo Inst. of Tech



<b>ThB10</b>	International C
<b>Managerial Decision Making for Control Science and Engineering (Tutorial Session)</b>	
Chair: Samad, Tariq	University of Minnesota
Co-Chair: Pickl, Stefan	UBw München
Organizer: Samad, Tariq	University of Minnesota
14:30-14:50	ThB10.1
<i>Managerial Decision Making As an Application for Control Science and Engineering (I)</i> , pp. 3071-3081.	
Samad, Tariq	University of Minnesota
Abramovitch, Daniel Y.	Agilent Technologies
Lees, Michael	Carlton & United Breweries, Yatala , Australia
Mareels, Iven	IBM
Rhinehart, R. Russell	Oklahoma State Univ. - Retired
Cuzzola, Francesco Alessandro	Danieli Automation
Grosman, Benyamin	Medtronic
Gusikhin, Oleg	Ford Motor Company
Juuso, Esko K.	Univ. of Oulu
Patil, Bhagyesh	Cambridge Centre for Advanced Research and Education in Singapor
Pickl, Stefan	UBw München
14:50-15:00	ThB10.2
<i>Network Control System Applications for Manager Decision-Making (I)</i> , pp. 3082-3087.	
Lees, Michael	Carlton & United Breweries, Yatala , Australia
15:00-15:10	ThB10.3
<i>Feedback Entropy—A Conceptual Framework for Management (I)*.</i>	
Mareels, Iven	IBM
15:10-15:20	ThB10.4
<i>Business Performance Management and Control Systems (I)*.</i>	
Cuzzola, Francesco Alessandro	PSI Software AG
15:20-15:30	ThB10.5
<i>Prescriptive Analytics and Control Towers: A New Dimension of Managerial Decision Making in the Age of Reinforcement and Machine Learning (I)*.</i>	
Pickl, Stefan	UBw München
15:30-15:40	ThB10.6
<i>Using Feedback Control Principles As Guiding Metaphors for Business Processes (I)</i> , pp. 3088-3093.	
Abramovitch, Daniel Y.	Agilent Technologies

ThB11	International 1
<b>Control of Marine Energy Systems (Invited Session)</b>	
Chair: Vermillion, Christopher	North Carolina State University
Co-Chair: Fang, Huazhen	University of Kansas
Organizer: Vermillion, Christopher	North Carolina State University
Organizer: Tom, Nathan	NREL
Organizer: Fang, Huazhen	University of Kansas
14:30-14:45	ThB11.1
<i>Bang-Bang Control of Spherical Variable-Shape Buoy Wave Energy Converters (I)</i> , pp. 3094-3099.	
Shabara, Mohamed	Iowa State University
Abdelkhalik, Ossama	Iowa State University
14:45-15:00	ThB11.2
<i>Optimal Constrained Control of Wave Energy Converter Arrays (I)</i> , pp. 3100-3105.	
Abdulkadir, Habeebullah	Iowa State University
Abdelkhalik, Ossama	Iowa State University
Shabara, Mohamed	Iowa State University
15:00-15:15	ThB11.3
<i>Integrated Path Planning and Tracking Control of Marine Current Turbine in Uncertain Ocean Environments (I)</i> , pp. 3106-3113.	
Hasankhani, Arezoo	Florida Atlantic University
Ondes, Ertugrul Baris	Virginia Tech
Tang, Yufei	Florida Atlantic University
Sultan, Cornel	Virginia Tech
VanZwieten, James	Florida Atlantic University
15:15-15:30	ThB11.4
<i>Sensor Fusion Observer Design and Experimental Validation for an Underwater Kite (I)</i> , pp. 3114-3119.	
Leonard, Zachary	North Carolina State University
Bryant, Samuel	North Carolina State University
Naik, Kartik Praful	North Carolina State University
Abney, Andrew	North Carolina State University
Herbert, Dillon	North Carolina State University
Fathy, Hosam K.	University of Maryland
Granlund, Kenneth	North Carolina State University
Mazzoleni, Andre	NCSU
Bryant, Matthew	North Carolina State University
Vermillion, Christopher	North Carolina State University
15:30-15:45	ThB11.5
<i>Outcomes and Insights from Simplified Analytic Trajectory Optimization for a Tethered Underwater Kite</i> , pp. 3120-3125.	
Alvarez Tiburcio, Miguel	University of Maryland
Fathy, Hosam K.	University of Maryland
15:45-16:00 (video presentation)	ThB11.6
<i>Initial Alignment and Position Aiding Time Delay Compensation for SDINS of Deep Sea Underwater Vehicles</i> , pp. 3126-3131.	
Li, Ji-Hong	Korea Institute of Robotics and Technology Convergence
Kim, Min-Gyu	Korea Institute of Robotics and Technology Convergence
Kang, Hyungjoo	Korea Institute of Robotics and Technology Convergence
Lee, Mun-Jik	Korea Institute of Robotics and Technology Convergence
Cho, Gun Rae	Korea Institute of Robotics and Technology Convergence
Kang, Suktae	Korea Institute of Robotics & Technology Convergence

<b>ThB12</b>	<b>International A</b>
<b>Automotive Control (Regular Session)</b>	
Chair: Baras, John S.	University of Maryland
Co-Chair: Chen, Pingen	Tennessee Technological University
14:30-14:45 (video presentation)	ThB12.1
<i>Autonomous Vehicle Overtaking in a Bidirectional Mixed-Traffic Setting</i> , pp. 3132-3139.	
Tariq, Faizan M.	University of Maryland
Suriyarachchi, Nilesh	University of Maryland
Mavridis, Christos	University of Maryland, College Park
Baras, John S.	University of Maryland
14:45-15:00	ThB12.2
<i>Closed-Loop Diesel Combustion Control Leveraging Ignition Assist</i> , pp. 3140-3145.	
Ahmed, Omar	University of Michigan
Middleton, Robert	University of Michigan
Stefanopoulou, Anna G.	University of Michigan
Kim, Kenneth	DEVCOM Army Research Laboratory
Kweon, Chol-Bum	DEVCOM Army Research Laboratory
15:00-15:15	ThB12.3
<i>Design and Optimization of a Parallel Micro-Hybrid Vehicle with Lean-Burn Gasoline Engine and Passive SCR System</i> , pp. 3146-3151.	
Joshi, Sachin	Tennessee Technological University
Chen, Pingen	Tennessee Technological University
15:15-15:30	ThB12.4
<i>Congestion-Aware Routing, Rebalancing, and Charging Scheduling for Electric Autonomous Mobility-On-Demand System</i> , pp. 3152-3157.	
Bang, Heeseung	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
15:30-15:45	ThB12.5
<i>Achieving Automated Vehicle Path Following with Blend Path Curvature Control</i> , pp. 3158-3163.	
Lu, Jimmy	General Motors
Abualfellat, Ashraf	General Motors
Zarringhalam, Reza	General Motors Canada
15:45-16:00	ThB12.6
<i>Singular Perturbation Margin Assessment for LTI System with Zero Dynamics</i> , pp. 3164-3171.	
Chen, Yuanyan	Ohio University
Zhu, J. Jim	Ohio Univ

<b>ThB13</b>	International B
<b>Control Applications II (Regular Session)</b>	
Chair: Docimo, Donald	Texas Tech University
Co-Chair: Belikov, Sergey	SPM Labs
14:30-14:45	ThB13.1
<i>Force Curves Restoration in Atomic Force Microscopy (AFM) Resonant Modes</i> , pp. 3172-3177.	
Belikov, Sergey	SPM Labs
14:45-15:00	ThB13.2
<i>LPV Sequential Loop Closing for High-Precision Motion Systems</i> , pp. 3178-3183.	
Broens, Yorick	Eindhoven University of Technology
Butler, Hans	ASML
Tóth, Roland	Eindhoven University of Technology
15:00-15:15	ThB13.3
<i>A Design Framework with Embedded Hierarchical Control Architecture Optimization (I)</i> , pp. 3184-3191.	
Docimo, Donald	Texas Tech University
15:15-15:30	ThB13.4
<i>Modeling Small-Target Motion Detector Neurons As Switched Systems with Dwell Time Constraints</i> , pp. 3192-3197.	
Billah, Md Arif	Oklahoma State University, Stillwater
Faruque, Imraan	University of Maryland
15:30-15:45	ThB13.5
<i>Predictive Cost Adaptive Control of Flexible Structures with Harmonic and Broadband Disturbances</i> , pp. 3198-3203.	
Mohseni, Nima	University of Michigan, Ann Arbor
Bernstein, Dennis S.	Univ. of Michigan

<b>ThB15</b>		Imperial Ballroom A
<b>Machine Learning II (R) (RI Session)</b>		
Chair: Casbeer, David W.		Air Force Research Laboratory
Co-Chair: Mohammadpour Velni, Javad		University of Georgia
14:30-14:33 (video presentation)		ThB15.1
<i>Adaptive Neural Network Based Monitoring of Wastewater Treatment Plants</i> , pp. 3204-3211.		
Alharbi, Moammed S.	Ph.D Student at King Abdullah University of Science and Technolo	
Laleg-Kirati, Taous-Meriem	King Abdullah University of Science and Technology (KAUST)	
Hong, Peiyong	Associate Professor at King Abdullah University of Science and T	
14:33-14:36		ThB15.2
<i>Learning-Based Wildfire Tracking with Unmanned Aerial Vehicles</i> , pp. 3212-3217.		
Jia, Qiong		University of Missouri
Xin, Ming		University of Missouri
Hu, Xiaolin		Georgia State University
Chao, Haiyang		University of Kansas
14:36-14:39		ThB15.3
<i>Physics-Based Neural Networks for Modeling &amp; Control of Aerial Vehicles</i> , pp. 3218-3223.		
Breese, Bennett		University of Cincinnati
Kumar, Manish		University of Cincinnati
Bolender, Michael		Air Force Research Laboratory
Casbeer, David W.		Air Force Research Laboratory
14:39-14:42 (video presentation)		ThB15.4
<i>Metrics-Only Training Neural Network for Switching among an Array of Feedback Controllers for Bicycle Model Navigation</i> , pp. 3224-3229.		
Carmona, Marco		University of California Santa Cruz
Milutinovic, Dejan		University of California, Santa Cruz
Faust, Aleksandra		Google
14:42-14:45		ThB15.5
<i>Fast Assignment in Asset-Guarding Engagements Using Function Approximation</i> , pp. 3230-3235.		
Junnarkar, Neelay		University of of California Berkeley
Sin, Emmanuel		University of California, Berkeley
Seiler, Peter		University of Michigan, Ann Arbor
Philbrick, Douglas		Uc Berkeley
Arcak, Murat		University of California, Berkeley
14:45-14:48 (video presentation)		ThB15.6
<i>Deep Joint Transfer Network for Intelligent Fault Diagnosis under Different Working Conditions</i> , pp. 3236-3241.		
Su, Zhiheng		University of Electronic Science and Technology of China
Zhang, Jiyang		University of Electronic Science and Technology of China
Tang, Jianxiong		University of Electronic Science and Technology of China
Chang, Yang		University of Electronic Science and Technology of China
Zou, Jianxiao		University of Electronic Science and Technology of China
Fan, Shicai		University of Electronic Science and Technology of China
14:48-14:51		ThB15.7
<i>Weighted Graph-Based Signal Temporal Logic Inference Using Neural Networks</i> , pp. 3242-3247.		
Baharisangari, Nasim		Arizona State University
Hirota, Kazuma		The University of Texas at Austin
Yan, Ruixuan		Rensselaer Polytechnic Institute
Julius, Agung		Rensselaer Polytechnic Institute

Xu, Zhe	Arizona State University
14:51-14:54	ThB15.8
<i>Approximate Bisimulation Relations for Neural Networks and Application to Assured Neural Network Compression</i> , pp. 3248-3253.	
Xiang, Weiming	Augusta University
Shao, Zhongzhu	Southwest Jiaotong University
14:54-14:57	ThB15.9
<i>A Model-Free Tracking Controller Based on the Newton-Raphson Method and Feedforward Neural Networks</i> , pp. 3254-3259.	
Niu, Kaicheng	Georgia Institute of Technology
Wardi, Yorai	Georgia Institute of Technology
Abdallah, Chaouki T.	Georgia Institute of Technology
Hayajneh, Mohammad	United Arab Emirates University
14:57-15:00	ThB15.10
<i>Learning-Based Adaptive-Scenario-Tree Model Predictive Control with Probabilistic Safety Guarantees Using Bayesian Neural Networks</i> , pp. 3260-3265.	
Bao, Yajie	The University of Georgia
Chan, Kimberly J	University of California Berkeley
Mesbah, Ali	University of California, Berkeley
Mohammadpour Velni, Javad	University of Georgia
15:00-15:03	ThB15.11
<i>Robust Data-Driven Passivity-Based Control of Underactuated Systems Via Neural Approximators and Bayesian Inference</i> , pp. 3266-3272.	
Sirichotiyakul, Wankun	Boise State University
Ashenafi, Nardos Ayele	Boise State University
Satici, Aykut C	Boise State University
15:03-15:06	ThB15.12
<i>Distributed Cooperative Multi-Agent Reinforcement Learning with Directed Coordination Graph</i> , pp. 3273-3278.	
Jing, Gangshan	Chongqing University
Bai, He	Oklahoma State University
George, Jemin	U.S. Army Research Laboratory
Chakraborty, Aranya	North Carolina State University
Sharma, Piyush K.	U.S. Army Research Laboratory

<b>ThB16</b>	M103-M105
<b>Reinforcement Learning II (R) (RI Session)</b>	
Chair: Shu, Zhan	University of Alberta
Co-Chair: Seiler, Peter	University of Michigan, Ann Arbor
14:30-14:33	ThB16.1
<i>Model-Free Predictive Optimal Iterative Learning Control Using Reinforcement Learning</i> , pp. 3279-3284.	
Zhang, Yueqing	University of Southampton
Chu, Bing	University of Southampton
Shu, Zhan	University of Alberta
14:33-14:36 (video presentation)	ThB16.2
<i>Event-Triggered Action-Delayed Reinforcement Learning Control of a Mixed Autonomy Signalised Urban Intersection</i> , pp. 3285-3290.	
Salvato, Erica	Department of Engineering and Architecture, University of Trieste
Ghosh, Arnob	Imperial College of London
Fenu, Gianfranco	Univ. of Trieste
Parisini, Thomas	Imperial College & Univ. of Trieste
14:36-14:39	ThB16.3
<i>Deep Reinforcement Learning Based Automatic Control in Semi-Closed Greenhouse Systems</i> , pp. 3291-3296.	
Ajagekar, Akshay	Cornell University
You, Fengqi	Cornell University
14:39-14:42	ThB16.4
<i>A Multi-Agent Deep Reinforcement Learning Coordination Framework for Connected and Automated Vehicles at Merging Roadways</i> , pp. 3297-3302.	
Nakka, Sai Krishna Sumanth	University of Delaware
Chalaki, Behdad	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
14:42-14:45	ThB16.5
<i>Computationally Efficient Safe Reinforcement Learning for Power Systems</i> , pp. 3303-3310.	
Tabas, Daniel	University of Washington
Zhang, Baosen	University of Washington
14:45-14:48	ThB16.6
<i>Provably Efficient Multi-Agent Reinforcement Learning with Fully Decentralized Communication</i> , pp. 3311-3316.	
Lidard, Justin	Princeton University
Madhushani, Udari	Princeton University
Leonard, Naomi Ehrich	Princeton University
14:48-14:51	ThB16.7
<i>Convex Programs and Lyapunov Functions for Reinforcement Learning: A Unified Perspective on the Analysis of Value-Based Methods</i> , pp. 3317-3322.	
Guo, Xingang	University of Illinois at Urbana-Champaign
Hu, Bin	University of Illinois at Urbana-Champaign
14:51-14:54	ThB16.8
<i>Singular Perturbation-Based Reinforcement Learning of Two-Point Boundary Optimal Control Systems</i> , pp. 3323-3328.	
Baddam, Vasanth Reddy	Virginia Tech
Eldardiry, Hoda	Virginia Tech
Boker, Almuatazbella	Virginia Tech
14:54-14:57	ThB16.9
<i>Reinforcement Learning for Optimal Control of a District Cooling Energy Plant</i> , pp. 3329-3334.	

Guo, Zhong	University of Florida
Coffman, Austin	University of Florida
Barooah, Prabir	Univ. of Florida

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14:57-15:00 ThB16.10

*Model-Free  $\mu$  Synthesis Via Adversarial Reinforcement Learning*, pp. 3335-3341.

Keivan, Darioush	University of Illinois at Urbana Champaign
Havens, Aaron	University of Illinois at Urbana-Champaign
Seiler, Peter	University of Michigan, Ann Arbor
Dullerud, Geir E.	Univ of Illinois, Urbana-Champaign
Hu, Bin	University of Illinois at Urbana-Champaign

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15:00-15:03 ThB16.11

*Reinforcement Learning-Based Event-Triggered Model Predictive Control for Autonomous Vehicle Path Following*, pp. 3342-3347.

