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Ezzine, Montassar — Ec. Nationale d'Ingénieurs de Monastir
Souley Ali, Harouna — Cran
Darouach, Mohamed — Univ. Henri Poincare-Nancy
Messaoud, Hassani — Ec. Nationale d'Ingénieurs de Monastir

10:00-10:20 — WeA17.3

Time and Frequency Domain Design of Functional Filters, pp. 599-604.

Ezzine, Montassar — Ec. Nationale d'Ingénieurs de Monastir
Darouach, Mohamed — Univ. Henri Poincare-Nancy
Souley Ali, Harouna — Cran
Messaoud, Hassani — Ec. Nationale d'Ingénieurs de Monastir

10:20-10:40 — WeA17.4

Information Filtering and Array Algorithms for Discrete-Time Markovian Jump Linear Systems Subject to Parameter Uncertainties, pp. 605-610.

Jesus, Gildson — Univ. of São Paulo
Ishihara, João Yoshiyuki — Univ. of Brasília
Terra, Marco Henrique — Univ. of São Paulo at São Carlos

10:40-11:00 — WeA17.5

Peak-Seeking Control Using Gradient and Hessian Estimates, pp. 611-616.

Ryan, John — NASA
Speyer, Jason L. — Univ. of California at Los Angeles

11:00-11:20 — WeA17.6

Linear Observer Design Using the Inverse Method for Systems with Matched Disturbances, pp. 617-622.

Lin, Chia-Fu — National Chung-Hsing Univ.
Su, Wu-Chung — National Chung-Hsing Univ.

WeA18 — Grand Ballroom X

Mechanical Systems I (Regular Session)

Chair: Murphey, Todd — Northwestern Univ.
Co-Chair: Ulsoy, A. Galip — Univ. of Michigan

09:20-09:40 — WeA18.1

Relationship between Coupling and the Controllability Grammian in Co-Design Problems, pp. 623-628.

Peters, Diane — Univ. of Michigan
Papalambros, Panos Y. — The Univ. of Michigan
Ulsoy, A. Galip — Univ. of Michigan

09:40-10:00 — WeA18.2

Linearizations for Mechanical Systems in Generalized Coordinates, pp. 629-633.

Johnson, Elliot — Northwestern Univ.
Murphey, Todd — Northwestern Univ.

10:00-10:20 — WeA18.3

Modeling and Analysis of a Weight Driven Mechanical Tower Clock, pp. 634-639.

Wagner, John R. — Clemson Univ.
Huey, Cecil — Clemson Univ.
Knaub, Katie — National Watch and Clock Museum
Volk, Eugene — National Association of Watch and Clock Coll.
Jagarwal, Amit — Clemson Univ.

10:20-10:40 — WeA18.4

State Estimation Based on Kinematic Models Considering Characteristics of Sensors, pp. 640-645.

Jeon, Soo — Univ. of Waterloo

10:40-11:00 — WeA18.5

Closed-Loop Response Analysis of an Inverted Pendulum, pp. 646-651.

Ashrafiuon, Hashem — Villanova Univ.
Whitman, Alan — Villanova Univ.

WeA19 — Dover A

Powertrain Modeling, Estimation, and Control (Invited Session)

Chair: Mohammadpour, Javad — Univ. of Houston
Co-Chair: Wang, Junmin — Ohio State Univ.
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Karnik, Amey — Ford Motor Company
Organizer: Wang, Junmin — Ohio State Univ.
Organizer: Onori, Simona — Ohio State Univ.
Organizer: Marano, Vincenzo — The Ohio State Univ.

09:20-09:40 — WeA19.1

In-Cylinder Oxygen Mass Fraction Cycle-By-Cycle Estimation Via a Lyapunov-Based Observer Design (I), pp. 652-657.

Yan, Fengjun — The Ohio State Univ.
Wang, Junmin — Ohio State Univ.

09:40-10:00 — WeA19.2

Exhaust Pressure Estimation and Its Application to Variable Geometry Turbine and Wastegate Diagnostics (I), pp. 658-663.

Wang, Yue-Yun — General Motors Company
Haskara, Ibrahim — GM Res. & Development

10:00-10:20 — WeA19.3

Multirate Closed-Loop System Identification of a Variable Valve Timing Actuator for an Internal Combustion Engine (I), pp. 664-669.

Ren, Zhen — Michigan State Univ.
Zhu, Guoming — Michigan State Univ.

10:20-10:40 — WeA19.4

Modeling Priority Analysis Via Hybrid Petri Nets for an Internal Combustion Engine Management System (I), pp. 670-675.

Palladino, Angelo — Univ. del Sannio
Aguirre, Luis Antonio — UFMG
Fiengo, Giovanni — Univ. degli Studi del Sannio
De Castro Lima, Rodrigo — Univ. Federal de Minas Gerais

10:40-11:00 — WeA19.5

Control of Dry Clutch Engagement for Vehicle Launches Via a Shaft Torque Observer (I), pp. 676-681.

Kim, Jinsung — KAIST
Choi, Seibum Ben — KAIST

11:00-11:20 — WeA19.6

A Comparative Analysis of Electronic Pedal Algorithms Using a Driver-In-The-Loop Simulator and System Identification of Driver Behavior (I), pp. 682-687.

Boris, Ryan — Toyota Tech. Center
Vermillion, Christopher — Toyota Tech. Center
Butts, Kenneth R. — Toyota Motor Engineering and Manufacturing North America, Toyota

WeA20 — Dover B

Vehicle Tracking (Regular Session)

Chair: Brennan, Sean — Penn State Univ.
Co-Chair: Zeng, Shuqing — General Motors Corp.

09:20-09:40 — WeA20.1

Fuzzy Uncertain Observer with Unknown Inputs for Lane Departure Detection, pp. 688-693.

Dahmani, Hamid — Univ. de Picardie Jules Verne
Chadli, Mohammed — Univ. de Picardie-Jules Verne
Rabhi, Abdelhamid — CREA
El Hajjaji, Ahmed — Univ. de Picardie-Jules Verne

09:40-10:00 — WeA20.2

Tracking Control of Interconnected Car-Like Vehicles Using Energy Methods, pp. 694-699.

Chávez Grunewald, Martín Guillermo — RWTH-Aachen Univ.
Abel, Dirk — RWTH Aachen Univ.

10:00-10:20 — WeA20.3

Improvements in Terrain-Based Road Vehicle Localization by Initializing an Unscented Kalman Filter Using Particle Filters, pp. 700-707.

Dean, Adam — Brigham Young Univ. Idaho
Langelaan, Jack W. — Penn State Univ.
Brennan, Sean — Penn State Univ.

10:20-10:40 — WeA20.4

A Carrier-Phase DGPS Based V2V Object Sensing System Using Fast Incremental Bayesian Network, pp. 708-713.

Zeng, Shuqing — General Motors Corp.

10:40-11:00 — WeA20.5

Statistical Mechanics-Inspired Optimization for Sensor Field Reconfiguration, pp. 714-719.

Mukherjee, Kushal — Pennsylvania State Univ.

Gupta, Shalabh — Pennsylvania State Univ.
Ray, Asok — Pennsylvania State Univ.
Wettergren, Thomas — Naval Undersea Warfare Center

WeA21 — Dover C
Vibration Suppression I (Regular Session)

Chair: Chang, Timothy N. — New Jersey Inst. of Tech.
Co-Chair: Karimi, Hamid Reza — Univ. of Agder

09:20-09:40 — WeA21.1
An Integrated Approach for Parameter Identification and Semi-Active Control of MR Dampers (I), pp. 720-725.
Shirazi, Farzad — Univ. of Houston
Mohammadpour, Javad — Univ. of Houston
Grigoriadis, Karolos M. — Univ. of Houston

09:40-10:00 — WeA21.2
Multi-Objective Nonlinear Control of Semiactive and Regenerative Systems (I), pp. 726-731.
Scruggs, Jeff — Duke Univ.

10:00-10:20 — WeA21.3
Performance Limits Imposed by Semi-Active Damping Constraints (I), pp. 732-737.
Harvey, Philip Scott — Duke Univ.
Gavin, Henri P. — Duke Univ.

10:20-10:40 — WeA21.4
Zero Vibration Position Control of a Spherical Pendulum for Control Systems Demonstration, pp. 738-743.
Schulze, Thomas — NJIT
Chang, Timothy N. — New Jersey Inst. of Tech.

10:40-11:00 — WeA21.5
Nonlinear Active Vibration Control Using Piezoelectric Actuators, pp. 744-749.
Rodriguez-Fortun, Jose M. — Inst. Tecnologico de Aragon
Orus, Javier — Inst. Tecnologico de Aragon
Alfonso, Jesus — Inst. Tecnologico de Aragon
Castellanos, Jose A. — Univ. of Zaragoza

11:00-11:20 — WeA21.6
Feedback Vibration Control of a Base-Isolated Building with Delayed Measurements Using H_infinity Techniques, pp. 750-755.
Karimi, Hamid Reza — Univ. of Agder
Zapateiro, Mauricio — Univ. of Girona
Luo, Ningsu — Univ. of Girona
Rossell, Josep M. — Univ. Pol. de Catalunya (UPC)

WeA22 — Laurel D
Optimal Control I (Regular Session)

Chair: Ortiz, Norma — Virginia Commonwealth Univ.
Co-Chair: Gajic, Zoran R. — Rutgers Univ.

09:20-09:40 — WeA22.1
Second Order Sufficient Conditions for Optimal Control Problems with Non-Unique Minimizers, pp. 756-761.
Gavriel, Christos — Imperial Coll. London
Vinter, Richard B. — Imperial Coll.

09:40-10:00 — WeA22.2
Price of Anarchy and Price of Information in N-Person Linear-Quadratic Differential Games, pp. 762-767.
Zhu, Quanyan — Univ. of Illinois, Urbana-Champaign
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

10:00-10:20 — WeA22.3
Necessary Conditions for a Class of Optimal Multiprocess Problems with Equality Constraints, pp. 768-769.
Ortiz-Robinson, Norma — Virginia Commonwealth Univ.

10:20-10:40 — WeA22.4
Nonlinear Cumulant Control Using Hamilton-Jacobi-Bellman Equation and Neural Network Approximation, pp. 770-775.
Kang, Bei — Temple Univ.
Won, Chang-Hee — Temple Univ.

10:40-11:00 — WeA22.5
Lossless Convexi_; Cation of a Class of Non-Convex Optimal Control Problems for Linear Systems, pp. 776-781.
Acikmese, Behcet — Jet Propulsion Lab.
Blackmore, Lars — MIT

11:00-11:20 — WeA22.6
Solving the Singularly Perturbed Matrix Differential Riccati Equation: A Lyapunov Equation Approach, pp. 782-787.
Nguyen, Thang — Rutgers Univ.
Gajic, Zoran R. — Rutgers Univ.

WeB01 — Harborside Ballroom A
Unmanned Aerial Vehicles (Regular Session)

Chair: Nataraj, C. — Villanova Univ.
Co-Chair: Beard, Randy — Brigham Young Univ.

13:40-14:00 WeB01.1
Integrated Sensor Guidance Using Probability of Object Identification, pp. 788-793.
Niedfeldt, Peter C. — Brigham Young Univ.
Beard, Randy — Brigham Young Univ.
Pledgie, Stephen — Mosaic ATM
Morse, Bryan — Brigham Young Univ.

14:00-14:20 WeB01.2
Decentralized Deconfliction Algorithm for Unicycle UAVs, pp. 794-799.
Panyakeow, Prachya — Univ. of Washington
Mesbahi, Mehran — Univ. of Washington

14:20-14:40 WeB01.3
Max-Plus Enabled Dynamic Programming for Sensor Platform Tasking, pp. 800-805.
Oran, Ali — Univ. of California, San Diego
McEneaney, William — Univ. of California, San Diego

14:40-15:00 WeB01.4
Linear Time-Varying Tracking Control with Application to Unmanned Aerial Vehicles, pp. 806-811.
Ramesh, Thimmaraya — Villanova Univ.
Nataraj, C. — Villanova Univ.
Lee, DongBin — Villanova Univ.

15:00-15:20 WeB01.5
A Nonlinear Guidance and Active Fault Tolerant Control System for a Fixed Wing Unmanned Aerial Vehicle, pp. 812-817.
Bertoni, Gianni — Univ. of Bologna
Bertozzi, Nicola — Univ. of Bologna
Castaldi, Paolo — Univ. di Bologna, Il Facoltf di Ingegneria
Simani, Silvio — Univ. of Ferrara

15:20-15:40 WeB01.6
Game-Theoretic Analysis of an Aerial Jamming Attack on a UAV Communication Network, pp. 818-823.
Bhattacharya, Sourabh — Univ. of Illinois, Urbana-Champaign
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

WeB02 Harborside Ballroom B
Cooperative Control II (Regular Session)
Chair: Johansson, Karl H. — Royal Inst. of Tech.
Co-Chair: Pham, Khanh D. — AIR FORCE Res. Lab. VEHICLES DIRECTORATE

13:40-14:00 WeB02.1
Multi-Agent Coordination with Event-Based Communication, pp. 824-829.
Teixeira, Pedro Vaz — Faculdade de Engenharia da Univ. do Porto
Dimarogonas, Dimos V. — Massachusetts Inst. of Tech.
Johansson, Karl H. — Royal Inst. of Tech.
Sousa, Joao — Univ. Porto - Faculdade Engenharia

14:00-14:20 WeB02.2
Multiagent Coordination Exploiting System Symmetries, pp. 830-835.
Goodwine, Bill — Univ. of Notre Dame
Antsaklis, Panos J. — Univ. of Notre Dame

14:20-14:40 WeB02.3
Passivity-Based Position Consensus of Multiple Mechanical Integrators with Communication Delay, pp. 836-841.
Huang, Ke — UTK
Lee, Dongjun — Univ. of Tennessee at Knoxville

14:40-15:00 WeB02.4
Risk-Averse Based Paradigms for Uncertainty Forecast and Management in Differential Games of Persistent Disruptions and Denials (I), pp. 842-849.
Pham, Khanh D. — AIR FORCE Res. Lab.

15:00-15:20 WeB02.5
Multi-Agent Controllability with Tree Topology, pp. 850-855.
Ji, Zhijian — Qingdao Univ.
Lin, Hai — National Univ. of Singapore
Lee, Tong Heng — National Univ. of Singapore
Ling, Qiang — Univ. of Science and Tech. of China

15:20-15:40 WeB02.6
Local Adaptive Controllers for Networked Cooperative Systems, pp. 856-861.
Voit, Harald — Tech. Univ. München
Annaswamy, Anuradha — Massachusetts Inst. of Tech.

WeB03 Harborside Ballroom D
Adaptive Control II (Regular Session)
Chair: Campbell, Stefan — NASA
Co-Chair: Lavretsky, Eugene — The Boeing Co.

13:40-14:00 WeB03.1
A Nonlinear Dynamic Inversion L1 Adaptive Controller for a Generic Transport Model, pp. 862-867.

Campbell, Stefan — NASA
Kaneshige, John — Nasa

14:00-14:20 — WeB03.2
A Nonlinear Dynamic Inversion Predictor-Based Model Reference Adaptive Controller for a Generic Transport Model, pp. 868-873.
Campbell, Stefan — NASA
Kaneshige, John — Nasa

14:20-14:40 — WeB03.3
L1 Adaptive Controller for Multi-Input Multi-Output Systems in the Presence of Nonlinear Unmatched Uncertainties, pp. 874-879.
Xargay, Enric — Univ. of Illinois, Urbana-Champaign
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign
Cao, Chengyu — Univ. of Connecticut

14:40-15:00 — WeB03.4
High Performance Adaptive Control in the Presence of Time Delays, pp. 880-885.
Dydek, Zachary — MIT
Annaswamy, Anuradha — Massachusetts Inst. of Tech.
Slotine, Jean-Jacques E. — Massachusetts Inst. of Tech.
Lavretsky, Eugene — The Boeing Co.

15:00-15:20 — WeB03.5
L1 Adaptive Controller for Time-Varying Reference Systems in the Presence of Unmodeled Nonlinear Dynamics, pp. 886-891.
Kharisov, Evgeny — Univ. of Illinois at Urbana-Champaign (UIUC)
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign
Wang, Jiang — Virginia Pol. Inst. & State Univ.
Cao, Chengyu — Univ. of Connecticut

15:20-15:40 — WeB03.6
Recursively Updated Least Squares Based Modification Term for Adaptive Control, pp. 892-897.
Chowdhary, Girish — Georgia Inst. of Tech.
Johnson, Eric N. — Georgia Inst. of Tech.

WeB04 — Harborside Ballroom E
Hybrid Systems II (Regular Session)

Chair: Keel, L. H. — Tennessee State Univ.
Co-Chair: Teel, Andrew R. — Univ. of California at Santa Barbara

13:40-14:00 — WeB04.1
Observer-Based Hybrid Feedback: A Local Separation Principle, pp. 898-903.
Teel, Andrew R. — Univ. of California at Santa Barbara

14:00-14:20 — WeB04.2
Robust Control of Stochastic Systems with Noise Dependent States and Inputs under Markovian Switching, pp. 904-909.
Sathananthan, Sivapragasam — Tennessee State Univ.
Knap, Michael Jason — Tennessee State Univ.
Keel, L. H. — Tennessee State Univ.

14:20-14:40 — WeB04.3
Uniting Two Output-Feedback Controllers with Different Objectives, pp. 910-915.
Sanfelice, Ricardo G. — Univ. of Arizona
Prieur, Christophe — LAAS-CNRS

14:40-15:00 — WeB04.4
On Stability Characterization of Discrete-Time Piecewise Linear Systems, pp. 916-921.
Mirzazad Barijough, Sanam — Pennsylvania State Univ.
Lee, Ji-Woong — Pennsylvania State Univ.

15:00-15:20 — WeB04.5
Nonlinear Hybrid Control of Phase Models for Coupled Oscillators, pp. 922-923.
Nabi, Ali — Univ. of California, Santa Barbara
Moehlis, Jeff — Univ. of California, Santa Barbara

15:20-15:40 — WeB04.6
Stability of a Class of Stochastic Linear Hybrid Systems, pp. 924-929.
Seroka, Ewelina — Cardinal Stefan Wyszynski Univ. in Warsaw
Socha, Leslaw — Cardinal Stefan Wyszynski Univ.

WeB05 — Essex A
Power Systems I (Regular Session)

Chair: Bullo, Francesco — Univ. California at Santa Barbara
Co-Chair: Li, Perry Y. — Univ. of Minnesota

13:40-14:00 — WeB05.1
Synchronization and Transient Stability in Power Networks and Non-Uniform Kuramoto Oscillators, pp. 930-937.
Dörfler, Florian — Univ. of California at Santa Barbara
Bullo, Francesco — Univ. California at Santa Barbara

14:00-14:20 — WeB05.2
Comparative Evaluation of Linear and Nonlinear Model Predictive Control for a Isolated High Power DC/DC Converter, pp. 938-943.
Xie, Yanhui — Univ. of Michigan
Ghaemi, Reza — Univ. of Michigan (Ann Arbor)

Sun, Jing — Univ. of Michigan
Freudenberg, James S. — Univ. of Michigan

14:20-14:40 WeB05.3
Generator Thermal Sensitivity Analysis with Support Vector Regression, pp. 944-949.
Yang, Youliang — Univ. of Alberta
Zhao, Qing — Univ. of Alberta

14:40-15:00 WeB05.4
Control Oriented Modeling and System Identification for a Generator Set, pp. 950-955.
Li, Perry Y. — Univ. of Minnesota
Cheong, Kai Loon — Univ. of Minnesota
Xia, Jicheng — U. of Minnesota

15:00-15:20 WeB05.5
Mode in Output Participation Factors for Linear Systems, pp. 956-961.
Sheng, Li — Jiangnan Univ.
Abed, Eyad H. — Univ. of Maryland
Hassouneh, Munther — Univ. of Maryland
Yang, Huizhong — Jiangnan Univ.
Saad, Mohamed Shawky — Cairo Univ. Faculty of Engineering

15:20-15:40 WeB05.6
Cyber Attack in a Two-Area Power System: Impact Identification Using Reachability, pp. 962-967.
Mohajerin Esfahani, Peyman — Swiss Federal Inst. of Tech. Zurich (ETHZ)
Vrakopoulou, Maria — ETH Zurich
Margellos, Kostas — ETH Zurich
Lygeros, John — ETH Zurich
Andersson, Goran — Swiss Federal Inst. of Tech.

WeB06 — Essex B
Sliding Mode Control (Regular Session)

Chair: Oliveira, Tiago Roux — COPPE/UFRJ
Co-Chair: Ferrara, Antonella — Univ. of Pavia

13:40-14:00 WeB06.1
Variable Gains Super-Twisting Algorithm: A Lyapunov Based Design, pp. 968-973.
DÁvila Merida, Israel Alejandro — UNAM
Moreno, Jaime A. — Univ. Nacional Autonoma de Mexico-UNAM
Fridman, Leonid M. — National Autonomous Univ.

14:00-14:20 WeB06.2
Global Exact Tracking for Uncertain Multivariable Linear Systems by Output Feedback Sliding Mode Control, pp. 974-979.
Nunes, Eduardo Vieira Leao — COPPE - Federal Univ. of Rio de Janeiro
Peixoto, Alessandro Jacoud — Federal Center of Tech. Celso Suckow da Fonseca
Oliveira, Tiago Roux — COPPE/UFRJ
Hsu, Liu — COPPE/UFRJ

14:20-14:40 WeB06.3
On Discrete Time Terminal Sliding Mode Control for Nonlinear Systems with Uncertainty, pp. 980-984.
Xi, Zhiyu — Univ. of New South Wales
Hesketh, Timothy — Univ. of New South Wales

14:40-15:00 WeB06.4
Second Order Sliding Mode Control of a Perturbed Double Integrator with State Constraints, pp. 985-990.
Rubagotti, Matteo — Univ. of Trento
Ferrara, Antonella — Univ. of Pavia

15:00-15:20 WeB06.5
An Optimal Sliding Mode Controller Applied to Human Motion Synthesis with Robotic Implementation, pp. 991-996.
Spiers, Adam — Univ. of Bristol
Herrmann, Guido — Univ. of Bristol
Melhuish, Chris — Univ. of The West of England

15:20-15:40 WeB06.6
A Constrained Wheel Torque Controller for Lane Following System Using Control Distribution, pp. 997-1002.
Hsu, Ling-Yuan — National Chiao Tung Univ.
Weng, Kent — Quanta Storage Incorporation
Chen, Tsung-Lin — National Chiao Tung Univ.

WeB07 — Essex C
Quantization in Control (Invited Session)

Chair: Azuma, Shun-ichi — Kyoto Univ.
Co-Chair: Pappas, George J. — Univ. of Pennsylvania
Organizer: Azuma, Shun-ichi — Kyoto Univ.
Organizer: Pappas, George J. — Univ. of Pennsylvania

13:40-14:00 WeB07.1
Control of Quantized Multi-Agent Systems with Linear Nearest Neighbor Rules: A Finite Field Approach (I), pp. 1003-1008.
Sundaram, Shreyas — Univ. of Waterloo

Hadjicostis, Christoforos — Univ. of Cyprus

14:00-14:20 — WeB07.2

Approximate Time-Optimal Control Via Approximate Alternating Simulations (I), pp. 1009-1014.

Mazo Jr., Manuel — Univ. of California at Los Angeles
Tabuada, Paulo — Univ. of California at Los Angeles

14:20-14:40 — WeB07.3

Approximately Bisimilar Discrete Abstractions of Nonlinear Systems Using Variable-Resolution Quantizers (I), pp. 1015-1020.

Tazaki, Yuichi — Nagoya Univ.
Imura, Jun-ichi — Tokyo Inst. of Tech.

14:40-15:00 — WeB07.4

Symbolic Models for Unstable Nonlinear Control Systems, pp. 1021-1026.

Zamani, Majid — Univ. of California at Los Angeles
Pola, Giordano — Univ. of L'Aquila
Tabuada, Paulo — Univ. of California at Los Angeles

15:00-15:20 — WeB07.5

A Random Dynamical Systems Approach to Filtering in Large-Scale Networks (I), pp. 1027-1034.

Kar, Soummya — Carnegie Mellon Univ.
Sinopoli, Bruno — Carnegie Mellon Univ.
Moura, Jose' M. F. — Carnegie Mellon Univ.

15:20-15:40 — WeB07.6

Discrete Abstraction of Stochastic Nonlinear Systems: A Bisimulation Function Approach (I), pp. 1035-1040.

Azuma, Shun-ichi — Kyoto Univ.
Pappas, George J. — Univ. of Pennsylvania

WeB08 — Laurel A

Communication Networks II (Regular Session)

Chair: Robertsson, Anders — LTH, Lund Univ.
Co-Chair: Gupta, Vijay — Univ. of Notre Dame

13:40-14:00 — WeB08.1

On Estimation across Analog Erasure Links with and without Acknowledgements, pp. 1041-1046.

Gupta, Vijay — Univ. of Notre Dame

14:00-14:20 — WeB08.2

Analysis of Buffer Delay in Web–Server Control, pp. 1047-1052.

Kjćr, Martin Ansbjerg — Lund Univ. LTH
Robertsson, Anders — LTH, Lund Univ.

14:20-14:40 — WeB08.3

Distributed Inference Networks with Costly Wires, pp. 1053-1058.

Varshney, Lav R. — Massachusetts Inst. of Tech.

14:40-15:00 — WeB08.4

Network Security Configurations: A Nonzero-Sum Stochastic Game Approach, pp. 1059-1064.

Zhu, Quanyan — Univ. of Illinois, Urbana-Champaign
Tembine, Hamidou — Univ. of Avignon
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

15:00-15:20 — WeB08.5

A Study of Near-Field Direct Antenna Modulation Systems Using Convex Optimization, pp. 1065-1072.

Lavaei, Javad — California Inst. of Tech.
Babakhani, Aydin — California Inst. of Tech.
Hajimiri, Ali — California Inst. of Tech.
Doyle, John C. — California Inst. of Tech.

15:20-15:40 — WeB08.6

Mathematical Foundations of Sensor Network Design Based on Linguistic Informatics, pp. 1073-1078.

Chattopadhyay, Ishanu — Penn State
Wen, Yicheng — Pennsylvania State Univ.
Phoha, Shashi — Pennsylvania State Univ.
Ray, Asok — Pennsylvania State Univ.

WeB09 — Laurel B

Linear Systems II (Regular Session)

Chair: Oara, Cristian — Univ. Pol. Bucharest
Co-Chair: Forbes, James Richard — Univ. of Toronto Inst. for Aerospace Studies

13:40-14:00 — WeB09.1

A Singular Value Decomposition Based Closed Loop Stability Preserving Controller Reduction Method, pp. 1079-1084.

Sou, Kin Cheong — Lund Univ.
Rantzer, Anders — Lund Univ.

14:00-14:20 — WeB09.2

Computation of the (J, J2;)–Spectral and (J, J2;)–Lossless Factorizations of a General System, pp. 1085-1090.

Oara, Cristian — Univ. Pol. Bucharest
Andrei, Raluca — Univ. Pol. Bucharest

14:20-14:40 WeB09.3
PID Controller Design Based on Optimal Servo and Nu-Gap Metric, pp. 1091-1096.
Ochi, Yoshimasa — National Defense Acad.
Kondo, Hiroyuki — National Defense Acad.

14:40-15:00 WeB09.4
Passive Linear Time-Varying Systems: State-Space Realizations, Stability in Feedback, and Controller Synthesis, pp. 1097-1104.
Forbes, James Richard — Univ. of Toronto Inst. for Aerospace Studies
Damaren, Chris J. — Univ. of Toronto

15:00-15:20 WeB09.5
State-Space Design Method for Both Intersample and Sampled Responses in a Multirate Control System, pp. 1105-1110.
Sato, Takao — Univ. of Hyogo
Hattori, Yoshiki — Univ. of Hyogo
Araki, Nozomu — Univ. of Hyogo
Konishi, Yasuo — Univ. of Hyogo

15:20-15:40 WeB09.6
On the Solution of a Class of Algebraic Riccati Equations with Repeated Unstable Eigenvalues, pp. 1111-1116.
Rojas, Alejandro J. — Univ. of Newcastle (until April 2010), Univ. de Conce

WeB10 — Laurel C
Stochastic Systems II (Regular Session)

Chair: Saberi, Ali — Washington State Univ.
Co-Chair: Dimirovski, Georgi M — Dogus Univ. of Istanbul

13:40-14:00 WeB10.1
Optimal Control for a Scalar One-Step Linear System with Additive Cauchy Noise, pp. 1117-1124.
Idan, Moshe — Tech. - Israel Istitute of Tech.
Emadzadeh, Amir A. — Univ. of California, Los angeles
Speyer, Jason L. — Univ. of California at Los Angeles

14:00-14:20 WeB10.2
Stochastic Differential Dynamic Programming, pp. 1125-1132.
Theodorou, Evangelos — Univ. of Southern California
Tassa, Yuval — Hebrew Univ.
Todorov, Emanuel — Univ. of California San Diego

14:20-14:40 WeB10.3
On Generating Sets of Binary Random Variables with Specified First and Second Moments, pp. 1133-1138.
Xue, Mengran — Washington State Univ.
Roy, Sandip — Washington State Univ.
Saberi, Ali — Washington State Univ.
Lesieutre, Bernard — Massachusetts Inst. of Tech.

14:40-15:00 WeB10.4
Stochastic Process Models for Linear Structure Behavior, pp. 1139-1144.
Paez, Thomas — MannaTech
Lacy, Seth L. — Air Force Res. Lab.
Babuska, Vit — Sandia National Lab.

15:00-15:20 WeB10.5
Chance Constrained Finite Horizon Optimal Control with Nonconvex Constraints, pp. 1145-1152.
Ono, Masahiro — MIT
Blackmore, Lars — MIT
Williams, Brian — MIT

15:20-15:40 WeB10.6
Dynamic Sensor Tasking for Space Situational Awareness, pp. 1153-1158.
Erwin, Richard Scott — Air Force Res. Lab.
Albuquerque, Paul — The Univ. of Michigan
Jayaweera, Sudharman K. — Univ. of New Mexico
Hussein, Islam — Worcester Pol. Inst.

WeB11 — Grand Ballroom I
Bicycles and Unicycles (Regular Session)

Chair: Tomizuka, Masayoshi — Univ. of California, Berkeley
Co-Chair: Qu, Zhihua — Univ. of Central Florida

13:40-14:00 WeB11.1
Robust Multivariable Dynamic Surface Control for Position Tracking of a Bicycle, pp. 1159-1165.
Mathieu, Johanna L — Univ. of California, Berkeley
Hedrick, Karl — Univ. of California at Berkeley

14:00-14:20 WeB11.2
Robust Disturbance Observer Design for a Power-Assist Electric Bicycle, pp. 1166-1171.
Fan, Xuan — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California, Berkeley

14:20-14:40 WeB11.3
Motorcycle Speed Profile in Cornering Situation, pp. 1172-1177.

Slimi, Hamid — IBISC-CNRS Fre 3190 Lab.
Arioui, Hichem — Evry Val d'Essonne Univ.
Nouveliere, Lydie — IBISC
Mammar, Said — LSC-CNRS-FRE2494

14:40-15:00 WeB11.4
Stabilization for a Class of Nonholonomic Perturbed Systems Via Robust Adaptive Sliding Mode Control, pp. 1178-1183.
Yang, Liang — Peking Univ.
Yang, Jianying — Peking Univ.

15:00-15:20 WeB11.5
Trajectory Tracking Control of an Input Delayed Monocycle, pp. 1184-1189.
Sira-Ramirez, Hebertt — CINVESTAV
Velasco-Villa, Martin — CINVESTAV-IPN
Rodriguez-Angeles, Alejandro — Mexican Petroleum Inst.

15:20-15:40 WeB11.6
Reactive Target-Tracking Control with Obstacle Avoidance of Unicycle-Type Mobile Robots in a Dynamic Environment, pp. 1190-1195.
Qu, Zhihua — Univ. of Central Florida
Chunyu, Jiangmin — Univ. of Central Florida
Pollak, Eytan — Link Simulation & Training, L3 Communications
Falash, Mark — L3 Communications

WeB12 — Grand Ballroom II
Energy Systems I (Regular Session)

Chair: Niculescu, Silviu-Iulian — CNRS-Supelec
Co-Chair: Schuster, Eugenio — Lehigh Univ.

13:40-14:00 WeB12.1
Heat Flow, Work Energy, Chemical Reactions, and Thermodynamics: A Dynamical Systems Perspective, pp. 1196-1203.
Haddad, Wassim M. — Georgia Inst. of Tech.
Nersesov, Sergey G. — Villanova Univ.
Chellaboina, Vijay — Tata Consultancy Services

14:00-14:20 WeB12.2
Thermal Protection of Vehicle Payloads Using Phase Change Materials and Liquid Cooling, pp. 1204-1210.
Finn, Joshua — Clemson Univ.
Ewing, David — Clemson Univ.
Ma, Lin — Clemson Univ.
Wagner, John R. — Clemson Univ.

14:20-14:40 WeB12.3
Gas Pipelines LPV Modelling and Identification for Leakage Detection, pp. 1211-1216.
Lopes dos Santos, P. — Univ. do Porto
Azevedo Perdicoulis, T-P — ISR-Coimbra & UTAD
Ramos, Jose A. — Nova Southeastern Univ.
Jank, Gerhard — RWTH Achen
Martins de Carvalho, J.L. — Faculdade de Engenharia da Univ. do Porto
Milhinhos, João — REN-Gasodutos

14:40-15:00 WeB12.4
Robustified Optimal Control of a Coal-Fired Power Plant, pp. 1217-1222.
Simon, Emile — Univ. Catholique de Louvain
Stoica, Cristina Nicoleta — Supelec
Rodriguez-Ayerbe, Pedro — Supelec
Dumur, Didier — Ec. Superieure d'Electricite
Wertz, Vincent — Univ. Catholique de Louvain

15:00-15:20 WeB12.5
Lexicographic Optimization of Multiple Economic Objectives in Oil Production from Petroleum Reservoirs, pp. 1223-1228.
van Essen, Gijs — Delft Univ. of Tech.
Van den Hof, Paul M.J. — Delft Univ. of Tech.
Jansen, Jan Dirk — Delft Univ. of Tech.

15:20-15:40 WeB12.6
Energy Management Optimization in a Pulp and Paper Mill Cogeneration Facility, pp. 1229-1234.
Marshman, Devin James — Univ. of British Columbia
Chmelyk, Terrance — Norpac Controls Ltd.
Sidhu, Manpreet S. — Norpac Controls Ltd.
Gopaluni, Ratna Bhushan — Univ. of British Columbia
Dumont, Guy A. — Univ. of British Columbia

WeB13 — Grand Ballroom III
Cancer Modeling and Control (Tutorial Session)

Chair: Wang, Jin — Auburn Univ.
Co-Chair: Singh, Tarunraj — State Univ. of New York at Buffalo

13:40-14:20 WeB13.1
An ODE Model for the HER2/3-AKT Signaling Pathway in Cancers That Overexpress HER2 (I), pp. 1235-1241.
Itani, Sleiman — Univ. of California at Berkeley.

Gray, Joe — Lawrence Berkeley Lab.
Tomlin, Claire J. — UC Berkeley

14:20-14:40 — WeB13.2
Optimizing Antiangiogenic Therapy for Tumor Minimization, pp. 1242-1247.
Nath, Nitendra — Clemson Univ.
Burg, Timothy C. — Clemson Univ.
Dawson, Darren M. — Clemson Univ.
Iyasere, Erhun — Clemson Univ.

14:40-15:00 — WeB13.3
A Multi-Resolution Approach for Tumor Motion Modeling, pp. 1248-1253.
Jin, Cheng — Univ. at Buffalo
Singla, Puneet — Univ. at Buffalo
Singh, Tarunraj — State Univ. of New York at Buffalo

15:00-15:20 — WeB13.4
Modeling and Uncertainty Quantification of Motion of Lung Tumors for Image Guided Radiation Therapy, pp. 1254-1259.
Kumar, Ravi — Univ. at Buffalo State Univ. of New York
Singh, Tarunraj — State Univ. of New York at Buffalo
Singla, Puneet — Univ. at Buffalo

15:20-15:40 — WeB13.5
Comparison of a New Spectrum Alignment Algorithm with Other Methods, pp. 1260-1265.
He, Qinghua — Tuskegee Univ.
Wang, Jin — Auburn Univ.

WeB14 — Grand Ballroom IV
Iterative Learning Control: Theory and Application (Invited Session)

Chair: Bristow, Douglas A. — Missouri Univ. of Science & Tech.
Co-Chair: Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign
Organizer: Bristow, Douglas A. — Missouri Univ. of Science & Tech.

13:40-14:00 — WeB14.1
Stochastic Iterative Learning Control Design for Nonrepetitive Events (I), pp. 1266-1271.
Mishra, Sandipan — Univ. of Illinois
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

14:00-14:20 — WeB14.2
Precision Coordination and Motion Control of Multiple Systems Via Iterative Learning Control (I), pp. 1272-1277.
Barton, Kira — Univ. of Illinois, Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

14:20-14:40 — WeB14.3
Iterative Learning Control of the Redundant Upper Limb for Rehabilitation (I), pp. 1278-1283.
Freeman, Christopher T. — Univ. of Southampton
Lewin, Paul L. — Univ. of Southampton
Rogers, Eric — Univ. of Southampton
Owens, David H. — The Univ. of Sheffield

14:40-15:00 — WeB14.4
Iteration-Domain Closed-Loop Frequency Response Shaping for Discrete-Repetitive Processes (I), pp. 1284-1289.
Moore, Kevin L. — Colorado School of Mines
Lashhab, Fadel — Colorado School of Mines

15:00-15:20 — WeB14.5
A Decoupled Inversion-Based Iterative Control Approach to Multi-Axis Precision Positioning: 3-D Nanopositioning Example (I), pp. 1290-1295.
Yan, Yan — The Johns Hopkins Univ.
Wang, Haiming — Iowa State Univ.
Zou, Qingze — Iowa State Univ.

15:20-15:40 — WeB14.6
Optimal Iteration-Varying Iterative Learning Control for Systems with Stochastic Disturbances (I), pp. 1296-1301.
Bristow, Douglas A. — Missouri Univ. of Science & Tech.

WeB15 — Grand Ballroom VII
Flight Control II (Regular Session)

Chair: Tsiotras, Panagiotis — Georgia Inst. of Tech.
Co-Chair: Annaswamy, Anuradha — Massachusetts Inst. of Tech.

13:40-14:00 — WeB15.1
Robust Hovering Control of a Single-DOF Flapping Wing MAV, pp. 1302-1307.
Serrani, Andrea — The Ohio State Univ.

14:00-14:20 — WeB15.2
An Adaptive Reset Control System for Flight Safety in the Presence of Actuator Anomalies, pp. 1308-1313.
Matsutani, Megumi — Massachusetts Inst. of Tech.
Annaswamy, Anuradha — Massachusetts Inst. of Tech.

14:20-14:40 — WeB15.3
Identification of a Hammerstein Model for Wing Flutter Analysis Using CFD Data and Correlation Method, pp. 1314-1319.

Lum, Kai-Yew — National Univ. of Singapore
Lai, Kwok Leung — National Univ. of Singapore

14:40-15:00 WeB15.4
The Zermelo-Voronoi Diagram: A Dynamic Partition Problem, pp. 1320-1325.
Bakolas, Efstathios — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

15:00-15:20 WeB15.5
Resource Balancing Control Allocation, pp. 1326-1331.
Frost, Susan — NASA Ames Res. Center
Bodson, Marc — Univ. of Utah

15:20-15:40 WeB15.6
Integrated Missile Flight Control Using Quaternions and Third-Order Sliding Mode Control, pp. 1332-1337.
Foreman, David C. — davidson Tech. inc
Tournes, Christian H. — Univ. of Alabama at Huntsville
Shtessel, Yuri B. — Univ. of Alabama at Huntsville

WeB16 — Grand Ballroom VIII
Networked Control Systems II (Regular Session)

Chair: Bakule, Lubomir — Inst. of Information Theory and Automation of the ASCR
Co-Chair: Wang, Xiaofeng — Univ. of Illinois at Urbana-Champaign

13:40-14:00 WeB16.1
Decentralized Resilient H_infty Observer-Based Control for a Class of Uncertain Interconnected Networked Systems, pp. 1338-1343.
Bakule, Lubomir — Inst. of Information Theory and Automation of the ASCR
de la Sen, Manuel — Univ. del Pais Vasco

14:00-14:20 WeB16.2
An Optimal Control L2-Gain Disturbance Rejection Design for Networked Control Systems, pp. 1344-1349.
Millan, Pablo — Univ. de Sevilla
Orihuela, Luis — Univ. de Sevilla
Vivas, Carlos — Univ. De Sevilla
Rubio, Francisco R. — Univ. de Sevilla

14:20-14:40 WeB16.3
Robust Fuzzy Observer-Based Control for TCP/AQM Network Systems with State Delay, pp. 1350-1355.
Jing, Yuanwei — Northeastern Univ.
Chen, Zhaona — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul

14:40-15:00 WeB16.4
Robust mathscr{H}_{infty} PID Control for Networked Control Systems with Acceptable Noise Rejection, pp. 1356-1361.
Shi, Yang — Univ. of Victoria
Zhang, Hui — Univ. of Victoria
Saadat Mehr, Aryan — Univ. of Saskatchewan

15:00-15:20 WeB16.5
Asymptotic Stability in Distributed Event-Triggered Networked Control Systems with Delays, pp. 1362-1367.
Wang, Xiaofeng — Univ. of Illinois at Urbana-Champaign
Lemmon, Michael — Univ. of Notre Dame

15:20-15:40 WeB16.6
Hybrid State Feedback Controller Design of Networked Switched Control Systems with Packet Dropout, pp. 1368-1373.
Ma, Dan — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul
Zhao, Jun — The Australian National Univ.

WeB17 — Grand Ballroom IX
Filtering (Regular Session)

Chair: Pao, Lucy Y. — Univ. of Colorado at Boulder
Co-Chair: Ugrinovskii, Valery — Univ. of New South Wales

13:40-14:00 WeB17.1
Distributed Robust Filtering with H-Infinity Consensus of Estimates, pp. 1374-1379.
Ugrinovskii, Valery — Univ. of New South Wales

14:00-14:20 WeB17.2
New Results on Robust l_2-L_{infty} Filtering for Uncertain Linear Discrete-Time Systems, pp. 1380-1385.
Shi, Yang — Univ. of Victoria
Zhang, Hui — Univ. of Victoria
Saadat Mehr, Aryan — Univ. of Saskatchewan
Sheng, Jie — Univ. of Washington, Tacoma

14:20-14:40 WeB17.3
Stochastic Sampling Based Data Association, pp. 1386-1391.
Travers, Matthew — Univ. of Colorado
Pao, Lucy Y. — Univ. of Colorado at Boulder
Murphey, Todd — Northwestern Univ.

14:40-15:00 WeB17.4

Optimal Dirac Approximation by Exploiting Independencies, pp. 1392-1398.

Eberhardt, Henning — Univ. Karlsruhe (TH)
Klumpp, Vesa — Karlsruhe Inst. of Tech. (KIT)
Hanebeck, Uwe D. — Karlsruhe Inst. of Tech.

15:00-15:20 WeB17.5

A Discrete Nonlinear Filter for Fast Sampled Problems Based on Vector Quantization, pp. 1399-1403.

Cea, Mauricio — UTFSM
Goodwin, Graham C. — Univ. of Newcastle
Feuer, Arie — Tech.

15:20-15:40 WeB17.6

Weighted Hinfinity versus Observation: Application to Signal Differentiation, pp. 1404-1409.

Dridi, Mehdi — Lab. Ampčre
Scorletti, Gerard — Ec. Centrale de Lyon
Smaoui, Mohamed — INSA de Lyon
Tournier, Dominique — Lab. Ampčre
Lin Shi, Xuefang — INSA Lyon

WeB18 — Grand Ballroom X

Mechanical Systems II (Regular Session)

Chair: Chopra, Nikhil — Univ. of Maryland, Coll. Park
Co-Chair: Chung, Chung Choo — Hanyang Univ.

13:40-14:00 WeB18.1

Modeling of Rebound Phenomenon of a Rigid Ball with Friction and Elastic Effects, pp. 1410-1415.

Nakashima, Akira — Nagoya Univ.
Ogawa, Yuki — Nagoya Univ.
Kobayashi, Yosuke — Nagoya Univ.
Hayakawa, Yoshikazu — Nagoya Univ.

14:00-14:20 WeB18.2

On the Classification of Series-Parallel Electrical and Mechanical Networks, pp. 1416-1421.

Jiang, Jason Zheng — Univ. of Cambridge
Smith, Malcolm C. — Univ. of Cambridge

14:20-14:40 WeB18.3

Predictor-Based Control for an Uncertain Euler-Lagrange System with Input Delay, pp. 1422-1427.

Sharma, Nitin — Univ. of Florida
Bhasin, Shubhendu — Univ. of Florida
Wang, Qiang — Univ. of Florida
Dixon, Warren E. — Univ. of Florida

14:40-15:00 WeB18.4

Time-Invariant Quadratic Hamiltonians Via Generalized Transformations, pp. 1428-1433.

Tall, Issa Amadou — Southern Illinois Univ. Carbondale

15:00-15:20 WeB18.5

Robust Controlled Synchronization of Interconnected Robotic Systems, pp. 1434-1439.

Liu, Yen-Chen — Univ. of Maryland, Coll. Park
Chopra, Nikhil — Univ. of Maryland, Coll. Park

15:20-15:40 WeB18.6

High Gain Observer Based Nonlinear Position Control for Electro-Hydraulic Servo Systems, pp. 1440-1446.

Kim, Wonhee — Hanyang
Won, Daehee — Korea Inst. of Industrial Tech.
Chung, Chung Choo — Hanyang Univ.

WeB19 — Dover A

Engine Modeling and Control (Invited Session)

Chair: Karnik, Amey — Ford Motor Company
Co-Chair: Butts, Kenneth R. — Toyota Motor Engineering and Manufacturing North America, Toyota Tech. Center
Organizer: Karnik, Amey — Ford Motor Company
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Wang, Junmin — Ohio State Univ.
Organizer: Marano, Vincenzo — The Ohio State Univ.
Organizer: Onori, Simona — Ohio State Univ.

13:40-14:00 WeB19.1

Architectures for Phase Variation Compensation in AFR Control (I), pp. 1447-1452.

Meyer, Jason — Ohio State Univ.
Yurkovich, Stephen — The Ohio State Univ.
Midlam-Mohler, Shawn — Ohio State Univ.

14:00-14:20 WeB19.2

Gain-Scheduling Control of Port-Fuel-Injection Processes (I), pp. 1453-1458.

White, Andrew — Michigan State Univ.
Choi, Jongeun — Michigan State Univ.
Nagamune, Ryozo — Univ. of British Columbia

Zhu, Guoming — Michigan State Univ.

14:20-14:40 — WeB19.3

Model Predictive Engine Torque Control with Real-Time Driver-In-The-Loop Simulation Results (I), pp. 1459-1464.

Vermillion, Christopher — Toyota Tech. Center
Butts, Kenneth R. — Toyota Motor Engineering and Manufacturing North America, Toyota
Reidy, Kevin — Toyota Tech. Center

14:40-15:00 — WeB19.4

Application of Linear Programming SVM-ARMA2K for Dynamic Engine Modeling (I), pp. 1465-1470.

Lu, Zhao — Tuskegee Univ.
Sun, Jing — Univ. of Michigan
Butts, Kenneth R. — Toyota Motor Engineering and Manufacturing North America, Toyota

15:00-15:20 — WeB19.5

Air Charge Control for Turbocharged Spark Ignition Engines with Internal Exhaust Gas Recirculation (I), pp. 1471-1476.

Lee, Donghoon — Univ. of Michigan
Jiang, Li — Robert Bosch LLC
Stefanopoulou, Anna G. — Univ. of Michigan
Yilmaz, Hakan — Bosch

15:20-15:40 — WeB19.6

LPV Decoupling and Input Shaping for Control of Diesel Engines (I), pp. 1477-1482.

Mohammadpour, Javad — Univ. of Houston
Grigoriadis, Karolos M. — Univ. of Houston
Franchek, Matthew A. — Univ. of Houston
Wang, Yue-Yun — General Motors Company
Haskara, Ibrahim — GM Res. & Development

WeB20 — Dover B

Vehicle Dynamics and Control (Regular Session)

Chair: Brennan, Sean — Penn State Univ.
Co-Chair: O'Brien, Richard — United States Naval Acad.

13:40-14:00 — WeB20.1

Vehicle Lateral Stability Using a Front Steer by Wire Device and Set Membership Predictive Control Techniques (I), pp. 1483-1488.

Canale, Massimo — Pol. di Torino
Fagiano, Lorenzo — Pol. di Torino
Signorile, Maria Carmela — Pol. di Torino

14:00-14:20 — WeB20.2

Predictive Control of Vehicle Roll Dynamics with Rear Wheel Steering (I), pp. 1489-1494.

Beal, Craig — Stanford Univ.
Gerdes, J. Christian — Stanford Univ.

14:20-14:40 — WeB20.3

Cooperative DYC System Design for Optimal Vehicle Handling Enhancement, pp. 1495-1500.

Tamaddoni, Seyed Hossein — Virginia Pol. Inst. and State Univ.
Taheri, Saied — Virginia Tech.
Ahmadian, Mehdi — Virginia Pol. Inst. and State Univ.

14:40-15:00 — WeB20.4

Terrain-Aware Rollover Prediction for Ground Vehicles Using the Zero-Moment Point Method, pp. 1501-1507.

Lapapong, Sittikorn — Penn State Univ.
Brennan, Sean — Penn State Univ.

15:00-15:20 — WeB20.5

H_; Observer-Based Robust Multiple Controller Design for Vehicle Lateral Dynamics, pp. 1508-1513.

Chadli, Mohammed — Univ. de Picardie-Jules Verne
El Hajjaji, Ahmed — Univ. de Picardie-Jules Verne
Rabhi, Abdelhamid — CREA

15:20-15:40 — WeB20.6

Parameter Estimation for a Standard Surface Water Vehicle Model, pp. 1514-1519.

O'Brien, Richard — United States Naval Acad.
Thorp, Owen — U.S. Naval Acad.

WeB21 — Dover C

Vibration Suppression II (Regular Session)

Chair: Gao, Zhiqiang — Cleveland State Univ.
Co-Chair: Yuan, QingHui — Eaton Corp. Innovation Center

13:40-14:00 — WeB21.1

An Active Disturbance Rejection Based Approach to Vibration Suppression in Two-Inertia Systems, pp. 1520-1525.

Zhao, Shen — Cleveland State Univ.
Gao, Zhiqiang — Cleveland State Univ.

14:00-14:20 — WeB21.2

Vibration Suppression Controller for a Novel Beam-Cart-Seesaw System, pp. 1526-1531.

Lin, Jonqlan — Ching Yun Univ.
Huang, C.J. — Ching Yun Univ.

Chang, Julian — Ching Yun Univ.
Wang, S.-W. — Ching Yun Univ.

14:20-14:40 — WeB21.3
Boundary Control of a Flexible Marine Riser with Vessel Dynamics, pp. 1532-1537.
He, Wei — National Univ. of Singapore
How, Bernard Voon Ee — National Univ. of Singapore
Ge, Shuzhi Sam — National Univ. of Singapore
Choo, Yoo Sang — National Univ. of Singapore

14:40-15:00 — WeB21.4
Active Damping Control for Bending Oscillations of a Forklift Mast Using Flatness Based Techniques, pp. 1538-1543.
Zimmert, Nico — Univ. Stuttgart
Sawodny, Oliver — Univ. of Stuttgart

15:00-15:20 — WeB21.5
Actively Damped Heave Compensation (ADHC) System, pp. 1544-1549.
Yuan, QingHui — Eaton Corp. Innovation Center

15:20-15:40 — WeB21.6
On the Stability Analysis and Modelling of a Multirate Control Direct-Drive Machine Tool Axis Subject to Large Changes in Load Dynamics, pp. 1550-1555.
Stephens, Michael A. — The Univ. of Melbourne
Manzie, Chris — The Univ. of Melbourne
Good, Malcolm C. — Univ. of Melbourne

WeB22 — Laurel D
Optimal Control II (Regular Session)

Chair: Bhattacharya, Raktim — Texas A&M
Co-Chair: Singh, Baljeet — Texas A&M Univ.

13:40-14:00 — WeB22.1
Direct Optimal Control and Costate Estimation Using Least Square Method, pp. 1556-1561.
Singh, Baljeet — Texas A&M Univ.
Bhattacharya, Raktim — Texas A&M

14:00-14:20 — WeB22.2
Optimal Control Design Using Sequential Linear Programming, pp. 1562-1567.
Verlohren, Christoph — Tech. Univ. Darmstadt
Singh, Tarunraj — State Univ. of New York at Buffalo
Singla, Puneet — Univ. at Buffalo

14:20-14:40 — WeB22.3
Optimal Control of Affine Nonlinear Continuous-Time Systems, pp. 1568-1573.
Dierks, Travis — DRS Tech.
Jagannathan, Sarangapani — Missouri Univ. of Science & Tech.

14:40-15:00 — WeB22.4
Nonlinear Distributed Dynamic Optimization Based on First Order Sensitivities (I), pp. 1574-1579.
Scheu, Holger — RWTH Aachen Univ.
Busch, Jan — BTS
Marquardt, Wolfgang — RWTH Aachen Univ. of Tech.

15:00-15:20 — WeB22.5
Recursive Construction of Optimal Smoothing Splines with Constraints, pp. 1580-1585.
Fujioka, Hiroyuki — Fukuoka Inst. of Tech.
Kano, Hiroyuki — Tokyo Denki Univ.

15:20-15:40 — WeB22.6
Existence of Solutions of Riccati Differential Equations for Linear Time Varying Systems, pp. 1586-1590.
Kilicaslan, Sinan — Gazi Univ.
Banks, Stephen — Sheffield Univ.

WeC01 — Harborside Ballroom A
Autonomous Systems (Regular Session)

Chair: Xargay, Enric — Univ. of Illinois, Urbana-Champaign
Co-Chair: Kristiansen, Raymond — Narvik Univ. Coll.

16:00-16:20 — WeC01.1
A Psuedospectral Optimal Motion Planner for Autonomous Unmanned Vehicles, pp. 1591-1598.
Sekhavat, Pooya — Naval Postgraduate School
Karpenko, Mark — Naval Postgraduate School
Ross, I. Michael — Naval Postgraduate School
Hurni, Michael — United States Naval Acad.

16:20-16:40 — WeC01.2
Attitude Reference Generation for Leader-Follower Formation with Nadir Pointing Leader, pp. 1599-1604.
Schlanbusch, Rune — Narvik Univ. Coll.
Kristiansen, Raymond — Narvik Univ. Coll.
Nicklasson, Per Johan — Narvik Univ. Coll.

16:40-17:00 — WeC01.3

Coalition Formation with Communication Ranges and Moving Targets, pp. 1605-1610.

George, Joel — Indian Inst. of Science
P B, Sujit — Univ. de Porto
Sousa, Joao — Univ. Porto - Faculdade Engenharia
Pereira / FEUP, Fernando Lobo — Porto Univ.

17:00-17:20 WeC01.4

Path Planning for Multiple Robots: An Alternative Duality Approach, pp. 1611-1616.

Motee, Nader — Caltech
Jadbabaie, Ali — Univ. of Pennsylvania
Pappas, George J. — Univ. of Pennsylvania

17:20-17:40 WeC01.5

Time-Critical Coordination of Multiple Vehicles with Uni-Directional Communication Constraints, pp. 1617-1622.

Young, Amanda — Virginia Pol. & State Univ.
Ma, Lili — Wentworth Inst. of Tech.
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

17:40-18:00 WeC01.6

Agent Capability in Persistent Mission Planning Using Approximate Dynamic Programming, pp. 1623-1628.

Bethke, Brett — Massachusetts Inst. of Tech.
Redding, Joshua — Massachusetts Inst. of Tech.
How, Jonathan P. — MIT
Vian, John L — The Boeing Company

WeC02 — Harborside Ballroom B

Cooperative Control III (Regular Session)

Chair: Bullo, Francesco — Univ. California at Santa Barbara
Co-Chair: Poulakakis, Ioannis — Princeton Univ.

16:00-16:20 WeC02.1

Decentralized Communication Range Adjustment Issues in Multi-Agent Mobile Networks, pp. 1629-1634.

Stergiopoulos, John — Univ. of Patras
Tzes, Anthony — Univ. of Patras

16:20-16:40 WeC02.2

Interaction Reduction and Consensus for Multi-Agent Systems, pp. 1635-1640.

Geng, Xiaojun — California State Univ.
Jeffcoat, David — Air Force Res. Lab.
Xu, Yunjun — Univ. of Central Florida

16:40-17:00 WeC02.3

On Consensus among Identical Linear Systems Using Input-Decoupled Functional Observers, pp. 1641-1646.

Wieland, Peter — Univ. of Stuttgart
Allgower, Frank — Univ. of Stuttgart

17:00-17:20 WeC02.4

On Bifurcations in Nonlinear Consensus Networks, pp. 1647-1652.

Srivastava, Vaibhav — Univ. of California Santa Barbara
Moehlis, Jeff — Univ. of California, Santa Barbara
Bullo, Francesco — Univ. California at Santa Barbara

17:20-17:40 WeC02.5

The Undesired Equilibria of Formation Control with Ring Graphs, pp. 1653-1658.

Bai, He — Northwestern Univ.

WeC03 — Harborside Ballroom D

Adaptive Control III (Regular Session)

Chair: Stefanovic, Margareta — Univ. of Wyoming
Co-Chair: Oldham, Kenn — Univ. of Michigan, Ann Arbor

16:00-16:20 WeC03.1

L1 Adaptive Controller for a Class of Systems with Unknown Nonlinearities, pp. 1659-1664.

Luo, Jie — Univ. of Connecticut
Cao, Chengyu — Univ. of Connecticut
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

16:20-16:40 WeC03.2

A Model-Free On-Off Iterative Adaptive Controller Based on Stochastic Approximation, pp. 1665-1670.

Hahn, Bongsu — Univ. of Michigan
Oldham, Kenn — Univ. of Michigan, Ann Arbor

16:40-17:00 WeC03.3

Adaptive Output Optimal Control Algorithm for Unknown System Dynamics Based on Policy Iteration, pp. 1671-1676.

Ohtake, Susumu — Tokyo Inst. of Tech.
Yamakita, Masaki — Tokyo Inst. of Tech.

17:00-17:20 WeC03.4

Adaptive Static-Output-Feedback Stabilization Using Retrospective Cost Optimization, pp. 1677-1682.

Santillo, Mario — Univ. of Michigan
Hoagg, Jesse B. — Univ. of Michigan

Bernstein, Dennis S. — Univ. of Michigan

17:20-17:40 — WeC03.5

Design of Adaptive Sliding Mode Controllers for Systems with Mismatched Uncertainty to Achieve Asymptotic Stability, pp. 1683-1688.

Cheng, Chih-Chiang — National Sun Yat-Sen Univ.
Guo, Cang-Zhi — Dept. of Electrical Engineering, National Sun Yat Sen Univ.

17:40-18:00 — WeC03.6

Adaptive Reduced-Order Dynamic Compensation for Nonlinear Uncertain Dynamical Systems, pp. 1689-1694.

Haddad, Wassim M. — Georgia Inst. of Tech.
Hayakawa, Tomohisa — Tokyo Inst. of Tech.
Yucelen, Tansel — Georgia Inst. of Tech.

WeC04 — Harborside Ballroom E

Switched Systems I (Regular Session)

Chair: de la Sen, Manuel — Univ. del Pais Vasco
Co-Chair: Santarelli, Keith — Sandia National Lab.

16:00-16:20 — WeC04.1

Non-Equilibrium Transient Trajectory Shaping Control Via Multiple Barrier Lyapunov Functions for a Class of Nonlinear Systems, pp. 1695-1700.

Yan, Fengjun — The Ohio State Univ.
Wang, Junmin — Ohio State Univ.

16:20-16:40 — WeC04.2

A Switched State Feedback Law for the Stabilization of LTI Systems, pp. 1701-1707.

Santarelli, Keith — Sandia National Lab.

16:40-17:00 — WeC04.3

Input/output-To-State Stability of Switched Nonlinear Systems, pp. 1708-1712.

Mueller, Matthias Albrecht — Univ. Stuttgart
Liberzon, Daniel — Univ. of Illinois, Urbana-Champaign

17:00-17:20 — WeC04.4

Backstepping \i h_: Control for Switched Nonlinear Systems under Arbitrary Switchings, pp. 1713-1718.

Ma, Ruicheng — Northeastern Univ.
Zhao, Jun — The Australian National Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul
Zhang, Xinquan — Northeast Univ.

17:20-17:40 — WeC04.5

Stability of Switched Linear Discrete-Time Descriptor Systems with Explicit Calculation of a Common Quadratic Lyapunov Sequence, pp. 1719-1724.

Ibeas, Asier — Univ. Autónoma de Barcelona
de la Sen, Manuel — Univ. del Pais Vasco
Vilanova, Ramon — Univ. Autonoma de Barcelona
Herrera Cuartas, Jorge — Univ. Autňnoma de Barcelona

17:40-18:00 — WeC04.6

Safe Adaptive Switching Control with No SCLI Assumption, pp. 1725-1730.

Cheong, Seunggyun — UCSD

WeC05 — Essex A

Power Systems II (Regular Session)

Chair: Dugard, Luc — CNRS-INPG
Co-Chair: Dong, Lili — Cleveland State Univ.

16:00-16:20 — WeC05.1

Robust Load Frequency Control for an Interconnected Power System, pp. 1731-1736.

Dong, Lili — Cleveland State Univ.
Zhang, Yao — Rutgers, the State Univ. of New Jersey

16:20-16:40 — WeC05.2

A Novel Robust Nonlinear Control of a Three-Phase NPC Inverter Based Active Power Filter, pp. 1737-1742.

Okou, Francis A. — Royal Military Coll. of Canada
Gauthier, Sebastien — Royal Military Coll. of Canada

16:40-17:00 — WeC05.3

*Identification of Aggregated Interarea Models of Three-Area Power Systems Using Dynamic Measurements**. (Not Available)

Chakrabortty, Aranya — Texas Tech. Univ.

17:00-17:20 — WeC05.4

Nonlinear Design of Excitation Controller and Power System Stabilizer for Voltage Regulation and Transient Stability, pp. 1743-1748.

Fusco, Giuseppe — Univ. of Cassino
Russo, Mario — Univ. di Cassino

17:20-17:40 — WeC05.5

Odd-Harmonic Repetitive Control of an Active Filter under Varying Network Frequency: A Small-Gain Theorem-Based Stability Analysis, pp. 1749-1754.

Olm, Josep M. — Univ. Pol. de Catalunya
Ramos, Germán Andrés — Univ. Nacional de Colombia
Costa-Castelló, Ramon — Univ. Pol. de Catalunya

Cardoner, Rafael — Univ. Pol. de Catalunya

17:40-18:00 — WeC05.6

Induction Motor Control through AC/DC/AC Converters, pp. 1755-1760.

Elfadili, Abderrahim — mohamed V
Giri, Fouad — Univ. de Caen
Ouadii, Hamid — Ismra
El Magri, Abdelmounime — EMI
Dugard, Luc — CNRS-Grenoble INP
Abouloifa, Abdelmajid — EMI

WeC06 — Essex B

Synchronization (Regular Session)

Chair: Mehta, Prashant G. — Univ. of Illinois, Urbana-Champaign
Co-Chair: Arcak, Murat — Univ. of California, Berkeley

16:00-16:20 — WeC06.1

Generalized Synchronization of Coupled Duffing Oscillators: An LMI Based Approach, pp. 1761-1766.

Xu, Shiyun — Peking Univ.
Yang, Ying — Peking Univ.

16:20-16:40 — WeC06.2

Synchronization of Nonlinearly Coupled Harmonic Oscillators, pp. 1767-1771.

Tuna, S. Emre — Middle East Tech. Univ.
Cai, Chaohong — United Tech. Res. Center

16:40-17:00 — WeC06.3

Nonlinear Analysis of Ring Oscillator Circuits, pp. 1772-1776.

Ge, Xiaoqing — Rensselaer Pol. Inst.
Arcak, Murat — Univ. of California, Berkeley
Salama, Khaled — Rensselaer Pol. Inst.

17:00-17:20 — WeC06.4

Synchronization of Phase-Coupled Oscillators with Arbitrary Topology, pp. 1777-1782.

Mallada, Enrique — Cornell Univ.
Tang, Ao — Cornell Univ.