Chen, Jun	Oakland University
Meng, Xiangyu	Louisiana State University
Li, Zhaojian	Michigan State University



ThCP	Imperial Ballroom A
<b>Posters and Experimental Demos (Late Breaking Poster Session)</b>	
Chair: van Haren, Max	Eindhoven University of Technology
Co-Chair: Pare, Philip E.	Purdue University
16:30-18:00	ThCP.1
<i>Networked Competitive Multi-Virus SIR Model</i> , pp. 3348-3348.	
Zhang, Ciyuan	Purdue University
Gracy, Sebin	Rice University
Basar, Tamer	Univ of Illinois, Urbana-Champaign
Pare, Philip E.	Purdue University
16:30-18:00	ThCP.2
<i>Robust Fault Detection and Safety Control for Physical Human-Robot Interaction</i> , pp. 3349-3349.	
He, Bingham	The University of Texas at Austin
Tanaka, Takashi	University of Texas at Austin
16:30-18:00	ThCP.3
<i>Feedforward of Sampled-Data System for High-Precision Motion Control Using Basis Functions with ZOH Differentiator</i> , pp. 3350-3350.	
Mae, Masahiro	The University of Tokyo
van Haren, Max	Eindhoven University of Technology
Ohnishi, Wataru	The University of Tokyo
Oomen, Tom	Eindhoven University of Technology
Fujimoto, Hiroshi	The University of Tokyo
16:30-18:00	ThCP.4
<i>Decentralized Safe Reinforcement Learning for Voltage Control</i> , pp. 3351-3351.	
Cui, Wenqi	University of Washington
Li, Jiayi	University of Washington, Seattle
Zhang, Baosen	University of Washington
16:30-18:00	ThCP.5
<i>Hemodynamic Monitoring Via Model-Based Extended Kalman Filtering: Hemorrhage Resuscitation and Sedation Case Study</i> , pp. 3352-3352.	
Yin, Weidi	University of Maryland
Tivay, Ali	University of Maryland
Hahn, Jin-Oh	University of Maryland
16:30-18:00	ThCP.6
<i>Experimental Results of a Disturbance Compensating Q-Learning Controller for HVAC Systems</i> , pp. 3353-3353.	
Rizvi, Syed Ali Asad	Tennessee Technological University
Pertzborn, Amanda	National Institute of Standards and Technology
16:30-18:00	ThCP.7
<i>Optimal Abstraction-Based Control with Local Affine Controllers</i> , pp. 3354-3354.	
Egidio, Lucas N.	Université Catholique De Louvain
Alves Lima, Thiago	Université Catholique De Louvain
Jungers, Raphaël M.	University of Louvain
16:30-18:00	ThCP.8
<i>Gaussian Processes for Advanced Motion Control</i> , pp. 3355-3355.	
Poot, Maurice	Eindhoven University of Technology
Portegies, Jim	Eindhoven University of Technology
Mooren, Noud	Eindhoven University of Technology
van Haren, Max	Eindhoven University of Technology
van Meer, Max	Eindhoven University of Technology

Oomen, Tom	Eindhoven University of Technology
16:30-18:00	ThCP.9
<i>A Non-Causal Approach for Suppressing the Estimation Delay of State Observer</i> , pp. 3356-3356.	
Tsurumoto, Kentaro	The University of Tokyo
Ohnishi, Wataru	The University of Tokyo
Koseki, Takafumi	The University of Tokyo
Strijbosch, Nard	Eindhoven University of Technology
Oomen, Tom	Eindhoven University of Technology
16:30-18:00	ThCP.10
<i>Perfect Tracking Feedforward Control of Output Voltage for Boost Converters Based on Noncausal Nonlinear Stable Inversion</i> , pp. 3357-3357.	
Miyoshi, Shota	The University of Tokyo
Ohnishi, Wataru	The University of Tokyo
Koseki, Takafumi	The University of Tokyo
Sato, Motoki	Toyo Denki Seizo K.K
16:30-18:00	ThCP.11
<i>Robust Controller Design Based on Convex Optimization and RCBode Plots Using Frequency Response Data: Application to Hard Disk Drive Systems</i> , pp. 3358-3358.	
Wang, Xiaoke	The University of Tokyo
Ohnishi, Wataru	The University of Tokyo
Atsumi, Takenori	Chiba Institute of Technology
16:30-18:00	ThCP.12
<i>Model-Based Non-Invasive Hemorrhage Detection: Observer-Based and Parameter Estimation-Based Approaches</i> , pp. 3359-3359.	
Chalumuri, Yekanth Ram	University of Maryland
Jin, Xin	Biotechnology High Performance Computing Software Applications I
Tivay, Ali	University of Maryland
Hahn, Jin-Oh	University of Maryland
16:30-18:00	ThCP.13
<i>Kalman Estimation Based One-Step Look Ahead Control of Data-Driven Model with Random Parameters</i> , pp. 3360-3360.	
Wang, Jie	Purdue University
Chiu, George T.-C.	Purdue University
16:30-18:00	ThCP.14
<i>Modeling and Learning-Based Control for Super-Coiled Polymer-Driven Robotic Eye</i> , pp. 3361-3361.	
Rajendran, Sunil Kumar	George Mason University
Wei, Qi	George Mason University
Yao, Ningshi	George Mason University
Zhang, Feitian	Peking University
16:30-18:00	ThCP.15
<i>BuzzRacer -- a Small Scale Autonomous Racecar</i> , pp. 3362-3362.	
Zhang, Zhiyuan	Georgia Tech
Tsiotras, Panagiotis	Georgia Institute of Technology
16:30-18:00	ThCP.16
<i>Communication Obfuscation for Privacy and Utility against Obfuscation-Aware Eavesdroppers</i> , pp. 3363-3363.	
Wintenberg, Andrew	The University of Michigan, Ann Arbor
Lafortune, Stephane	Univ. of Michigan
Ozay, Necmiye	Univ. of Michigan
16:30-18:00	ThCP.17
<i>Evaluation of Cognitive State Feedback for Accelerating Human Learning</i> , pp. 3364-3364.	

Yuh, Madeleine	Purdue University
Byeon, Sooyung	Purdue University
Jain, Neera	Purdue University
Hwang, Inseok	Purdue University
16:30-18:00	ThCP.18
<i>Real-Sim: A Multi-Resolution X-In-The-Loop Experimental Approach for Testing Connected and Automated Vehicles</i> , pp. 3365-3365.	
Shao, Yunli	Oak Ridge National Lab
Cook, Adian	Oak Ridge National Laboratory
Perry, Nolan	Oak Ridge National Laboratory
Deter, Dean	Oak Ridge National Laboratory
Wang, Chieh (Ross)	Oak Ridge National Laboratory
16:30-18:00	ThCP.19
<i>Agile Locomotion and Backflip Demonstrations on Mini Cheetah</i> , pp. 3366-3366.	
Zhou, Ziyi	Georgia Institute of Technology
Boyd, Nathan	Georgia Institute of Technology
Ramkumar, Vishwa	Georgia Institute of Technology
Asselmeier, Max	Georgia Institute of Technology
Zhao, Ye	Georgia Tech
16:30-18:00	ThCP.20
<i>System Response Experiments with a Simple, Portable Guitar String Platform</i> , pp. 3367-3367.	
Ferri, Al	Georgia Inst. of Tech
Ferri, Bonnie	Georgia Inst. of Tech
16:30-18:00	ThCP.21
<i>Multi-Robot Collaboration with Heterogeneous Capabilities</i> , pp. 3368-3368.	
Han, Yunhai	Georgia Institute of Technology
Boyd, Nathan	Georgia Institute of Technology
Ni, Xinpei	Georgia Institute of Technology
Zhao, Ye	Georgia Tech
16:30-18:00	ThCP.22
<i>3D Printed Laboratory Equipment for Mechanical Vibrations and Control Theory Courses</i> , pp. 3369-3369.	
Tekes, Ayse	Kennesaw State University
Tran, Tinh	Kennesaw State University
Tran, Kevin	Kennesaw State University
Tran, Thuong	Kennesaw State University

<b>FrSP1</b>	Marquis Ballroom B
<b>Control Design Based on Deep Learning (Plenary Session)</b>	
Chair: Zhang, Fumin	Georgia Institute of Technology
Co-Chair: Chiang, Leo	The Dow Chemical Company
08:30-09:30	FrSP1.1
<i>Control Design Based on Deep Learning*</i>	
Vrabie, Draguna	Pacific Northwest National Laboratory

<b>FrSP2</b>	Marquis Ballroom C
<b>Structure Theory for Control and Estimation of Nonholonomic Ensembles (Plenary Session)</b>	
Chair: Abramovitch, Daniel Y.	Agilent Technologies
Co-Chair: Wang, Yue	Clemson University
08:30-09:30	FrSP2.1
<i>Structure Theory for Control and Estimation of Nonholonomic Ensembles*</i> .	
Chen, Xudong	University of Colorado, Boulder

<b>FrA01</b>	<b>International 4</b>
<b>Adaptive Systems I (Regular Session)</b>	
Chair: Yildiz, Yildiray	Bilkent University
Co-Chair: Costa, Ramon R.	COPPE - Federal University of Rio De Janeiro
10:00-10:15	FrA01.1
<i>Model-Reference Adaptive Control with High-Order Parameter Tuners</i> , pp. 3370-3375.	
Costa, Ramon R.	COPPE - Federal University of Rio De Janeiro
10:15-10:30	FrA01.2
<i>An Adaptive Human Pilot Model for Adaptively Controlled Systems</i> , pp. 3376-3381.	
Habboush, Abdullah	Bilkent University
Yildiz, Yildiray	Bilkent University
10:30-10:45	FrA01.3
<i>New Algorithms for Discrete-Time Parameter Estimation</i> , pp. 3382-3387.	
Cui, Yingnan	Massachusetts Institute of Technology
Gaudio, Joseph	Boeing
Annaswamy, Anuradha M.	Massachusetts Inst. of Tech
10:45-11:00	FrA01.4
<i>Collaborative Persistent Excitation in RKHS Embedded Adaptive Estimation with Consensus</i> , pp. 3388-3393.	
Guo, Jia	Georgia Institute of Technology
Zhang, Fumin	Georgia Institute of Technology
Kurdila, Andrew J.	Virginia Tech
11:00-11:15	FrA01.5
<i>Reduced-Order Adaptive Output Predictors for a Class of Uncertain Dynamical Systems</i> , pp. 3394-3399.	
Ansari, Roghaiyeh	Virginia Tech
Abaid, Nicole	Virginia Tech
Leonessa, Alexander	Virginia Tech
11:15-11:30	FrA01.6
<i>An Adaptive Formation Control Architecture for a Team of Quadrotors with Performance and Safety Constraints</i> , pp. 3400-3405.	
Hu, Zhongjun	University of Kentucky
Jin, Xu	University of Kentucky

<b>FrA02</b>	International 5
<b>Decentralized Control (Regular Session)</b>	
Chair: Malikopoulos, Andreas A.	University of Delaware
Co-Chair: Uribe, Cesar A.	Rice University
10:00-10:15	FrA02.1
<i>Multi-Agent Stochastic Control Using Path Integral Policy Improvement</i> , pp. 3406-3411.	
Varnai, Peter	KTH Royal Institute of Technology
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
10:15-10:30	FrA02.2
<i>Scalable Average Consensus with Compressed Communications</i> , pp. 3412-3417.	
Toghani, Mohammad Taha	Rice University
Uribe, Cesar A.	Rice University
10:30-10:45	FrA02.3
<i>Resilient Constrained Consensus Over Complete Graphs Via Feasibility Redundancy</i> , pp. 3418-3422.	
Zhu, Jingxuan	Stony Brook University
Lin, Yixuan	Stony Brook University
Velasquez, Alvaro	Air Force Research Laboratory, AFRL/RISC, Rome, NY
Liu, Ji	Stony Brook University
10:45-11:00	FrA02.4
<i>Decentralized Control of Two Agents with Nested Accessible Information</i> , pp. 3423-3430.	
Dave, Aditya	University of Delaware
Senthil Kumar, Nishanth Venkatesh	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
11:00-11:15 (video presentation)	FrA02.5
<i>Subframework-Based Rigidity Control in Multirobot Networks</i> , pp. 3431-3436.	
Prezenza, Juan Francisco	Universidad De Buenos Aires, Facultad De Ingenieria
Alvarez- Ignacio, Juan Ignacio	Universidad De Buenos Aires, Facultad De Ingenieria
Mas, Ignacio	CONICET
Giribet, Juan Ignacio	University of Buenos Aires
11:15-11:30	FrA02.6
<i>On Decentralized Minimax Control with Nested Subsystems</i> , pp. 3437-3444.	
Dave, Aditya	University of Delaware
Senthil Kumar, Nishanth Venkatesh	University of Delaware
Malikopoulos, Andreas A.	University of Delaware

<b>FrA03</b>	International 6
<b>Distributed Parameter Systems I (Regular Session)</b>	
Chair: Yuan, Chengzhi	University of Rhode Island
Co-Chair: Zheng, Tongjia	University of Notre Dame
10:00-10:15	FrA03.1
<i>Feedback Interconnected Mean-Field Density Estimation and Control</i> , pp. 3445-3450.	
Zheng, Tongjia	University of Notre Dame
Han, Qing	University of Notre Dame
Lin, Hai	University of Notre Dame
10:15-10:30 (video presentation)	FrA03.2
<i>Leader-Follower Synchronization of a Network of Boundary-Controlled Parabolic Equations with In-Domain Coupling</i> , pp. 3451-3456.	
Kabalan, Abbas	MINES Paristech, PSL Research University, 75006 Paris, France
Ferrante, Francesco	Universita Degli Studi Di Perugia
Casadei, Giacomo	Ecole Centrale Lyon
Cristofaro, Andrea	Sapienza University of Rome
Prieur, Christophe	CNRS
10:30-10:45	FrA03.3
<i>Adaptive NN-Based Boundary Control for Output Tracking of a Wave Equation with Matched and Unmatched Boundary Uncertainties</i> , pp. 3457-3463.	
Zhang, Jingting	University of Rhode Island
Stegagno, Paolo	University of Rhode Island
Zeng, Wei	South China University of Technology
Yuan, Chengzhi	University of Rhode Island
10:45-11:00	FrA03.4
<i>Estimating Drill String Friction with Model-Based and Data-Driven Methods</i> , pp. 3464-3469.	
Auriol, Jean	CNRS
Shor, Roman	University of Calgary
Niculescu, Silviu-Iulian	University Paris-Saclay, CNRS, CentraleSupelec
Kazemi, Nasser	University of Calgary
11:00-11:15	FrA03.5
<i>Packed Bed Reactor Output Regulation</i> , pp. 3470-3475.	
Ozorio Cassol, Guilherme	University of Alberta
Dubljevic, Stevan	University of Alberta
11:15-11:30	FrA03.6
<i>Setpoint Tracking of Exponentially Stable Linear Hyperbolic Systems Using Model Predictive Control</i> , pp. 3476-3481.	
Humaloja, Jukka-Pekka	University of Alberta
Dubljevic, Stevan	University of Alberta



<b>FrA04</b>	International 7
<b>Stochastic Optimal Control I (Regular Session)</b>	
Chair: Kim, Hunmin	University of Illinois Urbana-Champaign
Co-Chair: Chapman, Margaret P	University of Toronto
10:00-10:15	FrA04.1
<i>Sampling Complexity of Path Integral Methods for Trajectory Optimization</i> , pp. 3482-3487.	
Yoon, Hyungjin	University of Nevada, Reno
Tao, Chuyuan	University of Illinois Urbana-Champaign
Kim, Hunmin	University of Illinois Urbana-Champaign
Hovakimyan, Naira	University of Illinois at Urbana-Champaign
Voulgaris, Petros G.	Univ of Nevada, Reno
10:15-10:30	FrA04.2
<i>Control Barrier Function Augmentation in Sampling-Based Control Algorithm for Sample Efficiency</i> , pp. 3488-3493.	
Tao, Chuyuan	University of Illinois Urbana-Champaign
Kim, Hunmin	University of Illinois Urbana-Champaign
Yoon, Hyungjin	University of Nevada, Reno
Hovakimyan, Naira	University of Illinois at Urbana-Champaign
Voulgaris, Petros G.	Univ of Nevada, Reno
10:30-10:45	FrA04.3
<i>The Two-Stage PI2 Control Strategy</i> , pp. 3494-3499.	
Varnai, Peter	KTH Royal Institute of Technology
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
10:45-11:00	FrA04.4
<i>Optimal Finite Time Control for Discrete-Time Stochastic Dynamical Systems</i> , pp. 3500-3505.	
Lee, Junsoo	Georgia Institute of Technology
Haddad, Wassim M.	Georgia Inst. of Tech
Lancharas, Manuel	Georgia Institute of Technology
11:00-11:15	FrA04.5
<i>Nonlinear-Nonquadratic Optimal and Inverse Optimal Control for Discrete-Time Stochastic Dynamical Systems</i> , pp. 3506-3511.	
Lancharas, Manuel	Georgia Institute of Technology
Haddad, Wassim M.	Georgia Inst. of Tech

FrA05	International 8
<b>Advanced Control of Wind Turbines and Wind Farms I (Invited Session)</b>	
Chair: Mulders, Sebastiaan Paul	Delft University of Technology
Co-Chair: Bay, Christopher	National Renewable Energy Laboratory
Organizer: Mulders, Sebastiaan Paul	Delft University of Technology
Organizer: Bay, Christopher	National Renewable Energy Laboratory
Organizer: Fleming, Paul	National Renewable Energy Laboratory
Organizer: van Wingerden, Jan-Willem	Delft University of Technology
Organizer: Doekemeijer, Bart Matthijs	National Renewable Energy Laboratory
10:00-10:15	FrA05.1
<i>The Proportional Integral Notch and Coleman Blade Effective Wind Speed Estimators and Their Similarities</i> , pp. 3512-3517.	
Liu, Yichao	Delft University of Technology
Pamososuryo, Atindriyo Kusumo	Delft University of Technology
Mulders, Sebastiaan Paul	Delft University of Technology
Ferrari, Riccardo M.G.	Delft University of Technology
van Wingerden, Jan-Willem	Delft University of Technology
10:15-10:30	FrA05.2
<i>Economic Nonlinear Model Predictive Control of Offshore Vertical-Axis Wind Turbines (I)</i> , pp. 3518-3525.	
Lao, Yejun	The University of Texas at Dallas
Rotea, Mario	University of Texas at Dallas
Koeln, Justin	University of Texas at Dallas
Sakib, Mohammad Sadman	The University of Texas at Dallas
Griffith, D. Todd	University of Texas at Dallas
10:30-10:45	FrA05.3
<i>Combined Low-Bandwidth Platform Actuation and Floating Feedback Control for an Offshore Wind Turbine with an Ultraflexible Substructure (I)</i> , pp. 3526-3531.	
Grant, Elenya	Colorado School of Mines
Johnson, Kathryn	Colorado School of Mines
Damiani, Rick	Colorado School of Mines
Stockhouse, David	University of Colorado Boulder
Dinius, James	Colorado School of Mines
Phadnis, Mandar	University of Colorado, Boulder
Pao, Lucy Y.	University of Colorado Boulder
10:45-11:00	FrA05.4
<i>Control of a Floating Wind Turbine on a Novel Actuated Platform (I)</i> , pp. 3532-3537.	
Stockhouse, David	University of Colorado Boulder
Phadnis, Mandar	University of Colorado, Boulder
Grant, Elenya	Colorado School of Mines
Johnson, Kathryn	Colorado School of Mines
Damiani, Rick	Colorado School of Mines
Pao, Lucy Y.	University of Colorado Boulder
11:00-11:15	FrA05.5
<i>On the Severity of Wind Turbine Generator Speed Peaks in Response to Particular Gusts (I)</i> , pp. 3538-3543.	
Phadnis, Mandar	University of Colorado, Boulder
Pao, Lucy Y.	University of Colorado Boulder
11:15-11:30 (video presentation)	FrA05.6
<i>Investigation on the Wind Preview Quality for Lidar-Assisted Wind Turbine Control under Wake Conditions (I)</i> , pp. 3544-3549.	
Guo, Feng	Flensburg University of Applied Sciences
Schlipf, David	Flensburg University of Applied Sciences
Zhang, Zhaoyu	Politecnico Di Milano
Cheng, Po Wen	Stuttgart Wind Energy, University of Stuttgart