17:20-17:40 — WeC06.5

Synchronization of Coupled Oscillators Is a Game, pp. 1783-1790.

Yin, Huibing — Univ. of Illinois, Urbana-Champaign
Mehta, Prashant G. — Univ. of Illinois, Urbana-Champaign
Meyn, Sean — Univ. of Illinois
Shanbhag, Uday V. — Univ. of Illinois, Urbana-Champaign

17:40-18:00 — WeC06.6

Secure Digital Communication Using Discrete-Time Chaotic Systems Via Indirect Coupling Synchronization, pp. 1791-1796.

Kharel, Rupak — Northumbria Univ.
Busawon, Krishna K. — Northumbria Univ.
Ghassemlooy, Fary — Northumbria Univ.

WeC07 — Essex C

Sampled Data Systems (Regular Session)

Chair: Gajic, Zoran R. — Rutgers Univ.
Co-Chair: Normand-Cyrot, Marie-Dorothée — CNRS-Supélec

16:00-16:20 — WeC07.1

Output Feedback Synthesis for Sampled-Data System with Input Saturation, pp. 1797-1802.

Dai, Dan — Univ. of California, Santa Barbara
Hu, Tingshu — Univ. of Massachusetts, Lowell
Teel, Andrew R. — Univ. of California at Santa Barbara
Zaccarian, Luca — Univ. di Roma, Tor Vergata

16:20-16:40 — WeC07.2

A Switched Lyapunov Function Approach to Stability Analysis of Non-Uniformly Sampled-Data Systems, pp. 1803-1804.

Fujioka, Hisaya — Kyoto Univ.
Nakai, Toshiharu — Graduate School of Informatics, Kyoto Univ.
Hetel, Laurentiu — Ec.

16:40-17:00 — WeC07.3

Sampled-Data Redesign of Stabilizing Feedback, pp. 1805-1810.

Monaco, Salvatore — Univ. di Roma
Normand-Cyrot, Marie-Dorothée — CNRS-Supélec
Tiefensee, Fernando — CNRS - Supelec - Univ. Paris XI-Sud

17:00-17:20 — WeC07.4

IDA-PBC under Sampling for Port-Controlled Hamiltonian Systems, pp. 1811-1816.

Tiefensee, Fernando — CNRS - Supelec - Univ. Paris XI-Sud
Monaco, Salvatore — Univ. di Roma
Normand-Cyrot, Marie-Dorothée — CNRS-Supélec

17:20-17:40 — WeC07.5

New Globally Asymptotical Synchronization of Chaotic Lur'e Systems Using Sampled Data, pp. 1817-1822.
Zhu, Xun-Lin — Nanyang Tech. Univ.
Wang, Youyi — Nanyang Tech. Univ.
Yang, Hong-yong — Ludong Univ.

17:40-18:00 WeC07.6
On O(T^2) State Regulation with Output Feedback Sliding Mode Control for Sampled-Data Systems, pp. 1823-1828.
Nguyen, Thang — Rutgers Univ.
Su, Wu-Chung — National Chung-Hsing Univ.
Gajic, Zoran R. — Rutgers Univ.

WeC08 — Laurel A
Wireless Networks (Regular Session)

Chair: Irwin, George W. — Queen's Univ. of Belfast
Co-Chair: Aghdam, Amir G. — Concordia Univ.

16:00-16:20 WeC08.1
Packet-Based Robust MPC for Wireless Networked Control Using Co-Design, pp. 1829-1834.
Chen, Jian — The Queen' s Univ. of Belfast
Irwin, George W. — Queen's Univ. of Belfast
McKernan, Adrian Declan — Queen's Univ. Belfast

16:20-16:40 WeC08.2
Joint Design of Control and Communication in Wireless Networked Control Systems: A Case Study, pp. 1835-1840.
Chamaken Kamde, Alain Tierry — Univ. of Kaiserslautern, Inst. of Automatic Control
Litz, Lothar — Univ. of Kaiserslautern

16:40-17:00 WeC08.3
Event-Based Sampling for Wireless Network Control Systems with QoS, pp. 1841-1846.
McKernan, Adrian Declan — Queen's Univ. Belfast
Irwin, George W. — Queen's Univ. of Belfast

17:00-17:20 WeC08.4
Elimination of Limit Cycles in Wireless Communication Networks Using Three-Level Comparators, pp. 1847-1849.
Jalaleddini, Kian — McGill Univ.
Aghdam, Amir G. — Concordia Univ.

17:20-17:40 WeC08.5
Evolutionary Bandwidth Allocation and Routing in Large-Scale Wireless Sensor Networks, pp. 1850-1855.
Wang, Yue — Worcester Pol. Inst.
Hussein, Islam — Worcester Pol. Inst.

17:40-18:00 WeC08.6
Explicitly Constrained Generalised Predictive Control Strategies for Power Management in Ambulatory Wireless Sensor Network Systems, pp. 1856-1861.
Witheephanich, Kritchai — Univ. of Limerick
Escano, Juan Manuel — Univ. of Seville
Hayes, Martin J. — Univ. of Limerick

WeC09 — Laurel B
Linear Systems III (Regular Session)

Chair: Pagilla, Prabhakar R. — Oklahoma State Univ.
Co-Chair: Seferlis, Panos — Aristotle Univ. of Thessaloniki

16:00-16:20 WeC09.1
H_2 and H_infty Norm Computations for LTI Systems with Generalized Frequency Variables, pp. 1862-1867.
Hara, Shinji — The Univ. of Tokyo
Iwasaki, Tetsuya — UCLA
Tanaka, Hideaki — The Univ. of Tokyo

16:20-16:40 WeC09.2
System Poles and Zeros Sensitivity for Dynamic Process Controllability, pp. 1868-1873.
Seferlis, Panos — Aristotle Univ. of Thessaloniki/CPERI

16:40-17:00 WeC09.3
Overapproximating the Reachable Sets of LTI Systems through a Similarity Transformation, pp. 1874-1879.
Kaynama, Shahab — Univ. of British Columbia
Oishi, Meeko — Univ. of British Columbia

17:00-17:20 WeC09.4
Towards Automated Loop-Shaping in Controller Parameter Space, pp. 1880-1885.
Aladagli, Irmak — Eindhoven Univ. of Tech.
Den Hamer, A.J. — Eindhoven Univ. of Tech.
Steinbuch, Maarten — Eindhoven Univ. of Tech.
Angelis, Georgo — Philips Applied Tech.

17:20-17:40 WeC09.5
Ripple-Free Conditions in Multirate Systems Using LTI Controllers, pp. 1886-1891.
Cimino, Mauro — Oklahoma State Univ.
Pagilla, Prabhakar R. — Oklahoma State Univ.

17:40-18:00 WeC09.6

Static Output Feedback Design Using Asymptotic Properties of LQ Regulators, pp. 1892-1897.
Lavretsky, Eugene — The Boeing Co.

WeC10 — Laurel C
Stochastic Systems III (Regular Session)

Chair: Petersen, Ian R. — UNSW at Australian Def. Force Acad.
Co-Chair: Hespanha, Joao P. — Univ. of California, Santa Barbara

16:00-16:20 — WeC10.1
Singular Perturbation Approximations for a Class of Linear Complex Quantum Systems, pp. 1898-1903.
Petersen, Ian R. — UNSW at Australian Def. Force Acad.

16:20-16:40 — WeC10.2
Finite Horizon H_; Control for a Class of Linear Quantum Systems: A Dynamic Game Approach, pp. 1904-1911.
Maalouf, Aline I. — Univ. of New South Wales at ADFA
Petersen, Ian R. — UNSW at Australian Def. Force Acad.

16:40-17:00 — WeC10.3
Coherent Control of Linear Quantum Systems: A Differential Evolution Approach, pp. 1912-1917.
Harno, Hendra G. — Univ. of New South Wales @ ADFA
Petersen, Ian R. — UNSW at Australian Def. Force Acad.

17:00-17:20 — WeC10.4
Optimal Estimation on the Graph Cycle Space, pp. 1918-1924.
Russell, William Joshua — Univ. of California, Santa Barbara
Klein, Daniel J. — Univ. of California, Santa Barbara
Hespanha, Joao P. — Univ. of California, Santa Barbara

17:20-17:40 — WeC10.5
Pursuit-Evasion with Acoustic Sensing Using One Step Nash Equilibria, pp. 1925-1930.
Goode, Brian — Virginia Tech.
Kurdila, Andrew J. — Virginia Tech.
Roan, Michael — Virginia Tech.

17:40-18:00 — WeC10.6
Nonlinear Optimal Trade-Off Control for LQG Problem, pp. 1931-1936.
Qian, Fucai — Xi'an Univ. of Tech.
Xie, Guo — Xi'an Univ. of Tech.
Liu, Ding — Xi'an Univ. of Tech.
Xie, Wenfang — Concordia Univ.

WeC11 — Grand Ballroom I
Motor Control (Regular Session)

Chair: Messner, William — Carnegie Mellon Univ.
Co-Chair: Zheng, Kai — Dalian Maritime Univ. China

16:00-16:20 — WeC11.1
DC Motor Identification Using Speed Step Responses, pp. 1937-1941.
Wu, Wei — Lexmark International

16:20-16:40 — WeC11.2
Optimal Commutation Law by Real-Time Optimization for Multiple Motor Driven Systems, pp. 1942-1947.
Ruben, Shalom — Univ. of California Los Angeles
Tsao, Tsu-chin — Univ. of California, Los Angeles

16:40-17:00 — WeC11.3
Position Estimation and Control of Compact BLDC Motors Based on Analog Linear Hall Effect Sensors, pp. 1948-1955.
Simpkins, Alex — Univ. of California, San Diego
Todorov, Emanuel — Univ. of California San Diego

17:00-17:20 — WeC11.4
Virtual Reference Feedback Tuning (VRFT)of Velocity Controller in Self-Balancing Industrial Manual Manipulators, pp. 1956-1961.
Previdi, Fabio — Univ. degli Studi di Bergamo
Fico, Federico — Univ. degli Studi di Bergamo
Savaresi, Sergio M. — Pol. Di Milano
Belloli, Damiano — Parco Scientifico del Kilometreo Rosso
Spelta, Cristiano — Univ. degli studi di Bergamo
Pesenti, Ivan — Scaglia Indeva spa

17:20-17:40 — WeC11.5
Nonlinear Controller Design for Permanent Magnet Synchronous Motor Using Adaptive Weighted PSO, pp. 1962-1966.
Yang, Ming — Dalian Maritime Univ.
Wang, Xingcheng — Dalian Maritime Univ.
Zheng, Kai — Dalian Maritime Univ. China

17:40-18:00 — WeC11.6
Nonlinear Modeling of Butterfly Valves and Flow Rate Control Using the Circle Criterion Bode Plot, pp. 1967-1972.
Taylor, Jd — Carnegie Mellon Univ.
Sinopoli, Bruno — Carnegie Mellon Univ.
Messner, William — Carnegie Mellon Univ.

WeC12 Grand Ballroom II

Energy Systems II (Regular Session)

Chair: Wagner, John R. — Clemson Univ.
Co-Chair: Nersesov, Sergey G. — Villanova Univ.

16:00-16:20 WeC12.1

Adaptive Observer Design under Low Data Rate Transmission with Applications to Oil Well Drill-String, pp. 1973-1978.

Barreto Jijon, Rafael — INPG
Canudas de Wit, Carlos — CNRS, GIPSA-Lab.
Niculescu, Silviu-Iulian — CNRS-Supelec
Dumon, Jonathan — CNRS, Gipsa-Lab.

16:20-16:40 WeC12.2

Closed Loop Control of the Sawtooth Instability in Nuclear Fusion, pp. 1979-1984.

Witvoet, Gert — Eindhoven Univ. of Tech.
Steinbuch, Maarten — Eindhoven Univ. of Tech.
Westerhof, Egbert — FOM
Doelman, Niek — TNO Science and Industry
De Baar, Marco — FOM

16:40-17:00 WeC12.3

Simultaneous Control of Effective Atomic Number and Electron Density in Non-Burning Tokamak Plasmas, pp. 1985-1990.

Boyer, Dan — Lehigh Univ.
Schuster, Eugenio — Lehigh Univ.

17:00-17:20 WeC12.4

A New Battery Model for Use with an Extended Kalman Filter State of Charge Estimator, pp. 1991-1996.

Knauff, Michael — Drexel Univ.
Niebur, Dagmar — Drexel Univ.
Dafis, Chris — Drexel Univ.

17:20-17:40 WeC12.5

Modeling, Estimation, and Control Challenges for Lithium-Ion Batteries, pp. 1997-2002.

Chaturvedi, Nalin A. — Robert Bosch LLC
Klein, Reinhardt — Robert Bosch LLC
Christensen, Jake — Robert Bosch LLC
Ahmed, Jasim — Program Manager
Kojic, Aleksandar — Robert Bosch Res. and Tech. Center

17:40-18:00 WeC12.6

Process Design and Control Studies of an Elevated-Pressure Air Separations Unit for IGCC Power Plants, pp. 2003-2008.

Mahapatra, Priyadarshi — Rensselaer Pol. Inst.
Bequette, B. Wayne — Rensselaer Pol. Inst.

WeC13 Grand Ballroom III

Diabetes Modeling and Control (Tutorial Session)

Chair: Campos-Delgado, Daniel U. — UASLP
Co-Chair: Kirchsteiger, Harald — Johannes Kepler Univ. Linz

16:00-16:40 WeC13.1

Adaptive Control Algorithm for a Rapid and Slow Acting Insulin Therapy Following Run-To-Run Methodology (I), pp. 2009-2014.

Campos-Cornejo, Fabiola — UASLP
Campos-Delgado, Daniel U. — UASLP
Dassau, Eyal — Univ. of California at Santa Barbara
Zisser, Howard — Sansum Diabetes Res. Inst.
Jovanovic, Lois — Sansum Diabetes Res. Inst.
Doyle, Francis — Univ. of California at Santa Barbara

16:40-17:00 WeC13.2

Prediction Oriented Online Identification of the Diabetic Glucose Metabolism, pp. 2015-2020.

Castillo Estrada, Giovanna Elizabeth — Johannes Kepler Univ.
Kirchsteiger, Harald — Johannes Kepler Univ. Linz
Del Re, Luigi — Johannes Kepler Univ. Linz
Renard, Eric — Centre Hospitalier Univ. de Montpellier

17:00-17:20 WeC13.3

Robust Model Identification Applied to Type 1 Diabetes, pp. 2021-2026.

Finan, Daniel A. — Tech. Univ. of Denmark
Jorgensen, John Bagterp — Tech. Univ. of Denmark
Poulsen, Niels Kjřlstad — Tech. Univ. of Denmark
Madsen, Henrik — Tech. Univ. of Denmark

17:20-17:40 WeC13.4

Development of a Physiological Model for Patients with Type 2 Diabetes Mellitus, pp. 2027-2032.

Vahidi, Omid — Univ. of british columbia
Kwok, K. Ezra — Univ. of British Columbia
Gopaluni, Ratna Bhushan — Univ. of British Columbia
Lin, Sun — Univ. of british columbia

17:40-18:00 WeC13.5

Receding Horizon Control of Type I Diabetes Based on a Data-Driven Linear Time-Varying State-Space Model, pp. 2033-2038.
Zhou, Jing — Penn State Univ.
Wang, Qian — Penn State Univ.

WeC14 — Grand Ballroom IV
Iterative Learning Control (Regular Session)

Chair: Bristow, Douglas A. — Missouri Univ. of Science & Tech.
Co-Chair: Chen, YangQuan — Utah State Univ.

16:00-16:20 — WeC14.1
An Iteration-Domain Filter for Bounding Transient Growth in Iterative Learning Control, pp. 2039-2044.
Liu, Qing — Missouri Univ. of Science & Tech.
Bristow, Douglas A. — Missouri Univ. of Science & Tech.

16:20-16:40 — WeC14.2
2-Norm Optimal Design and Reduced Implementation of Iterative and Repetitive Learning Control, pp. 2045-2050.
Kipscholl, Christian — TU Darmstadt
Konigorski, Ulrich — Darmstadt Univ. of Tech.

16:40-17:00 — WeC14.3
Robust Iterative Learning Control for Output Tracking Via Second-Order Sliding Mode Technique, pp. 2051-2056.
Chen, Wen — Wayne State Univ.
Chen, YangQuan — Utah State Univ.

17:00-17:20 — WeC14.4
Analysis of Two Robust Learning Control Schemes in the Presence of Random Iteration-Varying Noise, pp. 2057-2062.
Meng, Deyuan — Beihang Univ. (BUAA)
Jia, Yingmin — Beihang Univ.
Du, Junping — Beijing Univ. of Posts and Telecommunications
Yu, Fashan — Henan Pol. Univ.

17:20-17:40 — WeC14.5
Iterative Learning Air-Fuel Ratio Control with Adaptation in Spark Ignition Engines, pp. 2063-2068.
Efimov, Denis — Inst. for Problems of Mechanical Eng.
Javaherian, Hossein — GM R&D
Nikiforov, Vladimir O. — St. State Univ. of Information Tech. Mechanics and

17:40-18:00 — WeC14.6
Robust Design of Terminal ILC with an Internal Model Control Using μ-Analysis and a Genetic Algorithm Approach, pp. 2069-2075.
Gauthier, Guy — Ec. de Tech. Superieure
Boulet, Benoit — McGill Univ.

WeC15 — Grand Ballroom VII
Flight Control III (Regular Session)

Chair: Tits, Andre L. — Univ. of Maryland
Co-Chair: Beard, Randy — Brigham Young Univ.

16:00-16:20 — WeC15.1
Adaptive Tracking Control of Underactuated Quadrotor Unmanned Aerial Vehicles Via Backstepping, pp. 2076-2081.
Huang, Mu — Tianjin Univ.
Xian, Bin — Tian Jin Univ.
Diao, Chen — Tianjin Univ.
Yang, Kaiyan — Tianjin Univ.
Feng, Yu — State Nuclear Power Tech. Company

16:20-16:40 — WeC15.2
A Sliding-Mode Based Guidance Law for Intercepting Missile with Passive Ranging Law, pp. 2082-2087.
Huang, Po-Hsu — National Taiwan Univ.
Wang, Ting-Kuo — National Taiwan Univ.
Fu, Li-Chen — National Taiwan Univ.

16:40-17:00 — WeC15.3
Constraint-Reduced Interior-Point Optimization for Model Predictive Rotorcraft Control, pp. 2088-2094.
He, Meiyun — Univ. of maryland
Kiemb, Mary — Univ. of maryland
Tits, Andre L. — Univ. of Maryland
Greenfield, Aaron — Sikorsky Aircraft
Sahasrabudhe, Vineet — Sikorsky Aircraft Corp.

17:00-17:20 — WeC15.4
A Multivariable MRAC Design Using State Feedback for Linearized Aircraft Models with Damage, pp. 2095-2100.
Guo, Jiaxing — Univ. of Virginia
Liu, Yu — Univ. of Virginia
Tao, Gang — Univ. of Virginia

17:20-17:40 — WeC15.5
Motion Planning and Control for Mothership-Cable-Drogue Systems in Aerial Recovery of Micro Air Vehicles, pp. 2101-2106.
Sun, Liang — Brigham Young Univ.
Beard, Randy — Brigham Young Univ.
Colton, Mark — Brigham Young Univ.

17:40-18:00 WeC15.6
Formation Control of VTOL UAVs without Linear-Velocity Measurements, pp. 2107-2112.
Abdessameud, Abdelkader — Univ. of Western Ontarion
Tayebi, Abdelhamid — Lakehead Univ.

WeC16 Grand Ballroom VIII
Networked Control Systems III (Regular Session)
Chair: Salapaka, Murti V. — Univ. of Minnesota, Minneapolis
Co-Chair: Lemmon, Michael — Univ. of Notre Dame

16:00-16:20 WeC16.1
On the Problem of Reconstructing an Unknown Topology, pp. 2113-2118.
Materassi, Donatello — Univ. of Minnesota
Salapaka, Murti V. — Univ. of Minnesota, Minneapolis

16:20-16:40 WeC16.2
Design and Experimental Verification of Real-Time Mechanisms for Middleware for Networked Control, pp. 2119-2124.
Kim, Kyoung-Dae — Univ. of Illinois at Urbana-Champaign
Kumar, P. R. — Univ. of Illinois, Urbana-Champaign

16:40-17:00 WeC16.3
An Approach to Observer-Based Decentralized Control under Periodic Protocols, pp. 2125-2131.
Bauer, Nicolas William — Univ. of Tech. Eindhoven
Donkers, Tijs — Eindhoven Univ. of Tech.
Heemels, Maurice — Eindhoven Univ. of Tech.
Van De Wouw, Nathan — Eindhoven Univ. of Tech.

17:00-17:20 WeC16.4
Encoder and Decoder Design for Signal Estimation, pp. 2132-2137.
Johannesson, Erik — Lund Univ.
Rantzer, Anders — Lund Univ.
Bernhardsson, Bo M. — Lund Inst. of Tech.
Ghulchak, Andrey — Lund Inst. of Tech.

17:20-17:40 WeC16.5
Event-Triggered State Estimation in Vector Linear Processes, pp. 2138-2143.
Li, Lichun — U. of Notre Dame
Lemmon, Michael — Univ. of Notre Dame
Wang, Xiaofeng — Univ. of Illinois at Urbana-Champaign

WeC17 Grand Ballroom IX
Parameter Estimation (Regular Session)
Chair: Guay, Martin — Queen's Univ.
Co-Chair: Regruto, Diego — Pol. di Torino

16:00-16:20 WeC17.1
A Maximum Likelihood Approach to Recursive Polynomial Chaos Parameter Estimation, pp. 2144-2151.
Pence, Benjamin — Univ. of Michigan, Department of Mechanical Engineering
Stein, Jeffrey L. — Univ. of Michigan
Fathy, Hosam K. — The Univ. of Michigan

16:20-16:40 WeC17.2
Bounding the Parameters of Linear Systems with Stability Constraints, pp. 2152-2157.
Cerone, Vito — Pol. di Torino
Piga, Dario — Pol. di Torino
Regruto, Diego — Pol. di Torino

16:40-17:00 WeC17.3
Set-Membership EIV Identification through LMI Relaxation Techniques, pp. 2158-2163.
Cerone, Vito — Pol. di Torino
Piga, Dario — Pol. di Torino
Regruto, Diego — Pol. di Torino

17:00-17:20 WeC17.4
Transfer Function Parameter Identification by Modified Relay Feedback, pp. 2164-2169.
Soltesz, Kristian — Lund Inst. of Tech.
Hagglund, Tore — Professor
Astrom, Karl J. — Lund Inst. of Tech.

17:20-17:40 WeC17.5
Parameter Identification Methods for Non-Linear Discrete-Time Systems, pp. 2170-2175.
Lehrer, Devon — Queens' Univ.
Guay, Martin — Queen's Univ.
Adetola, Veronica — United Tech. Res. Center

17:40-18:00 WeC17.6
A Hybrid Algorithm for Finite Time Parameter Estimation, pp. 2176-2181.
Hartman, Matthew — Univ. of California in Santa Barbara
Bauer, Nicolas William — Univ. of Tech. Eindhoven
Teel, Andrew R. — Univ. of California at Santa Barbara

WeC18 Grand Ballroom X

Mechatronics (Regular Session)

Chair: Naso, David — Pol. di Bari
Co-Chair: Tsao, Tsu-chin — Univ. of California, Los Angeles

16:00-16:20 WeC18.1

Optimization-Based Feedforward Control for a Drop-On-Demand Inkjet Printhead, pp. 2182-2187.

Khalate, Amol Ashok — Delft Univ. of Tech.
Bombois, Xavier — Delft Univ. of Tech.
Babuska, R. — Delft Univ. of Tech.
Wijshoff, Herman — Océ Tech. B.V.
Waarsing, Rene — OCE

16:20-16:40 WeC18.2

Transmission Control for Power-Shift Agricultural Tractors, pp. 2188-2193.

Panzani, Giulio — Pol. di Milano
Tanelli, Mara — Pol. di Milano
Savaresi, Sergio M. — Pol. Di Milano
Pirola, Carlo — Same Deutz-Fahr group S.p.A.
Gavina, Giorgio — Same Deutz-Fahr group S.p.A.
Taroni, Francesco — none

16:40-17:00 WeC18.3

Robust and LPV Control of an AMB System, pp. 2194-2199.

Witte, Jasper — TU Delft
Balini, Harimohan Navin Kumar — TU Delft
Scherer, Carsten W. — Delft Univ. of Tech.

17:00-17:20 WeC18.4

Subspace Identification and Robust Control of an AMB System, pp. 2200-2205.

Balini, Harimohan Navin Kumar — TU Delft
Houtzager, Ivo — Delft Univ. of Tech.
Witte, Jasper — TU Delft
Scherer, Carsten W. — Delft Univ. of Tech.

17:20-17:40 WeC18.5

Modeling and Control of a Magnetic Bearing System, pp. 2206-2211.

Chu, Kevin — UCLA
Wang, Yigang — Univ. of California, Los Angeles
Wilson, Jason — Univ. of California, Los Angeles
Tsao, Tsu-chin — Univ. of California, Los Angeles
Lin, Chi-Ying — National Taiwan Univ. of Science and Tech.

17:40-18:00 WeC18.6

Micrometric Control of a Mechatronic Linear Servo System with NPID and Adaptive Approximation, pp. 2212-2217.

Naso, David — Pol. di Bari
Cupertino, Francesco — Pol. di Bari
Patruno, Domenico — Pol. di Bari
Turchiano, Biagio — Pol. di bari

WeC19 Dover A

Engine Control (Regular Session)

Chair: Jankovic, Mrdjan — Ford Res. & Advanced Engineering
Co-Chair: Wang, Junmin — Ohio State Univ.

16:00-16:20 WeC19.1

Discrete-Time Cross-Term Forwarding Design of Robust Controllers for HCCI Engines, pp. 2218-2223.

Chiang, Chia-Jui — National Taiwan Univ. of Science and Tech.
Huang, Chun-Chuan — National Taiwan Univ. of Science and Tech.
Jankovic, Mrdjan — Ford Res. & Advanced Engineering

16:20-16:40 WeC19.2

Real-Time Hardware Implementation of Symbolic Health Monitoring for Aircraft Engine Components (I), pp. 2224-2229.

Yasar, Murat — Tech. Inc.
Purekar, Ashish — Tech. Inc.
Sheth, Datta — Tech.

16:40-17:00 WeC19.3

A LPV Fault Detection and Isolation Method for Spark Injection Engines, pp. 2230-2235.

Gagliardi, Gianfranco — Univ. degli studi della Calabria
Casavola, Alessandro — Univ. Della Calabria
De Cristofaro, Ferdinando — Elasis - Fiat Powertrain Tecnhologies
Famularo, Domenico — Univ. degli Studi Mediterranea di Reggio Calabria
Franze', Giuseppe — Univ. Degli Studi della Calabria

17:00-17:20 WeC19.4

Adaptive Controller with Delay Compensation for Air-Fuel Ratio Regulation in SI Engines, pp. 2236-2241.

Kahveci, Nazli E. — Ford Motor Company
Jankovic, Mrdjan — Ford Res. & Advanced Engineering

17:20-17:40 WeC19.5
Modeling and Identification of a Mechatronic Exhaust Gas Recirculation Actuator of an Internal Combustion Engine, pp. 2242-2247.
Laghrouche, Salah UTBM
Ahmed, Fayez Shakil UTBM
EL-Bagdouri, Mohamed UTBM
Wack, Maxime UTBM
Gaber, Jaafar UTBM
Becherif, Mohamed Lab. Systčme et Transport SeT-UTBM

17:40-18:00 WeC19.6
Common Rail Injection System On-Line Parameter Calibration for Precise Injection Quantity Control, pp. 2248-2253.
Yan, Fengjun The Ohio State Univ.
Wang, Junmin Ohio State Univ.

WeC20 Dover B
Traffic Modeling and Control (Invited Session)
Chair: De Schutter, Bart Delft Univ. of Tech.
Co-Chair: Zegeye, Solomon Kidane Delft Univ. of Tech.
Organizer: De Schutter, Bart Delft Univ. of Tech.
Organizer: Zegeye, Solomon Kidane Delft Univ. of Tech.

16:00-16:20 WeC20.1
Hybrid System's Model and Algorithm for Highway Traffic Monitoring, pp. 2254-2259.
Aligawesa, Alinda Purdue Univ.
Hwang, Inseok Purdue Univ.

16:20-16:40 WeC20.2
Using Aurora Road Network Modeler for Active Traffic Management (I), pp. 2260-2265.
Kurzhanskiy, Alex A. Univ. of California, Berkeley
Varaiya, Pravin P. Univ. of California at Berkeley

16:40-17:00 WeC20.3
Combining Variable Speed Limits with Ramp Metering for Freeway Traffic Control (I), pp. 2266-2271.
Lu, Xiao-Yun Univ. of California at Berkeley
Qiu, Tony Z. Univ. of California, Berkeley
Varaiya, Pravin P. Univ. of California at Berkeley
Horowitz, Roberto Univ. of California at Berkeley
Shladover, Steven E. Univ. of California at Berkeley

17:00-17:20 WeC20.4
Model Predictive Control for Urban Traffic Networks Via MILP (I), pp. 2272-2277.
Lin, Shu Shanghai Jiao Tong Univ. & Delft Univ. of Tech.
De Schutter, Bart Delft Univ. of Tech.
Xi, Yugeng Shanghai Jiao Tong Univ.
Hellendoorn, Hans Delft Univ. of Tech.

17:20-17:40 WeC20.5
Fuzzy Models and Observers for Freeway Traffic State Tracking (I), pp. 2278-2283.
Lendek, Zsofia Delft Univ. of Tech.
Babuska, R. Delft Univ. of Tech.
De Schutter, Bart Delft Univ. of Tech.

17:40-18:00 WeC20.6
Model Predictive Traffic Control to Reduce Vehicular Emissions - an LPV-Based Approach (I), pp. 2284-2289.
Zegeye, Solomon Kidane Delft Univ. of Tech.
De Schutter, Bart Delft Univ. of Tech.
Hellendoorn, Hans Delft Univ. of Tech.

WeC21 Dover C
Command Shaping for Vibration Suppression (Invited Session)
Chair: Meckl, Peter H. Purdue Univ.
Co-Chair: Devasia, Santosh Univ. of Washington
Organizer: Meckl, Peter H. Purdue Univ.

16:00-16:20 WeC21.1
Design of Input Shapers Using Modal Cost for Multi-Mode Systems (I), pp. 2290-2295.
Kumar, Ravi Univ. at Buffalo State Univ. of New York
Singh, Tarunraj State Univ. of New York at Buffalo

16:20-16:40 WeC21.2
Dynamics and Zero Vibration Input Shaping Control of a Small-Scale Boom Crane (I), pp. 2296-2301.
Maleki, Ehsan Georgia Inst. of Tech.
Singhose, William Georgia Inst. of Tech.

16:40-17:00 WeC21.3
Vibration Reduction Using Time-Optimal Shaping Filters with Reduced Higher-Mode Excitations (I), pp. 2302-2307.
Dhanda, Abhishek Stanford Univ.
Franklin, Gene F. Stanford Univ.

17:00-17:20 WeC21.4

Advantages of Using Command Shaping Over Feedback for Crane Control (I), pp. 2308-2313.
Vaughan, Joshua — Georgia Inst. of Tech.
Maleki, Ehsan — Georgia Inst. of Tech.
Singhose, William — Georgia Inst. of Tech.

17:20-17:40 — WeC21.5
An Improved Implementation Scheme for Time-Optimal Commands Using Symmetric Filters (I), pp. 2314-2319.
Dhanda, Abhishek — Stanford Univ.
Franklin, Gene F. — Stanford Univ.

17:40-18:00 — WeC21.6
Nonlinear Minimum-Time Feedforward Control for Output Transition with Pre and Post-Actuation (I), pp. 2320-2325.
Devasia, Santosh — Univ. of Washington

WeC22 — Laurel D
Optimal Control III (Regular Session)

Chair: Jřrgensen, John Bagterp — Tech. Univ. of Denmark
Co-Chair: Muenchhof, Marco — Univ. of Tech. at Darmstadt

16:00-16:20 — WeC22.1
Optimal Decentralization of Multi-Agent Motions, pp. 2326-2331.
Twu, Philip — Georgia Inst. of Tech.
Egerstedt, Magnus — Georgia Inst. of Tech.

16:20-16:40 — WeC22.2
H-Infinity Controller Design for a Multi-Agent System Based on a Replicated Control Structure, pp. 2332-2337.
Popov, Andrey — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

16:40-17:00 — WeC22.3
A Full Block S-Procedure Application to Distributed Control, pp. 2338-2343.
Massioni, Paolo — Delft Univ. of Tech.
Verhaegen, Michel — Delft Univ. of Tech.

17:00-17:20 — WeC22.4
Partial Compensation of Large Scale Discrete Systems, pp. 2344-2348.
Baine, Nicholas Allen — Wright State Univ.
Kolakowski, Terry — Wright State Univ.
Lee, Julie — Wright State Univ.
Misra, Pradeep — Wright Univ.

17:20-17:40 — WeC22.5
Applying Optimal Control Using SLP on a Hydraulic System, pp. 2349-2354.
Verlohren, Christoph — Tech. Univ. Darmstadt
Muenchhof, Marco — Univ. of Tech. at Darmstadt
Singh, Tarunraj — State Univ. of New York at Buffalo

17:40-18:00 — WeC22.6
Tuning of Methods for Offset Free MPC Based on ARX Model Representations, pp. 2355-2360.
Huusom, Jakob Kjřbsted — Tech. Univ. of Denmark
Poulsen, Niels Kjřlstad — Tech. Univ. of Denmark
Jorgensen, Sten Bay — Tech. Univ. of Denmark
Jřrgensen, John Bagterp — Tech. Univ. of Denmark

ThSP1 — Grand Ballroom V
Control As a Key Technology for a Radical Innovation in Wind Energy Generation (Semiplenary Session)

Chair: Braatz, Richard D. — Univ. of Illinois, Urbana-Champaign
Co-Chair: Allgower, Frank — Univ. of Stuttgart

08:00-09:00 — ThSP1.1
Control As a Key Technology for a Radical Innovation in Wind Energy Generation, pp. 2361-2377.
Milanese, Mario — Pol. di Torino
Fagiano, Lorenzo — Pol. di Torino
Piga, Dario — Pol. di Torino

ThSP2 — Grand Ballroom VI
Medical Robotics and Computer-Integrated Surgery (Semiplenary Session)

Chair: Masada, Glenn Y. — Univ. of Texas at Austin
Co-Chair: Beck, Carolyn L. — Univ. of Illinois, Urbana-Champaign

08:00-09:00 — ThSP2.1
*Medical Robotics and Computer-Integrated Surgery**. (Not Available)
Taylor, Russell H. — Johns Hopkins Univ.

ThA01 — Kent A
Humans-In-The-Loop Control Systems (Invited Session)

Chair: Bertuccelli, Luca F. — Massachusetts Inst. of Tech.
Co-Chair: Savla, Ketan — Massachusetts Inst. of Tech.
Organizer: Bertuccelli, Luca F. — Massachusetts Inst. of Tech.

Organizer: Savla, Ketan — Massachusetts Inst. of Tech.

09:20-09:40 — ThA01.1

Steady-State Distributions for Human Decisions in Two-Alternative Choice Tasks (I), pp. 2378-2383.

Stewart, Andrew Reed — Princeton Univ.
Cao, Ming — Univ. of Groningen
Leonard, Naomi Ehrich — Princeton Univ.

09:40-10:00 — ThA01.2

Discrete Event Modeling of Heterogeneous Human Operator Team in Classification Task (I), pp. 2384-2389.

Hyun, Baro — Univ. of Michigan
Park, Calvin — Univ. of Michigan
Wang, Weilin — Univ. of Michigan
Girard, Anouck — Univ. of Michigan, Ann Arbor

10:00-10:20 — ThA01.3

Accuracy and Decision Time for Decentralized Implementations of the Sequential Probability Ratio Test (I), pp. 2390-2395.

Dandach, Sandra Hala — Univ. of California, Santa Barbara
Carli, Ruggero — Univ. of Padova
Bullo, Francesco — Univ. California at Santa Barbara

10:20-10:40 — ThA01.4

Search Decisions in a Game of Polynomial Root Counting (I), pp. 2396-2403.

Raghunathan, Dhananjay — Boston Univ.
Baillieul, John — Boston Univ.

10:40-11:00 — ThA01.5

Maximally Stabilizing Task Release Control Policy for a Dynamical Queue (I), pp. 2404-2409.

Savla, Ketan — Massachusetts Inst. of Tech.
Frazzoli, Emilio — Massachusetts Inst. of Tech.

11:00-11:20 — ThA01.6

Choice Modeling of Relook Tasks for UAV Search Missions (I), pp. 2410-2415.

Bertuccelli, Luca F. — Massachusetts Inst. of Tech.
Pellegrino, Nicholas — MIT
Cummings, Mary (Missy) — MIT

ThA02 — Kent B

Control Algorithms (Regular Session)

Chair: Martinez, Sonia — Univ. of California at San Diego
Co-Chair: Egerstedt, Magnus — Georgia Inst. of Tech.

09:20-09:40 — ThA02.1

Expanding Motion Programs under Input Constraints, pp. 2416-2421.

Martin, Patrick — Georgia Inst. of Tech.
Egerstedt, Magnus — Georgia Inst. of Tech.

09:40-10:00 — ThA02.2

Spatial Statistics and Distributed Estimation by Robotic Sensor Networks, pp. 2422-2427.

Graham, Rishi — Univ. of California at Santa Cruz
Cortes, Jorge — Univ. of California, San Diego

10:00-10:20 — ThA02.3

Adaptive Predictive Control of a Class of Discrete-Time MIMO Nonlinear Systems with Uncertain Couplings, pp. 2428-2433.

Yang, Chenguang — Imperial Coll. London
Li, Yanan — National Univ. of Singapore
Ge, Shuzhi Sam — National Univ. of Singapore
Lee, Tong Heng — National Univ. of Singapore

10:20-10:40 — ThA02.4

On Distributed Optimization under Inequality and Equality Constraints Via Penalty Primal-Dual Methods, pp. 2434-2439.

Zhu, Minghui — Univ. of California, San Diego
Martinez, Sonia — Univ. of California at San Diego

10:40-11:00 — ThA02.5

When Does a Digraph Admit a Doubly Stochastic Adjacency Matrix?, pp. 2440-2445.

Gharesifard, Bahman — Univ. of California San Diego
Cortes, Jorge — Univ. of California, San Diego

11:00-11:20 — ThA02.6

Sliding Mode Control of Two-Level Quantum Systems with Bounded Uncertainties, pp. 2446-2451.

Dong, Daoyi — Univ. of New South Wales
Petersen, Ian R. — UNSW at Australian Def. Force Acad.

ThA03 — Harborside Ballroom D

Adaptive Control IV (Regular Session)

Chair: Nguyen, Nhan — NASA Ames Res. Center
Co-Chair: Hoagg, Jesse B. — Univ. of Michigan

09:20-09:40 — ThA03.1

Adaptive Feedback Linearization for an Uncertain Nonlinear System Using Support Vector Regression, pp. 2452-2457.

Shin, Jongho — Seoul National Univ.

Kim, H. Jin — Seoul National Univ.
Kim, Youdan — Seoul National Univ.

09:40-10:00 ThA03.2
L1 Adaptive Control of Event-Triggered Networked Systems, pp. 2458-2463.
Wang, Xiaofeng — Univ. of Illinois at Urbana-Champaign
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

10:00-10:20 ThA03.3
Delay-Adaptive Feedback for Linear Feedforward Systems, pp. 2464-2469.
Bekiaris-Liberis, Nikolaos — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California at San Diego

10:20-10:40 ThA03.4
Optimal Control Modification Adaptive Law for Time-Scale Separation, pp. 2470-2475.
Nguyen, Nhan — NASA Ames Res. Center

10:40-11:00 ThA03.5
Variable Structure Adaptive Backstepping Control for a Class of Unknown Switched Linear Systems, pp. 2476-2481.
Chiang, Ming-Li — National Taiwan Univ.
Fu, Li-Chen — National Taiwan Univ.

11:00-11:20 ThA03.6
A Q-Modification Neuroadaptive Control Architecture for Discrete-Time Systems, pp. 2482-2486.
Volyanskyy, Kostyantyn — Georgia Inst. of Tech.
Haddad, Wassim M. — Georgia Inst. of Tech.

ThA04 — Harborside Ballroom E
Switched Systems II (Regular Session)

Chair: Chesi, Graziano — Univ. of Hong Kong
Co-Chair: Garcia, Rafael A. — Inst. Tecnológico de Buenos Aires

09:20-09:40 ThA04.1
Computing Upper-Bounds of the Minimum Dwell Time of Linear Switched Systems Via Homogeneous Polynomial Lyapunov Functions, pp. 2487-2492.
Chesi, Graziano — Univ. of Hong Kong
Colaneri, Patrizio — Pol. di Milano
Geromel, Jose C. — UNICAMP
Middleton, Richard H. — National Univ. of Ireland Maynooth
Shorten, Robert — Nat. Univ. of Ireland

09:40-10:00 ThA04.2
Invariance Results for Constrained Switched Systems, pp. 2493-2498.
Mancilla-Aguilar, J. L. — Inst. Tecnológico de Buenos Aires
Garcia, Rafael A. — Inst. Tecnológico de Buenos Aires

10:00-10:20 ThA04.3
Control Design for Switched Systems Using Passivity Indices, pp. 2499-2504.
McCourt, Michael J. — Univ. of Notre Dame
Antsaklis, Panos J. — Univ. of Notre Dame

10:20-10:40 ThA04.4
Stability Analysis of Planar Continuous Piecewise Linear Systems, pp. 2505-2510.
Xu, Jun — Tsinghua Univ.
Huang, Xiaolin — Tsinghua Univ.
Wang, Shuning — Tsinghua Univ.

10:40-11:00 ThA04.5
Quadratic Optimization for Controller Initialization in Multivariable Switching Systems, pp. 2511-2516.
R. Pour Safaei, Farshad — Univ. of California, Santa Barbara
Hespanha, Joao P. — Univ. of California, Santa Barbara
Stewart, Greg E — Honeywell Automation & Control Sol.

11:00-11:20 ThA04.6
Stability Analysis for Class of Switched Nonlinear Systems, pp. 2517-2520.
Shaker, Hamid Reza — aalborg Univ.
How, Jonathan P. — MIT

ThA05 — Essex A
Power Systems III (Regular Session)

Chair: Bodson, Marc — Univ. of Utah
Co-Chair: Giusto, Alvaro — Univ. de la Republica

09:20-09:40 ThA05.1
Optimal Power Flow in Microgrids Using Event-Triggered Optimization, pp. 2521-2526.
Wan, Pu — Univ. of Notre Dame
Lemmon, Michael — Univ. of Notre Dame

09:40-10:00 ThA05.2
Analytic Conditions for Spontaneous Self-Excitation in Induction Generators, pp. 2527-2532.
Bodson, Marc — Univ. of Utah
Kiselychnyk, Oleh — National Tech. Univ. of Ukraine "Kiev Pol. Inst.

10:00-10:20 ThA05.3
3-Phase AC/DC Boost Converter Power Factor Control Via Traditional and Second Order Sliding Modes, pp. 2533-2538.
Schaeffel, Robert — Univ. of Alabama in Huntsville
Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Baev, Simon — Georgia Southwestern State Univ. (GSW)
Biglari, Haik — FAIRCHILD CONTROLS Corp.

10:20-10:40 ThA05.4
The Complex Hurwitz Test for the Stability Analysis of Induction Generators, pp. 2539-2544.
Bodson, Marc — Univ. of Utah

10:40-11:00 ThA05.5
Application of Frequential Properties of Power Systems to Robustness Analysis, pp. 2545-2550.
Giusto, Alvaro — Univ. de la Republica

11:00-11:20 ThA05.6
A Sliding Mode Control for a Wound Rotor Synchronous Generator with an Isolated RL Load, pp. 2551-2556.
Muńoz-Aguilar, Raúl Santiago — Tech. Univ. of Catalonia (UPC)
Dňria-Cerezo, Arnau — Tech. Univ. of Catalonia (UPC)
Fossas, Enric — Univ. Pol. de Catalunya

ThA06 — Essex B
Distributed Parameter Systems I (Regular Session)

Chair: Arcak, Murat — Univ. of California, Berkeley
Co-Chair: Klose, Silke — Tech. Univ. Darmstadt

09:20-09:40 ThA06.1
Transient Energy Analysis of Spatially Interconnected Model for 3D Poiseuille Flow, pp. 2557-2562.
Chughtai, Saulat Shuja — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

09:40-10:00 ThA06.2
Design of a Decoupling Controller Structure for First Order Hyperbolic PDEs with Distributed Control Action, pp. 2563-2568.
Winkler, Franz Josef — Tech. Univ. München
Lohmann, Boris — Tech. Univ. München

10:00-10:20 ThA06.3
Modeling of Transversal Dynamics of Stepped Beams in Case of Boundary-Excitation, pp. 2569-2574.
Klose, Silke — Tech. Univ. Darmstadt
Konigorski, Ulrich — Darmstadt Univ. of Tech.

10:20-10:40 ThA06.4
Absolute Stability of Coupled Dissipative Parabolic Equations with Wave-Speed Mistuning, pp. 2575-2580.
Hagen, Gregory — United Tech. Res. Center

10:40-11:00 ThA06.5
Finite Dimensional Adaptive H-Infinity Control for Distributed Parameter Systems of Hyperbolic Type Preceded by Input Nonlinearity, pp. 2581-2586.
Miyasato, Yoshihiko — Inst. of Statistical Mathematics

11:00-11:20 ThA06.6
On Spatially-Uniform Behavior in Reaction-Diffusion Systems (I), pp. 2587-2592.
Arcak, Murat — Univ. of California, Berkeley

ThA07 — Essex C
Discrete Event Systems I (Regular Session)

Chair: Thorsley, David — Univ. of Washington
Co-Chair: Litz, Lothar — Univ. of Kaiserslautern

09:20-09:40 ThA07.1
A Control Method for Timed Distributed Continuous Petri Nets, pp. 2593-2600.
Apaydin, Hanife — Anadolu Univ.
Julvez, Jorge — Univ. of Zaragoza
Mahulea, Cristian — Univ. of Zaragoza
Silva, Manuel — Univ. De Zaragoza

09:40-10:00 ThA07.2
Black-Box Identification of Discrete Event Systems with Optimal Partitioning of Concurrent Subsystems, pp. 2601-2606.
Roth, Matthias — Univ. of Kaiserslautern
Lesage, Jean-jacques — Ens Cachan
Litz, Lothar — Univ. of Kaiserslautern

10:00-10:20 ThA07.3
Optimal Design of Fault-Tolerant Petri Net Controllers, pp. 2607-2612.
Qu, Yizhi — Indiana Univ. Purdue Univ. Indianapolis
Li, Lingxi — Indiana Univ. Univ. Indianapolis
Chen, Yaobin — Purdue School of Engr and Tech. IUPUI
Dai, Yaping — Beijing Inst. of Tech.

10:20-10:40 ThA07.4
Decentralized Diagnosis of Discrete Event Systems Modeled by Mealy Automata with Nondeterministic Output Functions, pp. 2613-2618.

Takai, Shigemasa — Osaka Univ.
Ushio, Toshimitsu — Osaka Univ.

10:40-11:00 ThA07.5
On Partial Observability in Discrete Event Control with Pushdown Systems, pp. 2619-2622.
Griffin, Christopher — Penn State Univ.

11:00-11:20 ThA07.6
Diagnosability of Stochastic Chemical Kinetic Systems: A Discrete Event Systems Approach, pp. 2623-2630.
Thorsley, David — Univ. of Washington

ThA08 — Laurel A
Data Storage Systems (Tutorial Session)

Chair: Messner, William — Carnegie Mellon Univ.
Co-Chair: Horowitz, Roberto — Univ. of California, Berkeley

09:20-10:00 ThA08.1
Control Design of Concentric Self-Servo Track Writing Systems for Hard Disk Drives (I), pp. 2631-2640.
Nie, Jianbin — Univ. of California, Berkeley
Horowitz, Roberto — Univ. of California at Berkeley

10:00-10:20 ThA08.2
Optimal Plant Shaping for High Bandwidth Disturbance Rejection in Discrete Disturbance Observers, pp. 2641-2646.
Chen, Xu — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California, Berkeley

10:20-10:40 ThA08.3
Two-Stage Design of Multirate Hinfinity Optimal Controllers, pp. 2647-2652.
López-López, Sergio — Univ. of California, Irvine
Sideris, Athanasios — Univ. of California at Irvine
Yu, Jie — Western Digital Corp.

10:40-11:00 ThA08.4
Active Tape Edge Position Control System Using a Complex Proportional-Integral-Lead Compensator, pp. 2653-2658.
Kim, Man seong — Carnegie Mellon Univ.
Gentilini, Iacopo — Carnegie Mellon Univ.
Messner, William — Carnegie Mellon Univ.

11:00-11:20 ThA08.5
Loop-Shaping Controller Design with the RBode Plot for Hard Disk Drives, pp. 2659-2664.
Atsumi, Takenori — Hitachi, Ltd.
Messner, William — Carnegie Mellon Univ.

ThA09 — Laurel B
Stability Analysis I (Regular Session)

Chair: Postlethwaite, Ian — Univ. of Leicester
Co-Chair: Michel, Anthony N. — Univ. of Notre Dame

09:20-09:40 ThA09.1
Global Stability for Systems with Nested Backlash and Saturation Operators, pp. 2665-2670.
Tarbouriech, Sophie — LAAS-CNRS
Prieur, Christophe — LAAS-CNRS
Queinnec, Isabelle — LAAS-CNRS
Simoes dos Santos, Talia — Univ. of Campinas

09:40-10:00 ThA09.2
L2 Gain Bounds for Systems with Slope-Restricted Nonlinearities, pp. 2671-2676.
Turner, Matthew C. — Univ. of Leicester
Kerr, Murray Lawrence — Deimos Space
Postlethwaite, Ian — Northumbria Univ.
Sofrony, Jorge Ivan — Univ. Nacional de Colombia

10:00-10:20 ThA09.3
Absolute Stability of Lur'e Singularly Perturbed Systems with Multiple Nonlinearities, pp. 2677-2681.
Yang, Chunyu — Northeastern Univ.
Zhang, Qingling — Northeastern Univ.
Chou, Jyh-Horng — National Kaohsiung First Univ. of ScienceandTechnology
Zhang, Yingwei — Northeastern Univ.

10:20-10:40 ThA09.4
Stability Results for Finite-Dimensional Discrete-Time Dynamical Systems Involving Non-Monotonic Lyapunov Functions, pp. 2682-2687.
Michel, Anthony N. — Univ. of Notre Dame
Hou, Ling — St. Cloud State Univ.

10:40-11:00 ThA09.5
Stability Analysis and State Feedback Control Design of Discrete-Time Systems with a Backlash, pp. 2688-2693.
Prieur, Christophe — LAAS-CNRS
Oliveira, Ricardo C. L. F. — Univ. of Campinas
Tarbouriech, Sophie — LAAS-CNRS
Peres, Pedro L. D. — Univ. of Campinas

ThA10 Laurel C

Model Reduction (Regular Session)

Chair: Kerrigan, Eric C. — Imperial Coll. London
Co-Chair: Westwick, David — Univ. of Calgary

09:20-09:40 ThA10.1

A Convex Method for Selecting Optimal Laguerre Filter Banks in System Modelling and Identification, pp. 2694-2699.

Dankers, Arne — Univ. of Calgary
Westwick, David — Univ. of Calgary

09:40-10:00 ThA10.2

Model Reduction of Nonlinear Systems: Tangent Space Approach, pp. 2700-2705.

Vaidya, Umesh — Iowa State Univ.
Hagen, Gregory — United Tech. Res. Center

10:00-10:20 ThA10.3

Nonlinear Cause-Effect Analysis for a Second Order System Using Volterra Kernels, pp. 2706-2711.

Omran, Ashraf — Old Dominion Univ.
Newman, Brett — Old Dominion Univ.

10:20-10:40 ThA10.4

A Framework for Reduced Order Modeling with Mixed Moment Matching and Peak Error Objectives, pp. 2712-2717.

Santarelli, Keith — Sandia National Lab.

10:40-11:00 ThA10.5

Model Reduction of Homogeneous-In-The-State Bilinear Systems with Input Constraints, pp. 2718-2723.

Couchman, Ian — Imperial Coll.
Kerrigan, Eric C. — Imperial Coll. London
Bohm, Christoph — Univ. of Stuttgart

11:00-11:20 ThA10.6

The Best Optimal Hankel-Norm Approximation of Railway Active Wheelset Models, pp. 2724-2729.

Young, Jieh-Shian — National Changhwa Univ. of Education

ThA11 Grand Ballroom I

Control Applications I (Regular Session)

Chair: Stefanovic, Margareta — Univ. of Wyoming
Co-Chair: Garg, Devendra P. — Duke Univ.

09:20-09:40 ThA11.1

LQG Control of an Optical Squeezer, pp. 2730-2735.

Sayed Hassen, Sayed Z. — Univ. of New South Wales at the Australian Defence Force Ac
Petersen, Ian R. — UNSW at Australian Def. Force Acad.
Huntington, Elanor — Univ. of New South Wales
Heurs, Michele — Univ. of New South Wales
James, Matthew R. — Australian National Univ.

09:40-10:00 ThA11.2

A Time-Varying Kalman Filter Approach to Integral LQG Frequency Locking of an Optical Cavity, pp. 2736-2741.

Sayed Hassen, Sayed Z. — Univ. of New South Wales at the Australian Defence Force Ac
Petersen, Ian R. — UNSW at Australian Def. Force Acad.

10:00-10:20 ThA11.3

Discrimination and Tracking of Individual Agents in a Swarm of Robots, pp. 2742-2747.

Fricke, Gregory — Duke Univ.
Garg, Devendra P. — Duke Univ.

10:20-10:40 ThA11.4

Automotive Transmission Clutch Fill Optimal Control: An Experimental Investigation (I), pp. 2748-2753.

Song, Xingyong — Univ. of Minnesota, Twin Cities
Mohd Zulkefli, Mohd Azrin — Univ. of Minnesota, Twin Cities Campus
Sun, Zongxuan — Univ. of Minnesota

10:40-11:00 ThA11.5

Proposal of Surface Topography Observer Considering Z-Scanner for High-Speed AFM (I), pp. 2754-2759.

Shiraishi, Takayuki — Yokohama National Univ.
Fujimoto, Hiroshi — Yokohama National Univ.

ThA12 Grand Ballroom II

Wind Power (Tutorial Session)

Chair: Balas, Mark — Univ. of Wyoming
Co-Chair: Thomsen, Sven Creutz — Tech. Univ. of Denmark

09:20-10:00 ThA12.1

Augmented Adaptive Control of a Wind Turbine in the Presence of Structural Modes (I), pp. 2760-2765.

Frost, Susan — NASA Ames Res. Center
Balas, Mark — Univ. of Wyoming
Wright, Alan — National Renewable Energy Lab.

10:00-10:20 ThA12.2

*Model Based Fault Diagnosis Method for Wind Turbine Hydraulic Pitching Systems**. (Not Available)

Wu, Xin — Univ. of Wisconsin, Milwaukee
Li, Yaoyu — Univ. of Wisconsin-Milwaukee
Yang, Zhongzhou — Univ. of Wisconsin-Milwaukee
Lu, Bin — Eaton Corp. Innovation Center

10:20-10:40 ThA12.3
Sensorless Adaptive Observer of Wind Synchronous Generator, pp. 2766-2771.
El Magri, Abdelmounime — EMI
Giri, Fouad — Univ. de Caen
Abouloifa, Abdelmajid — EMI
Elfadili, Abderrahim — mohamed V
Dugard, Luc — CNRS-INPG

10:40-11:00 ThA12.4
Stochastic Wind Turbine Control in Multiblade Coordinates, pp. 2772-2777.
Thomsen, Sven Creutz — Tech. Univ. of Denmark
Niemann, Henrik — Tech. Univ. of Denmark
Poulsen, Niels Kjřlstad — Tech. Univ. of Denmark

11:00-11:20 ThA12.5
Multiple Model MIMO Predictive Control for Variable Speed Variable Pitch Wind Turbines, pp. 2778-2784.
Soliman, Mostafa — UofC
Malik, O.P. — The Univ. of Calgary
Westwick, David — Univ. of Calgary

ThA13 — Grand Ballroom III
Biomedical Robotics (Regular Session)

Chair: Agrawal, Sunil K. — Univ. of Delaware
Co-Chair: Cortesao, Rui — Univ. of Coimbra

09:20-09:40 ThA13.1
Accelerated Needle Steering Using Partitioned Value Iteration, pp. 2785-2790.
Asadian, Ali — Univ. of Western Ontario
Kermani, Mehrdad R. — Univ. of Western Ontario
Patel, Rajni — Univ. of Western Ontario

09:40-10:00 ThA13.2
Stable Teleoperation with Communication Unreliabilities and Partial Human/Environment Knowledge, pp. 2791-2796.
Vittorias, Iason — Tech. Univ. München
Hirche, Sandra — Tech. Univ. München

10:00-10:20 ThA13.3
Feedback-Based Simultaneous Detection of Two Resonance Frequencies of a Minimally-Invasive-Surgery Instrument, pp. 2797-2798.
Heydari Araghi, Morteza — Univ. of Western Ontario
Salisbury, Shaun — Univ. of Western Ontario

10:20-10:40 ThA13.4
Walk-Assist Robot: A Novel Approach to Gain Selection of a Braking Controller Using Differential Flatness, pp. 2799-2804.
Ko, Chun-Hsu — I-Shou Univ.
Agrawal, Sunil K. — Univ. of Delaware

10:40-11:00 ThA13.5
Active Impedance Control Design for Human-Robot Comanipulation, pp. 2805-2810.
Cortesao, Rui — Univ. of Coimbra
Sousa, Cristóvão — Inst. of Systems and Robotics
Queirós, Pedro Luís Rodrigues de — Univ. of Coimbra

11:00-11:20 ThA13.6
Robust Adaptive Control of a Micro Telemanipulation System Using Sliding Mode-Based Force Estimation, pp. 2811-2816.
Motamedi, Mohammad — Amirkabir Univ. of Tech.
Vossoughi, Gholamreza — Sharif Univ. of Tech.
Ahmadian, Mohammad Taghi — Sharif Univ. of Tech.
Rezaei, Seyed Mehdi — Amirkabir Univ. of Tech.
Zareinejad, Mohammad — Amirkabir Univ. of Tech. Tehran Iran
Saadat, Mozafar — The Univ. of Birmingham

ThA14 — Grand Ballroom IV
Control and Monitoring of Networked Process Systems (Invited Session)

Chair: El-Farra, Nael H. — Univ. of California, Davis
Co-Chair: Mhaskar, Prashant — McMaster Univ.
Organizer: El-Farra, Nael H. — Univ. of California, Davis
Organizer: Mhaskar, Prashant — McMaster Univ.

09:20-09:40 ThA14.1
Measure of Disagreement of Spatially Distributed Filters for Distributed Parameter Systems (I), pp. 2817-2822.
Demetriou, Michael A. — Worcester Pol. Inst.

09:40-10:00 ThA14.2
Generalized Reduction Constraints for the Global Optimization of Dynamic Process Networks Using Topological Invariants (I), pp. 2823-2828.

Wartmann, Michael R. — Carnegie Mellon Univ.
Heirung, Tor Aksel Notland — Carnegie Mellon Univ.
Ruiz, Juan Pablo — Carnegie Mellon Univ.
Ydstie, B. Erik — Carnegie Mellon

10:00-10:20 ThA14.3
Uniting Safe-Parking and Reconfiguration-Based Approaches for Fault-Tolerant Control of Switched Nonlinear Systems (I), pp. 2829-2834.
Du, Miao — McMaster Univ.
Mhaskar, Prashant — McMaster Univ.

10:20-10:40 ThA14.4
Dynamics and Control of Energy Integrated Distillation Column Networks (I), pp. 2835-2840.
Jogwar, Sujit S. — Univ. of Minnesota
Daoutidis, Prodromos — Univ. of Minnesota

10:40-11:00 ThA14.5
Quasi-Decentralized Networked Process Control Using an Adaptive Communication Policy (I), pp. 2841-2846.
Sun, Yulei — Univ. of California, Davis
El-Farra, Nael H. — Univ. of California, Davis

11:00-11:20 ThA14.6
Monitoring and Handling of Actuator Faults in a Distributed Model Predictive Control System (I), pp. 2847-2854.
Chilin, David — Univ. of California, Los Angeles
Liu, Jinfeng — Univ. of California, Los Angeles
Muńoz de la Peńa, David — Univ. de Sevilla
Christofides, Panagiotis D. — Univ. of California at Los Angeles
Davis, James F. — UCLA

ThA15 — Grand Ballroom VII
Spacecraft Control I (Regular Session)

Chair: Vedula, Prakash — Univ. of Oklahoma
Co-Chair: Hall, Jason — US Navy

09:20-09:40 ThA15.1
A Direct Quadrature Based Nonlinear Filtering with Extended Kalman Filter Update for Orbit Determination, pp. 2855-2860.
Yoon, Jangho — Univ. of Oklahoma
Xu, Yunjun — Univ. of Central Florida
Vedula, Prakash — Univ. of Oklahoma

09:40-10:00 ThA15.2
Attitude Feedback Tracking with Optimal Attitude State Estimation, pp. 2861-2866.
Nordkvist, Nikolaj — Univ. of Hawaii at Manoa
Sanyal, Amit — Univ. of Hawaii at Manoa

10:00-10:20 ThA15.3
Quaternion Feedback Regulator for Large Angle Maneuvers of Underactuated Spacecraft, pp. 2867-2872.
Hall, Jason — US Navy
Romano, Marcello — Naval Postgraduate School
Cristi, Roberto — Naval Postgraduate School

10:20-10:40 ThA15.4
Sparse Gauss-Hermite Quadrature Filter for Spacecraft Attitude Estimation, pp. 2873-2878.
Jia, Bin — Mississippi State Univ.
Xin, Ming — Mississippi State Univ.
Cheng, Yang — Mississippi State Univ.

10:40-11:00 ThA15.5
Slewing and Vibration Control of a Nonlinear Flexible Spacecraft, pp. 2879-2884.
Malekzadeh, Maryam — amirkabir
Naghash, Abolghasem — amirkabir Univ.
Talebi, H.A. — Amirkabir Univ.

11:00-11:20 ThA15.6
Distributed Finite-Time Containment Control for Multiple Lagrangian Systems, pp. 2885-2890.
Meng, Ziyang — Tsinghua Univ.
Ren, Wei — Utah State Univ.
You, Zheng — Tsinghua Univ.

ThA16 — Grand Ballroom VIII
Mobile Sensor Networks (Regular Session)

Chair: Du, Liang — Georgia Inst. of Tech.
Co-Chair: Zhang, Fumin — Georgia Inst. of Tech.

09:20-09:40 ThA16.1
Coverage Control in an Isotropic Gaussian Mixture Environment, pp. 2891-2896.
Du, Liang — Georgia Inst. of Tech.
Liu, Wei — Purdue Univ.

09:40-10:00 ThA16.2
Stochastic Adaptive Sampling for Mobile Sensor Networks Using Kernel Regression, pp. 2897-2902.
Xu, Yunfei — Michigan State Univ.

Choi, Jongeun — Michigan State Univ.

10:00-10:20 — ThA16.3

Decentralized Control of Mobile Sensor Networks for Triangular Blanket Coverage, pp. 2903-2908.

Cheng, Teddy M. — Univ. of New South Wales
Savkin, Andrey — Univ. of New South Wales

10:20-10:40 — ThA16.4

Curvature Based Cooperative Exploration of Three Dimensional Scalar Fields, pp. 2909-2914.

Wencen, Wu — Georgia Inst. of Tech.
Zhang, Fumin — Georgia Inst. of Tech.

10:40-11:00 — ThA16.5

Dynamic Plume Tracking Using Mobile Sensors, pp. 2915-2920.

Sahyoun, Samir — Univ. of Tennessee
Djouadi, Seddik, M. — Univ. of Tennessee
Qi, Hairong — Univ. of Tennessee

11:00-11:20 — ThA16.6

Optimal Target Tracking Strategy with Controlled Node Mobility in Mobile Sensor Networks, pp. 2921-2928.

Mahboobi Baghdad Abad, Hamid — Concordia Univ.
Momeni, Ahmadreza — Concordia Univ.
Aghdam, Amir G. — Concordia Univ.
Sayrafian-Pour, Kamran — National Inst. of Standard & Tech.
Marbukh, Vladimir — National Inst. of Standards and Tech.