<b>FrA06</b>	International 9
<b>Optimal Control III (Regular Session)</b>	
Chair: Pickl, Stefan	UBw München
Co-Chair: Jiang, Yuning	EPFL
10:00-10:15	FrA06.1
<i>IRiSC: Iterative Risk Sensitive Control for Nonlinear Systems with Imperfect Observations</i> , pp. 3550-3557.	
Hammoud, Bilal	New York University
Jordana, Armand	New York University
Righetti, Ludovic	New York University
10:15-10:30 (video presentation)	FrA06.2
<i>Time-Optimal Control of Cranes Subject to Container Height Constraints</i> , pp. 3558-3563.	
Marques Barbosa, Filipe	Linköping University
Löfberg, Johan	Linköpings Universitet
10:30-10:45	FrA06.3
<i>Output-Feedback System Level Synthesis Via Dynamic Programming</i> , pp. 3564-3571.	
Conger, Lauren	California Institute of Technology
Tseng, Shih-Hao	California Institute of Technology
10:45-11:00	FrA06.4
<i>Guided Policy Search Using Sequential Convex Programming for Initialization of Trajectory Optimization Algorithms</i> , pp. 3572-3578.	
Kim, Taewan	University of Washington
Elango, Purnanand	University of Washington
Malyuta, Danylo	University of Washington
Acikmese, Behcet	University of Washington
11:00-11:15 (video presentation)	FrA06.5
<i>Efficient Riccati Recursion for Optimal Control Problems with Pure-State Equality Constraints</i> , pp. 3579-3586.	
Katayama, Sotaro	Kyoto University
Ohtsuka, Toshiyuki	Kyoto Univ
11:15-11:30	FrA06.6
<i>Robust Resource-Aware Self-Triggered Model Predictive Control</i> , pp. 3587-3592.	
Lian, Yingzhao	EPFL
Jiang, Yuning	EPFL
Stricker, Naomi	ETH Zurich
Thiele, Lothar	ETH Zurich
Jones, Colin N.	EPFL

**FrA07** International 10**Fault Detection I (Regular Session)**

Chair: Tan, Junbo Tsingahu University  
Co-Chair: Kwon, Joseph Texas A&M University

10:00-10:15 FrA07.1

*Anomaly Detection under Multiplicative Noise Model Uncertainty*, pp. 3593-3598.

Renganathan, Venkatraman Lund University  
Gravell, Benjamin The University of Texas at Dallas  
Ruths, Justin University of Texas at Dallas  
Summers, Tyler H. University of Texas at Dallas

10:15-10:30 FrA07.2

*Statistical Active-Sensing Structural Health Monitoring Via Stochastic Time-Varying Time Series Models*, pp. 3599-3606.

Ahmed, Shabbir Rensselaer Polytechnic Institute  
Kopsaftopoulos, Fotis Rensselaer Polytechnic Institute

10:30-10:45 FrA07.3

*Real-Time Fault Estimation for a Class of Discrete-Time Linear Parameter-Varying Systems*, pp. 3607-3612.

van der Ploeg, Chris Eindhoven University of Technology, TNO Integrated Vehicle Safet  
Silvas, Emilia Netherlands Organisation for Applied Scientific Research  
Van De Wouw, Nathan Eindhoven University of Technology  
Mohajerin Esfahani, Peyman TU Delft

10:45-11:00 FrA07.4

*A Learning Observer Approach for Fouling Detection and Localization in Direct Contact Membrane Distillation Systems*, pp. 3613-3619.

Touati, Tania Camelia Ecole Nationale Polytechnique  
Marani, Yasmine King Abdullah University of Science and Technology  
Chakir, Messaoud Laboratoire De Commande Des Processus Ecole Nationale Polytechni  
Laleg-Kirati, Taous-Meriem King Abdullah University of Science and Technology (KAUST)

11:00-11:15 FrA07.5

*Computation of Minimal Detectable Fault under Hybrid Stochastic and Deterministic Framework*, pp. 3620-3625.

Tan, Junbo Tsingahu University  
Zheng, Huailiang Tsinghua University  
Wang, Xueqian Tsinghua University  
Liang, Bin Tsinghua University  
Yang, Wenming Tsinghu University

11:15-11:30 FrA07.6

*Prediction and Isolation of Process Faults Using Operable Adaptive Sparse Identification of Systems (OASIS) and Contribution Plots*, pp. 3626-3631.

Bhadriraju, Bhavana Texas A&M University  
Kwon, Joseph Texas A&M University  
Khan, Faisal Memorial University of Newfoundland

FrA08	International 2
<b>Modeling, Testing, and Control of Epidemic Processes (Invited Session)</b>	
Chair: She, Baike	Purdue University
Co-Chair: Leung, Humphrey	Purdue University
Organizer: She, Baike	Purdue University
Organizer: Leung, Humphrey	Purdue University
Organizer: Sundaram, Shreyas	Purdue University
Organizer: Pare, Philip E.	Purdue University
10:00-10:15	FrA08.1
<i>Multi-Stage Sparse Resource Allocation for Control of Spreading Processes Over Networks (I)</i> , pp. 3632-3639.	
Somers, Vera L. J.	University of Melbourne
Manchester, Ian R.	University of Sydney
10:15-10:30	FrA08.2
<i>Minimizing the Infected Peak Utilizing a Single Lockdown: A Technical Result Regarding Equal Peaks (I)</i> , pp. 3640-3647.	
Greene, James	Clarkson University
Sontag, Eduardo	Northeastern University
10:30-10:45	FrA08.3
<i>Modeling Presymptomatic Spread in Epidemics Via Mean-Field Games (I)</i> , pp. 3648-3655.	
Olmez, Sukru Yagiz	University of Illinois at Urbana-Champaign
Aggarwal, Shubham	University of Illinois, Urbana Champaign
Kim, Jin Won	University of Illinois at Urbana Champaign
Miehling, Erik	University of Illinois at Urbana-Champaign
Basar, Tamer	Univ of Illinois, Urbana-Champaign
West, Matthew	Univ of Illinois, Urbana-Champaign
Mehta, Prashant G.	Univ of Illinois, Urbana-Champaign
10:45-11:00	FrA08.4
<i>The Impact of Vaccine Hesitancy on Epidemic Spreading</i> , pp. 3656-3661.	
Leung, Humphrey	Purdue University
Gibbs, Maria Elizabeth	The University of Texas at Austin
Pare, Philip E.	Purdue University
11:00-11:15	FrA08.5
<i>Epidemic Propagation under Evolutionary Behavioral Dynamics: Stability and Bifurcation Analysis (I)</i> , pp. 3662-3667.	
Satapathi, Abhisek	Indian Institute of Technology Kharagpur
Dhar, Narendra Kumar	Indian Institute of Technology Kanpur
Hota, Ashish	Indian Institute of Technology (IIT), Kharagpur
Srivastava, Vaibhav	Michigan State University
11:15-11:30 (video presentation)	FrA08.6
<i>Stability and Robustness Analysis of Epidemic Networks with Multiple Time-Delays</i> , pp. 3668-3674.	
Darabi, Atefe	Northeastern University
Siami, Milad	Northeastern University

<b>FrA09</b>	International 3
<b>Energy-Aware Robotic Systems</b> (Invited Session)	
Chair: Vermillion, Christopher	North Carolina State University
Co-Chair: Notomista, Gennaro	University of Waterloo
Organizer: Vermillion, Christopher	North Carolina State University
Organizer: Rouse, Elliott	University of Michigan
Organizer: De Castro, Ricardo	University of California, Merced
10:00-10:15	FrA09.1
<i>Coverage-Maximizing Solar-Powered Autonomous Surface Vehicle Control for Persistent Gulf Stream Observation (I)</i> , pp. 3675-3681.	
Govindarajan, Kavin	North Carolina State University
Haydon, Benjamin	North Carolina State University
Mishra, Kirti	The Ohio State University
Vermillion, Christopher	North Carolina State University
10:15-10:30	FrA09.2
<i>Resilience and Energy-Awareness in Constraint-Driven-Controlled Multi-Robot Systems (I)</i> , pp. 3682-3687.	
Notomista, Gennaro	University of Waterloo
10:30-10:45	FrA09.3
<i>Convex Optimization for Spring Design of Parallel Elastic Actuators (I)</i> , pp. 3688-3694.	
Guo, Sicong	University of Michigan
Gregg, Robert D.	University of Michigan
Bolivar-Nieto, Edgar	University of Notre Dame
10:45-11:00	FrA09.4
<i>Exploration vs. Exploitation in Airborne Wind Energy Systems via Information-Directed Sampling Control (I)</i> , pp. 3695-3701.	
Goujard, Guillaume	UC Berkeley
Keyantuo, Patrick	University of California, Berkeley
Badoual, Mathilde	UC Berkeley
Moura, Scott	University of California, Berkeley
11:00-11:15	FrA09.5
<i>Experiments in Robotic Self-Repair: A 3D Printer Repairs Its Own Timing Pulley</i> , pp. 3702-3709.	
Caballero, Renzo	King Abdullah University of Science and Technology
Feron, Eric	King Abdullah University of Science and Technology
11:15-11:30	FrA09.6
<i>Distributed Feedback Optimisation for Robotic Coordination</i> , pp. 3710-3715.	
Terpin, Antonio	Swiss Federal Institute of Technology (ETH) Zurich
Fricker, Sylvain	Swiss Federal Institute of Technology (ETH) Zürich
Perez, Michel	ETH Zürich
Hudoba de Badyn, Mathias	ETH, Zurich
Dörfler, Florian	Swiss Federal Institute of Technology (ETH) Zurich

<b>FrA10</b>	International C
<b>Hybrid Modelling: Challenges and Opportunities (Tutorial Session)</b>	
Chair: Han, Yunhai	Georgia Institute of Technology
Co-Chair: Kwon, Joseph	Texas A&M University
Organizer: Gopaluni, Bhushan	University of British Columbia
10:00-10:30	FrA10.1
<i>Building Hybrid AI Models in Process Systems Engineering: Challenges and Opportunities (I)*.</i>	
Venkatasubramanian, Venkat	Purdue Univ.
10:30-10:45	FrA10.2
<i>Universal Hybrid Modeling of Batch Kinetics of Aerobic Carotenoid Production Using Saccharomyces Cerevisiae (I), pp. 3716-3721.</i>	
Bangi, Mohammed Saad Faizan	Texas A&M University
Kwon, Joseph	Texas A&M University
10:45-11:15	FrA10.3
<i>Learning Sparse Nonlinear Models for Control (I)*.</i>	
Brunton, Steven L.	University of Washington
11:15-11:30	FrA10.4
<i>Robust Unit Commitment Optimization under Volatile Wind Power Outputs Assisted by Clustering-Based Data-Driven Techniques (I), pp. 3722-3727.</i>	
Zhao, Ning	Cornell University
You, Fengqi	Cornell University

<b>FrA11</b>	<b>International 1</b>
<b>Safety and Security of Discrete Event Systems (Invited Session)</b>	
Chair: Zhang, Kuize	Technical University of Berlin
Co-Chair: Cai, Kai	Osaka City University
Organizer: Ma, Ziyue	Xidian University
Organizer: Cai, Kai	Osaka Metropolitan University
Organizer: Tong, Yin	Southwest Jiaotong University
10:15-10:30 (video presentation)	FrA11.2
<i>How Attacks Affect Detectability in Discrete-Event Systems? (I)</i> , pp. 3728-3733.	
Zhang, Kuize	Technical University of Berlin
10:30-10:45 (video presentation)	FrA11.3
<i>Reduced Complexity Verification of Almost-Infinite-Step Opacity in Stochastic Discrete-Event Systems</i> , pp. 3734-3739.	
Liu, Rongjian	Southeast University
Lu, Jianquan	Southeast University
Hadjicostis, Christoforos N.	University of Cyprus
10:45-11:00	FrA11.4
<i>Secret Protections in Discrete-Event Systems with Minimum Costs (I)</i> , pp. 3740-3745.	
Jiang, Jiagang	Xidian University
Ma, Ziyue	Xidian University
Cai, Kai	Osaka City University
11:00-11:15	FrA11.5
<i>Reliable Diagnosability for Decentralized Diagnosis of Discrete Event Systems with Single-Level Inference (I)</i> , pp. 3746-3751.	
Hamada, Takumi	Osaka University
Takai, Shigemasa	Osaka Univ
11:15-11:30 (video presentation)	FrA11.6
<i>On the Verification of Detectability for Timed Discrete Event Systems</i> , pp. 3752-3758.	
Dong, Weijie	Shanghai Jiao Tong University
Yin, Xiang	Shanghai Jiao Tong University
Zhang, Kuize	Technical University of Berlin
Li, Shaoyuan	Shanghai Jiao Tong University



<b>FrA12</b>	International A
<b>Vibrations: Modeling, Analysis, and Control</b> (Invited Session)	
Chair: Tallapragada, Phanindra	Clemson University
Co-Chair: Xiao, Hui	University of Washington
Organizer: Tallapragada, Phanindra	Clemson University
10:00-10:15	FrA12.1
<i>Distribution of Real and Imaginary Zeros of Multi-DoF Undamped Flexible Systems (I)</i> , pp. 3759-3765.	
Rath, Siddharth	University of Michigan
Maheshwari, Arunav	University of Michigan
Awtar, Shorya	University of Michigan
10:15-10:30	FrA12.2
<i>Velocity Constrained Time-Optimal Control of a Gantry Crane System (I)</i> , pp. 3766-3770.	
Stein, Adrian	University at Buffalo
Singh, Tarunraj	State Univ. of New York at Buffalo
10:30-10:45	FrA12.3
<i>Target Tracking with Frame and Event-Based Cameras Involving Delayed and Irregularly-Sampled Visual Feedback for a Robotic Air-Hockey System (I)</i> , pp. 3771-3776.	
Xiao, Hui	University of Washington
Chen, Xu	University of Washington
10:45-11:00	FrA12.4
<i>Vibration Based Fault Detection in Wind Turbines Using Machine Learning (I)</i> , pp. 3777-3782.	
Amin, Abdelrahman	Clemson University
Bibo, Amin	Clemson University
Panyam, Meghashyam	Clemson University
Tallapragada, Phanindra	Clemson University
11:00-11:15	FrA12.5
<i>Adaptive Feedforward Reference Design for Active Vibration Rejection in Multi-Actuator Hard Disk Drives</i> , pp. 3783-3788.	
Chen, Zhi	University of California at Berkeley
Potu Surya Prakash, Nikhil	UC BERKELEY
Horowitz, Roberto	Univ. of California at Berkeley
11:15-11:30	FrA12.6
<i>A Heat Exchanger Simulator for Testing and Demonstrating Automation Algorithms (I)</i> , pp. 3789-3794.	
Rhinehart, R. Russell	Oklahoma State Univ. - Retired

<b>FrA13</b>	International B
<b>Switched Systems</b> (Regular Session)	
Chair: Xu, Xiangru	University of Wisconsin-Madison
Co-Chair: Silvestre, Carlos	University of Macau
10:00-10:15	FrA13.1
<i>Improved Stabilization Criteria for Fuzzy Chaotic Systems Using Memory Sampled-Data Strategy</i> , pp. 3795-3800.	
Ramasamy, Saravanakumar	Hiroshima University
10:15-10:30	FrA13.2
<i>Switched Systems with Transient Unsustainable Modes</i> , pp. 3801-3806.	
Hall, Richard	Duke University
Bridgeman, Leila	Duke University
10:30-10:45	FrA13.3
<i>State Dependent Switching Control of Affine Linear Systems with Dwell Time: Application to Power Converters</i> , pp. 3807-3813.	
Russo, Antonio	Università Degli Studi Della Campania Luigi Vanvitelli
Incremona, Gian Paolo	Politecnico Di Milano
Cavallo, Alberto	University of Campania "L. Vanvitelli"
Colaneri, Patrizio	Politecnico Di Milano
10:45-11:00	FrA13.4
<i>Control Barrier Function Meets Interval Analysis: Safety-Critical Control with Measurement and Actuation Uncertainties</i> , pp. 3814-3819.	
Zhang, Yuhao	University of Wisconsin-Madison
Walters, Sequoyah	University of Wisconsin, Madison
Xu, Xiangru	University of Wisconsin-Madison
11:00-11:15	FrA13.5
<i>Trade-Offs in Sampled-Data Control: A DC-DC Buck Converter Example</i> , pp. 3820-3825.	
Sarkar, Aratrik	Arizona State University
Wallace, Brent	Arizona State University
Rodriguez, Armando A.	Arizona State University
11:15-11:30 (video presentation)	FrA13.6
<i>Finite-Time Model-Based Event-Triggered Implementation of Hybrid Controllers</i> , pp. 3826-3831.	
Zhu, Xuan-Zhi	Instituto Superior Técnico, Universidade De Lisboa
Casau, Pedro	Instituto Superior Técnico, University of Lisbon, IST-ID, VAT 50
Silvestre, Carlos	University of Macau