ThA17 — Grand Ballroom IX

Linear Identification (Regular Session)

Chair: Akcay, Huseyin — Anadolu Univ.
Co-Chair: Mohan, Karthik — Univ. of Washington

09:20-09:40 — ThA17.1

Input Richness and Zero Buffering in Time-Domain Identification, pp. 2929-2934.

Holzel, Matthew — Univ. of Michigan
Ali, Asad — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

09:40-10:00 — ThA17.2

Rational Interpolation from Phase Data by Subspace Methods, pp. 2935-2940.

Akcay, Huseyin — Anadolu Univ.

10:00-10:20 — ThA17.3

Subspace Identification of Combined Deterministic-Stochastic Systems by LQ Decomposition, pp. 2941-2946.

Katayama, Tohru — Doshisha Univ.

10:20-10:40 — ThA17.4

System Identification of Spatiotemporally Invariant Systems, pp. 2947-2952.

Sarwar, Azeem — Univ. of Illinois, Urbana Champaign
Voulgaris, Petros G. — Univ. of Illinois, Urbana-Champaign
Salapaka, Srinivasa — Univ. of Illinois

10:40-11:00 — ThA17.5

Reweighted Nuclear Norm Minimization with Application to System Identification, pp. 2953-2959.

Fazel, Maryam — Univ. of Washington
Mohan, Karthik — Univ. of Washington

11:00-11:20 — ThA17.6

Finite-Time Parameter Identification Via High-Order Sliding Mode Observer, pp. 2960-2964.

Davila Montoya, Jorge Angel — National Autonomous Univ. of Mexico (Univ. Au
Basin, Michael V. — Autonomous Univ. of Nuevo Leon
Fridman, Leonid M. — National Autonomous Univ.

ThA18 — Grand Ballroom X

Fluid Systems I (Regular Session)

Chair: Ben Amara, Foued — Univ. of Toronto
Co-Chair: Wen, John T. — Rensselaer Pol. Inst.

09:20-09:40 — ThA18.1

When Fish Moonwalk, pp. 2965-2970.

Chambrion, Thomas — Univ. of Nancy
Munnier, Alexandre — The Univ. of British Columbia

09:40-10:00 — ThA18.2

Stability Analysis of Fluid Flows Using Sum-Of-Squares, pp. 2971-2976.

Goulart, Paul J. — Imperial Coll. London
Chernyshenko, Sergei — Imperial Coll. London

10:00-10:20 — ThA18.3

Magnetic Fluid Deformable Mirror Shape Control with a Multivariable PID Controller, pp. 2977-2982.

Wu, Zhizheng — Shanghai Univ.
Iqbal, Azhar — Univ. of Toronto
Ben Amara, Foued — Univ. of Toronto

10:20-10:40 ThA18.4

Flood Control of Rivers with Model Predictive Control – Proof of Concept Based on the River Demer in Belgium –, pp. 2983-2988.

Breckpot, Maarten — Katholieke Univ. Leuven
Barjas Blanco, Toni — Katholieke Univ. Leuven
De Moor, Bart L.R. — Katholieke Univ. Leuven

10:40-11:00 ThA18.5

Low-Order Nonlinear Models for Active Flow Control of a Low L/D Inlet Duct, pp. 2989-2994.

Ge, Xiaoqing — Rensselaer Pol. Inst.
Gressick, William — Barron Associates Inc.
Wen, John T. — Rensselaer Pol. Inst.
Sahni, Onkar — Rensselaer Pol. Inst.
Jansen, Kenneth E. — Univ. of Colorado at Boulder

11:00-11:20 ThA18.6

Model-Based Control of Slugging Flow: An Experimental Case Study, pp. 2995-3002.

Di Meglio, Florent — MINES ParisTech
Kaasa, Glenn-Ole — Statoil ASA
Petit, Nicolas — MINES ParisTech
Alstad, VIdar — Statoil ASA

ThA19 — Dover A

Diesel Engine and Emission Control (Invited Session)

Chair: Wang, Junmin — Ohio State Univ.
Co-Chair: Karnik, Amey — Ford Motor Company
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Wang, Junmin — Ohio State Univ.
Organizer: Karnik, Amey — Ford Motor Company
Organizer: Onori, Simona — Ohio State Univ.
Organizer: Marano, Vincenzo — The Ohio State Univ.

09:20-09:40 ThA19.1

Staircase Ammonia Coverage Ratio Profile Control for Diesel Engine Two-Cell Selective Catalytic Reduction Systems (I), pp. 3003-3008.

Hsieh, Ming Feng — The Ohio State Univ. Center for Automotive Res.
Wang, Junmin — Ohio State Univ.

09:40-10:00 ThA19.2

Dynamic Exhaust Oxygen Based Biodiesel Blend Estimation with an Extended Kalman Filter (I), pp. 3009-3014.

Snyder, David — Purdue Univ.
Adi, Gayatri — Purdue Univ.
Bunce, Michael — Purdue Univ.
Hall, Carrie — Purdue Univ.
Shaver, Gregory M. — Purdue Univ.

10:00-10:20 ThA19.3

Dynamic Mapping of Diesel Engine through System Identification (I), pp. 3015-3020.

Karlsson, Maria — Lund Univ.
Ekholm, Kent — Lund Univ.
Strandh, Petter — Lund Univ.
Johansson, Rolf — Lund Univ.
TunestÍl, Per — Lund Univ. Faculty of Engineering

10:20-10:40 ThA19.4

Biodiesel Blend Estimation Based on Fuel Consumption and Engine Power (I), pp. 3021-3026.

Mirheidari, Seyedrooholah — Univ. of Houston
Mohammadpour, Javad — Univ. of Houston
Grigoriadis, Karolos M. — Univ. of Houston
Franchek, Matthew A. — Univ. of Houston

10:40-11:00 ThA19.5

An Adaptive Control Strategy for Urea-SCR Aftertreatment System (I), pp. 3027-3032.

Meisami-Azad, Mona — Univ. of Houston
Mohammadpour, Javad — Univ. of Houston
Grigoriadis, Karolos M. — Univ. of Houston
Harold, Michael — Univ. of Houston

11:00-11:20 ThA19.6

An Extended Kalman Filter for NOx Sensor Ammonia Cross-Sensitivity Elimination in Selective Catalytic Reduction Applications, pp. 3033-3038.

Hsieh, Ming Feng — The Ohio State Univ. Center for Automotive Res.
Wang, Junmin — Ohio State Univ.

ThA20 — Dover B

Multivehicle Trajectory Optimization (Invited Session)

Chair: Le Ny, Jerome — Univ. of Pennsylvania
Co-Chair: Pappas, George J. — Univ. of Pennsylvania
Organizer: Le Ny, Jerome — Univ. of Pennsylvania
Organizer: Pappas, George J. — Univ. of Pennsylvania

09:20-09:40 ThA20.1
On the Transfer Time Complexity of Cooperative Vehicle Routing (I), pp. 3039-3044.
Spieser, Kevin — Massachusetts Inst. of Tech.
Dimarogonas, Dimos V. — Massachusetts Inst. of Tech.
Frazzoli, Emilio — Massachusetts Inst. of Tech.

09:40-10:00 ThA20.2
Hamilton-Jacobi Formulation for Reach-Avoid Problems with an Application to Air Traffic Management (I), pp. 3045-3050.
Margellos, Kostas — ETH Zurich
Lygeros, John — ETH Zurich

10:00-10:20 ThA20.3
Collision Avoidance and Trajectory Tracking Control Based on Approximations of the Maximum Function (I), pp. 3051-3056.
Mejia, Juan — Univ. of Illinois
Srivastava, Kunal — Univ. of Illinois, Urbana-Champaign
Stipanovic, Dusan M. — Univ. of Illinois, Urbana-Champaign

10:20-10:40 ThA20.4
Decentralized Task Allocation for Heterogeneous Teams with Cooperation Constraints (I), pp. 3057-3062.
Choi, Han-Lim — MIT
Whitten, Andrew K. — MIT
How, Jonathan P. — MIT

10:40-11:00 ThA20.5
Determining Bounds on Controller Workload Rates at an Intersection (I), pp. 3063-3068.
Vela, Adan — Georgia Inst. of Tech.
Salaün, Erwan — Georgia Inst. of Tech.
Gariel, Maxime — Georgia Inst. of Tech.
Feron, Eric — Georgia Tech.
Clarke, John-Paul — Georgia Tech.
Singhose, William — Georgia Inst. of Tech.

11:00-11:20 ThA20.6
Geometric Programming and Mechanism Design for Air Traffic Conflict Resolution (I), pp. 3069-3074.
Le Ny, Jerome — Univ. of Pennsylvania
Pappas, George J. — Univ. of Pennsylvania

ThA21 — Dover C
Linear Parameter Varying Systems (Regular Session)

Chair: Sato, Masayuki — Japan Aerospace Exploration Agency
Co-Chair: Lovera, Marco — Pol. di Milano

09:20-09:40 ThA21.1
Robust Gain-Scheduled Control, pp. 3075-3081.
Hencey, Brandon — Cornell Univ.
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

09:40-10:00 ThA21.2
Frequency Domain Model Reduction Method for Parameter-Dependent Systems, pp. 3082-3087.
Sootla, Aivar — Lund Univ.
Sou, Kin Cheong — Lund Univ.

10:00-10:20 ThA21.3
Gain-Scheduled H_{infty} Filters Using Inexactly Measured Scheduling Parameters, pp. 3088-3093.
Sato, Masayuki — Japan Aerospace Exploration Agency

10:20-10:40 ThA21.4
Gain-Scheduled State-Feedback Controllers Using Inexactly Measured Scheduling Parameters: H_2 and H_{infty} Problems, pp. 3094-3099.
Sato, Masayuki — Japan Aerospace Exploration Agency
Ebihara, Yoshio — Kyoto Univ.
Peaucelle, Dimitri — LAAS-CNRS, Univ. de Toulouse

10:40-11:00 ThA21.5
Closed-Loop Identification of LPV Models Using Cubic Splines with Application to an Arm-Driven Inverted Pendulum, pp. 3100-3105.
Boonto, Sudchai — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

11:00-11:20 ThA21.6
Linear Parametrically Varying MPC for Combined Quality of Service and Energy Management in Web Service Systems, pp. 3106-3111.
Poussot-Vassal, Charles — ONERA
Tanelli, Mara — Pol. di Milano
Lovera, Marco — Pol. di Milano

ThA22 — Laurel D
Uncertainty Characterization and Management in Dynamical Systems (Invited Session)

Chair: Singla, Puneet — Univ. at Buffalo
Co-Chair: Bhattacharya, Raktim — Texas A&M
Organizer: Singla, Puneet — Univ. at Buffalo
Organizer: Bhattacharya, Raktim — Texas A&M

09:20-09:40 ThA22.1
Uncertainty Propagation for Efficient Model-Based Control Solutions, pp. 3112-3117.
Chen, Yingying(Sophia) Texas Tech. Univ.
Hoo, Karlene Texas Tech. Univ.

09:40-10:00 ThA22.2
State Uncertainty Propagation in the Presence of Parametric Uncertainty and Additive White Noise (I), pp. 3118-3123.
Konda, Umamaheswara Univ. at Buffalo
Singla, Puneet Univ. at Buffalo
Singh, Tarunraj State Univ. of New York at Buffalo
Scott, Peter Univ. at Buffalo

10:00-10:20 ThA22.3
Stochastic Hybrid Systems with Renewal Transitions (I), pp. 3124-3129.
Antunes, Duarte Inst. Superior Tecnico, Lisbon
Hespanha, Joao P. Univ. of California, Santa Barbara
Silvestre, Carlos Inst. Superior Tecnico

10:20-10:40 ThA22.4
An Integrated Approach to Occupancy Modeling and Estimation in Commercial Buildings (I), pp. 3130-3135.
Liao, Chenda Univ. of Florida
Barooah, Prabir Univ. of Florida

10:40-11:00 ThA22.5
A Nonlinear Filter Based on Fokker-Planck Equation (I), pp. 3136-3141.
Kumar, Mrinal Texas A&M Univ.
Chakravorty, Suman Texas A&M Univ.

11:00-11:20 ThA22.6
Nonlinear Estimation with Polynomial Chaos and Higher Order Moment Updates (I), pp. 3142-3147.
Dutta, Parikshit Texas A&M Univ.
Bhattacharya, Raktim Texas A&M

ThB01 Harborside Ballroom A
Distributed Model Predictive Control (Regular Session)

Chair: Farina, Marcello Pol. di Milano
Co-Chair: Savkovic, Borislav The Univ. of New South Wales

13:40-14:00 ThB01.1
Sequential and Iterative Architectures for Distributed Model Predictive Control of Nonlinear Process Systems. Part I: Theory, pp. 3148-3155.
Liu, Jinfeng Univ. of California, Los Angeles
Chen, Xianzhong Univ. of California, Los Angeles
Muńoz de la Peńa, David Univ. de Sevilla
Christofides, Panagiotis D. Univ. of California at Los Angeles

14:00-14:20 ThB01.2
Sequential and Iterative Architectures for Distributed Model Predictive Control of Nonlinear Process Systems. Part II: Application to a Catalytic Alkylation of Benzene Process, pp. 3156-3161.
Liu, Jinfeng Univ. of California, Los Angeles
Chen, Xianzhong Univ. of California, Los Angeles
Muńoz de la Peńa, David Univ. de Sevilla
Christofides, Panagiotis D. Univ. of California at Los Angeles

14:20-14:40 ThB01.3
Time-Variant Robust Model Predictive Control under Limited Capacity Communication Constraints, pp. 3162-3167.
Savkovic, Borislav The Univ. of New South Wales

14:40-15:00 ThB01.4
Negotiation and Learning in Distributed MPC of Large Scale Systems, pp. 3168-3173.
Javalera Rincón, Valeria Univ. Pol. de Cataluńa (UPC)
Morcego, Bernardo Univ. Pol. de Catalunya
Puig, Vicenc Univ. Pol. de Catalunya

15:00-15:20 ThB01.5
Distributed Model Predictive Control for Building Temperature Regulation, pp. 3174-3179.
Moro_;an, Petru-Daniel SUPELEC
Bourdais, Romain SUPELEC
Dumur, Didier Ec. Superieure d'Electricite
Buisson, Jean Supélec

15:20-15:40 ThB01.6
State Estimation for Large-Scale Partitioned Systems: A Moving Horizon Approach (I), pp. 3180-3185.
Farina, Marcello Pol. di Milano
Ferrari-Trecate, Giancarlo Univ. degli Studi di Pavia
Scattolini, Riccardo Pol. di Milano

ThB02 Harborside Ballroom B
Agent-Based Systems I (Regular Session)

Chair: Freeman, Randy Northwestern Univ.

Co-Chair: Tonetti, Stefania — Pol. di Milano

13:40-14:00 — ThB02.1

Collision-Free Motion Coordination of Unicycle Multi-Agent Systems, pp. 3186-3191.

Kostic, Dragan — Tech. Univ. Eindhoven
Adinandra, Sisdarmanto — Eindhoven Univ. of Tech.
Caarls, Jurjen — Tech. Univ. of Eindhoven
Nijmeijer, Hendrik — Eindhoven Univ. of Tech.

14:00-14:20 — ThB02.2

A Hyperparameter-Based Approach for Consensus under Uncertainties, pp. 3192-3197.

Fraser, Cameron Scott Reidlinger — MIT
Bertuccelli, Luca F. — Massachusetts Inst. of Tech.
Choi, Han-Lim — MIT
How, Jonathan P. — MIT

14:20-14:40 — ThB02.3

A Complete Characterization of a Class of Robust Linear Average Consensus Protocols, pp. 3198-3203.

Freeman, Randy — Northwestern Univ.
Nelson, Thomas — Northwestern Univ.
Lynch, Kevin M. — Northwestern Univ.

14:40-15:00 — ThB02.4

An Investigation of Guarding a Territory Problem in a Grid World, pp. 3204-3210.

Lu, Xiaosong — Carleton Univ.
Schwartz, Howard M. — Carleton Univ.

15:00-15:20 — ThB02.5

Optimal Trajectories of Mobile Remote Sensors for Parameter Estimation in Distributed Cyber-Physical Systems, pp. 3211-3216.

Tricaud, Christophe — Utah State Univ.
Chen, YangQuan — Utah State Univ.

15:20-15:40 — ThB02.6

Limits on the Network Sensitivity Function for Homogeneous Multi-Agent Systems on a Graph, pp. 3217-3222.

Tonetti, Stefania — Pol. di Milano
Murray, Richard M. — California Inst. of Tech.

ThB03 — Harborside Ballroom D

Adaptive Control V (Regular Session)

Chair: Araujo, Aldayr Dantas de — Federal Univ. of Rio Grande do Norte
Co-Chair: Tao, Gang — Univ. of Virginia

13:40-14:00 — ThB03.1

Robust Asymptotic Tracking of a Class of Nonlinear Systems Using an Adaptive Critic Based Controller, pp. 3223-3228.

Bhasin, Shubhendu — Univ. of Florida
Sharma, Nitin — Univ. of Florida
Patre, Parag — NASA Langley Res. Center
Dixon, Warren E. — Univ. of Florida

14:00-14:20 — ThB03.2

Output Feedback MIMO MRAC Schemes with Sensor Uncertainty Compensation, pp. 3229-3234.

Li, Shanshan — Univ. of Virginia
Tao, Gang — Univ. of Virginia

14:20-14:40 — ThB03.3

Indirect Adaptive Control of Spatially Invariant Systems, pp. 3235-3240.

Sarwar, Azeem — Univ. of Illinois, Urbana Champaign
Voulgaris, Petros G. — Univ. of Illinois, Urbana-Champaign
Salapaka, Srinivasa — Univ. of Illinois

14:40-15:00 — ThB03.4

Variable Structure Adaptive Backstepping Controller for Plants with Arbitrary Relative Degree Based on Modular Design, pp. 3241-3246.

Queiroz, Kurios Iuri — Inst. Federal de Educação, Ciencia e Tecnologia do Rio Grand
Araujo, Aldayr Dantas de — Federal Univ. of Rio Grande do Norte
Fernandes, Marcus Vinicius Araújo — Inst. Federal de Educação, Ciencia e Tecnologia do Rio Grand
Dias, Samaherni — Federal Univ. of Rio Grande do Norte
Oliveira, Josenalde, Barbosa — Agricultural School of Jundiaí

15:00-15:20 — ThB03.5

Robustness of L1 Adaptive Controllers in the Gap Metric, pp. 3247-3252.

Li, Dapeng — Unniversity of Illinois
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign
Georgiou, Tryphon T. — Univ. of Minnesota

ThB04 — Harborside Ballroom E

Switched Systems III (Regular Session)

Chair: Colaneri, Patrizio — Pol. di Milano
Co-Chair: Brown, Lyndon J. — Univ. of Western Ontario

13:40-14:00 — ThB04.1

A Multiple Lyapunov Functions Approach for Stability of Switched Systems, pp. 3253-3256.

Lu, Jin — The Univ. of Western Ontario
Brown, Lyndon J. — Univ. of Western Ontario

14:00-14:20 — ThB04.2
Stability Analysis of a Proportional with Intermittent Integral Control System, pp. 3257-3262.
Lu, Jin — The Univ. of Western Ontario
Brown, Lyndon J. — Univ. of Western Ontario

14:20-14:40 — ThB04.3
Frequency Identification of Wiener Systems Containing Nonparametric Memory Switch Operator, pp. 3263-3268.
Rochdi, Youssef — LSET
Giri, Fouad — Univ. de Caen
Chaoui, F.Z. — ENSET
Brouri, Adil — EMI

14:40-15:00 — ThB04.4
Robust State Feedback Stabilization of Uncertain Switched Linear Systems Subject to Actuator Saturation, pp. 3269-3274.
Zhang, Xinquan — Northeastern Univ.
Zhao, Jun — The Australian National Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul
Ma, Ruicheng — Northeastern Univ.

15:00-15:20 — ThB04.5
Stabilization of Continuous-Time Switched Linear Positive Systems, pp. 3275-3280.
Zappavigna, Annalisa — Pol. di Milano
Colaneri, Patrizio — Pol. di Milano
Geromel, Jose C. — UNICAMP
Middleton, Richard H. — National Univ. of Ireland Maynooth

15:20-15:40 — ThB04.6
Stabilization of Switched Linear Systems with Wiener Process Disturbances, pp. 3281-3286.
Raouf, Jamila — McGill Univ.
Michalska, Hannah H. — McGill Univ.

ThB05 — Essex A
Power Systems IV (Regular Session)

Chair: Giri, Fouad — Univ. de Caen
Co-Chair: Li, Perry Y. — Univ. of Minnesota

13:40-14:00 — ThB05.1
Nonlinear Adaptive Output Feedback Control of Series Resonant Dc-Dc Converters, pp. 3287-3292.
EL maguiri, Ouadia — EMI,MOROCCO
Giri, Fouad — Univ. de Caen
El Fadil, Hassan — EMI
Chaoui, F.Z. — ENSET
Dugard, Luc — CNRS-INPG

14:00-14:20 — ThB05.2
Decentralized Control of a Line Interactive Uninterruptible Power Supply (UPS), pp. 3293-3298.
Iyer, Shivkumar — Indian Inst. of Tech. Bombay
Belur, Madhu N. — Indian Inst. of Tech. Bombay
Chandorkar, Mukul — Indian Inst. of Tech. Bombay

14:20-14:40 — ThB05.3
Piecewise Affine Modeling and Control of a Step-Up DC-DC Converter, pp. 3299-3304.
Almer, Stefan — ETH Zuerich
Mariethoz, Sebastien — ETH Zurich
Morari, Manfred — ETH Zurich

14:40-15:00 — ThB05.4
Integrated Control and Circuit Design; an Optimization Approach Applied to the Buck Converter, pp. 3305-3310.
Mariethoz, Sebastien — ETH Zurich
Almer, Stefan — ETH Zuerich
Morari, Manfred — ETH Zurich

15:00-15:20 — ThB05.5
Stabilization of the Power Angle of Synchronous Generator Via Robust Second Order Sliding Mode Control, pp. 3311-3316.
Benayache, Rabia — Univ. de Picardie Jules Verne
Chrifi Alaoui, Larbi — UPJV - IUT de l'Aisne
Bussy, Pascal — UPJV

15:20-15:40 — ThB05.6
Independent Metering of Pneumatic Actuator for Passive Human Power Amplification, pp. 3317-3322.
Durbha, Venkat — Univ. of Minnesota, Minneapolis
Li, Perry Y. — Univ. of Minnesota

ThB06 — Essex B
Distributed Parameter Systems II (Regular Session)

Chair: Jovanovic, Mihailo — Univ. of Minnesota
Co-Chair: Werner, Herbert — Hamburg Univ. of Tech.

13:40-14:00 ThB06.1
Modeling Investigation for Thermoacoustic Oscillation Control, pp. 3323-3328.
Yuan, Xiaochuan — Univ. of Cambridge
Glover, Keith — Univ. of Cambridge
Dowling, Ann P. — Univ. of Cambridge

14:00-14:20 ThB06.2
Preventing Transition to Turbulence Using Streamwise Traveling Waves: Theoretical Analysis, pp. 3329-3334.
Moarref, Rashad — Univ. of Minnesota
Jovanovic, Mihailo — Univ. of Minnesota

14:20-14:40 ThB06.3
Preventing Transition to Turbulence Using Streamwise Traveling Waves: Direct Numerical Simulations, pp. 3335-3340.
Lieu, Binh K. — Univ. of Minnesota
Moarref, Rashad — Univ. of Minnesota
Jovanovic, Mihailo — Univ. of Minnesota

14:40-15:00 ThB06.4
Sliding Mode Dirichlet Boundary Stabilization of Uncertain Parabolic PDE Systems with Spatially Varying Coefficients, pp. 3341-3346.
Cheng, Meng-Bi — National Chung Hsing Univ.
Radisavljevic-Gajic, Verica — California State Univ. Los Angeles
Tsai, Tsung-Lin — National Chung-Hsing Univ.
Su, Wu-Chung — National Chung-Hsing Univ.

15:00-15:20 ThB06.5
Mixing Enhancement in 3D MHD Channel Flow by Boundary Electrical Potential Actuation, pp. 3347-3352.
Luo, Lixiang — Lehigh Univ.
Schuster, Eugenio — Lehigh Univ.

ThB07 — Essex C
Discrete Event Systems II (Regular Session)

Chair: Ricker, S. Laurie — Mount Allison Univ.
Co-Chair: Piroddi, Luigi — Pol. di Milano

13:40-14:00 ThB07.1
Polynomial Time Verification of Decentralized Diagnosability of Discrete Event Systems, pp. 3353-3358.
Moreira, Marcos Vicente — Univ. Fed. Rio De Janeiro
Jesus, Thiago Cerqueira — Federal Univ. of Rio de Janeiro
Basilio, Joao Carlos — Univ. Federal de Rio de Janeiro

14:00-14:20 ThB07.2
Decentralized Modular Control of Concurrent Fuzzy Discrete Event Systems, pp. 3359-3364.
Jayasiri, Awantha — Memorial Univ. of Newfoundland
Mann, George K. I. — Memorial Univ. of Newfoundland
Gosine, Raymond G. — Memorial Univ. of Newfoundland

14:20-14:40 ThB07.3
A Reachability Graph Partitioning Technique for the Analysis of Deadlock Prevention Methods in Bounded Petri Nets, pp. 3365-3370.
Fumagalli, Ivano — Pol. di Milano
Piroddi, Luigi — Pol. di Milano
Cordone, Roberto — Univ. degli Studi di Milano

14:40-15:00 ThB07.4
Decentralized Diagnosis of Petri Nets, pp. 3371-3377.
Cabasino, Maria Paola — Univ. of Cagliari
Giua, Alessandro — Univ. di Cagliari
Paoli, Andrea — Univ. of Bologna
Seatzu, Carla — Univ. of Cagliari

15:00-15:20 ThB07.5
Concurrent Program Synthesis Based on Supervisory Control, pp. 3378-3383.
Iordache, Marian — LeTourneau Univ.
Antsaklis, Panos J. — Univ. of Notre Dame

15:20-15:40 ThB07.6
Nash Equilibrium for Communication Protocols in Decentralized Discrete-Event Systems, pp. 3384-3389.
Sadid, Md. Waselul Haque — Concordia Univ.
Ricker, S. Laurie — Mount Allison Univ.
Hashtrudi Zad, Shahin — Concordia Univ.

ThB08 — Laurel A
Mems (Tutorial Session)

Chair: Berg, Jordan M. — Texas Tech. Univ.
Co-Chair: Wu, Neng Eva — Binghamton Univ.

13:40-14:20 ThB08.1
A Literature Review on Modeling and Control Design for Electrostatic Microactuators with Fringing and Squeezed Film Damping Effects (I), pp. 3390-3402.
Vagia, Marialena — Univ. of Patras
Tzes, Anthony — Univ. of Patras

14:20-14:40 ThB08.2
A Gyroscope Control System for Unknown Proof Mass and Interface Circuit Errors, pp. 3403-3408.
Chi, Chien-Yu — National Chiao Tung Univ.
Chen, Tsung-Lin — National Chiao Tung Univ.

14:40-15:00 ThB08.3
Closed-Loop Voltage Control of a Parallel-Plate MEMS Electrostatic Actuator, pp. 3409-3414.
Dong, Lili — Cleveland State Univ.
Edwards, Jason — Cleveland State Univ.

15:00-15:20 ThB08.4
Feasibility Study of a Low-Cost Feedback Damping Scheme for a Micro-Machined Capacitive Microphone, pp. 3415-3422.
Wu, Neng Eva — Binghamton Univ.
Miles, Ron — Binghamton Univ.
Huang, Jianzhuang — Binghamton Univ.

15:20-15:40 ThB08.5
Least-Squares Parameter Estimation Algorithm for a Microelectrothermal Bridge Circuit, pp. 3423-3428.
Stojanovic, Nenad — Texas Tech. Univ.
Berg, Jordan M. — Texas Tech. Univ.
Maithripala, D. H. S. — Univ. of Peradeniya
Holtz, Mark — Texas Tech. Univ.

ThB09 — Laurel B
Stability Analysis II (Regular Session)

Chair: Hagen, Gregory — United Tech. Res. Center
Co-Chair: Sabau, Serban — Univ. of Maryland, Coll. Park

13:40-14:00 ThB09.1
Passivity Based Trajectory Tracking Control with Predefined Local Linear Error Dynamics, pp. 3429-3434.
Kotyczka, Paul — Tech. Univ. Muenchen
Volf, Alexander — Tech. Univ. Muenchen
Lohmann, Boris — Tech. Univ. München

14:00-14:20 ThB09.2
Isomorphism-Based Robust Right Coprime Factorization for Nonlinear Feedback Control Systems Design, pp. 3435-3439.
Bu, Ni — Okayama Univ.
Deng, Mingcong — Okayama Univ.
Yanou, Akira — Kinki Univ.

14:20-14:40 ThB09.3
Factorizations and Partial Contraction of Nonlinear Systems, pp. 3440-3445.
Belabbas, Mohamed Ali — Harvard
Slotine, Jean-Jacques E. — Massachusetts Inst. of Tech.

14:40-15:00 ThB09.4
On the Stability of Sliding Mode Control for a Class of Underactuated Nonlinear Systems, pp. 3446-3451.
Nersesov, Sergey G. — Villanova Univ.
Ashrafiuon, Hashem — Villanova Univ.
Ghorbanian, Parham — Villanova Univ.

15:00-15:20 ThB09.5
State–Space Formulas for the Classes of Omega-Stabilizing Controllers and Closed–Loop Transfer Matrices of a Singular System, pp. 3452-3457.
Oara, Cristian — Univ. Pol. Bucharest
Sabau, Serban — Univ. of Maryland, Coll. Park

15:20-15:40 ThB09.6
Coupling of Stable Subsystems with Counterclockwise Input-Output Dynamics, pp. 3458-3463.
Cai, Chaohong — United Tech. Res. Center
Hagen, Gregory — United Tech. Res. Center

ThB10 — Laurel C
Multidimensional Systems (Regular Session)

Chair: Chen, Shyh-Feng — China Univ. of Science and Tech.
Co-Chair: Rogers, Eric — Univ. of Southampton

13:40-14:00 ThB10.1
Consistent Identification of Two Dimensional Systems, pp. 3464-3469.
Ali, Mukhtar — Tech. Univ. Hamburg Harburg (TUHH)
Chughtai, Saulat Shuja — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

14:00-14:20 ThB10.2
Delay-Dependent Stability for 2-D Systems with Delays in the Roesser Model, pp. 3470-3474.
Chen, Shyh-Feng — China Univ. of Science and Tech.

14:20-14:40 ThB10.3
Experimentally Verified 2D Systems Theory Based Robust Iterative Learning Control, pp. 3475-3480.
Hladowski, Lukasz — Univ. of Zielona Gora
Galkowski, Krzysztof — Univ. of Zielona Gora

Cai, Zhonglun — Univ. of Southampton
Rogers, Eric — Univ. of Southampton
Freeman, Christopher T. — Univ. of Southampton
Lewin, Paul L. — Univ. of Southampton

14:40-15:00 ThB10.4
*Stability for 2-D Linear Discrete Systems with Multiplicative Noise**. (Not Available)
Cui, Jia-Rui — Univ. of Science and Tech. Beijing
Hu, Guang-Da — InformationEngineeringSchool,Univ. gy Beijing

15:00-15:20 ThB10.5
Symbolic Dynamics of Wavelet Images for Pattern Identification, pp. 3481-3486.
Jin, Xin — The Pennsylvania State Univ.
Gupta, Shalabh — Pennsylvania State Univ.
Mukherjee, Kushal — Pennsylvania State Univ.
Ray, Asok — Pennsylvania State Univ.

15:20-15:40 ThB10.6
Nonlinear Observer for Structure Estimation Using a Paracatadioptric Camera, pp. 3487-3492.
Dani, Ashwin — Univ. of Florida
Fischer, Nicholas — Univ. of Florida
Kan, Zhen — Univ. of Florida
Dixon, Warren E. — Univ. of Florida

ThB11 — Grand Ballroom I
Control Applications II (Regular Session)

Chair: Oomen, Tom — Eindhoven Univ. of Tech.
Co-Chair: Tharayil, Marina — Xerox Corp.

13:40-14:00 ThB11.1
Experimental Evaluation of Robust-Control-Relevance: A Confrontation with a Next-Generation Wafer Stage, pp. 3493-3499.
van Herpen, Robbert — Eindhoven Univ. of Tech.
Oomen, Tom — Eindhoven Univ. of Tech.
van de Wal, Marc — ASML
Bosgra, Okko H. — Eindhoven Univ. of Tech.