<b>FrA14</b>	Marquis Ballroom D
<b>Robotics IV (R) (RI Session)</b>	
Chair: Sanyal, Amit	Syracuse University
Co-Chair: Saccon, Alessandro	Eindhoven University of Technology
10:00-10:03	FrA14.1
<i>Elastic Structure Preserving Impedance Control for Nonlinearly Coupled Tendon-Driven Systems</i> , pp. 3832-3837.	
Pollayil, George Jose	Centro Di Ricerca "E. Piaggio", Pisa
Meng, Xuming	German Aerospace Center (DLR)
Keppler, Manuel	German Aerospace Center (DLR)
Pfanne, Martin	DLR Institute of Robotics and Mechatronics
Bicchi, Antonio	Universita' Di Pisa
Ott, Christian	German Aerospace Center (DLR)
10:03-10:06	FrA14.2
<i>Adaptive Image-Based Visual Servoing with Time-Varying Learning Rates for Uncertain Robot Manipulators</i> , pp. 3838-3843.	
Fried, Jonathan	Federal University of Rio De Janeiro
Lizarralde, Fernando	Federal Univ. of Rio De Janeiro
Leite, Antonio	Norwegian University of Life Sciences
10:06-10:09	FrA14.3
<i>Distributed Cooperative Control from Position Motion to Interaction Synchronization</i> , pp. 3844-3849.	
Chen, Zhenlei	University of Electronic Science and Technology of China
Guo, Qing	University of Electronic Science and Technology of China
Shi, Yan	Beihang University
Yan, Yao	University of Electronic Science and Technology of China
10:09-10:12	FrA14.4
<i>Model-Based 6D Visual Object Tracking with Impact Collision Models</i> , pp. 3850-3856.	
Jongeneel, Maarten	Eindhoven University of Technology
Bernardino, Alexandre	IST
Van De Wouw, Nathan	Eindhoven University of Technology
Saccon, Alessandro	Eindhoven University of Technology
10:12-10:15	FrA14.5
<i>Closed-Form Minkowski Sum Approximations for Efficient Optimization-Based Collision Avoidance</i> , pp. 3857-3864.	
Guthrie, James	Johns Hopkins University
Kobilarov, Marin	Johns Hopkins University
Mallada, Enrique	Johns Hopkins University
10:15-10:18	FrA14.6
<i>Robot Control for Simultaneous Impact Tasks Via Quadratic Programming-Based Reference Spreading</i> , pp. 3865-3872.	
van Steen, Jari	Eindhoven University of Technology
Van De Wouw, Nathan	Eindhoven University of Technology
Saccon, Alessandro	Eindhoven University of Technology
10:18-10:21	FrA14.7
<i>Prescribed-Time Stabilization Robust to Measurement Disturbances</i> , pp. 3873-3878.	
Steeves, Drew	University of California, San Diego
Krstic, Miroslav	University of California, San Diego
10:21-10:24	FrA14.8

*Workspace Control of Free-Floating Space Manipulators with Non-Zero Momentum on Lie Groups*, pp. 3879-3884.

Rouso, Patrick

Carleton University

Chhabra, Robin

Carleton University

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10:24-10:27

FrA14.9

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*Robust Model Predictive Control with Data-Driven Koopman Operators*, pp. 3885-3892.

Mamakoukas, Giorgos

Northwestern University

Di Cairano, Stefano

Mitsubishi Electric Research Labs

P. Vinod, Abraham

Mitsubishi Electric Research Lab

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10:27-10:30

FrA14.10

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*Integrated Guidance and Control of Driftless Control-Affine Systems with Control Constraints and State Exclusion Zones*, pp. 3893-3898.

Dongare, Abhijit

Syracuse University

Sanyal, Amit

Syracuse University

Kolmanovsky, Ilya V.

The University of Michigan

Viswanathan, Sasi Prabhakaran

Akrobotix LLC

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10:30-10:33

FrA14.11

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*A More Scalable Mixed-Integer Encoding for Metric Temporal Logic*, pp. 3899-3904.

Kurtz, Vincent

University of Notre Dame

Lin, Hai

University of Notre Dame

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10:33-10:36

FrA14.12

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*Regions of Exponential Convergence for a Coverage Controller*, pp. 3905-3910.

Kennedy, James

University of Melbourne

Dower, Peter M.

University of Melbourne

Chapman, Airlie

University of Melbourne

FrA15	Imperial Ballroom A
<b>Identification (R)</b> (RI Session)	
Chair: Chiu, George T.-C.	Purdue University
Co-Chair: Loria, Antonio	CNRS
10:00-10:03	FrA15.1
<i>Adaptive Control/Identification for Hybrid Systems, Part I : With Bounded Discrete Regressor</i> , pp. 3911-3916.	
Maghenem, Mohamed Adlene	Gipsa Lab, CNRS, France
Saoud, Adnane	CentraleSupélec
Loria, Antonio	CNRS
10:03-10:06	FrA15.2
<i>Adaptive Control/Identification for Hybrid Systems, Part II: With Linear-Growth-Order Discrete Regressor</i> , pp. 3917-3922.	
Maghenem, Mohamed Adlene	Gipsa Lab, CNRS, France
Saoud, Adnane	CentraleSupélec
Loria, Antonio	CNRS
10:06-10:09 (video presentation)	FrA15.3
<i>Bias Reduction in the Optimal Controller Identification Approach through Optimal Filtering</i> , pp. 3923-3928.	
Varriale da Silva, Eduardo	UFRGS
Campestrini, Luciola	University of Rio Grande Do Sul
10:09-10:12	FrA15.4
<i>Development and Preliminary Evaluation of a RANSAC Algorithm for Dynamical Model Identification in the Presence of Unmodeled Dynamics</i> , pp. 3929-3936.	
Dimmig, Cora	Johns Hopkins University
Moore, Joseph	Johns Hopkins University Applied Physics Lab
Whitcomb, Louis	Johns Hopkins Univ.,
10:12-10:15	FrA15.5
<i>Recursive Least Squares with Variable-Rate Forgetting Based on the F-Test</i> , pp. 3937-3942.	
Mohseni, Nima	University of Michigan, Ann Arbor
Bernstein, Dennis S.	Univ. of Michigan
10:15-10:18	FrA15.6
<i>Initialization of Fractional Order Systems for the Joint Estimation of Parameters and Fractional Differentiation Orders</i> , pp. 3943-3948.	
Bahloul, Mohamed A.	KAUST
Belkhatir, Zehor	Memorial Sloan Kettering Cancer Center (MSKCC)
Laleg-Kirati, Taous-Meriem	King Abdullah University of Science and Technology (KAUST)
10:18-10:21	FrA15.7
<i>Data-Driven Strictly Positive Real System Identification with Prior System Knowledge</i> , pp. 3949-3954.	
Potu Surya Prakash, Nikhil	UC BERKELEY
Chen, Zhi	University of California at Berkeley
Horowitz, Roberto	Univ. of California at Berkeley
10:21-10:24	FrA15.8
<i>Learning the Dynamics of Autonomous Linear Systems from Multiple Trajectories</i> , pp. 3955-3960.	
Xin, Lei	Purdue University
Chiu, George T.-C.	Purdue University
Sundaram, Shreyas	Purdue University
10:24-10:27	FrA15.9
<i>Maximum Likelihood Estimation of Linear Disturbance Models for Offset-Free Model Predictive Control</i> , pp. 3961-3966.	
Kuntz, Steven J	University of California--Santa Barbara

Rawlings, James B.	University of California, Santa Barbara
10:27-10:30	FrA15.10
<i>Integrated Passive-Active Model Identification with Tunable Model Discrimination for Affine Discrete-Time Systems</i> , pp. 3967-3972.	
Liu, Changrui	Delft University of Technology
Shen, Qiang	Shanghai Jiao Tong University
Niu, Ruochen	Arizona State University
Yong, Sze Zheng	Arizona State University
10:30-10:33 (video presentation)	FrA15.11
<i>Fast Subspace Identification for Large Input-Output Data</i> , pp. 3973-3978.	
Kedia, Vatsal	IIT BOMBAY
Chakraborty, Debraj	Indian Institute of Technology Bombay
10:33-10:36	FrA15.12
<i>Neural Ordinary Differential Equations for Nonlinear System Identification</i> , pp. 3979-3984.	
Rahman, Aowabin	Pacific Northwest National Laboratory
Drgona, Jan	Pacific Northwest National Laboratory
Tuor, Aaron	Pacific Northwest National Laboratory
Strube, Jan	Pacific Northwest National Laboratory

<b>FrA16</b>	M103-M105
<b>Aerospace (R) (RI Session)</b>	
Chair: Bakolas, Efstathios	The University of Texas at Austin
Co-Chair: Kong, Zhaodan	University of California, Davis
10:00-10:03	FrA16.1
<i>Component-Based Design Optimization of Multirotor Aircraft (I)</i> , pp. 3985-3990.	
Renkert, Philip	University of Illinois at Urbana-Champaign
Alleyne, Andrew G.	Univ of Illinois, Urbana-Champaign
10:03-10:06	FrA16.2
<i>Constraint Handling of an Airbreathing Hypersonic Vehicle Via Predictive Reference Management</i> , pp. 3991-3996.	
Liu, Vincent	The University of Melbourne
Manzie, Chris	The University of Melbourne
Dower, Peter M.	University of Melbourne
10:06-10:09	FrA16.3
<i>Koopman Operator Based Modeling and Control of Rigid Body Motion Represented by Dual Quaternions</i> , pp. 3997-4002.	
Zinage, Vrushabh	University of Texas at Austin
Bakolas, Efstathios	The University of Texas at Austin
10:09-10:12	FrA16.4
<i>Maximum Hands-Off Attitude Control</i> , pp. 4003-4010.	
Schaanning, Sigrid Kjønne	Norwegian University of Science and Technology
Kristiansen, Bjørn Andreas	NTNU Norwegian University of Science and Technology
Gravdahl, Jan Tommy	Norwegian Univ. of Science & Tech
10:12-10:15	FrA16.5
<i>A Switching-Free Control Architecture for Transition Maneuvers of a Quadrotor Biplane Tailsitter</i> , pp. 4011-4016.	
McIntosh, Kristoff	Rensselaer Polytechnic Institute
Jean-Paul, Reddinger	DEVCOM Army Research Laboratory
Mishra, Sandipan	Rensselaer Polytechnic Institute
10:15-10:18	FrA16.6
<i>Closed-Form Nonlinear Impact Angle Guidance Using State-Dependent Riccati Equation Approach</i> , pp. 4017-4022.	
Kumar, Shashi Ranjan	Indian Institute of Technology Bombay
Mukherjee, Dwaipayan	Indian Institute of Technology Bombay
10:18-10:21	FrA16.7
<i>Comparative Analysis of Satellite Relative Dynamics and Fuel-Optimal Trajectory Planning of Satellites Using Minimum Distance Assignment</i> , pp. 4023-4029.	
Basu, Himadri	University of New Hampshire
Pedari, Yasaman	UVM
Almassalkhi, Mads	University of Vermont
Ossareh, Hamid	University of Vermont
10:21-10:24	FrA16.8
<i>Unified Position-Attitude Control of a Nonlinear Quadrotor Swarm</i> , pp. 4030-4035.	
Zhang, Boyang	Duke University
Gavin, Henri P.	Duke University
10:24-10:27 (video presentation)	FrA16.9
<i>Fast Optimal Trajectory Generation for a Tiltwing VTOL Aircraft with Application to Urban Air Mobility</i> , pp. 4036-4041.	
Doff-Sotta, Martin	University of Oxford

Cannon, Mark	University of Oxford
Bacic, Marko	Rolls-Royce
10:27-10:30	FrA16.10
<i>Constraint Management for Quadcopter Drones: Reference Governor-Based Approaches</i> , pp. 4042-4049.	
Liu, Yudan	University of Vermont
Pedari, Yasaman	University of Vermont
Ossareh, Hamid	University of Vermont
10:30-10:33 (video presentation)	FrA16.11
<i>Filtered High-Gain Observer Design for a Class of Nonlinear Systems Subject to Delayed Measurements: Application to a Quadrocopter UAVs</i> , pp. 4050-4055.	
Dam, Quang Truc	Normandy University, UNIROUEN, ESIGELEC, IRSEEM
Thabet, Rihab El Houda	IRSEEM ESIGELEC
Ahmed Ali, Sofiane	ESIGELEC /IRSEEM
Guerin, Francois	University Le Havre
10:33-10:36 (video presentation)	FrA16.12
<i>Extension of Traveling Salesperson Problem with Drone for Manufacturing Digital Twin Data Collection</i> , pp. 4056-4061.	
Garrow, Sarah	Ford Motor Company
Mohan, Shankar	University of Michigan



<b>FrB01</b>	International 4
<b>Adaptive Systems II (Regular Session)</b>	
Chair: Tron, Roberto	Boston University
Co-Chair: Lopez, Brett	University of California - Los Angeles
14:00-14:15	FrB01.1
<i>Universal Adaptive Control of Nonlinear Systems</i> , pp. 4062-4067.	
Lopez, Brett	University of California - Los Angeles
Slotine, Jean-Jacques	Massachusetts Institute of Technology
14:15-14:30	FrB01.2
<i>On the Accuracy of Numerical Differentiation Using High-Gain Observers and Adaptive Input Estimation</i> , pp. 4068-4073.	
Verma, Shashank	University of Michigan
Sanjeevini, Sneha	University of Michigan
Sumer, Dogan	Ford Motor Company
Girard, Anouck	University of Michigan, Ann Arbor
Bernstein, Dennis S.	Univ. of Michigan
14:30-14:45	FrB01.3
<i>Online Automatic Gain Tuning for Geometric Attitude Control</i> , pp. 4074-4081.	
Vang, Bee	Boston University
Tron, Roberto	Boston University
14:45-15:00	FrB01.4
<i>Further Results on Multiagent Distributed Adaptive Control Systems with Unmeasurable Coupled Dynamics</i> , pp. 4082-4087.	
Dogan, Kadriye Merve	Embry-Riddle Aeronautical University
Yucelen, Tansel	University of South Florida
Aly, Islam	Embry-Riddle Aeronautical University
Muse, Jonathan	Wright Patterson Air Force Base
15:00-15:15	FrB01.5
<i>Reducing Information Exchange in Distributed Control of Multiagent Systems: A Norm-Free and Adaptive Event-Triggering Approach</i> , pp. 4088-4093.	
Kurtoglu, Deniz	University of South Florida
Yucelen, Tansel	University of South Florida
Ristevski, Stefan	University of South Florida
Muse, Jonathan	Wright Patterson Air Force Base
15:15-15:30 (video presentation)	FrB01.6
<i>Non Parametric Finite Time Identification of Closed Loop Systems</i> , pp. 4094-4100.	
Jones, Dalton	Massachusetts Institute of Technology
Dahleh, Munther A.	Massachusetts Inst. of Tech

<b>FrB02</b>	International 5
<b>Modeling</b> (Regular Session)	
Chair: Kong, Zhaodan	University of California, Davis
Co-Chair: Han, Jihun	Argonne National Laboratory
14:00-14:15 (video presentations)	FrB02.1
<i>Design of Model Free Control with Tuning Method on Ultra-Local Model for Lateral Vehicle Control Purposes</i> , pp. 4101-4106.	
Hegedűs, Tamás	Budapest University of Technology and Economics
Fenyés, Daniel	Institute for Computer Science and Control (SZTAKI)
Nemeth, Balazs	SZTAKI Institute for Computer Science and Control
Szabo, Zoltan	SZTAKI
Gaspar, Peter	SZTAKI
14:15-14:30	FrB02.2
<i>Volterra Equations for Fractional Behaviors Modeling with Application to Lithium-Ion Cells</i> , pp. 4107-4112.	
Tartaglione, Vincent	Université De Bordeaux
Farges, Christophe	University of Bordeaux
Sabatier, Jocelyn	IMS Laboratory - Bordeaux University
14:30-14:45	FrB02.3
<i>Analytical Anticipative Optimal Drivability Car-Following Model</i> , pp. 4113-4118.	
Han, Jihun	Argonne National Laboratory
Karbowski, Dominik	Argonne National Laboratory
Rousseau, Aymeric	Argonne National Laboratory
14:45-15:00	FrB02.4
<i>Energy-Efficient UAV Trajectory Generation Based on System-Level Modeling of Multi-Physical Dynamics</i> , pp. 4119-4126.	
Michel, Nicolas	University of California Davis
Kong, Zhaodan	University of California, Davis
Lin, Xinfan	University of California, Davis
15:00-15:15	FrB02.5
<i>Input Shaped Control of a Gantry Crane with Inertial Payload</i> , pp. 4127-4132.	
Stein, Adrian	University at Buffalo
Singh, Tarunraj	State Univ. of New York at Buffalo
15:15-15:30	FrB02.6
<i>Boundary and Taxonomy of Integrator Reach Sets</i> , pp. 4133-4138.	
Haddad, Shadi	University of California, Santa Cruz
Halder, Abhishek	University of California, Santa Cruz

<b>FrB03</b>	International 6
<b>Distributed Parameter Systems II (Regular Session)</b>	
Chair: Krener, Arthur J	Naval Postgraduate School
Co-Chair: Demetriou, Michael A.	Worcester Polytechnic Institute
14:00-14:15	FrB03.1
<i>Economic Aspects of Sensor Selection Optimization of Finite and Infinite Dimensional Dynamical Systems (I)</i> , pp. 4139-4144.	
Demetriou, Michael A.	Worcester Polytechnic Institute
14:15-14:30	FrB03.2
<i>Mobile Actuation and Sensing Strategy for Event-Driven Observer-Based Control of a Class of Delayed Distributed Parameter Systems</i> , pp. 4145-4150.	
Chen, Juan	Jiangnan University
Yurou, Wen	Jiangnan University
Lou, Xuyang	Jiangnan University
Chen, YangQuan	University of California, Merced
14:30-14:45	FrB03.3
<i>Linear Quadratic Gaussian Synthesis for a Heated/Cooled Rod Using Point Actuation and Point Sensing (I)</i> , pp. 4151-4158.	
Krener, Arthur J	Naval Postgraduate School
14:45-15:00	FrB03.4
<i>Neuron Growth Output-Feedback Control by PDE Backstepping (I)</i> , pp. 4159-4164.	
Demir, Cenk	University of California, San Diego
Koga, Shumon	University of California, San Diego
Krstic, Miroslav	University of California, San Diego
15:00-15:15	FrB03.5
<i>Regional Stabilization of the Nonlinear 1D Kuramoto-Sivashinsky Equation Via Modal Decomposition</i> , pp. 4165-4170.	
Katz, Rami	Tel Aviv University
Fridman, Emilia	Tel-Aviv Univ
15:15-15:30	FrB03.6
<i>A Weakly Nonlinear Analysis of Transition in a Hypersonic Flow</i> , pp. 4171-4176.	
Dwivedi, Anubhav	University of Southern California
Jovanovic, Mihailo R.	University of Southern California

<b>FrB04</b>	International 7
<b>Stochastic Optimal Control II (Regular Session)</b>	
Chair: Tsiotras, Panagiotis	Georgia Institute of Technology
Co-Chair: Chapman, Margaret P	University of Toronto
14:00-14:15	FrB04.1
<i>Classical Risk-Averse Control for a Finite-Horizon Borel Model</i> , pp. 4177-4182.	
Chapman, Margaret P	University of Toronto
Smith, Kevin M.	Tufts University
14:15-14:30	FrB04.2
<i>Distribution Steering for Discrete-Time Linear Systems with General Disturbances Using Characteristic Functions</i> , pp. 4183-4190.	
Sivaramakrishnan, Vignesh	University of New Mexico
Pilipovsky, Joshua	Georgia Institute of Technology
Oishi, Meeko	University of New Mexico
Tsiotras, Panagiotis	Georgia Institute of Technology
14:30-14:45	FrB04.3
<i>Stochastic Optimal Control of a Sailboat</i> , pp. 4191-4196.	
Miles, Cole	Cornell University
Vladimirsky, Alexander	Cornell University
14:45-15:00	FrB04.4
<i>Constrained Covariance Steering Based Tube-MPPI</i> , pp. 4197-4202.	
Balci, Isin M	University of Texas at Austin
Bakolas, Efstathios	The University of Texas at Austin
Vlahov, Bogdan	Georgia Institute of Technology
Theodorou, Evangelos	Georgia Institute of Technology
15:00-15:15 (video presentation)	FrB04.5
<i>Automated EWMA Anomaly Detection Pipeline</i> , pp. 4203-4210.	
Gilletly, Samuel	Sandia National Laboratories
Cauthen, Katherine	Sandia National Laboratories
Mott, Joshua	Sandia National Laboratories
Brown, Nathanael	Sandia National Laboratories
15:15-15:30	FrB04.6
<i>Topology Control of a Periodic Time-Varying Communication Network with Stochastic Temporal Links</i> , pp. 4211-4217.	
Shen, Li	University of Pennsylvania
Yu, Xi	West Virginia University
Hsieh, M. Ani	University of Pennsylvania

**Advanced Control of Wind Turbines and Wind Farms II (Invited Session)**

Chair: Mulders, Sebastiaan Paul	Delft University of Technology
Co-Chair: Bay, Christopher	National Renewable Energy Laboratory
Organizer: Mulders, Sebastiaan Paul	Delft University of Technology
Organizer: Bay, Christopher	National Renewable Energy Laboratory
Organizer: Fleming, Paul	National Renewable Energy Laboratory
Organizer: van Wingerden, Jan-Willem	Delft University of Technology
Organizer: Doekemeijer, Bart Matthijs	National Renewable Energy Laboratory

14:00-14:15

FrB05.1

*On the Impact of the Yaw Update Frequency and Wind Direction Forecasting on Open-Loop Wake Steering Control (I)*, pp. 4218-4223.

Howland, Michael	Massachusetts Institute of Technology
Johlas, Hannah M.	Massachusetts Institute of Technology
Bas Quesada, Jesus	Siemens Gamesa Renewable Energy
Pena Martínez, Juan José	Siemens Gamesa Renewable Energy
Zhong, Wei	Siemens Gamesa Renewable Energy GmbH & Co. KG
Palou Larrañaga, Felipe	Siemens Gamesa Renewable Energy

14:15-14:30

FrB05.2

*A Baseline Repositioning Controller for a Floating Offshore Wind Farm (I)*, pp. 4224-4229.

Gao, Yuan	University of British Columbia
Padmanabhan, Aravindh	Indian Institute of Technology Madras
Chen, Ouyang	University of British Columbia
Cherom Kheirabadi, Ali	University of British Columbia
Nagamune, Ryoza	University of British Columbia

14:30-14:45

FrB05.3

*A Switching Thrust Tracking Controller for Load Constrained Wind Turbines (I)*, pp. 4230-4235.

Gonzalez Silva, Jean	Delft University of Technology
van der Hoek, Daan	Delft University of Technology
Mulders, Sebastiaan Paul	Delft University of Technology
Ferrari, Riccardo M.G.	Delft University of Technology
van Wingerden, Jan-Willem	Delft University of Technology

14:45-15:00

FrB05.4

*Identification of Turbine Clusters During Time Varying Wind Direction (I)*, pp. 4236-4241.

Bernardoni, Federico	The University of Texas at Dallas
Ciri, Umberto	The University of Texas at Dallas
Rotea, Mario	University of Texas at Dallas
Leonardi, Stefano	The University of Texas at Dallas

15:00-15:15

FrB05.5

*Reducing Aerodynamic Load Fluctuation in Wind Turbines Using Iterative Learning Control Laws Designed Using Reduced Order Models of the Flow*, pp. 4242-4247.

Nowicka, Weronika Natalia	University of Southampton
Chu, Bing	University of Southampton
Tutty, Owen	University of Southampton
Rogers, Eric	University of Southampton

15:15-15:30

FrB05.6

*Discrete-Time, Performance-Guaranteed Control of Vibratory Systems with Power Directionality Constraints*, pp. 4248-4255.

Ligeikis, Connor	University of Michigan
Scruggs, Jeff	University of Michigan

<b>FrB06</b>	International 9
<b>Optimization Algorithms I (Regular Session)</b>	
Chair: Jouini, Taouba	Karlsruhe Institute of Technology (KIT)
Co-Chair: Casbeer, David W.	Air Force Research Laboratory
14:00-14:15	FrB06.1
<i>Distributed K-Clustering with Exponential Convergence</i> , pp. 4256-4261.	
Wang, Lili	Boston University
Tron, Roberto	Boston University
14:15-14:30	FrB06.2
<i>PrivOpt: An Intrinsically Private Distributed Optimization Algorithm</i> , pp. 4262-4267.	
Esteki, Amir-Salar	University of California, Irvine
Kia, Solmaz S.	University of California Irvine (UCI)
14:30-14:45	FrB06.3
<i>On Distributed Optimization Over Random Independent Networks</i> , pp. 4268-4273.	
Aghajan, Adel	University of California Santa Barbara
Touri, Behrouz	University of California San Diego
14:45-15:00	FrB06.4
<i>Accelerated Zeroth-Order Algorithm for Stochastic Distributed Non-Convex Optimization</i> , pp. 4274-4279.	
Zhang, Shengjun	University of North Texas
Bailey, Colleen	University of North Texas
15:00-15:15	FrB06.5
<i>Power Management for Noise Aware Path Planning of Hybrid UAVs</i> , pp. 4280-4285.	
Scott, Drew	University of Cincinnati
Manyam, Satyanarayana Gupta	Air Force Research Labs
Casbeer, David W.	Air Force Research Laboratory
Kumar, Manish	University of Cincinnati
Rothenberger, Michael	The Pennsylvania State University
Weintraub, Isaac	Air Force Research Laboratory
15:15-15:30 (video presentation)	FrB06.6
<i>Stochastic Learning Rate Optimization in the Stochastic Approximation and Online Learning Settings</i> , pp. 4286-4291.	
Mamalis, Theodoros	University of Illinois at Urbana-Champaign
Stipanovic, Dusan M.	Univ of Illinois, Urbana-Champaign
Voulgaris, Petros G.	Univ of Nevada, Reno

<b>FrB07</b>	International 10
<b>Fault Detection II (Regular Session)</b>	
Chair: Li, Huayi	University of Michigan, Ann Arbor
Co-Chair: Wang, Zhenyu	Dow Chemical
14:00-14:15	FrB07.1
<i>Handling Cyclic Loops for Accurate Root Cause Diagnosis of Rare Events in Chemical Processes Using Modified Bayesian Network</i> , pp. 4292-4297.	
Kumari, Pallavi	Texas A&M University
Bhadriraju, Bhavana	Texas A&M University
Wang, Qingsheng	Texas A&M University
Kwon, Joseph	Texas A&M University
14:15-14:30	FrB07.2
<i>Active Input Design to Balance Fault Diagnosis and Tracking Control Performance</i> , pp. 4298-4304.	
Tan, Junbo	Tsingahu University
Zheng, Huailiang	Tsinghua University
Wang, Xueqian	Tsinghua University
Liang, Bin	Tsinghua University
Yang, Wenming	Tsinghua University
14:30-14:45	FrB07.3
<i>Fault-Tolerant Model Predictive Control for Multirotor UAVs</i> , pp. 4305-4310.	
Diget, Emil Lykke	University of Southern Denmark
Agus, Hasan	Norwegian University of Science and Technology
Poramate, Manoonpong	University of Southern Denmark
14:45-15:00	FrB07.4
<i>Integrating Failure Detection and Isolation into a Reference Governor-Based Reconfiguration Strategy for Stuck Actuators</i> , pp. 4311-4316.	
Li, Huayi	University of Michigan, Ann Arbor
Kolmanovsky, Ilya V.	The University of Michigan
Girard, Anouck	University of Michigan, Ann Arbor
15:00-15:15 (video presentation)	FrB07.5
<i>Sensor Failure--Tolerant Observer Design with Regional Pole Placement</i> , pp. 4317-4322.	
Luo, Wenjia	Imperial College London
Zhang, Cong	Imperial College London
Jaimoukha, Imad M.	Imperial College London
15:15-15:30	FrB07.6
<i>Continuous Assessment of Data Sources Quality for Improving the Resilience of Multisource Fusion Platforms</i> , pp. 4323-4328.	
Strelet, Eugeniu	University of Coimbra
Wang, Zhenyu	Dow Chemical
Peng, You	Massachusetts Institute of Technology
Castillo, Ivan	The Dow Chemical Company
Rendall, Ricardo	Dow Inc
Braun, Birgit	The Dow Chemical Company
Chiang, Leo	The Dow Chemical Company
Reis, Marco	University of Coimbra

<b>FrB08</b>	International 2
<b>Control of Neuroprosthetics and Wearable Robots for Rehabilitation and Function Restoration (Invited Session)</b>	
Chair: Sharma, Nitin	North Carolina State University
Co-Chair: Duenas, Victor H	Syracuse University
Organizer: Sharma, Nitin	North Carolina State University
Organizer: Duenas, Victor H	Syracuse University
Organizer: Cousin, Christian A.	University of Alabama
Organizer: Freeman, Christopher T.	University of Southampton
14:00-14:15	FrB08.1
<i>Parametrised Function ILC with Application to FES Electrode Arrays (I)</i> , pp. 4329-4334.	
Sun, Xiaoru	University of Southampton
Freeman, Christopher T.	University of Southampton
14:15-14:30	FrB08.2
<i>On Learning Discrete-Time Fractional-Order Dynamical Systems (I)</i> , pp. 4335-4340.	
Chatterjee, Sarthak	Merck & Co., Inc
Pequito, Sergio	Rensselaer Polytechnic Institute
14:30-14:45	FrB08.3
<i>A Switched Systems Approach for Closed-Loop Control of a Lower-Limb Cable-Driven Exoskeleton (I)</i> , pp. 4341-4346.	
Chang, Chen-Hao	Syracuse University
Casas, Jonathan	Syracuse University
Duenas, Victor H	Syracuse University
14:45-15:00	FrB08.4
<i>Control Barrier Functions for Safe Teleoperation of a Functional Electric Stimulation Enabled Rehabilitation System (I)</i> , pp. 4347-4352.	
Stubbs, Kimberly	University of Florida
Isaly, Axton	University of Florida
Dixon, Warren E.	University of Florida
15:00-15:15	FrB08.5
<i>Model-Based Switched Approximate Dynamic Programming for Functional Electrical Stimulation Cycling (I)</i> , pp. 4353-4358.	
Makumi, Wanjiku A.	University of Florida
Greene, Max L.	University of Florida
Stubbs, Kimberly	University of Florida
Dixon, Warren E.	University of Florida
15:15-15:30	FrB08.6
<i>Piston-Driven Pneumatically-Actuated Soft Robots: Modelling and Backstepping Control</i> , pp. 4359-4364.	
Stölzle, Maximilian	TU Delft
Della Santina, Cosimo	TU Delft



**Mechatronics** (Invited Session)

Chair: Al Janaideh, Mohammad	Memorial University of Newfoundland
Co-Chair: Nagel, William	University of Utah
Organizer: Al Janaideh, Mohammad	Memorial University of Newfoundland
Organizer: Rakotondrabe, Micky	ENIT Tarbes, INPT, University of Toulouse
Organizer: Heertjes, Marcel	Eindhoven University of Technology
Organizer: Boudaoud, Mokrane	Sorbonne Université, Campus Pierre Et Marie Curie/ CNRS UMR 7222
Organizer: Oomen, Tom	Eindhoven University of Technology

14:00-14:15

FrB09.1

*Physics-Based Kinematic Modeling of a Twisted String Actuator-Driven Soft Robotic Manipulator (I)*, pp. 4365-4370.

Bombara, David	University of Nevada, Reno
Konda, Revanth	University of Nevada Reno
Chow, Ember	Indiana University Bloomington
Zhang, Jun	University of Nevada Reno

14:15-14:30

FrB09.2

*Discrete Input-Output Sliding-Mode Control with Range Compensation: Application in High-Speed Nanopositioning (I)*, pp. 4371-4376.

Nagel, William	University of Utah
Mitrovic, Aleksandra	Villanova University
Clayton, Garrett	Villanova University
Leang, Kam K.	University of Utah

14:30-14:45

FrB09.3

*Physics-Guided Neural Networks for Feedforward Control: An Orthogonal Projection-Based Approach (I)*, pp. 4377-4382.

Kon, Johan	Eindhoven University of Technology
Bruijnen, Dennis	Philips Engineering Solutions
van de Wijdeven, Jeroen	ASML Netherlands B.V
Heertjes, Marcel	Eindhoven University of Technology
Oomen, Tom	Eindhoven University of Technology

14:45-15:00

FrB09.4

*Model Predictive Control Based on the Generalized Bouc-Wen Model for Piezoelectric Actuators in Robotic Hand with Only Position Measurements*, pp. 4383-4388.

Flores, Gerardo	Centro De Investigaciones En Optica Ac, Cio8004181k5
Aldana Murillo, Noé Guadalupe	Universidad Iberoamericana León
Rakotondrabe, Micky	ENIT Tarbes, INPT, University of Toulouse

15:00-15:15

FrB09.5

*Feedback Control Strategy for a High Speed Differential Piezo-Driven Stage by an Exclusive Use of Piezoelectric Sensors (I)*, pp. 4389-4396.

Romero Leiro, Freddy	Sorbonne Université, Campus Pierre Et Marie Curie/ CNRS UMR 7222
Bazaei, Ali	University of Newcastle, Australia
Régnier, Stéphane	ISIR
Boudaoud, Mokrane	Sorbonne Université

15:15-15:30

FrB09.6

*Saturated Adaptive Control of Antagonistic Muscles on an Upper-Limb Hybrid Exoskeleton*, pp. 4397-4402.