14:00-14:20 ThB11.2
3DOF Closed Loop Sheet Alignment on Non-Holonomic Printer Differential Drive Registration Device Using Input-State Linearization, pp. 3500-3505.
Tharayil, Marina — Xerox Corp.
Elliot, Jack G. — Xerox
Mastellone, Silvia — Univ. of Illinois

14:20-14:40 ThB11.3
Active Noise Control in a Duct Using Output Feedback Robust Control Techniques, pp. 3506-3511.
Yucelen, Tansel — Georgia Inst. of Tech.
Shekar Sadahalli, Arjun — Southern Illinois Univ.
Pourboghrat, Farzad — Southern Illinois Univ.

14:40-15:00 ThB11.4
Distributed Parameter Modeling and Control of Electromagnetic Molding Machine, pp. 3512-3517.
Ishizaki, Takayuki — Tokyo Inst. of Tech.
Kashima, Kenji — Tokyo Inst. of Tech.
Imura, Jun-ichi — Tokyo Inst. of Tech.
Katoh, Atushi — Sumitomo Heavy Industries, Ltd
Morita, Hiroshi — Sumitomo Heavy Industries, Ltd

15:00-15:20 ThB11.5
A Robust-Control-Relevant Model Validation Approach for Continuously Variable Transmission Control, pp. 3518-3523.
Oomen, Tom — Eindhoven Univ. of Tech.
van der Meulen, Stan — Eindhoven Univ. of Tech.
Bosgra, Okko H. — Eindhoven Univ. of Tech.
Steinbuch, Maarten — Eindhoven Univ. of Tech.
Elfring, Jos — Eindhoven Univ. of Tech.

15:20-15:40 ThB11.6
Adaptive Robust Dynamic Surface Control of DC Torque Motors with True Parameter Estimates, pp. 3524-3529.
Li, Zhiping — School of Automation, Beijing Inst. ofTechnology,Beijing, Ch
Chen, Jie — Beijing Inst. of Tech.
Gan, Minggang — School of Automation, Beijing Inst. of Tech. Beijing,
Fang, Hao — Beijing Inst. of Tech.
Zhang, Guozhu — Beijing Inst. of Tech.

ThB12 — Grand Ballroom II
Solar Energy (Regular Session)

Chair: Ydstie, B. Erik — Carnegie Mellon
Co-Chair: Seem, John E. — Johnson Controls Inc.

13:40-14:00 ThB12.1
GA Modeling and ANFIS Control Design for a Solar Power Plant, pp. 3530-3535.

Shahmaleki, Pourya — Shiraz Univ.
Mahzoon, Mojtaba — Shiraz Univ.

14:00-14:20 ThB12.2
Extremum Seeking Control Based Integration of MPPT and Degradation Detection for Photovoltaic Arrays, pp. 3536-3541.
Lei, Peng — Univ. of Wisconsin-Milwaukee
Li, Yaoyu — Univ. of Wisconsin-Milwaukee
Chen, Quan — Univ. of Wisconsin Milwaukee
Seem, John E. — Johnson Controls Inc.

14:20-14:40 ThB12.3
Asymptotic Convergence through Lyapunov-Based Switching in Extremum Seeking with Application to Photovoltaic Systems, pp. 3542-3548.
Moura, Scott — Univ. of Michigan, Ann Arbor
Chang, Yiyao(Andy) — National Inst.

14:40-15:00 ThB12.4
An Optimal Control Approach for Determination of the Heat Loss Coefficient in a Domestic Water Heating System, pp. 3549-3554.
Gil, Camilo — Univ. of Central Florida
Haralambous, Michael — Univ. of Central Florida
Qu, Zhihua — Univ. of Central Florida
Simaan, Marwan A. — Univ. of Central Florida

15:00-15:20 ThB12.5
The Measurement Selection of Inventory Control, pp. 3555-3560.
Du, Juan — Carnegie Mellon Univ.
White, Christy M. — Carnegie Mellon Univ.
Ydstie, B. Erik — Carnegie Mellon

15:20-15:40 ThB12.6
Backstepping PWM Control for Maximum Power Tracking in Photovoltaic Array Systems, pp. 3561-3565.
Iyasere, Erhun — Clemson Univ.
Dawson, Darren M. — Clemson Univ.
Tatlicioglu, Enver — Izmir Inst. of Tech.

ThB13 — Grand Ballroom III
Biomedical Control I (Regular Session)

Chair: Kothare, Mayuresh V. — Lehigh Univ.
Co-Chair: Topcu, Ufuk — California Inst. of Tech.

13:40-14:00 ThB13.1
Baroreflex Modeling in the Genesis of Stress Reactivity Using Sigmoidal Characteristic, pp. 3566-3571.
Ataee, Pedram — Univ. of British Columbia
Dumont, Guy A. — Univ. of British Columbia
Boyce, W. Thomas — Univ. of British Columbia

14:00-14:20 ThB13.2
Angioplasty Balloon Deployment Control, pp. 3572-3573.
Azarnoush, Hamed — McGill Univ.
Boulet, Benoit — McGill Univ.

14:20-14:40 ThB13.3
Modeling and Control of an Implantable Rotary Blood Pump for Heart Failure Patients, pp. 3574-3579.
Alomari, Abdul-Hakeem H. — The Univ. of New South Wales (UNSW)
Savkin, Andrey — Univ. of New South Wales
Ayre, Peter J. — The Univ. of New South Wales (UNSW)
Lim, Einly — The Univ. of New South Wales (UNSW)
Lovell, Nigel H. — The Univ. of New South Wales (UNSW)

14:40-15:00 ThB13.4
A Note on Human Weight Dynamics and Control Based on the Macronutrient and Energy Flux Balance, pp. 3580-3585.
Laila, Dina Shona — Kingston Univ. London

15:00-15:20 ThB13.5
Optimal Parameter Estimation of the Izhikevich Single Neuron Model Using Experimental Inter-Spike Interval (ISI) Data, pp. 3586-3591.
Kumar, Gautam — Lehigh Univ.
Aggarwal, Vikram — Johns Hopkins Univ.
Thakor, Nitish — Johns Hopkins Univ.
Schieber, Marc H. — Univ. of Rochester Medical Center
Kothare, Mayuresh V. — Lehigh Univ.

15:20-15:40 ThB13.6
Quantitative Nonlinear Analysis of Autocatalytic Networks with Applications to Glycolysis, pp. 3592-3597.
Buzi, Gentian — California Inst. of Tech.
Topcu, Ufuk — California Inst. of Tech.
Doyle, John C. — California Inst. of Tech.

ThB14 — Grand Ballroom IV
Process Control I (Regular Session)

Chair: Julius, Agung — Rensselaer Pol. Inst.

Co-Chair: Gambier, Adrian — Heidelberg Univ.

13:40-14:00 — ThB14.1

Active Sensor Configuration Validation for Refrigeration Systems, pp. 3604-3610.

Hovgaard, Tobias Gybel — Tech. Univ. of Denmark
Blanke, Mogens — Tech. Univ. of Denmark
Niemann, Henrik — Tech. Univ. of Denmark
Izadi-Zamanabadi, Roozbeh — Danfoss A/S

13:40-14:00 — ThB14.1

Entropy Based Control and Optimization of a Three-Phase Catalytic Slurry Intensified Continuous Chemical Reactor, pp. 3598-3603.

Bahroun, Sami — LAGEP Univ. Claude Bernard Lyon1
Jallut, Christian — LAGEP
Valentin, Claire — UCB Lyon 1 et CPE Lyon
Li, Shi — Lab. d'Automatique de Grenoble
De Panthou, Fabrice — SAS AET GROUP

14:20-14:40 — ThB14.3

Fault-Tolerant Control of a Small Reverse Osmosis Desalination Plant with Feed Water Bypass, pp. 3611-3616.

Gambier, Adrian — Heidelberg Univ.
Miksch, Tobias — Univ. of Heidelberg
Badreddin, Essam — Univ. of Heidelberg

14:40-15:00 — ThB14.4

Control Systems Challenges in Energy Efficient Portable UV Based Water Sterilizer, pp. 3617-3622.

Julius, Agung — Rensselaer Pol. Inst.
Sawyer, Shayla — Rensselaer Pol. Inst.

15:00-15:20 — ThB14.5

Robust Nonlinear Fault Detection Applied to Chemical Processes, pp. 3623-3628.

Castillo, Ivan — The Univ. of Texas at Austin
Edgar, Thomas F. — Univ. of Texas at Austin
Fernandez, Benito — The Univ. of Texas at Austin

15:20-15:40 — ThB14.6

Minimizing Energy Consumption in Reverse Osmosis Membrane Desalination Using Optimization-Based Control, pp. 3629-3635.

Christofides, Panagiotis D. — Univ. of California at Los Angeles

ThB15 — Grand Ballroom VII

Spacecraft Control II (Regular Session)

Chair: Mayhew, Christopher G. — Univ. of California, Santa Barbara
Co-Chair: Hayakawa, Tomohisa — Tokyo Inst. of Tech.

13:40-14:00 — ThB15.1

Orbital Formation Control of Multiple Spacecraft, pp. 3636-3641.

Le, Tin Duc — Tokyo Inst. of Tech.
Furusawa, Kazunori — Tokyo Inst. of Tech.
Hayakawa, Tomohisa — Tokyo Inst. of Tech.

14:00-14:20 — ThB15.2

Flatness-Based Guidance for Planetary Landing, pp. 3642-3647.

Desiderio, Delia — Pol. di Milano
Lovera, Marco — Pol. di Milano

14:20-14:40 — ThB15.3

Neural Network Robust Controllers Applied to Free-Floating Space Manipulators in Task Space, pp. 3648-3653.

Pazelli, Tatiana de F. P. A. T. — Univ. of São Paulo at São Carlos
Terra, Marco Henrique — Univ. of São Paulo at São Carlos
Siqueira, Adriano A G — Univ. of Sao Paulo

14:40-15:00 — ThB15.4

Modified Simple Adaptive Control for a Two-Link Space Robot, pp. 3654-3659.

Ulrich, Steve — Carleton Univ.
Sasiadek, Jurek Z — Carleton Univ.

15:00-15:20 — ThB15.5

Decentralized Consensus Based Control Methodology for Vehicle Formations in Air and Deep Space, pp. 3660-3665.

Stankovic, Milos S. — Royal Inst. of Tech.
Stipanovic, Dusan M. — Univ. of Illinois, Urbana-Champaign
Stankovic, Srdjan S. — Univ. of Belgrade

15:20-15:40 — ThB15.6

Robust Global Asymptotic Attitude Synchronization by Hybrid Control, pp. 3666-3671.

Mayhew, Christopher G. — Univ. of California, Santa Barbara
Sanfelice, Ricardo G. — Univ. of Arizona
Arcak, Murat — Univ. of California, Berkeley
Teel, Andrew R. — Univ. of California at Santa Barbara

ThB16 — Grand Ballroom VIII

Stability and Stabilization of Networked Control Systems (Invited Session)

Chair: Lazar, Mircea — Eindhoven Univ. of Tech.

Co-Chair: Heemels, Maurice — Eindhoven Univ. of Tech.
Organizer: Lazar, Mircea — Eindhoven Univ. of Tech.
Organizer: Kolmanovsky, Ilya V. — The Univ. of Michigan
Organizer: Heemels, Maurice — Eindhoven Univ. of Tech.

13:40-14:00 ThB16.1
Optimal Control Over Unreliable Networks with Uncertain Loss Rates (I), pp. 3672-3677.
Koegel, Markus — OVG Univ. Magdeburg
Blind, Rainer — Univ. of Stuttgart
Allgower, Frank — Univ. of Stuttgart

14:00-14:20 ThB16.2
A Framework for the Observer Design for Networked Control Systems (I), pp. 3678-3683.
Postoyan, Romain — The Univ. of Melbourne
Nesic, Dragan — Univ. of Melbourne

14:20-14:40 ThB16.3
Stability Analysis of Stochastic Networked Control Systems (I), pp. 3684-3689.
Donkers, Tijs — Eindhoven Univ. of Tech.
Heemels, Maurice — Eindhoven Univ. of Tech.
Bernardini, Daniele — Univ. of Siena
Bemporad, Alberto — Univ. of Siena
Shneer, Vsevolod — Eindhoven Univ. of Tech.

14:40-15:00 ThB16.4
Networked Control Systems under Cyber Attacks with Applications to Power Networks (I), pp. 3690-3696.
Teixeira, André — KTH - Royal Inst. of Tech.
Sandberg, Henrik — Royal Inst. of Tech. (KTH)
Johansson, Karl H. — Royal Inst. of Tech.

15:00-15:20 ThB16.5
On Lyapunov Theory for Delay Difference Inclusions (I), pp. 3697-3703.
Gielen, Rob — Eindhoven Univ. of Tech.
Lazar, Mircea — Eindhoven Univ. of Tech.
Kolmanovsky, Ilya V. — The Univ. of Michigan

15:20-15:40 ThB16.6
Rate Limited Reference Governor for Network Controlled Systems (I), pp. 3704-3709.
Di Cairano, Stefano — Ford Motor Company
Kolmanovsky, Ilya V. — The Univ. of Michigan

ThB17 — Grand Ballroom IX
Identification (Regular Session)

Chair: Bernstein, Dennis S. — Univ. of Michigan
Co-Chair: Spall, James C. — Johns Hopkins Univ.

13:40-14:00 ThB17.1
Incorporating Term Selection into Nonlinear Block Structured System Identification, pp. 3710-3715.
Rasouli, Mohammad — Univ. of Calgary
Westwick, David — Univ. of Calgary
Rosehart, William — Schulich School of Engineering

14:00-14:20 ThB17.2
Symbolic Identification of Dynamical Systems: Theory and Experimental Validation (I), pp. 3716-3721.
Chakraborty, Subhadeep — Pennsylvania State Univ.
Keller, Eric — Penn State
Ray, Asok — Pennsylvania State Univ.
Mayer, Jeffrey — Penn State Univ.

14:20-14:40 ThB17.3
Probabilistic Uncertainty Description for an ETFE Estimated Plant Using a Sequence of Multi-Sinusoidal Signals, pp. 3722-3728.
Steenis, Richard — Arizona State Univ.
Rivera, Daniel E. — Arizona State Univ.

14:40-15:00 ThB17.4
On the Accuracy of Least Squares Algorithms for Estimating Zeros, pp. 3729-3734.
Fledderjohn, Matthew — Univ. of Michigan
Holzel, Matthew — Univ. of Michigan
Morozov, Alexey — Univ. of Michigan
Hoagg, Jesse B. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

15:00-15:20 ThB17.5
A Comparison of Least Squares Algorithms for Estimating Markov Parameters, pp. 3735-3740.
Fledderjohn, Matthew — Univ. of Michigan
Holzel, Matthew — Univ. of Michigan
Palanthandalam-Madapusi, Harish — Syracuse Univ.
Fuentes, Robert — Raytheon
Bernstein, Dennis S. — Univ. of Michigan

15:20-15:40 ThB17.6

Robust Test Design for Reliability Estimation with Modeling Error When Combining Full System and Subsystem Tests, pp. 3741-3746.
Maranzano, Coire Joseph — Johns Hopkins Univ. Applied Physics Lab.
Spall, James C. — Johns Hopkins Univ.

ThB18 — Grand Ballroom X
Fluid Systems II (Regular Session)

Chair: Wang, Jin — Auburn Univ.
Co-Chair: Li, Yuping — Univ. of Melbourne

13:40-14:00 — ThB18.1
Offtake Feedforward Compensator Design for an Irrigation Channel with Distributed Control, pp. 3747-3752.
Li, Yuping — Delft Univ. of Tech. Netherlands
De Schutter, Bart — Delft Univ. of Tech.

14:00-14:20 — ThB18.2
Parallel-Channel Flow Instabilities and Active Control Schemes in Two-Phase Microchannel Heat Exchanger Systems, pp. 3753-3758.
Zhang, TieJun — Rensselaer Pol. Inst.
Wen, John T. — Rensselaer Pol. Inst.
Julius, Agung — Rensselaer Pol. Inst.
Bai, He — Northwestern Univ.

14:20-14:40 — ThB18.3
Boundary Actuation Structure of Linearized Two-Phase Flow, pp. 3759-3764.
Djordjevic, Snezana — Delft Univ. of Tech.
Bosgra, Okko H. — Eindhoven Univ. of Tech.
Van den Hof, Paul M.J. — Delft Univ. of Tech.
Jeltsema, Dimitri — Delft Univ. of Tech.

14:40-15:00 — ThB18.4
Adaptive Observer for Kick Detection and Switched Control for Bottomhole Pressure Regulation and Kick Attenuation During Managed Pressure Drilling, pp. 3765-3770.
Zhou, Jing — International Res. Inst. of Stavanger
Nygaard, Gerhard — Int. Res. Inst. of Stavanger
Godhavn, John-Morten — StatoilHydro ASA
Breyholtz, Řyvind — International Res. Inst. of Stavanger (IRIS)
Vefring, Erlend H. — RF - Rogaland Res.

15:00-15:20 — ThB18.5
Empirical Hankel Norm Model Reduction with Application to a Prototype Nonlinear Convective Flow, pp. 3771-3776.
Fernandez, Tasha — Univ. of Tennessee
Djouadi, Seddik, M. — Univ. of Tennessee
Foster, Jason — Univ. of Tennessee

15:20-15:40 — ThB18.6
Valve Stiction Modeling: First-Principles vs Data-Drive Approaches, pp. 3777-3782.
He, Qinghua — Tuskegee Univ.
Wang, Jin — Auburn Univ.

ThB19 — Dover A
HCCI Engine Modeling and Control (Invited Session)

Chair: Wang, Junmin — Ohio State Univ.
Co-Chair: Karnik, Amey — Ford Motor Company
Organizer: Wang, Junmin — Ohio State Univ.
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Karnik, Amey — Ford Motor Company
Organizer: Onori, Simona — Ohio State Univ.
Organizer: Marano, Vincenzo — The Ohio State Univ.

13:40-14:00 — ThB19.1
HCCI Engine Control Strategy with External EGR (I), pp. 3783-3790.
Kang, Jun-Mo — General Motors Holdings LLC
Druzhinina, Maria — General Motors Powertrain

14:00-14:20 — ThB19.2
A Mixed Mean-Value and Crank-Based Model of a Dual-Stage Turbocharged SI Engine for Hardware-In-The-Loop Simulation (I), pp. 3791-3796.
Yang, Xiaojian — Michigan State Univ.
Zhu, Guoming — Michigan State Univ.

14:20-14:40 — ThB19.3
Modeling and Control of Exhaust Recompression HCCI Using Split Injection (I), pp. 3797-3802.
Ravi, Nikhil — Stanford Univ.
Liao, Hsien-Hsin — Stanford
Jungkunz, Adam — Stanford Univ.
Gerdes, J. Christian — Stanford Univ.

14:40-15:00 — ThB19.4
Representing Change in HCCI Dynamics with a Switching Linear Model (I), pp. 3803-3808.
Liao, Hsien-Hsin — Stanford
Ravi, Nikhil — Stanford Univ.

Jungkunz, Adam — Stanford Univ.
Kang, Jun-Mo — General Motors Holdings LLC
Gerdes, J. Christian — Stanford Univ.

15:00-15:20 ThB19.5
Control-Oriented Mixing Model for Homogeneous Charge Compression Ignition Engines (I), pp. 3809-3816.
McCuen, Matthew J. — Univ. of Minnesota
Sun, Zongxuan — Univ. of Minnesota
Zhu, Guoming — Michigan State Univ.

15:20-15:40 ThB19.6
Modeling and Control of a Heated Air Intake Homogeneous Charge Compression Ignition (HCCI) Engine (I), pp. 3817-3823.
Lee, Donghoon — Univ. of Michigan
Stefanopoulou, Anna G. — Univ. of Michigan
Makkapati, Satheesh — Ford Motor Company
Jankovic, Mrdjan — Ford Res. & Advanced Engineering

ThB20 — Dover B
Multivehicle Systems I (Regular Session)

Chair: Muske, Kenneth R. — Villanova Univ.
Co-Chair: Tan, Han-Shue — Univ. of California at Berkeley

13:40-14:00 ThB20.1
Application of a Coordinated Trajectory Planning and Real-Time Obstacle Avoidance Algorithm, pp. 3824-3829.
McNinch, Lucas — Villanova Univ.
Soltan, Reza A. — Villanova Univ.
Muske, Kenneth R. — Villanova Univ.
Ashrafiuon, Hashem — Villanova Univ.
Peyton Jones, James — Villanova Univ.

14:00-14:20 ThB20.2
Distributed Containment Control for Double-Integrator Dynamics: Algorithms and Experiments, pp. 3830-3835.
Cao, Yongcan — Utah State Univ.
Stuart, Daniel — Utah State Univ.
Ren, Wei — Utah State Univ.
Meng, Ziyang — Tsinghua Univ.

14:20-14:40 ThB20.3
Long Distance Synchronization of Mobile Robots, pp. 3836-3841.
Alvarez-Aguirre, Alejandro — Eindhoven Univ. of Tech.
Nijmeijer, Hendrik — Eindhoven Univ. of Tech.
Oguchi, Toshiki — Tokyo Metro. Univ.

14:40-15:00 ThB20.4
A Combined Tabu Search and 2-Opt Heuristic for Multiple Vehicle Routing, pp. 3842-3847.
Jackson, Justin — Univ. of Michigan
Girard, Anouck — Univ. of Michigan, Ann Arbor
Rasmussen, Steven — Miami Valley Aerospace LLC
Schumacher, Corey — Air Force Res. Lab.

15:00-15:20 ThB20.5
Modeling and Tracking of Public Transit in Urban Environments, pp. 3848-3853.
Castanon, David A. — Boston Univ.
Kumar, Rohit — Boston Univ.

15:20-15:40 ThB20.6
Lateral Control of an Articulated Bus for Lane Guidance and Curbside Precision Docking, pp. 3854-3859.
Bu, Fanping — Univ. of California at Berkeley
Tan, Han-Shue — Univ. of California at Berkeley
Huang, Jihua — UC Berkeley

ThB21 — Dover C
Identification and Control of LPV Systems (Invited Session)

Chair: Mohammadpour, Javad — Univ. of Houston
Co-Chair: Werner, Herbert — Hamburg Univ. of Tech.
Organizer: Mohammadpour, Javad — Univ. of Houston

13:40-14:00 ThB21.1
An LPV Approach to the Guaranteed Cost Control for Lur'e Systems (I), pp. 3860-3864.
Lee, Sangmoon — Daegu Univ.
Kwon, Ohmin — Chungbuk National Univ.
Jung, Ho-Youl — Yeungnam Univ.
Park, Ju H. — Yeungnam Univ.

14:00-14:20 ThB21.2
Identification of LPV Output-Error and Box-Jenkins Models Via Optimal Refined Instrumental Variable Methods (I), pp. 3865-3870.
Laurain, Vincent — Nancy-Univ.
Gilson, Marion — Nancy-Univ.
Tóth, Roland — Delft Univ. of Tech.
Garnier, Hugues — Nancy-Univ.

14:20-14:40 ThB21.3
Gain Scheduling versus Robust Control of LPV Systems: The Output Feedback Case (I), pp. 3871-3876.
Blanchini, Franco — Univ. degli Studi di Udine
Miani, Stefano — Univ. degli Studi di Udine

14:40-15:00 ThB21.4
LPV Analysis and Control Using Fast Iterative Solutions to Rationally Parametric Lyapunov and Riccati Equations, pp. 3877-3882.
Rice, Justin — TU Delft
Verhaegen, Michel — Delft Univ. of Tech.

15:00-15:20 ThB21.5
State-Space Realization of LPV Input-Output Models: Practical Methods for the User (I), pp. 3883-3888.
Abbas, Hossam Seddik — Hamburg Univ. of Tech.
Tóth, Roland — Delft Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

15:20-15:40 ThB21.6
Identification of LPV Models for Spatially Varying Interconnected Systems (I), pp. 3889-3894.
Ali, Mukhtar — Tech. Univ. Hamburg Harburg (TUHH)
Chughtai, Saulat Shuja — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

ThB22 — Laurel D
Robust Stability (Regular Session)

Chair: Watkins, John — Wichita State Univ.
Co-Chair: Keel, L. H. — Tennessee State Univ.

13:40-14:00 ThB22.1
Efficient Computation of a Guaranteed Stability Domain for a High-Order Parameter Dependent Plant, pp. 3895-3900.
Roos, Clément — ONERA / DCSD
Biannic, Jean-Marc — ONERA

14:00-14:20 ThB22.2
A New Framework for Robust Stability Analysis of Quantized Feedback Systems, pp. 3901-3906.
Ishido, Yumiko — Kyoto Univ.
Takaba, Kiyotsugu — Kyoto Univ.

14:20-14:40 ThB22.3
Robust Stability of Complex Systems with Applications to Performance Attainment Problems, pp. 3907-3912.
Knap, Michael Jason — Tennessee State Univ.
Keel, L. H. — Tennessee State Univ.
Bhattacharyya, Shankar P. — Texas A & M Univ.

14:40-15:00 ThB22.4
A Robust Stabilization Using State Feedback with Feedforward, pp. 3913-3919.
A. Danapalasingam, Kumeresan — Aalborg Univ.
la Cour-Harbo, Anders — Aalborg Univ.
Chowdhary, Girish — Georgia Inst. of Tech.
Bisgaard, Morten — Aalborg Univ.

15:00-15:20 ThB22.5
Quadratic Stabilizability for Polytopic Uncertain Continuous-Time Switched Linear Systems by Output Feedback, pp. 3920-3925.
Otsuka, Naohisa — Tokyo Denki Univ.
Soga, Takuya — Tokyo Denki Univ.

15:20-15:40 ThB22.6
A Unified Approach for Robust Stability Design of PID Controllers, pp. 3926-3931.
Watkins, John — Wichita State Univ.
Emami, Tooran — Wichita State Univ.

ThC01 — Harborside Ballroom A
Hierarchical and Distributed Model Predictive Control (Invited Session)

Chair: De Schutter, Bart — Delft Univ. of Tech.
Co-Chair: Ocampo-Martinez, Carlos — Inst. de Robotica i Informatica Industrial (CSIC-UPC)
Organizer: De Schutter, Bart — Delft Univ. of Tech.
Organizer: Negenborn, Rudy — Delft Univ. of Tech.
Organizer: Diehl, Moritz — Katholieke Univ. Leuve

16:00-16:20 ThC01.1
Almost Decentralized Lyapunov-Based Nonlinear Model Predictive Control (I), pp. 3932-3938.
Hermans, R.M. — Eindhoven Univ. of Tech.
Lazar, Mircea — Eindhoven Univ. of Tech.
Jokic, Andrej — Eindhoven Univ. of Tech.

16:20-16:40 ThC01.2
Decentralized Robust Control Invariance for a Network of Integrators (I), pp. 3939-3944.
Baric, Miroslav — Univ. of California, Berkeley
Borrelli, Francesco — Unversity of California at Berkeley

16:40-17:00 ThC01.3
Distributed Hierarchical MPC for Conflict Resolution in Air Traffic Control (I), pp. 3945-3950.

Chaloulos, Georgios — Swiss Federal Inst. of Tech.
Hokayem, Peter — ETH Zurich
Lygeros, John — ETH Zurich

17:00-17:20 ThC01.4
Model Predictive Control of Drinking Water Networks: A Hierarchical and Decentralized Approach (I), pp. 3951-3956.
Ocampo-Martinez, Carlos — Inst. de Robotica i Informatica Industrial (CSIC-UPC)
Fambrini, Valentina — Univ. of Siena
Barcelli, Davide — Univ. of Siena
Puig, Vicenc — UPC

17:20-17:40 ThC01.5
Coordination in Urban Water Supply Networks Using Distributed Model Predictive Control (I), pp. 3957-3962.
Leirens, Sylvain — Univ. de Los Andes
Zamora, Catherin — Univ. de Los Andes
Negenborn, Rudy — Delft Univ. of Tech.
De Schutter, Bart — Delft Univ. of Tech.

17:40-18:00 ThC01.6
Hierarchical Cooperative Distributed Model Predictive Control (I), pp. 3963-3968.
Stewart, Brett T. — Univ. of Wisconsin - Madison
Rawlings, James B. — Univ. of Wisconsin-Madison
Wright, Stephen Joseph — Univ. of Wisconsin-Madison

ThC02 — Harborside Ballroom B
Agent-Based Systems II (Regular Session)

Chair: Lazar, Mircea — Eindhoven Univ. of Tech.
Co-Chair: Ghadami, Rasoul — Northeastern Univ.

16:00-16:20 ThC02.1
Distributed H2 Control of Multi-Agent Dynamic Systems: Continuous-Time Case, pp. 3969-3974.
Ghadami, Rasoul — Northeastern Univ.
Shafai, Bahram — Northeastern Univ.

16:20-16:40 ThC02.2
The Navigation Potential of Ground Feature Tracking for Aircraft Navigation, pp. 3975-3979.
Pachter, Meir — AFIT/ENG
Mutlu, Guner — Air Force Inst. of Tech.

16:40-17:00 ThC02.3
Feasibility Study of Partial Observability in H Infinity Filtering for Robot Localization and Mapping Problem, pp. 3980-3985.
Ahmad, Hamzah — Graduate School of Natural Science and Tech. Kanazawa Univ.
Namerikawa, Toru — Keio Univ.

17:00-17:20 ThC02.4
Distributed Consensus-Based Bayesian Estimation: Sufficient Conditions for Performance Characterization, pp. 3986-3991.
Varagnolo, Damiano — Univ. of Padova
Pillonetto, Gianluigi — Univ. of Padova
Schenato, Luca — Univ. of Padova

17:20-17:40 ThC02.5
State Fusion with Unknown Correlation: Ellipsoidal Intersection, pp. 3992-3997.
Sijs, Joris — TNO
Lazar, Mircea — Eindhoven Univ. of Tech.
van den Bosch, P. P. J. — Eindhoven Univ. of Tech.

17:40-18:00 ThC02.6
Decentralized Planning for Complex Missions with Dynamic Communication Constraints, pp. 3998-4003.
Ponda, Sameera — MIT
Redding, Joshua — Massachusetts Inst. of Tech.
Choi, Han-Lim — MIT
How, Jonathan P. — MIT
Vavrina, Matthew — Boeing
Vian, John L — The Boeing Company

ThC03 — Harborside Ballroom D
Adaptive Control VI (Regular Session)

Chair: Young, Peter M. — Colorado State Univ.
Co-Chair: Vakhitov, Alexander — Saint Petersburg State Univ.

16:00-16:20 ThC03.1
Adaptive Control of SISO Plant with Time-Varying Coefficients Based on Random Test Perturbation, pp. 4004-4009.
Vakhitov, Alexander — Saint Petersburg State Univ.
Granichin, Oleg N. — St.Petersburg State Univ.
Vlasov, Vsevolod — Saint-Petersburg State Univ.

16:20-16:40 ThC03.2
Perfect Tracking for Non-Minimum Phase Systems, pp. 4010-4015.
Buehner, Michael R. — Colorado State Univ.
Young, Peter M. — Colorado State Univ.

16:40-17:00 ThC03.3
Cumulative Retrospective Cost Adaptive Control with RLS-Based Optimization, pp. 4016-4021.
Hoagg, Jesse B. Univ. of Michigan
Bernstein, Dennis S. Univ. of Michigan

17:00-17:20 ThC03.4
Verifying Closed-Loop Performance before Inserting a New Controller, pp. 4022-4027.
Dehghani, Arvin The Australian National Univ.
Anderson, Brian D.O. Australian National Univ.
Cha, Sung Han RSISE, The Australian National Univ.

17:20-17:40 ThC03.5
A Neuroadaptive Control Architecture for Nonlinear Uncertain Dynamical Systems with Input Constraints, pp. 4028-4033.
Yucelen, Tansel Georgia Inst. of Tech.
Haddad, Wassim M. Georgia Inst. of Tech.
Calise, Anthony J. Georgia Inst. of Tech.

17:40-18:00 ThC03.6
*A Series Inspired CPG Model for Robot Walking Control**. (Not Available)
Zhang, Jiaqi Tongji Univ.
Tomizuka, Masayoshi Univ. of California, Berkeley
Chen, Qijun Tongji Univ.
Liu, Chengju Tongji Univ.