Aldrich, Jace	University of Alabama
Cousin, Christian A.	University of Alabama

<b>FrB10</b>	Virtual Session
<b>Advanced Battery Management Systems (Tutorial Session)</b>	
Chair: Onori, Simona	Stanford Univeristy
Co-Chair: Subramanian, Venkat	University of Washington Seattle
Organizer: Onori, Simona	Stanford Univeristy
14:00-14:30	FrB10.1
<i>Advanced BMS Modeling and Numerical Simulation for Control: Introduction, Motivation, Challenges and Perspectives (I)</i> , pp. 4403-4414.	
Onori, Simona	Stanford Univeristy
Subramanian, Venkat	University of Texas at Austin
14:30-14:45	FrB10.2
<i>Recent Progress on State and Parameter Estimation for Lithium-Sulfur Batteries (I)</i> , pp. 4415-4415.	
Fathy, Hosam K.	University of Maryland
Onori, Simona	Stanford Univeristy
14:45-15:00	FrB10.3
<i>Nondestructive Methods for Estimating Parameters of Physics-Based Lithium-Ion Cell Models (I)*.</i>	
Plett, Gregory L.	University of Colorado Colorado Springs
15:00-15:15	FrB10.4
<i>Multi-Scale Models for Lithium-Ion Batteries (I)*.</i>	
Garrick, Taylor	General Motors
Onori, Simona	Stanford Univeristy
15:15-15:30	FrB10.5
<i>FPGA-Accelerated BMS Hardware-In-The-Loop (HIL) Simulation Platform for Next Generation EVs (I)*.</i>	
Alvarado, Igor	National Instruments

<b>FrB11</b>	<b>International 1</b>
<b>Adversarial Dynamic Games and Team Strategies (Invited Session)</b>	
Chair: Marden, Jason R.	University of California, Santa Barbara
Co-Chair: Shishika, Daigo	George Mason University
Organizer: Marden, Jason R.	University of California, Santa Barbara
Organizer: Shishika, Daigo	George Mason University
Organizer: Tsiotras, Panagiotis	Georgia Institute of Technology
14:00-14:15	FrB11.1
<i>Balancing Asymptotic and Transient Efficiency Guarantees in Set Covering Games (I)</i> , pp. 4416-4421.	
Konda, Rohit	UC Santa Barbara
Chandan, Rahul	University of California, Santa Barbara
Grimsman, David	Brigham Young University
Marden, Jason R.	University of California, Santa Barbara
14:30-14:45	FrB11.3
<i>Dynamic Defender-Attacker Blotto Game (I)</i> , pp. 4422-4428.	
Shishika, Daigo	George Mason University
Guan, Yue	Georgia Institute of Technology
Dorothy, Michael	Combat Capabilities Development Command Army Research Laboratory
Kumar, Vijay	University of Pennsylvania
14:45-15:00	FrB11.4
<i>Shaping Large Population Agent Behaviors through Entropy-Regularized Mean-Field Games (I)</i> , pp. 4429-4435.	
Guan, Yue	Georgia Institute of Technology
Zhou, Mi	Georgia Institute of Technology
Pakniyat, Ali	University of Alabama
Tsiotras, Panagiotis	Georgia Institute of Technology
15:00-15:15	FrB11.5
<i>Guarding a Translating Line with an Attached Defender (I)</i> , pp. 4436-4442.	
Das, Goutam	George Mason University
Shishika, Daigo	George Mason University
15:15-15:30	FrB11.6
<i>Robust Multi-Robot Active Target Tracking against Sensing and Communication Attacks (I)</i> , pp. 4443-4450.	
Zhou, Lifeng	University of Pennsylvania
Kumar, Vijay	University of Pennsylvania

<b>FrB12</b>	International A
<b>Sensor Networks (Regular Session)</b>	
Chair: Koga, Shumon	University of California, San Diego
Co-Chair: Han, Yunhai	Georgia Institute of Technology
14:00-14:15	FrB12.1
<i>Distributed Filtering with Value of Information Censoring</i> , pp. 4451-4457.	
Calvo-Fullana, Miguel	Massachusetts Institute of Technology
How, Jonathan, P.	MIT
14:15-14:30	FrB12.2
<i>Distributed Gaussian Process Mapping for Robot Teams with Time-Varying Communication</i> , pp. 4458-4464.	
Di, James	Treeswift Inc
Zobeidi, Ehsan	University of California San Diego
Koppel, Alec	Amazon
Atanasov, Nikolay	University of California, San Diego
14:30-14:45 (video presentation)	FrB12.3
<i>A Selected Interaction Swarming Algorithm for Connected Dynamic Coverage of Mobile Sensor Networks</i> , pp. 4465-4470.	
Wang, Lexing	University of Chinese Academy of Sciences ; Institute of Au
Pu, Zhiqiang	Institute of Automation, Chinese Academy of Sciences
Qiu, Tenghai	Institute of Automation, Chinese Academy of Sciences
Liu, Zhen	Institute of Automation Chinese Academy of Sciences
Yi, Jianqiang	China Academy of Sciences
14:45-15:00	FrB12.4
<i>Coupled Sensor Configuration and Path-Planning in Unknown Environments with Adaptive Cluster Analysis</i> , pp. 4471-4476.	
St. Laurent, Chase	Worcester Polytechnic Institute
Cowlagi, Raghvendra V.	Worcester Polytechnic Institute
15:00-15:15	FrB12.5
<i>A Numerical Verification Framework for Differential Privacy in Estimation</i> , pp. 4477-4482.	
Han, Yunhai	Georgia Institute of Technology
Martinez, Sonia	University of California at San Diego

<b>FrB13</b>	International B
<b>Discrete Event Systems</b> (Regular Session)	
Chair: Yao, Ningshi	George Mason University
Co-Chair: Cai, Kai	Osaka City University
14:00-14:15 (video presentation)	FrB13.1
<i>To Transmit or Not to Transmit: Optimal Sensor Schedule for Remote State Estimation of Discrete-Event Systems</i> , pp. 4483-4489.	
Liu, Yingying	Shanghai Jiao Tong University
Yin, Xiang	Shanghai Jiao Tong University
Li, Shaoyuan	Shanghai Jiao Tong University
14:15-14:30	FrB13.2
<i>Decentralized Observation of Discrete-Event Systems: At Least One Can Tell</i> , pp. 4490-4495.	
Tripakis, Stavros	Northeastern University
Rudie, Karen	Queen's Univ
14:30-14:45	FrB13.3
<i>State Estimation in Discrete Event Systems Modeled by Signal Interpreted Petri Nets</i> , pp. 4496-4501.	
Köhler, Andreas	University of Kaiserslautern
Zhang, Ping	University of Kaiserslautern
14:45-15:00	FrB13.4
<i>Synthesizing Supervisors with a Minimum Control Base for Discrete-Event Systems</i> , pp. 4502-4507.	
Moulton, Richard Hugh	Queen's University
Scott, Stephen H.	Queen's University
Rudie, Karen	Queen's Univ
15:00-15:15	FrB13.5
<i>Supervisory Control of Multi-Agent Discrete-Event Systems with Partial Observation</i> , pp. 4508-4513.	
Liu, Yingying	Shanghai Jiao Tong University
Komenda, Jan	Czech Academy of Sciences
Li, Zhiwu	Xidian University
15:15-15:30	FrB13.6
<i>Monte-Carlo Tree Search with Neural Networks for Petri Nets</i> , pp. 4514-4519.	
Jia, Mengsen	University of Kaiserslautern
Köhler, Andreas	University of Kaiserslautern
Fritz, Raphael	University of Kaiserslautern
Zhang, Ping	Technische Universitaet Kaiserslautern

<b>FrB14</b>	Marquis Ballroom D
<b>Power Systems/Smart Grids (R) (RI Session)</b>	
Chair: Wu, Neng Eva	Binghamton Univ
Co-Chair: Taha, Ahmad	Vanderbilt University
14:00-14:03	FrB14.1
<i>Deep Reinforcement Learning Based Solution Approach for Unit Commitment under Demand and Wind Power Uncertainty</i> , pp. 4520-4525.	
Ajagekar, Akshay	Cornell University
You, Fengqi	Cornell University
14:03-14:06	FrB14.2
<i>Flexibility Capacity of Thermostatically Controlled Loads in a Distribution Network</i> , pp. 4526-4533.	
Coffman, Austin	University of Florida
Dhulipala, Surya Chandan	NREL
Barooah, Prabir	Univ. of Florida
14:06-14:09	FrB14.3
<i>An Output Regulation Approach to Distributed Voltage Regulation of Multiple Coupled Distributed Generation Units in DC Microgrids</i> , pp. 4534-4539.	
Meng, Tingyang	University of Virginia
Lin, Zongli	University of Virginia
Wan, Yan	University of Texas at Arlington
Shamash, Yacov	SUNY
14:09-14:12 (video presentation)	FrB14.4
<i>Interface Networks for Failure Localization in Power Systems</i> , pp. 4540-4546.	
Liang, Chen	California Institute of Technology
Zocca, Alessandro	VU Amsterdam
Low, Steven	California Institute of Technology
Wierman, Adam	California Institute of Technology
14:12-14:15 (video presentation)	FrB14.5
<i>Hierarchical Optimal Power Flow with Improved Gradient Evaluation</i> , pp. 4547-4552.	
Liang, Heng	The Chinese University of Hong Kong
Zhou, Xinyang	National Renewable Energy Laboratory
Zhao, Changhong	The Chinese University of Hong Kong
14:15-14:18	FrB14.6
<i>How Vintage Linear Systems Controllers Have Become Inadequate in Renewables Heavy Power Systems: Limitations and New Solutions</i> , pp. 4553-4558.	
Nugroho, Sebastian Adi	University of Michigan - Ann Arbor
Taha, Ahmad	Vanderbilt University
14:18-14:21	FrB14.7
<i>Adam-Based Augmented Random Search for Control Policies for Distributed Energy Resource Cyber Attack Mitigation</i> , pp. 4559-4566.	
Arnold, Daniel	Lawrence Berkeley National Laboratory
Ngo, Sy-Toan	Lawrence Berkeley National Laboratory
Roberts, Ciaran	LBNL
Chen, Yize	Berkeley Lab
Scaglione, Anna	Cornell Tech
Peisert, Sean	Lawrence Berkeley National Laboratory
14:21-14:24	FrB14.8
<i>Small-Signal Stability Criterion for Inertial and Primary Frequency Droop Control of MTDC Grids Connected to Asynchronous AC Systems</i> , pp. 4567-4573.	
Vennelaganti, Sai Gopal	Electric Power Research Institute

Chaudhuri, Nilanjan Ray	Penn State
14:24-14:27	FrB14.9
<i>Developments in Robust Topology Detection under Load Uncertainty</i> , pp. 4574-4579.	
Piaquadio, Nicholas	Binghamton University
Wu, Neng Eva	Binghamton Univ
Zhou, Ning	Binghamton University
14:27-14:30	FrB14.10
<i>Primal-Dual Distributed Control of Residential Thermal Loads for Voltage Regulation of Distribution Systems with High PV Penetration</i> , pp. 4580-4586.	
Cai, Jie	University of Oklahoma
Jiang, Zhimin	The University of Oklahoma
14:30-14:33	FrB14.11
<i>A Submodular Optimization Approach to Stable and Minimally Disruptive Controlled Islanding in Power Systems</i> , pp. 4587-4594.	
Sahabandu, Dinuka	University of Washington
Niu, Luyao	Worcester Polytechnic Institute
Clark, Andrew	Worcester Polytechnic Institute
Poovendran, Radha	University of Washington
14:33-14:36 (video presentation)	FrB14.12
<i>Boosting False Data Injection Attack Detection with Structural Knowledge</i> , pp. 4595-4600.	
Huang, Qiushi	The Chinese University of Hong Kong, Shenzhen
Wu, Chenye	The Chinese University of Hong Kong, Shenzhen

FrB15	Imperial Ballroom A
<b>Smart Cities and Buildings (R) (RI Session)</b>	
Chair: Sawodny, Oliver	University of Stuttgart
Co-Chair: Mathieu, Johanna L.	University of Michigan
14:00-14:03	FrB15.1
<i>Dynamic Tolling for Inducing Socially Optimal Traffic Loads</i> , pp. 4601-4607.	
Maheshwari, Chinmay	University of California Berkeley
Kulkarni, Kshitij	University of California, Berkeley
Wu, Manxi	University of California, Berkeley
Sastry, Shankar	Univ. of California at Berkeley
14:03-14:06	FrB15.2
<i>Distributed Game-Theoretic Control of Aggregate Building Thermal Loads under Quadratic Generation Cost</i> , pp. 4608-4613.	
Jiang, Zhimin	The University of Oklahoma
Cai, Jie	University of Oklahoma
14:06-14:09	FrB15.3
<i>An Optimal Control Strategy to Distribute Element Wear for Adaptive High-Rise Structures</i> , pp. 4614-4619.	
Dakova, Spasena	University of Stuttgart
Heidingsfeld, Julia Laura	University of Stuttgart
Böhm, Michael	University of Stuttgart
Sawodny, Oliver	University of Stuttgart
14:09-14:12	FrB15.4
<i>A Genetic and a Greedy-Genetic Algorithm for Steady-State Disturbance Compensability Actuator Placement for Adaptive Structures</i> , pp. 4620-4626.	
Zeller, Amelie	University of Stuttgart
Böhm, Michael	University of Stuttgart
Sawodny, Oliver	University of Stuttgart
14:12-14:15	FrB15.5
<i>Learning-Based Predictive Control with Gaussian Processes: An Application to Urban Drainage Networks</i> , pp. 4627-4633.	
Balla, Krisztian M	Aalborg University
Eringis, Deividas	Aalborg University
Al Ahdab, Mohamad	Aalborg University
Bendtsen, Jan Dimon	Aalborg University
Kallesøe, Carsten Skovmose	Aalborg University
Ocampo-Martinez, Carlos	Universitat Politècnica De Catalunya (UPC)
14:15-14:18 (video presentation)	FrB15.6
<i>Towards Real-Time Monitoring and Control of Water Networks</i> , pp. 4634-4641.	
Ahmed, Elkhashap	RWTH Aachen University
Daniel, Rueschen	Viega GmbH & Co. KG
Abel, Dirk	RWTH Aachen University
14:18-14:21	FrB15.7
<i>Security Resource Investment Optimization for Critical Infrastructure Systems: A Game-Theoretic Approach</i> , pp. 4642-4647.	
Clanin, Joe	Iowa State University
Bhattacharya, Sourabh	Iowa State University
14:21-14:24 (video presentation)	FrB15.8
<i>An Integrated Model Predictive Control Method for the Rescheduling of Metro Traffic with Backup Trains</i> , pp. 4648-4653.	
Tong, Yin	Southwest Jiaotong University
Xu, Wei	Southwest Jiaotong University



Dotoli, Mariagrazia	Politecnico Di Bari
Cavone, Graziana	Politechnic of Bari
14:24-14:27	FrB15.9
<i>Stackelberg Routing of Autonomous Cars in Mixed-Autonomy Traffic Networks</i> , pp. 4654-4661.	
Kolarich, Maxwell	University of Illinois Urbana-Champaign
Mehr, Negar	University of Illinois Urbana-Champaign
14:27-14:30 (video presentation)	FrB15.10
<i>Incentive-Aware Electric Vehicle Routing Problem: A Bi-Level Model and a Joint Solution Algorithm</i> , pp. 4662-4667.	
Yao, Canqi	Southern University of Science and Technology
Chen, Shibo	Southern University of Science and Technology
Salazar, Mauro	Eindhoven University of Technology
Yang, Zaiyue	Southern University of Science and Technology
14:30-14:33	FrB15.11
<i>Aggregate Modeling and Non-Disruptive Control of Residential Air Conditioning Systems with Two-Zone Cooling Capacity</i> , pp. 4668-4675.	
Nugroho, Sebastian Adi	University of Michigan - Ann Arbor
Granitsas, Ioannis Marios	University of Michigan
Mathieu, Johanna L.	University of Michigan
Hiskens, Ian	University of Michigan
14:33-14:36	FrB15.12
<i>Hybrid Physics-Based and Data-Driven Model Predictive Control for Multi-Zone Building's Thermal Comfort under Disjunctive Uncertainty</i> , pp. 4676-4681.	
Hu, Guoqing	Cornell University
You, Fengqi	Cornell University

<b>FrB16</b>	<b>M103-M105</b>
<b>Multi-Agent Systems I (R) (RI Session)</b>	
Chair: Meng, Xiangyu	Louisiana State University
Co-Chair: Malikopoulos, Andreas A.	University of Delaware
14:00-14:03	FrB16.1
<i>Decentralized Safety for Aggressively Maneuvering Multi-Robot Interactions</i> , pp. 4682-4688.	
Rivera, Phillip	The Johns Hopkins University Applied Physics Laboratory
Kobilarov, Marin	Johns Hopkins University
14:03-14:06	FrB16.2
<i>Angle-Aware Coverage Control for 3-D Map Reconstruction with Drone Networks</i> , pp. 4689-4694.	
Shimizu, Takumi	Tokyo Institute of Technology
Yamashita, Shunya	Tokyo Institute of Technology
Hatanaka, Takeshi	Tokyo Institute of Technology
Uto, Kuniaki	Tokyo Institute of Technology
Mammarella, Martina	CNR-IEIIT
Dabbene, Fabrizio	CNR-IEIIT
14:06-14:09	FrB16.3
<i>Adaptive Multi-Agent Control with Dynamic Obstacle Avoidance in a Limited Region</i> , pp. 4695-4700.	
Bai, Yang	Ritsumeikan University
Wang, Yujie	University of Wisconsin-Madison
Xiong, Xiaogang	Harbin Institute of Technology, Shenzhen
Svinin, Mikhail	Ritsumeikan University
Magid, Evgeni	Kazan Federal University, HSE University
14:09-14:12	FrB16.4
<i>Constraint-Driven Optimal Control of Multi-Agent Systems: A Highway Platooning Case Study</i> , pp. 4701-4706.	
Beaver, Logan E.	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
14:12-14:15	FrB16.5
<i>Energy Efficient and Battery SOC-Aware Coordinated Control of Connected and Autonomous Electric Vehicles</i> , pp. 4707-4712.	
Guo, Shaopan	Louisiana State University
Meng, Xiangyu	Louisiana State University
Farasat, Mehdi	Louisiana State University
14:15-14:18 (video presentation)	FrB16.6
<i>Distributed Optimal Assignment Algorithm for Collective Foraging</i> , pp. 4713-4720.	
Miyano, Tatsuya	Toyota Motor North America, Inc
Romberg, Justin	Georgia Tech
Egerstedt, Magnus	University of California, Irvine
14:18-14:21	FrB16.7
<i>Distributed Implementation of Control Barrier Functions for Multi-Agent Systems</i> , pp. 4721-4726.	
Tan, Xiao	KTH Royal Institute of Technology
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
14:21-14:24	FrB16.8
<i>On Improving the Potential Field Method for Ring Formation</i> , pp. 4727-4732.	
Tran, Dzung	AFRL
Casbeer, David W.	Air Force Research Laboratory
Weintraub, Isaac	Air Force Research Laboratory
Milutinovic, Dejan	University of California, Santa Cruz
14:24-14:27	FrB16.9

<i>Robust Rendezvous Control of UAVs with Collision Avoidance and Connectivity Maintenance</i> , pp. 4733-4738.	
Restrepo, Esteban	KTH Royal Institute of Technology
Loria, Antonio	CNRS
Sarras, Ioannis	ONERA
Marzat, Julien	ONERA - the French Aerospace Lab
14:27-14:30	FrB16.10
<i>Data-Driven Predictive Control for Connected and Autonomous Vehicles in Mixed Traffic</i> , pp. 4739-4745.	
Wang, Jiawei	Tsinghua University
Zheng, Yang	University of California San Diego
Xu, Qing	Tsinghua University
Li, Keqiang	Tsinghua University, Beijing, China
14:30-14:33	FrB16.11
<i>Platoon Formation in a Mixed Traffic Environment: A Model-Agnostic Optimal Control Approach</i> , pp. 4746-4751.	
Mahbub, A M Ishtiaque	University of Delaware
Malikopoulos, Andreas A.	University of Delaware
14:33-14:36	FrB16.12
<i>A Distributed Newton Algorithm for Optimal Resource Allocation in Multi-Agent Systems</i> , pp. 4752-4757.	
Ebegbulem, Judith	Queen's University
Guay, Martin	Queens University

<b>FrC01</b>	<b>International 4</b>
<b>Iterative Learning Control (Regular Session)</b>	
Chair: Poot, Maurice	Eindhoven University of Technology
Co-Chair: van Haren, Max	Eindhoven University of Technology
16:00-16:15	FrC01.1
<i>Learning the Robust and Structured Control of Unknown Linear Systems</i> , pp. 4758-4763.	
Mukherjee, Sayak	Pacific Northwest National Laboratory
Vu, Thanh Long	Pacific Northwest National Laboratory
16:15-16:30	FrC01.2
<i>Orientation of an Optically Trapped Non-Spherical Micro-Particle Using Iterative Learning Control</i> , pp. 4764-4771.	
Edlund, Connor	University of Minnesota
Shrivastava, Rachit	University of Minnesota
Salapaka, Murti V.	University of Minnesota, Minneapolis
16:30-16:45	FrC01.3
<i>Low-Fidelity Gradient Updates for High-Fidelity Reprogrammable Iterative Learning Control</i> , pp. 4772-4777.	
Tseng, Kuan-Yu	University of Illinois at Urbana-Champaign
Shamma, Jeff S.	University of Illinois at Urbana-Champaign
Dullerud, Geir E.	Univ of Illinois, Urbana-Champaign
16:45-17:00	FrC01.4
<i>Position-Dependent Snap Feedforward: A Gaussian Process Framework</i> , pp. 4778-4783.	
van Haren, Max	Eindhoven University of Technology
Poot, Maurice	Eindhoven University of Technology
Portegies, Jim	Eindhoven University of Technology
Oomen, Tom	Eindhoven University of Technology
17:00-17:15	FrC01.5
<i>Iterative Learning Based Trajectory Optimization Using Fourier Series Basis Functions</i> , pp. 4784-4789.	
Drallmeier, Joseph	University of Michigan
Siegel, Jason B.	University of Michigan
Stefanopoulou, Anna G.	University of Michigan
17:15-17:30	FrC01.6
<i>Analysis of Thompson Sampling for Partially Observable Contextual Multi-Armed Bandits</i> , pp. 4790-4795.	
Park, Hongju	University of Georgia
Shirani Faradonbeh, Mohamad Kazem	University of Georgia

<b>FrC02</b>	International 5
<b>Modeling &amp; Identification (Regular Session)</b>	
Chair: Alleyne, Andrew G.	Univ of Illinois, Urbana-Champaign
Co-Chair: Shyamkumar, Nitin	New York University
16:00-16:15	FrC02.1
<i>A Fast Smoothing-Based Algorithm for Multivariable Experiment Design under <math>l_\infty</math>-Norm Signal Constraints</i> , pp. 4796-4801.	
Dirkx, Nic	ASML
Bosselaar, Marcel	University of Technology Eindhoven
Oomen, Tom	Eindhoven University of Technology
16:15-16:30	FrC02.2
<i>Dynamical Graph-Based Models of Brayton Cycle Systems (I)</i> , pp. 4802-4807.	
Smith, Reid	University of Illinois at Urbana-Champaign
Alleyne, Andrew G.	Univ of Illinois, Urbana-Champaign
16:30-16:45	FrC02.3
<i>Towards Context-Aware Learning for Control: Balancing Stability and Model-Learning Error</i> , pp. 4808-4813.	
Shyamkumar, Nitin	New York University
Gugercin, Serkan	Virginia Tech
Peherstorfer, Benjamin	New York University
16:45-17:00	FrC02.4
<i>A Framework for Guaranteed Error-Bounded Surrogate Modeling</i> , pp. 4814-4819.	
Iftakher, Ashfaq	Texas A&M University
Aras, Chinmay Mahesh	Texas A&M University
Monjur, Mohammed Sadaf	Texas A&M University
Hasan, M. M. Faruque	Texas A&M University
17:00-17:15	FrC02.5
<i>An Improved Subspace Identification Method with Variance Minimization and Input Design</i> , pp. 4820-4825.	
Mao, Xiangyu	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
Zhao, Chengcheng	Zhejiang University
17:15-17:30	FrC02.6
<i>Analyzing the Passivity of the Human Decision Making Rule in a Congestion Game Experiment</i> , pp. 4826-4831.	
Alghamdi, Norah	KAUST
Shamma, David A.	Toyota Research Institute
Shamma, Jeff S.	University of Illinois at Urbana-Champaign

FrC03	International 6
<b>Large-Scale Systems</b> (Regular Session)	
Chair: Zamani, Majid	University of Colorado Boulder
Co-Chair: Bridgeman, Leila	Duke University
16:00-16:15	FrC03.1
<i>Backstepping Mean-Field Density Control for Large-Scale Heterogeneous Nonlinear Stochastic Systems</i> , pp. 4832-4837.	
Zheng, Tongjia	University of Notre Dame
Han, Qing	University of Notre Dame
Lin, Hai	University of Notre Dame
16:15-16:30 (video presentation)	FrC03.2
<i>Compositional Controller Synthesis for Interconnected Stochastic Systems with Markovian Switching</i> , pp. 4838-4843.	
Lavaei, Abolfazl	ETH Zurich
Frazzoli, Emilio	ETH Zürich
16:30-16:45	FrC03.3
<i>On the H-Property for Step-Graphons and Edge Polytopes</i> , pp. 4844-4849.	
Belabbas, Mohamed Ali	University of Illinois at Urbana-Champaign
Chen, Xudong	University of Colorado, Boulder
Basar, Tamer	Univ of Illinois, Urbana-Champaign
16:45-17:00	FrC03.4
<i>Data-Driven Safety Verification of Discrete-Time Networks: A Compositional Approach</i> , pp. 4850-4855.	
Noroozi, Navid	SIGNON Deutschland GmbH
Salamati, Ali	Ludwig Maximilian University of Munich
Zamani, Majid	University of Colorado Boulder
17:00-17:15	FrC03.5
<i>Communication-Efficient Distributed SGD with Compressed Sensing</i> , pp. 4856-4861.	
Tang, Yujie	Harvard University
Ramanathan, Vikram	Harvard University
Zhang, Junshan	Arizona State University
Li, Na	Harvard University
17:15-17:30	FrC03.6
<i>Sparsity Promoting Fixed-Order H2-Conic Control</i> , pp. 4862-4867.	
LoCicero, Ethan	Duke University
Bridgeman, Leila	Duke University

<b>FrC04</b>	International 7
<b>Stochastic Systems</b> (Regular Session)	
Chair: Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
Co-Chair: Vahdat, Zahra	University of Delaware
16:00-16:15 (video presentation)	FrC04.1
<i>Sequential Detection of Replay Attacks with a Parsimonious Watermarking Policy</i> , pp. 4868-4875.	
Naha, Arunava	Uppsala University
Teixeira, André M. H.	Uppsala University
Ahlen, Anders	Uppsala University
Dey, Subhrakanti	Uppsala University
16:15-16:30	FrC04.2
<i>Neuro-Adaptive Stochastic Attitude Filter on SO(3)</i> , pp. 4876-4881.	
Hashim, Hashim A	Carleton University
Abouheaf, Mohammed	Bowling Green State University
Vamvoudakis, Kyriakos G.	Georgia Inst. of Tech
16:30-16:45	FrC04.3
<i>Routing for Fairness and Efficiency in a Queueing Model with Reentry and Continuous Customer Classes</i> , pp. 4882-4887.	
Zhang, Zhiqiang	University of Chicago
Shi, Pengyi	Purdue University
Ward, Amy	The University of Chicago Booth School of Business
16:45-17:00	FrC04.4
<i>Time Triggered Stochastic Hybrid Systems with Nonlinear Continuous Dynamics</i> , pp. 4888-4893.	
Vahdat, Zahra	University of Delaware
Singh, Abhyudai	University of Delaware
17:00-17:15	FrC04.5
<i>Myopically Verifiable Probabilistic Certificate for Long-Term Safety</i> , pp. 4894-4900.	
Wang, Zhuoyuan	Carnegie Mellon University
Jing, Haoming	Carnegie Mellon University
Kurniawan, Christian	Carnegie Mellon University
Chern, Albert	University of California San Diego
Nakahira, Yorie	Carnegie Mellon University
17:15-17:30	FrC04.6
<i>Data-Driven Control of Markov Jump Systems: Sample Complexity and Regret Bounds</i> , pp. 4901-4908.	
Du, Zhe	University of Michigan
Sattar, Yahya	University of California Riverside
Ataee Tarzanagh, Davoud	University of Michigan
Balzano, Laura	University of Michigan
Ozay, Necmiye	Univ. of Michigan
Oymak, Samet	University of California, Riverside

<b>FrC05</b>	<b>International 8</b>
<b>Constrained Control (Regular Session)</b>	
Chair: Bridgeman, Leila	Duke University
Co-Chair: Di Cairano, Stefano	Mitsubishi Electric Research Labs
16:00-16:15	FrC05.1
<i>Simultaneous Controller and Lyapunov Function Design for Constrained Nonlinear Systems</i> , pp. 4909-4914.	
Lavaei, Reza	Duke University
Bridgeman, Leila	Duke University
16:15-16:30	FrC05.2
<i>Prescribed-Time Safety Design for a Chain of Integrators</i> , pp. 4915-4920.	
Abel, Imoleayo	University of California, San Diego
Steeves, Drew	University of California, San Diego
Krstic, Miroslav	University of California, San Diego
Jankovic, Mrdjan	Ford Research & Advanced Engineering
16:30-16:45	FrC05.3
<i>Reference Governor for Hybrid Dynamical Systems</i> , pp. 4921-4926.	
Sanfelice, Ricardo G.	University of California at Santa Cruz
Di Cairano, Stefano	Mitsubishi Electric Research Labs
16:45-17:00	FrC05.4
<i>Robust Reference Governor for Implicit Systems Using the Metric Regularity</i> , pp. 4927-4932.	
Li, Nan	University of Michigan
Girard, Anouck	University of Michigan, Ann Arbor
Kolmanovsky, Ilya V.	The University of Michigan
17:00-17:15	FrC05.5
<i>Motion Planning with Homotopy Class Constraints Via the Auxiliary Energy Reduction Technique</i> , pp. 4933-4938.	
He, Wenbo	Washington University in St. Louis
Huang, Yunshen	Washington University in St. Louis
Zeng, Shen	Washington University in St. Louis
17:15-17:30	FrC05.6
<i>A Static Anti-Windup Synthesis for Internal Model Control</i> , pp. 4939-4944.	
Alli-Oke, Razak Olusegun	Elizade University
Ogunba, Kolawole Samuel	Obafemi Awolowo University
Adegbege, Ambrose Adebayo	The College of New Jersey



<b>FrC06</b>	International 9
<b>Optimization Algorithms II (Regular Session)</b>	
Chair: Jouini, Taouba	Karlsruhe Institute of Technology (KIT)
Co-Chair: Pickl, Stefan	UBw München
16:00-16:15	FrC06.1
<i>Inverse Optimal Control for Angle Stabilization in Converter-Based Generation</i> , pp. 4945-4950.	
Jouini, Taouba	Karlsruhe Institute of Technology (KIT)
Rantzer, Anders	Lund University
Tegling, Emma	Lund University
16:15-16:30	FrC06.2
<i>Generalized Euler-Lagrange Equation: A Challenge to Schwartz's Distribution Theory</i> , pp. 4951-4956.	
Zhou, Mi	Georgia Institute of Technology
Verriest, Erik I.	Georgia Inst. of Tech
16:30-16:45 (video presentation)	FrC06.3
<i>Overall Complexity Certification of a Standard Branch and Bound Method for Mixed-Integer Quadratic Programming</i> , pp. 4957-4964.	
Shoja, Shamisa	Linköping University
Arnström, Daniel	Linköping University
Axehill, Daniel	Linköping University
16:45-17:00	FrC06.4
<i>On a Traveling Salesman Problem with Dynamic Obstacles and Integrated Motion Planning</i> , pp. 4965-4972.	
Hellander, Anja	Linköping University
Axehill, Daniel	Linköping University
17:00-17:15	FrC06.5
<i>The Extended Gauss-Newton Method for Nonconvex Loss Functions and Its Application to Time-Optimal Model Predictive Control</i> , pp. 4973-4978.	
Baumgärtner, Katrin	University of Freiburg
Diehl, Moritz	University of Freiburg
17:15-17:30	FrC06.6
<i>Nonlinear Model Predictive Control with Latent Force Models</i> , pp. 4979-4984.	
Landgraf, Daniel	Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)
Völz, Andreas	Friedrich-Alexander-University Erlangen-Nürnberg
Graichen, Knut	University Erlangen-Nürnberg (FAU)

<b>FrC07</b>	International 10
<b>Security &amp; Estimation (Regular Session)</b>	
Chair: Duffaut Espinosa, Luis Augusto	University of Vermont
Co-Chair: Sanyal, Amit	Syracuse University
16:00-16:15	FrC07.1
<i>Universal Zero Dynamics Attacks Using Only Input-Output Data</i> , pp. 4985-4991.	
Gray, W. Steven	Old Dominion University
Duffaut Espinosa, Luis Augusto	University of Vermont
Haq, Mohammad Aminul	Old Dominion University
16:15-16:30	FrC07.2
<i>Detection of Cyber Attacks in Encrypted Control Systems</i> , pp. 4992-4997.	
Fausser, Moritz	Technische Universität Kaiserslautern
Zhang, Ping	Technische Universitaet Kaiserslautern
16:30-16:45 (video presentation)	FrC07.3
<i>Submodularity-Based False Data Injection Attack Scheme in Multi-Agent Dynamical Systems</i> , pp. 4998-5003.	
Luo, Xiaoyu	Shanghai Jiao Tong University
Zhao, Chengcheng	Zhejiang University
Fang, Chongrong	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
16:45-17:00	FrC07.4
<i>A General Regularized Distributed Solution for System State Estimation from Relative Measurements</i> , pp. 5004-5009.	
Fabris, Marco	Technion
Michieletto, Giulia	University of Padova
Cenedese, Angelo	University of Padova
17:00-17:15	FrC07.5
<i>Finite-Time Stable Disturbance Observer for Unmanned Aerial Vehicles</i> , pp. 5010-5015.	
Bhale, Pradhyumn	Syracuse University
Kumar, Mrinal	Ohio State University
Sanyal, Amit	Syracuse University
17:15-17:30	FrC07.6
<i>Distributed Event-Triggered Localization for High Latency Communication</i> , pp. 5016-5023.	
Barbier, Luke	University of Colorado Boulder
Morrissey, Luke	University of Colorado Boulder
Ahmed, Nisar	University of Colorado Boulder
Frew, Eric W.	University of Colorado, Bolder
Martinez, Sonia	UC San Diego
Center, Kenneth	OrbitLogic, Inc

FrC08	International 2
<b>Uncertain Systems (Regular Session)</b>	
Chair: Zare, Armin	University of Texas at Dallas
Co-Chair: Tacx, Paul	Eindhoven University of Technology
16:00-16:15	FrC08.1
<i>A Scenario Approach to Robust Simulation-Based Path Planning</i> , pp. 5024-5029.	
Bopardikar, Shaunak D.	Michigan State University
Srivastava, Vaibhav	Michigan State University
16:15-16:30	FrC08.2
<i>Switching-Based Adaptive Output Regulation for Uncertain Systems Affected by a Periodic Disturbance</i> , pp. 5030-5036.	
He, Guanqi	ShanghaiTech University
Wang, Yang	Shanghai Technology University
Pin, Gilberto	Electrolux
Serrani, Andrea	The Ohio State University
Parisini, Thomas	Imperial College & Univ. of Trieste
16:30-16:45 (video presentation)	FrC08.3
<i>Risk-Averse Controller Design against Data Injection Attacks on Actuators for Uncertain Control Systems</i> , pp. 5037-5042.	
Coimbatore Anand, Sribalaji	Uppsala University
Teixeira, André M. H.	Uppsala University
16:45-17:00	FrC08.4
<i>Adaptive Estimation of Unknown Inputs with Weakly Nonlinear Dynamics</i> , pp. 5043-5049.	
Griffith, Tristan	Texas A&M University
Gehlot, Vinod	Texas A&M University
Balas, Mark	Embry-Riddle Aeronautical University
17:00-17:15	FrC08.5
<i>The Effect of Base Flow Uncertainty on Transitional Channel Flows</i> , pp. 5050-5055.	
Hewawaduge, Dhanushki	University of Texas at Dallas
Zare, Armin	University of Texas at Dallas
17:15-17:30	FrC08.6
<i>Bode Analysis of Uncertain Multivariable Systems</i> , pp. 5056-5061.	
Tacx, Paul	Eindhoven University of Technology
Oomen, Tom	Eindhoven University of Technology

<b>FrC09</b>	<b>International 3</b>
<b>Robotics V</b> (Regular Session)	
Chair: Komae, Arash	Southern Illinois University
Co-Chair: Ashrafiun, Hashem	Villanova University
16:00-16:15	FrC09.1
<i>Active SLAM Over Continuous Trajectory and Control: A Covariance-Feedback Approach</i> , pp. 5062-5068.	
Koga, Shumon	University of California, San Diego
Asgharivaskasi, Arash	University of California, San Diego
Atanasov, Nikolay	University of California, San Diego
16:15-16:30	FrC09.2
<i>Formation Regulation and Tracking Control for Nonholonomic Mobile Robot Networks Using Polar Coordinates</i> , pp. 5069-5074.	
Wang, Bo	Villanova University
Nersesov, Sergey	Villanova University
Ashrafiun, Hashem	Villanova University
16:30-16:45 (video presentation)	FrC09.3
<i>Sliding Mode Optimization in Robot Dynamics with LPV Controller Design</i> , pp. 5075-5080.	
Incremona, Gian Paolo	Politecnico Di Milano
Ferrara, Antonella	University of Pavia
Utkin, Vadim I.	Ohio State Univ
16:45-17:00	FrC09.4
<i>An Optimization Approach to Fully Distributed Active Joint Localization and Target Tracking in Multi-Robot Systems</i> , pp. 5081-5086.	
Su, Shaoshu	University of California, Riverside
Zhu, Pengxiang	University of California, Riverside
Ren, Wei	University of California, Riverside
17:00-17:15	FrC09.5
<i>Feedback Stabilization of a Permanent Magnet Levitation System</i> , pp. 5087-5092.	
Shariatmadari, Mohammad Reza	Southern Illinois University
Komae, Arash	Southern Illinois University
17:15-17:30 (video presentation)	FrC09.6
<i>Swirling Pendulum Dynamics and Control: A Pedagogical Perspective</i> , pp. 5093-5098.	
Riswadkar, Shubhankar	SysIDEA Robotics Lab, IIT Gandhinagar
Kakadiya, Jaydeep	SysIDEA Robotics Lab, IIT Gandhinagar
Kadam, Sujay	IIT Gandhinagar
Sidhu, Karanbir	SysIDEA Robotics Lab, IIT Gandhinagar
Palanhandalam-Madapusi, Harish J.	Indian Institute of Technology Gandhinagar