ThC04 — Harborside Ballroom E
Switched Systems IV (Regular Session)

Chair: Hayakawa, Tomohisa Tokyo Inst. of Tech.
Co-Chair: Tao, Gang Univ. of Virginia

16:00-16:20 ThC04.1
Stability of Discrete-Time Conewise Linear Inclusions and Switched Linear Systems, pp. 4034-4039.
Shen, Jinglai Univ. of Maryland Baltimore County
Hu, Jianghai Purdue Univ.

16:20-16:40 ThC04.2
Adaptive Control of Piecewise Linear Systems: The State Tracking Case, pp. 4040-4045.
Sang, Qian the Univ. of Virginia
Tao, Gang Univ. of Virginia

16:40-17:00 ThC04.3
Stability of Stochastic Systems with Probabilistic Mode Switchings and State Jumps, pp. 4046-4051.
Cetinkaya, Ahmet Tokyo Inst. of Tech.
Kashima, Kenji Tokyo Inst. of Tech.
Hayakawa, Tomohisa Tokyo Inst. of Tech.

17:00-17:20 ThC04.4
Improvements in the Sensor Recovery Mechanism for a Multisensor Control Scheme, pp. 4052-4057.
Stoican, Florin SUPELEC
Olaru, Sorin Supelec
De Dona, Jose Adrian The Univ. of Newcastle
Seron, Maria The Univ. of Newcastle

17:20-17:40 ThC04.5
L_2-Gain of Systems with Controller Failure under Zero-Order Hold Model, pp. 4058-4063.
Sun, Xi-Ming Dalian Univ. of Tech.
Liu, Guoping Univ. of Glamorgan
Wang, Wei Dalian Univ. of Tech.
Rees, David Univ. of Glamorgan

17:40-18:00 ThC04.6
L2-Induced Gain Analysis of Switched Linear Systems Via Finitely Parametrized Storage Functions, pp. 4064-4069.
Hirata, Kenji Nagaoka Univ. of Tech.
Hespanha, Joao P. Univ. of California, Santa Barbara

ThC05 — Essex A
Optimization I (Regular Session)

Chair: Kiriakidis, Kiriakos U.S. Naval Acad.
Co-Chair: Rinehart, Michael Massachusetts Inst. of Tech.

16:00-16:20 ThC05.1
Robust Measurement Design for Detecting Sparse Signals: Equiangular Uniform Tight Frames and Grassmannian Packings, pp. 4070-4075.
Zahedi, Ramin Colorado State Univ.
Pezeshki, Ali Colorado State Univ.
Chong, Edwin K. P. Colorado State Univ.

16:20-16:40 ThC05.2
Identification of an Agent Interaction Network, pp. 4076-4077.
Kiriakidis, Kiriakos U.S. Naval Acad.

16:40-17:00 ThC05.3

A Graph Reduction for Bounding the Value of Side Information in Shortest Path Optimization, pp. 4078-4083.
Rinehart, Michael — Massachusetts Inst. of Tech.
Dahleh, Munther A. — Massachusetts Inst. of Tech.

17:00-17:20 ThC05.4
The Value of Sequential Information in Shortest Path Optimization, pp. 4084-4089.
Rinehart, Michael — Massachusetts Inst. of Tech.
Dahleh, Munther A. — Massachusetts Inst. of Tech.

17:20-17:40 ThC05.5
Controlling Chaos in El Nino, pp. 4090-4094.
MacMynowski, Douglas G. — California Inst. of Tech.

17:40-18:00 ThC05.6
Exactness Verification of Sum-Of-Squares Approximations to Robust Semidefinite Programs with Functional Variables, pp. 4095-4100.
Jennawasin, Tanagorn — Toyota Tech. Inst.
Kawanishi, Michihiro — Toyota Tech. Inst.
Narikiyo, Tatsuo — Toyota Tech. Inst.

ThC06 — Essex B
Scheduling, Guidance and Optimization of Actuators/Sensors in DPS (Invited Session)

Chair: Demetriou, Michael A. — Worcester Pol. Inst.
Co-Chair: Armaou, Antonios — The Pennsylvania State Univ.
Organizer: Demetriou, Michael A. — Worcester Pol. Inst.
Organizer: Armaou, Antonios — The Pennsylvania State Univ.

16:00-16:20 ThC06.1
Design of Spatially Distributed Filters for Distributed Parameter Systems Using Mobile Sensor Networks (I), pp. 4101-4108.
Demetriou, Michael A. — Worcester Pol. Inst.

16:20-16:40 ThC06.2
Multi-Agent Deployment to a Family of Planar Arcs (I), pp. 4109-4114.
Frihauf, Paul — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California at San Diego

16:40-17:00 ThC06.3
Linear and Quadratic Programming Formulations of Data Assimilation or Data Reconciliation Problems for a Class of Hamilton-Jacobi Equations (I), pp. 4115-4120.
Claudel, Christian — UC Berkeley
Bayen, Alexandre M. — Univ. of California at Berkeley

17:00-17:20 ThC06.4
Resource-Aware Scheduled Control of Distributed Process Systems Over Wireless Sensor Networks (I), pp. 4121-4126.
Yao, Zhiyuan — Univ. of California, Davis
Sun, Yulei — Univ. of California, Davis
El-Farra, Nael H. — Univ. of California, Davis

17:20-17:40 ThC06.5
Optimal Sensor Design for Estimation and Optimization of PDE Systems (I), pp. 4127-4132.
Burns, John A — Virginia Tech.
Cliff, Eugene M. — Virginia Tech.
Rautenberg, Carlos Nicolas — Virginia Tech.
Zietsman, Lizette — Virginia Tech.

17:40-18:00 ThC06.6
Surface Wind Profile Measurement Using Multiple Unmanned Aerial Vehicles (I), pp. 4133-4138.
Chao, Haiyang — Utah State Univ.
Chen, YangQuan — Utah State Univ.

ThC07 — Essex C
Markov Processes (Regular Session)

Chair: Costa, Eduardo F. — Univ. de São Paulo
Co-Chair: How, Jonathan P. — MIT

16:00-16:20 ThC07.1
Markov Chain Modeling Approaches for on Board Applications, pp. 4139-4145.
Filev, Dimitre P. — Ford Motor Company
Kolmanovsky, Ilya V. — The Univ. of Michigan

16:20-16:40 ThC07.2
Approximate Dynamic Programming Using Model-Free Bellman Residual Elimination, pp. 4146-4151.
Bethke, Brett — Massachusetts Inst. of Tech.
How, Jonathan P. — MIT

16:40-17:00 ThC07.3
Whittle-Indexability of the Cow Path Problem, pp. 4152-4158.
Temple, Tom — MIT
Frazzoli, Emilio — Massachusetts Inst. of Tech.

17:00-17:20 ThC07.4
On the Stability of the Recursive Kalman Filter with Markov Jump Parameters, pp. 4159-4163.
Maria Josiane Ferreira Gomes, Josiane — USP- Univ. de São Paulo

Costa, Eduardo F. — Univ. de São Paulo

17:20-17:40 — ThC07.5

H_{infty} Estimates for Discrete-Time Markovian Jump Linear Systems, pp. 4164-4169.

Jesus, Gildson — Univ. of São Paulo
Terra, Marco Henrique — Univ. of São Paulo at São Carlos
Ishihara, João Yoshiyuki — Univ. of Brasília

17:40-18:00 — ThC07.6

On the Observability of Continuous Time Linear Systems with Markov Jump Parameters, pp. 4170-4174.

Narváez, Alfredo R. R. — Univ. de São Paulo - Inst. de Ciencias Matemáticas e
Costa, Eduardo F. — Univ. de São Paulo

ThC08 — Laurel A

Micro Systems (Regular Session)

Chair: Messner, William — Carnegie Mellon Univ.
Co-Chair: Su, Chun-Yi — Concordia Univ.

16:00-16:20 — ThC08.1

An Integrated Gain Scheduled Control Design for an Electrostatic Micro-Actuator with Aerodynamic Effects, pp. 4175-4180.

Vagia, Marialena — Univ. of Patras
Tzes, Anthony — Univ. of Patras

16:20-16:40 — ThC08.2

Robust Control for Shape Memory Alloy Micro-Actuators Based Flap Positioning System, pp. 4181-4186.

Feng, Ying — Concordia Univ.
Rabbath, Camille Alain — Defence R&D Canada
Hong, H. — Concordia Univ.
Al Janaideh, Mohammad — Concordia Univ.
Su, Chun-Yi — Concordia Univ.

16:40-17:00 — ThC08.3

Hysteresis-Observer Based Robust Tracking Control of Piezoelectric Actuators, pp. 4187-4192.

Sheikh Sofla, Mohammad — Amirkabir Univ. of Tech. Tehran Iran
Rezaei, Seyed Mehdi — Amirkabir Univ. of Tech.
Zareinejad, Mohammad — Amirkabir Univ. of Tech. Tehran Iran
Saadat, Mozafar — The Univ. of Birmingham

17:00-17:20 — ThC08.4

Efficient Fixed-Point Realization of Approximate Dynamic Inversion Compensators for Non-Minimum Phase Systems, pp. 4193-4198.

Chang, Herrick — Univ. of California, Los Angeles
Tsao, Tsu-chin — Univ. of California, Los Angeles

17:20-17:40 — ThC08.5

Nonlinear Modeling and Control of a Coupled Variable Fluidic Resistance and Squeeze Pump for Pressure Regulation in Microfluidics, pp. 4199-4204.

Kim, YongTae — Carnegie Mellon Univ.
LeDuc, Philip — Carnegie Mellon Univ.
Messner, William — Carnegie Mellon Univ.

17:40-18:00 — ThC08.6

Experimental Demonstration of the Dynamics and Stability of a Low Reynolds Number Swimmer Near a Plane Wall, pp. 4205-4210.

Zhang, Sebastian — Clemson Univ.
Or, Yizhar — Tech. - Israel Inst. of Tech.
Murray, Richard M. — California Inst. of Tech.

ThC09 — Laurel B

Stabilization (Regular Session)

Chair: Lawrence, Douglas A. — Ohio Univ.
Co-Chair: Stoorvogel, Anton A. — Univ. of Twente

16:00-16:20 — ThC09.1

Output Feedback Stabilization for Linear Impulsive Systems, pp. 4211-4216.

Medina, Enrique — Ohio Univ.
Lawrence, Douglas A. — Ohio Univ.

16:20-16:40 — ThC09.2

Stabilization of Sandwich Non-Linear Systems with Low-And-High Gain Feedback Design, pp. 4217-4222.

Stoorvogel, Anton A. — Univ. of Twente
Wang, Xu — Washington State Univ.
Saberi, Ali — Washington State Univ.
Sannuti, Peddapullaiah — Rutgers Univ.

16:40-17:00 — ThC09.3

Global Finite-Time Stabilization of a Class of Upper-Triangular Systems, pp. 4223-4228.

Ding, Shihong — Southeast Univ.
Qian, Chunjiang — Univ. of Texas at San Antonio
Li, Shihua — Southeast Univ.

17:00-17:20 — ThC09.4

Semiglobal Stabilization of Sandwich Systems by Dynamic Output Feedback, pp. 4229-4234.

Grip, HÍvard Fjćr — NTNU
Saberi, Ali — Washington State Univ.
Stoorvogel, Anton A. — Univ. of Twente
Wang, Xu — Washington State Univ.
Roy, Sandip — Washington State Univ.

17:20-17:40 ThC09.5
Synthesis of Output Feedback Controllers for a Class of Nonlinear Parameter-Varying Discrete-Time Systems Subject to Actuators Limitations, pp. 4235-4240.
Castelan, Eugenio B. — Univ. Federal de Santa Catarina
Leite, Valter J. S. — CEFET/MG - Campus Div.
Miranda, Marcio Fantini — Federal Univ. of Minas Gerais
Moraes, Vitor Mateus — Univ. Federal de Santa Catarina

17:40-18:00 ThC09.6
Global Output Feedback Stabilisation of a Class of Nonlinear Systems with Unstable Zero Dynamics, pp. 4241-4246.
Ding, Zhengtao — The Univ. of Manchester

ThC10 — Laurel C
Periodic Systems (Regular Session)

Chair: Rogers, Eric — Univ. of Southampton
Co-Chair: Gomes Da Silva Jr., Joao Manoel — Univ. Federal do Rio Grande do Sul

16:00-16:20 ThC10.1
Frequency-Domain Criteria for Robust Stability for a Class of Linear Time-Periodic Systems, pp. 4247-4252.
Altshuller, Dmitry — Crane Aerospace & Electronics

16:20-16:40 ThC10.2
Periodic Observer Design for Networked Embedded Control Systems, pp. 4253-4258.
Simon, Stefan — Univ. of Kaiserslautern
Görges, Daniel — Univ. of Kaiserslautern
Izák, Michal — Univ. of Kaiserslautern
Liu, Steven — Univ. of Kaiserslautern

16:40-17:00 ThC10.3
Robust Repetitive Control with Saturating Actuators: A LMI Approach, pp. 4259-4264.
Flores, Jeferson Vieira — UFRGS
Gomes Da Silva Jr., Joao Manoel — Univ. Federal do Rio Grande do Sul
Pereira, Luís Fernando Alves — Univ. Federal do Rio Grande do Sul
Sbarbaro, Daniel G. — Univ. de Concepcion

17:00-17:20 ThC10.4
A Parametric Periodic Lyapunov Equation with Application in Semi-Global Stabilization of Discrete-Time Periodic Systems Subject to Actuator Saturation, pp. 4265-4270.
Zhou, Bin — Harbin Inst. of Tech.
Duan, Guang-Ren — Harbin Inst. of Tech.
Lin, Zongli — Univ. of Virginia

17:20-17:40 ThC10.5
Circular Periodic Motion Generation for Mobile Robots Using Limit Cycle Systems, pp. 4271-4276.
Hara, Naoyuki — Osaka Prefecture Univ.
Kokame, Hideki — Osaka Prefecture Univ.
Konishi, Keiji — Osaka Prefecture Univ.

17:40-18:00 ThC10.6
Predictive Repetitive Control Based on Frequency Decomposition, pp. 4277-4282.
Wang, Liuping — Rmit Univ.
Chai, Shan — Royal Melbourne Inst. of Tech.
Rogers, Eric — Univ. of Southampton

ThC11 — Grand Ballroom I
Control Applications III (Regular Session)

Chair: Enes, Aaron — Georgia Inst. of Tech.
Co-Chair: Bandal, Vitthal — Govt. Coll. of Engineering, Pune,

16:00-16:20 ThC11.1
Modeling and Control of Cyclic Systems in Xerography, pp. 4283-4288.
Ching, ShiNung — Massachusetts Inst. of Tech.
Eun, Yongsoon — Xerox
Gross, Eric — Xerox
Hamby, Eric S. — Xerox Corp.
Kabamba, Pierre T. — Univ. of Michigan
Meerkov, Semyon M. — Univ. of Michigan
Menezes, Amor A. — Univ. of Michigan

16:20-16:40 ThC11.2
Design of a Discrete-Time Sliding Mode Controller for a Magnetic Levitation System Using Multirate Output Feedback, pp. 4289-4294.
Bandal, Vitthal — Govt. Coll. of Engineering, Pune,
Vernekar, Pratik — Coll. of Engineering ,Pune

16:40-17:00 ThC11.3
An Optimal Washout Filter Design for a Motion Platform with Senseless and Angular Scaling Maneuvers, pp. 4295-4300.
Chen, Sung-Hua — National Taiwan Univ.
Fu, Li-Chen — National Taiwan Univ.

17:00-17:20 ThC11.4
Identification and Control of Linear Dynamics with Input Preisach Hysteresis, pp. 4301-4306.
Liu, Lei — National Univ. of Singapore
Tan, Kok Kiong — National Univ. of Singapore
Huang, Sunan — National Univ. of Singapore
Lee, Tong Heng — National Univ. of Singapore

17:20-17:40 ThC11.5
Blended Shared Control of Zermelo's Navigation Problem, pp. 4307-4312.
Enes, Aaron R. — Georgia Inst. of Tech.
Book, Wayne J. — Georgia Inst. of Tech.

17:40-18:00 ThC11.6
Lyapunov Based Control in Microstepping with a Nonlinear Observer for Permanent Magnet Stepper Motors, pp. 4313-4318.
Kim, Wonhee — Hanyang
Choi, Induk — Hanyang Univ.
Chung, Chung Choo — Hanyang Univ.

ThC12 — Grand Ballroom II
Green Engineering (Regular Session)

Chair: Wisniewski, Rafal — Aalborg Univ.
Co-Chair: Fagiano, Lorenzo — Pol. di Torino

16:00-16:20 ThC12.1
Control Strategies for OWC Wave Power Plants, pp. 4319-4324.
Amundarain, Modesto — Univ. of the Basque Coutry
Alberdi Goitia, Mikel — Univ. of the Basque Country
Garrido, Aitor J. — Univ. of the Basque Country
Garrido, Izaskun — Univ. of the Basque Country

16:20-16:40 ThC12.2
Control of Power Kites for Naval Propulsion, pp. 4325-4330.
Fagiano, Lorenzo — Pol. di Torino
Milanese, Mario — Pol. di Torino
Razza, Valentino — Pol. di Torino
Gerlero, Ilario — Modelway s.r.l.

16:40-17:00 ThC12.3
Efficient Gear Shifting Strategies for Green Driving Policies, pp. 4331-4336.
Casavola, Alessandro — Univ. Della Calabria
Rocca, Giuseppe — Magneti Marelli Powertrain
Prodi, Giovanni — Magneti Marelli S.p.A.

17:00-17:20 ThC12.4
Online Distributed State and Parameter Estimation for Feedback Control of a Curing Process, pp. 4337-4342.
Zeng, Fan — Clemson Univ.
Ayalew, Beshah — Clemson Univ.

17:20-17:40 ThC12.5
Wind Deficit Model in a Wind Farm Using Finite Volume Method, pp. 4343-4348.
Soleimanzadeh, Maryam — Aalborg Univ.
Wisniewski, Rafal — Aalborg Univ.
Shakeri, Sayyed Mojtaba — Aalborg Univ.

17:40-18:00 ThC12.6
Robust Control Design for Frequency Regulation in Power Systems with High Wind Penetration, pp. 4349-4354.
Liu, Juhua — Carnegie Mellon Univ.
Krogh, Bruce H. — Carnegie Mellon Univ.
Ilic, Marija — Carnegie Mellon Univ.

ThC13 — Grand Ballroom III
Biomedical Control II (Regular Session)

Chair: Westwick, David — Univ. of Calgary
Co-Chair: Qin, S. Joe — Univ. of Southern California

16:00-16:20 ThC13.1
Modeling and Analysis of Cell Differentiation Using Hybrid Systems, pp. 4355-4360.
Kamgarpour, Maryam — Univ. of California, Berkeley
Tomlin, Claire J. — UC Berkeley

16:20-16:40 ThC13.2
State-Constrained Optimal Spatial Field Control for Controlled Release in Tissue Engineering, pp. 4361-4366.
Kishida, Masako — Univ. of Illinois, Urbana-Champaign
Pack, Daniel W. — Univ. of Illinois, Urbana-Champaign
Braatz, Richard D. — Univ. of Illinois, Urbana-Champaign

16:40-17:00 ThC13.3
Frequency Domain Identification of a Parallel-Cascade Joint Stiffness Model, pp. 4367-4372.
Swain, Akshya — Univ. of Auckland
Westwick, David — Univ. of Calgary
Perreault, Eric — Northwestern Univ.

17:00-17:20 ThC13.4
Online Dropout Detection in Subcutaneously Implanted Continuous Glucose Monitoring, pp. 4373-4378.
Shen, Quan — The Univ. of Texas at Austin
Qin, S. Joe — Univ. of Southern California
Doniger, Kenneth — Abbott Diabetes Care

17:20-17:40 ThC13.5
Online Nonlinear Identification of the Effect of Drugs in Anaesthesia Using a Minimal Parameterization and BIS Measurements, pp. 4379-4384.
Martins da Silva, Margarida — Faculdade de Ciencias - Univ. do Porto
Mendonça, Teresa — Fac. de Ciencias da Univ. do Porto
Wigren, Torbjorn — Uppsala Univ.

17:40-18:00 ThC13.6
Tracking Control of a Pneumatic Muscle Actuator Using One Servovalve, pp. 4385-4390.
Krichel, Susanne — Univ. of Stuttgart
Hildebrandt, Alexander — Res. Mechatronic Systems
Sawodny, Oliver — Univ. of Stuttgart

ThC14 — Grand Ballroom IV
Process Control II (Regular Session)

Chair: Chmielewski, Donald J. — Illinois Inst. of Tech.
Co-Chair: Mhaskar, Prashant — McMaster Univ.

16:00-16:20 ThC14.1
Inventory Control and LQG: Connections and Extensions, pp. 4391-4396.
Ong, Wai Kit — Illinois Inst. of Tech.
Durango-Cohen, Elizabeth — Illinois Inst. of Tech.
Chmielewski, Donald J. — Illinois Inst. of Tech.

16:20-16:40 ThC14.2
A General Method for Defining and Structuring Buffer Management Problems, pp. 4397-4402.
Lindholm, Anna — Lund Univ.
Forsman, Krister — Perstorp AB
Johnsson, Charlotta — Lund Univ.

16:40-17:00 ThC14.3
Simultaneous BOP Selection and Controller Design for the FCC Process, pp. 4403-4408.
Omell, Benjamin — Illinois Inst. of Tech.
Chmielewski, Donald J. — Illinois Inst. of Tech.

17:00-17:20 ThC14.4
Supervisory Stability Assurance Layer for Hierarchical Plant-Wide Process Control, pp. 4409-4414.
Tran-Cao, Tri — UNSW
Bao, Jie — The Univ. of New South Wales

17:20-17:40 ThC14.5
Robust Control and Fault-Handling of Batch Process Systems, pp. 4415-4420.
Aumi, Siam — McMaster Univ.
Mhaskar, Prashant — McMaster Univ.

17:40-18:00 ThC14.6
Robust Characteristic-Based MPC of a Fixed-Bed Reactor, pp. 4421-4426.
Mohammadi Sardroud, Leily — Univ. of Alberta
Dubljevic, Stevan — Univ. of Alberta
Forbes, J. Fraser — Univ. of Alberta

ThC15 — Grand Ballroom VII
Helicopter Control (Regular Session)

Chair: Barczyk, Martin — Univ. of Alberta
Co-Chair: Lynch, Alan Francis — Univ. of Alberta

16:00-16:20 ThC15.1
Robust Regulation for a 3DOF Helicopter Via Sliding-Modes Control and Observation Techniques, pp. 4427-4432.
Ríos, Héctor — Univ. Nacional Autónoma de México
Rosales Martínez, José Antonio — UNAM
DÁvila Merida, Israel Alejandro — UNAM
Ferreira de Loza, Alejandra — National Autonomous Univ.

16:20-16:40 ThC15.2
Synchronized Altitude Tracking Control of Multiple Unmanned Helicopters, pp. 4433-4438.
Cui, Rongxin — National Univ. of Singapore
Ge, Shuzhi Sam — National Univ. of Singapore
Ren, Beibei — National Univ. of Singapore

16:40-17:00 ThC15.3
An Experimental Validation of Magnetometer Integration into a GPS-Aided Helicopter UAV Navigation System, pp. 4439-4444.
Barczyk, Martin — Univ. of Alberta
Jost, Michael — Tech. Univ. Darmstadt
Kastelan, David — Univ. of Alberta
Lynch, Alan Francis — Univ. of Alberta
Listmann, Kim Daniel — Tech. Univ. Darmstadt

17:00-17:20 ThC15.4
MAV Stability Augmentation Using Weighted Outputs from Distributed Hair Sensor Arrays, pp. 4445-4450.
Keshavan, Jishnu — Univ. of Maryland
Humbert, J. Sean — Univ. of Maryland

17:20-17:40 ThC15.5
Constrained Optimal Attitude Control of a Quadrotor Helicopter Subject to Wind-Gusts: Experimental Studies, pp. 4451-4455.
Alexis, Kostas — Univ. of Patras
Nikolakopoulos, George — Univ. OF PATRAS
Tzes, Anthony — Univ. of Patras

17:40-18:00 ThC15.6
Motion Estimation of a Miniature Helicopter Using a Single Onboard Camera, pp. 4456-4461.
Cherian, Anoop — Un. of Minnesota
Andersh, Jon — Univ. of Minnesota
Morellas, Vassilios — Univ. of Minnesota
Mettler, Bernard — Univ. of Minnesota
Papanikolopoulos, Nikolaos — Univ. of Minnesota

ThC16 — Grand Ballroom VIII
Control of Networks (Regular Session)

Chair: Tsumura, Koji — The Univ. of Tokyo
Co-Chair: Preciado, Victor M. — Univ. of Pennsylvania

16:00-16:20 ThC16.1
Distributed Control of the Laplacian Spectral Moments of a Networks, pp. 4462-4467.
Preciado, Victor M. — Univ. of Pennsylvania
Zavlanos, Michael M. — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania
Pappas, George J. — Univ. of Pennsylvania

16:20-16:40 ThC16.2
Signal Complexity in Cyclic Consensus Systems, pp. 4468-4473.
Tsumura, Koji — The Univ. of Tokyo

16:40-17:00 ThC16.3
H_∞ Performance and Robust Topology Design of Relative Sensing Networks, pp. 4474-4479.
Zelazo, Daniel — Univ. Stuttgart
Mesbahi, Mehran — Univ. of Washington

17:00-17:20 ThC16.4
Global Robust H-/Hinf Synchronization for a Class of Dynamical Networks, pp. 4480-4485.
Xu, Shiyun — Peking Univ.
Yang, Ying — Peking Univ.

17:20-17:40 ThC16.5
Exponential Synchronization of Switched Complex Dynamical Networks with Simultaneously Triangularizable Coupling Matrices, pp. 4486-4491.
Chen, Chao — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul
Zhao, Jun — The Australian National Univ.

17:40-18:00 ThC16.6
A Network Decomposition Approach for Efficient Sum of Squares Programming Based Analysis, pp. 4492-4497.
Anderson, James — Univ. of Oxford
Papachristodoulou, Antonis — Univ. of Oxford

ThC17 — Grand Ballroom IX
Nonlinear Identification (Regular Session)

Chair: Yao, Bin — Purdue Univ.
Co-Chair: Piroddi, Luigi — Pol. di Milano

16:00-16:20 ThC17.1
Semiparametric Identification of Wiener Systems Using a Single Harmonic Input and Retrospective Cost Optimization, pp. 4498-4503.
D'Amato, Anthony — Univ. of Michigan
Teixeira, Bruno Otavio Soares — Federal Univ. of Minas Gerais
Bernstein, Dennis S. — Univ. of Michigan

16:20-16:40 ThC17.2
Experimental Design for Identification of Nonlinear Systems with Bounded Uncertainties, pp. 4504-4509.
Lu, Lu — Purdue Univ. West Lafayette
Yao, Bin — Purdue Univ.

16:40-17:00 ThC17.3
Recursive Prediction Error Identification and Scaling of Non-Linear Systems with Midpoint Numerical Integration, pp. 4510-4515.
Tayamon, Soma — Uppsala Univ.
Wigren, Torbjorn — Uppsala Univ.

17:00-17:20 ThC17.4
Hammerstein Systems Identification in Presence of Nonparametric Backlash Nonlinearities, pp. 4516-4521.
Giri, Fouad — Univ. de Caen
Rochdi, Youssef — GREYC
Gning, Jean-Baptiste — Univ. of Caen
Chaoui, F.Z. — ENSET

17:20-17:40 ThC17.5
LASSO-Enhanced Simulation Error Minimization Method for NARX Model Selection, pp. 4522-4527.
Bonin, Mariangela — Pol. di Milano
Seghezza, Valerio — Pol. di Milano
Piroddi, Luigi — Pol. di Milano

17:40-18:00 ThC17.6
Wiener and Hammerstein Nonlinear Systems Identification Using Hybrid Genetic and Swarming Intelligence Based Culture Algorithm, pp. 4528-4533.
Naitali, Abdessamad — EMI, Univ. MV de Rabat-Agdal
Giri, Fouad — Univ. de Caen

ThC18 — Grand Ballroom X
Vision-Based Systems (Regular Session)

Chair: Vela, Patricio A. — Georgia Inst. of Tech.
Co-Chair: Ferrara, Antonella — Univ. of Pavia

16:00-16:20 ThC18.1
Visual Motion Observer-Based Pose Control with Panoramic Camera Via Passivity Approach, pp. 4534-4539.
Kawai, Hiroyuki — Kanazawa Inst. of Tech.
Murao, Toshiyuki — Advanced Inst. of Industrial Tech.
Fujita, Masayuki — Tokyo Inst. of Tech.

16:20-16:40 ThC18.2
Sliding Mode Observers for Vision-Based Fault Detection, Isolation and Identification in Robot Manipulators, pp. 4540-4545.
Capisani, Luca — Univ. of Pavia, ITALY
Ferrara, Antonella — Univ. of Pavia
Pisu, Pierluigi — Clemson Univ.

16:40-17:00 ThC18.3
Observability of Planar Combined Relative Pose and Target Model Estimation Using Monocular Vision, pp. 4546-4551.
Tribou, Michael John — Univ. of Waterloo
Wang, David — Univ. of Waterloo
Wilson, William J. — Univ. of Waterloo

17:00-17:20 ThC18.4
Experimental Evaluation of a Nonlinear Attitude Observer Based on Image and Inertial Measurements, pp. 4552-4557.
Brás, Sérgio — Inst. Superior Técnico
Cunha, Rita — Inst. Superior Técnico
Vasconcelos, José Fernandes — Inst. Superior Técnico
Silvestre, Carlos — Inst. Superior Tecnico
Oliveira, Paulo Jorge — Inst. Superior Técnico

17:20-17:40 ThC18.5
A Probabilistic Observer for Visual Tracking, pp. 4558-4563.
Ndiour, Ibrahima J. — Georgia Inst. of Tech.
Arif, Omar — Georgia Inst. of Tech.
Teizer, Jochen — Georgia Inst. of Tech.
Vela, Patricio A. — Georgia Inst. of Tech.

17:40-18:00 ThC18.6
Optimal Estimation Applied to Visual Contour Tracking, pp. 4564-4569.
Ndiour, Ibrahima J. — Georgia Inst. of Tech.
Vela, Patricio A. — Georgia Inst. of Tech.

ThC19 — Dover A
Automotive Suspensions (Regular Session)

Chair: Koch, Guido — Tech. Univ. München
Co-Chair: Spelta, Cristiano — Univ. degli studi di Bergamo

16:00-16:20 ThC19.1
Networked Embedded Generalized Predictive Controller for an Active Suspension System, pp. 4570-4575.
Shoukry, Yasser — Ain Shams Univ.
El-Shafey, Mohamed — Ain Shams Univ.
Hammad, Sherif — Ain Shams Univ.

16:20-16:40 ThC19.2
A Nonlinear Estimator Concept for Active Vehicle Suspension Control, pp. 4576-4581.

Koch, Guido — Tech. Univ. München
Kloiber, Tobias — Tech. Univ. München
Pellegrini, Enrico — Tech. Univ. München
Lohmann, Boris — Tech. Univ. München

16:40-17:00 ThC19.3
A Novel Control Strategy for Semi-Active Suspensions with Variable Damping and Stiffness (I), pp. 4582-4587.
Previdi, Fabio — Univ. degli Studi di Bergamo
Spelta, Cristiano — Univ. degli studi di Bergamo
Savaresi, Sergio M. — Pol. Di Milano
Bolzern, Paolo — Pol. di Milano
Cutini, Maurizio — CRA-ING
Bisaglia, Carlo — CRA-ING

17:00-17:20 ThC19.4
Experimental Validation of a Truck Roll Model Using Asynchronous Measurements with Low Signal-To-Noise Ratios, pp. 4588-4593.
Evers, Willem-Jan — Eindhoven Univ. of Tech.
Besselink, Igo — Eindhoven Univ. of Tech.
Teerhuis, Arjan — TNO Automotive
Oomen, Tom — Eindhoven Univ. of Tech.
Nijmeijer, Hendrik — Eindhoven Univ. of Tech.

17:20-17:40 ThC19.5
Using Lead Vehicle Response to Generate Preview Functions for Active Suspension of Convoy Vehicles, pp. 4594-4600.
Adibi asl, Hadi — Memorial Univ. of NL
Rideout, Donald Geoffrey — Memorial Univ. of Newfoundland

ThC20 — Dover B
Multivehicle Systems II (Regular Session)

Chair: Ren, Wei — Utah State Univ.
Co-Chair: Paley, Derek A. — Univ. of Maryland

16:00-16:20 ThC20.1
Synthesis of Pseudo GPS Coordinates with Real Data Image Capture for Vehicular System, pp. 4601-4603.
Bhavsar, Tapan — NJIT
Chang, Timothy N. — New Jersey Inst. of Tech.
Daniel, Janice — New Jersey Inst. of Tech.
Chow, Mo-Yuen — Army Res. Office/North Carolina State Univ.