FrC10	International C
<b>Delay Systems</b> (Regular Session)	
Chair: Zhu, Yang	Zhejiang University
Co-Chair: Gu, Keqin	Southern Illinois Univ, Edwardsville
16:00-16:15 (video presentation)	FrC10.1
<i>Strong Delay Independent Stability Condition for Commensurate Time Delay Systems</i> , pp. 5099-5104.	
Sharma, Pooja	Malaviya National Institute of Technology Jaipur
Neeli, Satyanarayana	Malaviya National Institute of Technology Jaipur
16:15-16:30	FrC10.2
<i>Consensus-Based Distributed Estimation in the Presence of Heterogeneous, Time-Invariant Delays</i> , pp. 5105-5110.	
Doostmohammadian, Mohammadreza	Aalto University
Khan, Usman A.	Tufts University
N2I 3g1, N2I 3g1	University of Waterloo
Charalambous, Themistoklis	Aalto University
16:30-16:45	FrC10.3
<i>New Versions of Halanay's Inequality with Multiple Gain Terms</i> , pp. 5111-5116.	
Mazenc, Frederic	Inria Saclay
Malisoff, Michael	Louisiana State University
16:45-17:00	FrC10.4
<i>A Time-Delay Approach to Averaging for Bounded Extremum Seeking with Discontinuous Dither and Measurement Bias</i> , pp. 5117-5122.	
Shen, Hongyu	Zhejiang University
Fridman, Emilia	Tel-Aviv Univ
Su, Hongye	Zhejiang Univ
Zhu, Yang	Zhejiang University
17:00-17:15	FrC10.5
<i>External Direct Sum Invariant Subspace and Decomposition of Coupled Differential-Difference Equations</i> , pp. 5123-5127.	
Gu, Keqin	Southern Illinois Univ, Edwardsville
17:15-17:30	FrC10.6
<i>A Backstepping Method for Asymptotic Stabilization of a Class of Nonlinear Systems Via Delayed Static Output Feedback</i> , pp. 5128-5133.	
Niu, Xiaoru	Shandong University
Lin, Wei	Case Western Reserve University

FrC11	International 1
<b>Safety &amp; Barrier Functions (Regular Session)</b>	
Chair: Sadegh, Nader	Georgia Inst. of Tech
Co-Chair: Li, Huayi	University of Michigan, Ann Arbor
16:00-16:15	FrC11.1
<i>Time-Varying Distance-Constrained Formation Maneuver Control with Guaranteed Prescribed Performance for Mobile Agents</i> , pp. 5134-5139.	
Singh, Shubham	Indian Institute of Technology, Jodhpur
Jain, Anoop	Indian Institute of Technology, Jodhpur, India
16:15-16:30	FrC11.2
<i>Correct-By-Construction Design of Adaptive Cruise Control with Control Barrier Functions under Safety and Regulatory Constraints</i> , pp. 5140-5146.	
Waqas, Muhammad	University of Southern California
Murtaza, Muhammad Ali	Georgia Institute of Technology
Nuzzo, Pierluigi	University of Southern California
Ioannou, Petros A.	Univ. of Southern California
16:30-16:45	FrC11.3
<i>Collision Avoidance for Elliptical Agents with Control Barrier Function Utilizing Supporting Lines</i> , pp. 5147-5153.	
Nishimoto, Koju	Tokyo Institute of Technology
Funada, Riku	Tokyo Institute of Technology
Ibuki, Tatsuya	Meiji University
Sampei, Mitsuji	Tokyo Inst. of Tech
16:45-17:00 (video presentation)	FrC11.4
<i>A Robust, Multiple Control Barrier Function Framework for Input Constrained Systems</i> , pp. 5154-5159.	
Shaw Cortez, Wenceslao	Pacific Northwest National Laboratory
Tan, Xiao	KTH Royal Institute of Technology
Dimarogonas, Dimos V.	KTH Royal Institute of Technology
17:00-17:15	FrC11.5
<i>On the Feasibility and Continuity of Feedback Controllers Defined by Multiple Control Barrier Functions</i> , pp. 5160-5165.	
Isaly, Axton	University of Florida
Ghanbarpour Mamaghani, Masoumeh	University of California Santa Cruz
Sanfelice, Ricardo G.	University of California at Santa Cruz
Dixon, Warren E.	University of Florida
17:15-17:30	FrC11.6
<i>Barrier States Embedded Iterative Dynamic Game for Robust and Safe Trajectory Optimization</i> , pp. 5166-5172.	
Almubarak, Hassan	Georgia Institute of Technology, King Fahd University of Petrole
Theodorou, Evangelos A.	Georgia Institute of Technology
Sadegh, Nader	Georgia Inst. of Tech

<b>FrC12</b>	International A
<b>Multi-Agent Systems II (Regular Session)</b>	
Chair: Mattioni, Mattia	La Sapienza Università Di Roma
Co-Chair: He, Jianping	Shanghai Jiao Tong University
16:00-16:15	FrC12.1
<i>Decentralized System Identification Method for Large-Scale Networks</i> , pp. 5173-5178.	
Mao, Xiangyu	Shanghai Jiao Tong University
He, Jianping	Shanghai Jiao Tong University
16:15-16:30	FrC12.2
<i>A New Connection Protocol for Multi-Consensus of Discrete-Time Systems</i> , pp. 5179-5184.	
Mattioni, Mattia	La Sapienza Università Di Roma
Monaco, Salvatore	Università Di Roma
Normand-Cyrot, Dorothée	CNRS
16:30-16:45	FrC12.3
<i>Modeling and Control of Bittide Synchronization</i> , pp. 5185-5192.	
Lall, Sanjay	Stanford University
Cascaval, Calin	Google
Izzard, Martin	Google
Spalink, Tammo	Google
16:45-17:00	FrC12.4
<i>Optimal Connectivity During Multi-Agent Consensus Dynamics Via Model Predictive Control</i> , pp. 5193-5198.	
Kandath, Harikumar	International Institute of Information Technology
Dutta, Rajdeep	Agency for Science, Technology and Research (A*STAR)
J., Senthilnath	I2R, ASTAR

<b>FrC13</b>	International B
<b>Linear Systems</b> (Regular Session)	
Chair: Alves Lima, Thiago	Université Catholique De Louvain
Co-Chair: Werner, Herbert	Hamburg University of Technology
16:00-16:15	FrC13.1
<i>Dissipativity-Based L2 Gain-Scheduled Static Output Feedback Design for Rational LPV Systems</i> , pp. 5199-5204.	
Valentim Viana, Valessa	Federal University of Ceará
Madeira, Diego de S.	Federal University of Ceará (UFC)
Alves Lima, Thiago	Université Catholique De Louvain
16:15-16:30	FrC13.2
<i>Frequency Response Data-Driven LPV Controller Synthesis for MIMO Systems</i> , pp. 5205-5210.	
Bloemers, Tom	Eindhoven University of Technology
Oomen, Tom	Eindhoven University of Technology
Tóth, Roland	Eindhoven University of Technology
16:30-16:45	FrC13.3
<i>Deceptive Trajectory Imitation Using Affine Feedback</i> , pp. 5211-5216.	
Ornik, Melkior	University of Illinois Urbana-Champaign
16:45-17:00 (video presentation)	FrC13.4
<i>Time-Variant Digital Twin Modeling through the Kalman-Generalized Sparse Identification of Nonlinear Dynamics</i> , pp. 5217-5222.	
Wang, Jingyi	University of British Columbia
Moreira, Jesús	The Imperial Oil Limited
Cao, Yankai	University of Wisconsin-Madison
Gopaluni, Bhushan	University of British Columbia
17:00-17:15 (video presentation)	FrC13.5
<i>Adaptive Output Regulation for Discrete-Time Linear Systems with an Uncertain Exosystem</i> , pp. 5223-5228.	
Liu, Tao	The Chinese University of Hong Kong
Huang, Jie	The Chinese University of Hong Kong
17:15-17:30	FrC13.6
<i>Robust Performance Analysis of Source-Seeking Dynamics with Integral Quadratic Constraints</i> , pp. 5229-5234.	
Datar, Adwait	Technical University of Hamburg Harburg
Werner, Herbert	Hamburg University of Technology



<b>FrC14</b>	Marquis Ballroom D
<b>Energy Systems (R) (RI Session)</b>	
Chair: Fathy, Hosam K.	University of Maryland
Co-Chair: Stockar, Stephanie	The Ohio State University
16:00-16:03 (video presentation)	FrC14.1
<i>Multi-Objective Offshore Wind Farm Wake Redirection Optimization for Power Maximization and Load Reduction</i> , pp. 5235-5240.	
Sun, Jili	Zhejiang University, China
Chen, Zheng	Zhejiang University
Yu, Hao	Zhejiang University
Qian, Peng	Zhejiang University
Zhang, Dahai	Zhejiang University
Si, Yulin	Zhejiang University
16:03-16:06	FrC14.2
<i>Toward Stochastic Dynamical Wake-Modeling for Wind Farms</i> , pp. 5241-5246.	
Bhatt, Aditya	The University of Texas at Dallas
Zare, Armin	University of Texas at Dallas
16:06-16:09	FrC14.3
<i>On the Feasibility of Developing Virtual Reference Electrodes for Lithium-Ion Batteries</i> , pp. 5247-5252.	
Nozarijoubari, Zahra	Graduate Research Assistant
Fathy, Hosam K.	University of Maryland
16:09-16:12 (video presentation)	FrC14.4
<i>Constrained Bayesian Optimization for Minimum-Time Charging of Lithium-Ion Batteries</i> , pp. 5253-5258.	
Jiang, Benben	Tsinghua University
Wang, Xizhe	Tsinghua University
16:12-16:15	FrC14.5
<i>A Novel Coupled Electro-Thermal-Aging Model for Simultaneous SOC, SOH, and Parameter Estimation of Lithium-Ion Batteries</i> , pp. 5259-5264.	
Vennam, Geetika	Oklahoma State University Stillwater
Sahoo, Avimanyu	Oklahoma State University
Ahmed, Samir	Oklahoma State University
16:15-16:18	FrC14.6
<i>Fast Charging of Lithium-Ion Batteries by Mathematical Reformulation As Mixed Continuous-Discrete Simulation</i> , pp. 5265-5270.	
Berliner, Marc D.	Massachusetts Institute of Technology
Jiang, Benben	Tsinghua University
Cogswell, Daniel A.	Massachusetts Institute of Technology
Bazant, Martin	Massachusetts Institute of Technology
Braatz, Richard D.	Massachusetts Institute of Technology
16:18-16:21	FrC14.7
<i>Periodic Load Estimation of a Wind Turbine Tower Using a Model Demodulation Transformation (I)</i> , pp. 5271-5276.	
Pamososuryo, Atindriyo Kusumo	Delft University of Technology
Mulders, Sebastiaan Paul	Delft University of Technology
Ferrari, Riccardo M.G.	Delft University of Technology
van Wingerden, Jan-Willem	Delft University of Technology
16:21-16:24	FrC14.8
<i>Detecting Synthetic Anomalies Using Median-Based Residuals in Lithium-Ion Cell Groups</i> , pp. 5277-5281.	
Bhaskar, Kiran	The Pennsylvania State University
Kumar, Ajith	Wabtec

Bunce, James	Wabtec
Pressman, Jacob	Wabtec Corporation
Burkell, Neil	Wabtec Corporation
Rahn, Christopher D.	Penn State University

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16:24-16:27

FrC14.9

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*Mitigation of Intra-Cycle Mechano-Chemical Degradation-Based Capacity Fade in Lithium-Ion Batteries: Application of a Model Predictive Controller*, pp. 5282-5287.

Hwang, Gyuyeong	Inha University, Incheon, South Korea
Sitapure, Niranjana	Texas A&M University
Moon, Jiyoung	Inha University, Incheon, South Korea
Hwang, Sungwon	Inha University, Incheon, South Korea
Kwon, Joseph	Texas A&M University

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16:27-16:30

FrC14.10

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*VABO: Violation-Aware Bayesian Optimization for Closed-Loop Control Performance Optimization with Unmodeled Constraints*, pp. 5288-5293.

Xu, Wenjie	EPFL
Jones, Colin N.	EPFL
Svetozarevic, Bratislav	University of Zurich
Laughman, Christopher R.	Mitsubishi Electric Research Labs
Chakrabarty, Ankush	Mitsubishi Electric Research Laboratories (MERL)

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16:30-16:33

FrC14.11

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*Optimal Control of Microgrid Lithium-Ion Energy Storage Using Pontryagin's Minimum Principle*, pp. 5294-5299.

Moy, Kevin	Stanford University
Onori, Simona	Stanford University

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16:33-16:36

FrC14.12

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*Scheduling Battery Energy Storage Systems under Battery Capacity Degradation Uncertainty*, pp. 5300-5307.

Mathieu, Johanna L.	University of Michigan
Moring, Hannah	University of Michigan

FrC15	Imperial Ballroom A
<b>Emerging Control Applications (R) (RI Session)</b>	
Chair: Nikolakopoulos, George	Luleå University of Technology
Co-Chair: Zhou, Lei	UT Austin
16:00-16:03	FrC15.1
<i>Recursive Dynamics Interconnection Framework Applied to Angular Velocity Control of Drilling Systems</i> , pp. 5308-5313.	
Redaud, Jeanne	Université Paris-Saclay, Inria, CentraleSupélec
Auriol, Jean	CNRS
Niculescu, Silviu-Iulian	University Paris-Saclay, CNRS, CentraleSupélec
16:03-16:06	FrC15.2
<i>Model-Based Irrigation Control Using Model Predictive Control and DSSAT Crop Simulator</i> , pp. 5314-5319.	
Jang, Jisung	Auburn University
Tian, Di	Auburn University
He, Qinghua	Auburn University
16:06-16:09	FrC15.3
<i>Control Co-Design of Actively Controlled Lightweight Structures for High-Acceleration Precision Motion Systems</i> , pp. 5320-5327.	
Wu, Jingjie	The University of Texas at Austin
Zhou, Lei	UT Austin
16:09-16:12	FrC15.4
<i>A RL-Based Vertical Stabilization System for the EAST Tokamak</i> , pp. 5328-5333.	
De Tommasi, Gianmaria	Università Degli Studi Di Napoli Federico II
Dubbioso, Sara	Università Di Napoli Federico II
Huang, Yao	Institute of Plasma Physics, Chinese Academy of Sciences
Luo, Zhengping	Institute of Plasma Physics, Chinese Academy of Sciences
Mele, Adriano	Università Degli Studi Della Tuscia
Xiao, B. J.	Institute of Plasma Physics, Chinese Academy of Sciences
16:12-16:15	FrC15.5
<i>Model Predictive Control of Spray Coating of Perovskite Quantum Dots for Application in Perovskite Solar Cells</i> , pp. 5334-5339.	
Sitapure, Niranjana	Texas A&M University
Kwon, Joseph	Texas A&M University
16:15-16:18	FrC15.6
<i>Receding Horizon Linear Quadratic Tracking Design and Implementation: A Practical Study on a Dual-Stage Piezoactuator</i> , pp. 5340-5345.	
Chang, Yuhe	Boston University
Andersson, Sean B.	Boston University
16:18-16:21 (video presentation)	FrC15.7
<i>Regulation of the Linear Accelerator ELBE Exploiting Continuous Wave Mode of a Superconducting RF Cavity</i> , pp. 5346-5353.	
Maalberg, Andrei	Helmholtz-Zentrum Dresden-Rossendorf
Kuntzsch, Michael	Helmholtz-Zentrum Dresden-Rossendorf
Petlenkov, Eduard	Tallinn University of Technology
16:21-16:24	FrC15.8
<i>Feedback Control of In-Target Rate for Probabilistic Frequency Cap in Online Advertising</i> , pp. 5354-5359.	
Sang, Qian	Yahoo!
Kant, Ravi	Yahoo!

Karlsson, Niklas	Yahoo
16:24-16:27 (video presentation)	FrC15.9
<i>Nonlinear Model Predictive Control Based Cooperative Stereo-Visual Coverage of an Asteroid</i> , pp. 5360-5367.	
Kottayam Viswanathan, Vignesh	Lulea University of Technology
Satpute, Sumeet	Lulea University of Technology
Banerjee, Avijit	Luleå University of Technology
Nikolakopoulos, George	Luleå University of Technology
16:27-16:30	FrC15.10
<i>Target Tracking by Model Predictive Control Design for a Pipeline System</i> , pp. 5368-5373.	
Zhang, Lu	University of Alberta
Dubljevic, Stevan	University of Alberta
16:30-16:33	FrC15.11
<i>Simultaneous Advertiser Profit and Ad Platform Revenue Maximization in Programmatic Advertising Via Feedback Control</i> , pp. 5374-5381.	
Karlsson, Niklas	Yahoo
16:33-16:36 (video presentation)	FrC15.12
<i>Rudder Roll Stabilization and Energy Minimization Using Factorized Nonlinear Generalized Minimum Variance Control for Underactuated Ships</i> , pp. 5382-5387.	
Liu, Zhiquan	Shanghai Maritime University
Grimble, Michael John	University of Strathclyde
Katebi, Reza	University of Strathclyde