16:20-16:40 ThC20.2
Multi-Vehicle Coordinated Motion Via Stabilization of Time-Varying Sets, pp. 4604-4609.
Nersesov, Sergey G. — Villanova Univ.
Ghorbanian, Parham — Villanova Univ.
Aghdam, Amir G. — Concordia Univ.

16:40-17:00 ThC20.3
Decentralized Finite-Time Sliding Mode Estimators with Applications to Formation Tracking, pp. 4610-4615.
Cao, Yongcan — Utah State Univ.
Ren, Wei — Utah State Univ.
Meng, Ziyang — Tsinghua Univ.

17:00-17:20 ThC20.4
Design and Field Testing of a Cooperative Adaptive Cruise Control System, pp. 4616-4621.
Bu, Fanping — Univ. of California at Berkeley
Tan, Han-Shue — Univ. of California at Berkeley
Huang, Jihua — UC Berkeley

17:20-17:40 ThC20.5
On the Optimal Localized Feedback Design for Vehicular Platoons, pp. 4622-4627.
Lin, Fu — Univ. of Minnesota
Fardad, Makan — Syracuse Univ.
Jovanovic, Mihailo — Univ. of Minnesota

17:40-18:00 ThC20.6
Critical Damping in a Kinetic Interaction Network, pp. 4628-4633.
Paley, Derek A. — Univ. of Maryland
Baharani, Ajay — Univ. of Maryland

ThC21 — Dover C
Application of LPV Control Methods (Invited Session)

Chair: Mohammadpour, Javad — Univ. of Houston
Co-Chair: Farhood, Mazen — Virginia Tech.
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Farhood, Mazen — Virginia Tech.

16:00-16:20 ThC21.1
Robust Fueling Strategy for an SI Engine Modeled As an Linear Parameter Varying Time-Delayed System (I), pp. 4634-4639.
Zope, Rohit — Univ. of Houston
Mohammadpour, Javad — Univ. of Houston
Grigoriadis, Karolos M. — Univ. of Houston

Franchek, Matthew A. — Univ. of Houston

16:20-16:40 — ThC21.2

Active and Passive Fault-Tolerant LPV Control of Wind Turbines (I), pp. 4640-4646.

Sloth, Christoffer — Aalborg Univ.
Esbensen, Thomas — Aalborg Univ.
Stoustrup, Jakob — Aalborg Univ.

16:40-17:00 — ThC21.3

LPV Fault Estimation and FTC of a Two-Link Manipulator (I), pp. 4647-4652.

Patton, Ron J. — Univ. of Hull
Klinkhieo, Supat — Synchrotron Light Res. Inst. (SLRI)

17:00-17:20 — ThC21.4

An LPV Control Approach for Semi-Active Suspension Control with Actuator Constraints (I), pp. 4653-4658.

Do, Anh Lam — Grenoble INP
Sename, Olivier — Grenoble Inst. of Tech.
Dugard, Luc — CNRS-Grenoble INP

17:20-17:40 — ThC21.5

LPV Gain-Scheduling Control of an Electromechanically Driven Landing Gear for a Commercial Aircraft (I), pp. 4659-4664.

Lüdders, Hauke Peer — Hamburg Univ. of Tech.
Abbas, Hossam Seddik — Hamburg Univ. of Tech.
Doberstein, Dennis — Hamburg Univ. of Tech.
Thielecke, Frank — Hamburg Univ. of Tech.
Werner, Herbert — Hamburg Univ. of Tech.

17:40-18:00 — ThC21.6

Trajectory Regulation of a Double Pendulum Using a Nonstationary LPV Approach (I), pp. 4665-4670.

Farhood, Mazen — Virginia Tech.

ThC22 — Laurel D

Robust Control (Regular Session)

Chair: Alamo, Teodoro — Univ. de Sevilla
Co-Chair: Peres, Pedro L. D. — Univ. of Campinas

16:00-16:20 — ThC22.1

On the Sample Complexity of Randomized Approaches to the Analysis and Design under Uncertainty, pp. 4671-4676.

Alamo, Teodoro — Univ. de Sevilla
Tempo, Roberto — Pol. di Torino
Luque, Amalia — Univ. of Sevilla

16:20-16:40 — ThC22.2

Robust H-Infinity Static Output-Feedback Design for Time-Invariant Discrete-Time Polytopic Systems from Parameter-Dependent State-Feedback Gains, pp. 4677-4682.

Agulhari, Cristiano Marcos — Univ. of Campinas
Oliveira, Ricardo C. L. F. — Univ. of Campinas
Peres, Pedro L. D. — Univ. of Campinas

16:40-17:00 — ThC22.3

Mixed LMI/Randomized Methods for Static Output Feedback Control Design, pp. 4683-4688.

Arzelier, Denis — LAAS-CNRS
Gryazina, Elena — Inst. for Control Sciences RAS
Peaucelle, Dimitri — LAAS-CNRS, Univ. de Toulouse
Polyak, Boris T. — Moscow Inst. of Control Sciences

17:00-17:20 — ThC22.4

On the Robust Control of Continuous-Time Markov Jump Linear Systems Subject to Block-Diagonal Uncertainty, pp. 4689-4694.

Todorov, Marcos — LNCC
Fragoso, Marcelo — LNCC / MCT

17:20-17:40 — ThC22.5

Robust Control of Nonlinear Uncertain Systems Via Second Order Sliding Mode with Backstepping Design, pp. 4695-4700.

Benayache, Rabia — Univ. de Picardie Jules Verne
Chrifi Alaoui, Larbi — UPJV - IUT de l'Aisne
Bussy, Pascal — UPJV
Dovifaaz, Xavier — CRAN
Anouar, Benamor — Univ. de monastir

17:40-18:00 — ThC22.6

Towards Robust Recursive Nonlinear Control with Constraints for a Class of Dynamical Systems, pp. 4701-4706.

Teodorescu, Catalin-Stefan — Paris-Sud 11 Univ.
Siguerdidjane, Houria — Supelec
Olaru, Sorin — Supelec

FrSP1 — Grand Ballroom V

Cooperative Control and Mobile Sensor Networks in the Ocean (Semiplenary Session)

Chair: Braatz, Richard D. — Univ. of Illinois, Urbana-Champaign
Co-Chair: Allgower, Frank — Univ. of Stuttgart

08:00-09:00 — FrSP1.1

*Cooperative Control and Mobile Sensor Networks in the Ocean**. (Not Available)
Leonard, Naomi Ehrich — Princeton Univ.

FrSP2 — Grand Ballroom VI
Bisimulation: From Differential Equations to Finite-State Machines and Back (Semiplenary Session)
Chair: Khalil, Hassan K. — Michigan State Univ.
Co-Chair: Masada, Glenn Y. — Univ. of Texas at Austin

08:00-09:00 — FrSP2.1
*Bisimulation: From Differential Equations to Finite-State Machines and Back**. (Not Available)
Tabuada, Paulo — Univ. of California at Los Angeles

FrA01 — Harborside Ballroom A
Model Predictive Control I (Regular Session)
Chair: Cannon, Mark — Univ. of Oxford
Co-Chair: Chachuat, Benoît — McMaster Univ.

09:20-09:40 — FrA01.1
On the Design of Reconfigurable Two Layer Hierarchical Control Systems with MPC, pp. 4707-4712.
De Vito, Daniele — Pol. di Milano
Picasso, Bruno — Pol. di Milano
Scattolini, Riccardo — Pol. di Milano

09:40-10:00 — FrA01.2
Low-Complexity Polynomial Approximation of Explicit MPC Via Linear Programming, pp. 4713-4718.
Kvasnica, Michal — Slovak Univ. of Tech. in Bratislava
Löfberg, Johan — Linköpings Univ.
Herceg, Martin — Slovak Univ. of Tech. in Bratislava
Cirka, Lubos — Slovak Univ. of Tech. in Bratislava
Fikar, Miroslav — Slovak Univ. of Tech. in Bratislava

10:00-10:20 — FrA01.3
Event-Triggered Control for Discrete-Time Systems, pp. 4719-4724.
Eqtami, Alina — National Tech. Univ. of Athens
Dimarogonas, Dimos V. — Massachusetts Inst. of Tech.
Kyriakopoulos, Kostas J. — National Tech. Univ. of Athens

10:20-10:40 — FrA01.4
A Line Search Improvement of Efficient MPC, pp. 4725-4730.
Kouvaritakis, Basil — Oxford Univ.
Li, Shuang — Beijing Inst. of Tech.
Cannon, Mark — Univ. of Oxford

10:40-11:00 — FrA01.5
Using Laguerre Functions to Improve Efficiency of Multi-Parametric Predictive Control, pp. 4731-4736.
Valencia-Palomo, Guillermo — Univ. of Sheffield
Rossiter, J. Anthony — Univ. of Sheffield

11:00-11:20 — FrA01.6
High-Speed Online MPC Based on a Fast Gradient Method Applied to Power Converter Control, pp. 4737-4743.
Richter, Stefan — ETH Zurich
Mariethoz, Sebastien — ETH Zurich
Morari, Manfred — ETH Zurich

FrA02 — Harborside Ballroom B
Swarm Tracking (Regular Session)
Chair: Ren, Wei — Utah State Univ.
Co-Chair: Esposito, Joel — US Naval Acad.

09:20-09:40 — FrA02.1
Distributed Coordinated Tracking Via a Variable Structure Approach - Part I: Consensus Tracking, pp. 4744-4749.
Cao, Yongcan — Utah State Univ.
Ren, Wei — Utah State Univ.

09:40-10:00 — FrA02.2
Distributed Coordinated Tracking Via a Variable Structure Approach - Part II: Swarm Tracking, pp. 4750-4755.
Cao, Yongcan — Utah State Univ.
Ren, Wei — Utah State Univ.

10:00-10:20 — FrA02.3
Multi-Agent Coordination with Cohesion, Dispersion, and Containment Control, pp. 4756-4761.
Chen, Fei — Utah State Univ.
Ren, Wei — Utah State Univ.
Lin, Zongli — Univ. of Virginia

10:20-10:40 — FrA02.4
Decentralized Cooperative Manipulation with a Swarm of Mobile Robots: The Approach Problem, pp. 4762-4767.
Esposito, Joel — US Naval Acad.

10:40-11:00 — FrA02.5
Order Formations in Multi-Agent Search Problem: A Game Theoretic Approach, pp. 4768-4773.

Saito, Mamoru — Sony Corp.
Hatanaka, Takeshi — Tokyo Inst. of Tech.
Fujita, Masayuki — Tokyo Inst. of Tech.

11:00-11:20 FrA02.6

Kalman Filter for Inhomogeneous Population Markov Chains with Application to Stochastic Recruitment Control of Muscle Actuators, pp. 4774-4781.

Odhner, Lael — Yale Univ.
Asada, H. Harry — Massachusetts Inst. of Tech.

FrA03 — Harborside Ballroom D

Adaptive Control VII (Regular Session)

Chair: Hoagg, Jesse B. — Univ. of Michigan
Co-Chair: Gazi, Veysel — TOBB Univ. of Ec. and Tech.

09:20-09:40 FrA03.1

Selective Input Adaptation in Parametric Optimal Control Problems Involving Terminal Constraints, pp. 4782-4787.

Deshpande, Saurabh — École Pol. Fédérale de Lausanne
Bonvin, Dominique — EPFL
Chachuat, Benoît — McMaster Univ.

09:40-10:00 FrA03.2

Robust Fuzzy Tracking Control for a Class of Perturbed Non-Square Nonlinear Systems, pp. 4788-4793.

Aloui, Sinda — National engineering school tunisia
Pages, Olivier — Univ. of Picardie Jules Verne
El Hajjaji, Ahmed — Univ. de Picardie-Jules Verne
Chaari, Abdessattar — National engineering school tunisia
Koubaa, Yassine — ENIS Sfax

10:00-10:20 FrA03.3

Multi-Agent Deployment Around a Source in One Dimension by Extremum Seeking, pp. 4794-4799.

Ghods, Nima — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California at San Diego

10:20-10:40 FrA03.4

Adaptive Internal Model Based Formation Control of a Class of Multi-Agent Systems, pp. 4800-4805.

Gül, Esma — TOBB Univ. of Ec. and Tech.
Gazi, Veysel — TOBB Univ. of Ec. and Tech.

10:40-11:00 FrA03.5

Adaptive Road-Following Preview Control Using Radius of Curvature Data, pp. 4806-4811.

Sumer, Dogan — Univ. of Michigan - Ann Arbor
Lu, Jianbo — Ford Motor Company
Filev, Dimitre P. — Ford Motor Company
Hoagg, Jesse B. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

11:00-11:20 FrA03.6

Hybrid Retrospective-Cost-Based Adaptive Control Using Concurrent Parameter Estimation, pp. 4812-4817.

D'Amato, Anthony — Univ. of Michigan
Hoagg, Jesse B. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

FrA04 — Harborside Ballroom E

Switched Systems V (Regular Session)

Chair: Najson, Federico — Univ. de la República
Co-Chair: Lee, Ji-Woong — Pennsylvania State Univ.

09:20-09:40 FrA04.1

Computationally Efficient State-Feedback Stabilizability Determination in Switched Linear Systems with Rank-One Modes, pp. 4818-4820.

Najson, Federico — Univ. de la República

09:40-10:00 FrA04.2

Equivalent Conditions for Uniform Asymptotic Consensus among Distributed Agents, pp. 4821-4826.

Ghosh, Supratim — The Pennsylvania State Univ.
Lee, Ji-Woong — Pennsylvania State Univ.

10:00-10:20 FrA04.3

Stability Analysis for Interconnected Piecewise Linear Planar Systems, pp. 4827-4832.

Nishiyama, Satoshi — Tokyo Inst. of Tech.
Hayakawa, Tomohisa — Tokyo Inst. of Tech.

10:20-10:40 FrA04.4

On Efficient Sensor Scheduling for Linear Dynamical Systems, pp. 4833-4838.

Vitus, Michael P. — Stanford Univ.
Zhang, Wei — Univ. of California at Berkeley
Abate, Alessandro — TU Delft
Hu, Jianghai — Purdue Univ.
Tomlin, Claire J. — UC Berkeley

10:40-11:00 FrA04.5

Adaptive Output Feedback Control of Nonlinear Systems with Nonlinear Parameterization: A Dwell-Time-Switching Based Multiple Model Adaptive Control Approach, pp. 4839-4844.

Chen, Wei-tian — Australian National Univ.
Anderson, Brian D.O. — Australian National Univ.

FrA05 — Essex A
Optimization II (Regular Session)

Chair: Martinez, Sonia — Univ. of California at San Diego
Co-Chair: Waslander, Steven L. — Univ. of Waterloo

09:20-09:40 — FrA05.1
Spiral Bacterial Foraging Optimization Method, pp. 4845-4850.
Kasaiezadeh, Alireza — Univ. of Waterloo
Khajepour, Amir — Univ. of Waterloo
Waslander, Steven L. — Univ. of Waterloo

09:40-10:00 — FrA05.2
A Parallel-Computing Solution for Optimization of Polynomials, pp. 4851-4856.
Peet, Matthew M. — Illinois Inst. of Tech.
Peet, Yulia — Angonne National Lab.

10:00-10:20 — FrA05.3
Two Player Statistical Game with Higher Order Cumulants, pp. 4857-4862.
Lee, Jong-Ha — Temple Univ.
Won, Chang-Hee — Temple Univ.
Diersing, Ronald — Univ. of Southern Indiana

10:20-10:40 — FrA05.4
On Distributed Optimization under Inequality Constraints Via Lagrangian Primal-Dual Methods, pp. 4863-4868.
Zhu, Minghui — Univ. of California, San Diego
Martinez, Sonia — Univ. of California at San Diego

10:40-11:00 — FrA05.5
Reliable Dynamical Systems for Canonical Variate Computation, pp. 4869-4874.
Hasan, Mohammed A. — Univ. of Minnesota

11:00-11:20 — FrA05.6
Convex Nondifferentiable Stochastic Optimization: A Local Randomized Smoothing Technique, pp. 4875-4880.
Yousefian, Farzad — Univ. of Illinois at Urbana-Champaign
Nedich, Angelia — Univ. of Illinois, Urbana-Champaign
Shanbhag, Uday V. — Univ. of Illinois, Urbana-Champaign

FrA06 — Essex B
Estimation and Control of DPS I (Invited Session)

Chair: Demetriou, Michael A. — Worcester Pol. Inst.
Co-Chair: Djouadi, Seddik, M. — Univ. of Tennessee
Organizer: Demetriou, Michael A. — Worcester Pol. Inst.
Organizer: Armaou, Antonios — The Pennsylvania State Univ.

09:20-09:40 — FrA06.1
Balanced POD Algorithm for Robust Control Design for Linear Distributed Parameter Systems (I), pp. 4881-4886.
Singler, John — Missouri Univ. of Science and Tech.
Batten, Belinda A. — Oregon State Univ.

09:40-10:00 — FrA06.2
Semidiscrete Approximation and Renorming in Control of Distributed Parameter Systems (I), pp. 4887-4892.
Fabiano, Richard H. — Univ. of North Carolina at Greensboro

10:00-10:20 — FrA06.3
Sensitivities and Functional Gains for a Flexible Aircraft-Inspired Model (I), pp. 4893-4898.
Chakravarthy, Animesh — Univ.
Evans, Katie — Louisiana Tech. Univ.
Evers, Johnny — US Air Force

10:20-10:40 — FrA06.4
Using H2-Control Metrics for the Optimal Actuator Location of Infinite-Dimensional Systems (I), pp. 4899-4904.
Morris, Kirsten — Univ. of Waterloo
Demetriou, Michael A. — Worcester Pol. Inst.

10:40-11:00 — FrA06.5
On Recursive Proper Orthogonal Decomposition Via Perturbation Theory with Applications to Distributed Sensing in Cyber-Physical Systems (I), pp. 4905-4910.
Xu, Chao — Lehigh Univ.
Luo, Lixiang — Lehigh Univ.
Schuster, Eugenio — Lehigh Univ.

11:00-11:20 — FrA06.6
On the Connection between Balanced Proper Orthogonal Decomposition, Balanced Truncation, and Metric Complexity Theory for Infinite Dimensional Systems (I), pp. 4911-4916.
Djouadi, Seddik, M. — Univ. of Tennessee

FrA07 Essex C

Artificial Neural Networks (Regular Session)

Chair: Chen, Lei — Adelaide Univ.
Co-Chair: Hassapis, George — Aristotle Univ. of Thessaloniki

09:20-09:40 FrA07.1
A Design Approach for Feedback-Feedforward Control Systems, pp. 4917-4918.
Mohammadzaheri, Morteza — Univ. of Adelaide
Chen, Lei — Adelaide Univ.

09:40-10:00 FrA07.2
Stabilizing Control of a Class of Unknown Nonlinear Systems Using Dynamic Neural Networks, pp. 4919-4924.
Farid, Farshad — Whirlpool Corp.
Pourboghrat, Farzad — Southern Illinois Univ.

10:00-10:20 FrA07.3
H-Infinity Neural Network Adaptive Control, pp. 4925-4930.
Muse, Jonathan — Georgia Inst. of Tech.
Calise, Anthony J. — Georgia Inst. of Tech.

10:20-10:40 FrA07.4
Identification Algorithm for Standard Continuous Piecewise Linear Neural Network, pp. 4931-4936.
Huang, Xiaolin — Tsinghua Univ.
Xu, Jun — Tsinghua Univ.
Wang, Shuning — Tsinghua Univ.

10:40-11:00 FrA07.5
Adaptive Recurrent Neural Network Training Algorithm for Nonlinear Model Identification Using Supervised Learning, pp. 4937-4942.
Akpan, Vincent Andrew — Aristotle Univ. of Thessaloniki
Hassapis, George — Aristotle Univ. of Thessaloniki

11:00-11:20 FrA07.6
Stability of Switched Hopfield Neural Networks with Time-Varying Delay, pp. 4943-4948.
Zhang, Kai — Dalian Univ. of Tech.
Lian, Jie — Dalian Univ. of Tech.
Sun, Xi-Ming — Dalian Univ. of Tech.
Wang, Dong — Dalian Univ. of Tech.

FrA08 Laurel A

Nanopositioning and Scanning Probe Systems (Invited Session)

Chair: Fleming, Andrew J. — Univ. of Newcastle
Co-Chair: Chang, Timothy N. — New Jersey Inst. of Tech.
Organizer: Abramovitch, Daniel Y. — Agilent Lab.
Organizer: Clayton, Garrett — Villanova Univ.
Organizer: Fleming, Andrew J. — Univ. of Newcastle
Organizer: Leang, Kam K. — Univ. of Nevada, Reno
Organizer: Pao, Lucy Y. — Univ. of Colorado at Boulder
Organizer: Zou, Qingze — Iowa State Univ.

09:20-09:40 FrA08.1
Design, Characterization, and Control of a Monolithic Three-Axis High-Bandwidth Nanopositioning Stage (I), pp. 4949-4956.
Kenton, Brian J. — Univ. of Nevada, Reno
Leang, Kam K. — Univ. of Nevada, Reno

09:40-10:00 FrA08.2
A 12-Electrode Piezoelectric Tube Scanner for Fast Atomic Force Microscopy (I), pp. 4957-4962.
Yong, Yuen Kuan — The Univ. of Newcastle
Arain, Bilal Ahmed — UNSW@ADFA
Moheimani, S.O. Reza — Univ. of Newcastle

10:00-10:20 FrA08.3
Passive Shunt Damping of a Piezoelectric Stack Nanopositioner (I), pp. 4963-4968.
Eielsen, Arnfinn Aas — Norwegian Univ. of Science and Tech.
Fleming, Andrew J. — Univ. of Newcastle

10:20-10:40 FrA08.4
High Speed Nanopositioning with Force Feedback (I), pp. 4969-4974.
Fleming, Andrew J. — Univ. of Newcastle

10:40-11:00 FrA08.5
Ultra-Fast Dual-Stage Vertical Positioning for High Performance SPMs (I), pp. 4975-4980.
Fleming, Andrew J. — Univ. of Newcastle
Kenton, Brian J. — Univ. of Nevada, Reno
Leang, Kam K. — Univ. of Nevada, Reno

11:00-11:20 FrA08.6
A Nonlinear Approach to Tracking Single Nanometer-Scale Fluorescent Particles (I), pp. 4981-4986.
Andersson, Sean — Boston Univ.

FrA09 Laurel B

Time Delay Systems I (Regular Session)

Chair: Sipahi, Rifat — Northeastern Univ.
Co-Chair: Watkins, John — Wichita State Univ.

09:20-09:40 — FrA09.1
Model Matching Control for MIMO Systems with Multiple Time Delays and Its Applications in Adaptive Scheme, pp. 4987-4992.
Su, Haixia — Beihang Univ.
Jia, Yingmin — Beihang Univ.
Du, Junping — Beijing Univ. of Posts and Telecommunications
Yu, Fashan — Henan Pol. Univ.

09:40-10:00 — FrA09.2
Delay-Dependent Robust Stability Analysis for Systems with Interval Delays, pp. 4993-4998.
Orihuela, Luis — Univ. de Sevilla
Millan, Pablo — Univ. de Sevilla
Vivas, Carlos — Univ. De Sevilla
Rubio, Francisco R. — Univ. de Sevilla

10:00-10:20 — FrA09.3
Stability Regions in the Parameter Space for a Unified PID Controller, pp. 4999-5005.
Emami, Tooran — Wichita State Univ.
Lee, Taegyu — WICHITA STATE Univ.
Watkins, John — Wichita State Univ.

10:20-10:40 — FrA09.4
On Observer-Based Control System Design with Delayed Data, pp. 5006-5011.
Friedland, Bernard — New Jersey Inst. of Tech.

10:40-11:00 — FrA09.5
Advanced Clustering with Frequency Sweeping (ACFS) Methodology for the Stability Analysis of Multiple Time-Delay Systems, pp. 5012-5017.
Delice, Ismail Ilker — Northeastern Univ.
Sipahi, Rifat — Northeastern Univ.

11:00-11:20 — FrA09.6
Reducing the Computational Cost of the Sum-Of-Squares Stability Test for Time-Delayed Systems, pp. 5018-5023.
Zhang, Yashun — Nanjing Univ. of Science & Tech.
Peet, Matthew M. — Illinois Inst. of Tech.
Gu, Keqin — Southern Illinois Univ. Edwardsville

FrA10 — Laurel C
PHEV and HEV Estimation and Control (Tutorial Session)

Chair: Stefanopoulou, Anna G. — Univ. of Michigan
Co-Chair: Onori, Simona — Ohio State Univ.
Organizer: Onori, Simona — Ohio State Univ.
Organizer: Marano, Vincenzo — The Ohio State Univ.
Organizer: Karnik, Amey — Ford Motor Company
Organizer: Mohammadpour, Javad — Univ. of Houston
Organizer: Wang, Junmin — Ohio State Univ.

09:20-10:00 — FrA10.1
Optimal Control for Plug-In Hybrid Electric Vehicle Applications (I), pp. 5024-5030.
Stockar, Stephanie — ETH Zurich
Marano, Vincenzo — The Ohio State Univ.
Rizzoni, Giorgio — Ohio State Univ.
Guzzella, Lino — ETH Zurich

10:00-10:20 — FrA10.2
Model Predictive Control of a Power-Split Hybrid Electric Vehicle with Combined Battery and Ultracapacitor Energy Storage (I), pp. 5031-5036.
Borhan, Hoseinali — Clemson Univ.
Vahidi, Ardalan — Clemson Univ.

10:20-10:40 — FrA10.3
Optimal Energy Management for a Plug-In Hybrid Electric Vehicle: Real-Time Controller (I), pp. 5037-5042.
Lin, Xiao — Indiana Univ. Univ. Indianapolis
Banvait, Harpreeetsingh — IUPUI
Anwar, Sohel — Purdue School of Engr. & Tech.
Chen, Yaobin — Purdue School of Engr and Tech. IUPUI

10:40-11:00 — FrA10.4
Battery State of Charge Estimation in Automotive Applications Using LPV Techniques (I), pp. 5043-5049.
Hu, Yiran — Ohio State Univ.
Yurkovich, Stephen — The Ohio State Univ.

11:00-11:20 — FrA10.5
Cell Equalization in Battery Stacks through State of Charge Estimation Polling (I), pp. 5050-5055.
Speltino, Carmelo — Univ. del Sannio BN Italy
Stefanopoulou, Anna G. — Univ. of Michigan
Fiengo, Giovanni — Univ. degli Studi del Sannio

FrA11 Grand Ballroom I

Control Applications IV (Regular Session)

Chair: Yedavalli, Rama K. — Ohio State Univ.
Co-Chair: Stefanovic, Margareta — Univ. of Wyoming

09:20-09:40 FrA11.1

Robust Adaptive Control of Surge Instability in a Centrifugal Compressor with Variable Speed, pp. 5056-5061.

Daroogheh, Najmeh — Iranian National Petrochemical,KhorasanPetrochemicalComplex
Jahed Motlagh, Mohammad Reza — Iran Univ. of Science and Tech.
Beheshti, Mohammad T. H. — Univ. of Tarbiat Modares

09:40-10:00 FrA11.2

Engineering Perspective of Ecological Sign Stability and Its Application in Control Design, pp. 5062-5067.

Devarakonda, Nagini — The Ohio State Univ.
Yedavalli, Rama K. — Ohio State Univ.

10:00-10:20 FrA11.3

Natural Entrainment of Collocated Mechanical Systems Via Decentralized Multi-Agent Feedback, pp. 5068-5073.

Futakata, Yoshiaki — The Univ. of Tokyo
Iwasaki, Tetsuya — UCLA

10:20-10:40 FrA11.4

Velocity Trajectory Optimization in Hybrid Electric Trucks, pp. 5074-5079.

van Keulen, Thijs — Eindhoven Univ. of Tech.
de Jager, Bram — Tech. Univ. Eindhoven
Foster, Darren — TNO Science and Industry
Steinbuch, Maarten — Eindhoven Univ. of Tech.

10:40-11:00 FrA11.5

Cross Entropy Accelerated Ant Routing in Satellite Networks, pp. 5080-5087.

Cao, Jinhua — Univ. of Wyoming
Stefanovic, Margareta — Univ. of Wyoming

11:00-11:20 FrA11.6

Simulation Study to Control Solids Flow Rate in a Pilot Scale Cold Flow Circulating Fluidized Bed, pp. 5088-5093.

Panday, Rupen — REM Engineering Services PLLC
Woerner, Brian D — WVU
Shadle, Lawrence — National Energy and Tech. Lab.
Ludlow, James C — NETL
Worstell, Todd — Parsons, NETL

FrA12 Grand Ballroom II

Green Buildings (Regular Session)

Chair: Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign
Co-Chair: Mehta, Prashant G. — Univ. of Illinois, Urbana-Champaign

09:20-09:40 FrA12.1

Regenerative Semi-Active Control of Tall Building Vibration with Series TMDs, pp. 5094-5099.

Zuo, Lei — State Univ. of New York at Stony Brook

09:40-10:00 FrA12.2

Energy Efficient Building Climate Control Using Stochastic Model Predictive Control and Weather Predictions, pp. 5100-5105.

Oldewurtel, Frauke — ETH Zurich
Parisio, Alessandra — Univ. del Sannio
Jones, Colin Neil — ETH Zurich
Morari, Manfred — ETH Zurich
Gyalistras, Dimitrios — ETH Zurich
Gwerder, Markus — Siemens Building Tech.
Stauch, Vanessa — Federal Inst. for Meteorology and Climatology MeteoSwiss
Lehmann, Beat — Empa, Swiss Federal Lab. for Materials Testing and Res.
Wirth, Katharina — Building Tech. Lab. EMPA

10:00-10:20 FrA12.3

Model Predictive Control for the Operation of Building Cooling Systems, pp. 5106-5111.

Ma, Yudong — UC berkeley CA USA
Borrelli, Francesco — Unversity of California at Berkeley
Hencey, Brandon — Cornell Univ.
Coffey, Brian — UC Berkeley
Bengea, Sorin C. — United Tech. Res. Center
Haves, Philip — LBNL

10:20-10:40 FrA12.4

Predictive Control of Complex Hydronic Systems, pp. 5112-5117.

Chandan, Vikas — Univ. of Illinois
Mishra, Sandipan — Univ. of Illinois
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

10:40-11:00 FrA12.5

Building Thermal Model Reduction Via Aggregation of States, pp. 5118-5123.

Deng, Kun — Univ. of Illinois, Urbana-Champaign

Barooah, Prabir — Univ. of Florida
Mehta, Prashant G. — Univ. of Illinois, Urbana-Champaign
Meyn, Sean — Univ. of Illinois

11:00-11:20 FrA12.6
A New Escape Routing Strategy for Controlling Evacuation from Buildings, pp. 5124-5130.
Pizzileo, Barbara — Pol. di Bari
Lino, Paolo — Pol. di Bari
Maione, Guido — Pol. di Bari
Maione, Bruno — Pol. di Bari

FrA13 Grand Ballroom III
Systems Analysis in Biology and Medicine (Invited Session)
Chair: Parker, Robert S. — Univ. of Pittsburgh
Co-Chair: Hahn, Juergen — Texas A&M Univ.
Organizer: Parker, Robert S. — Univ. of Pittsburgh
Organizer: Hahn, Juergen — Texas A&M Univ.

09:20-09:40 FrA13.1
Derivation of Simplified Signal Transduction Pathway Models: Application to IL-6 Signaling (I), pp. 5131-5136.
Huang, Zuyi (Jacky) — Texas A&M Univ.
Chu, Yunfei — Texas A&M Univ.
Hahn, Juergen — Texas A&M Univ.

09:40-10:00 FrA13.2
Estimating Seasonal Drivers in Childhood Infectious Diseases with Continuous Time and Discrete-Time Models (I), pp. 5137-5142.
Word, Daniel P. — Texas A&M Univ.
Abbott III, George H. — Texas A&M Univ.
Cummings, Derek A. — Johns Hopkins Bloomberg School of Public Health
Laird, Carl Damon — Texas A&M Univ.

10:00-10:20 FrA13.3
Designing Experiments from Noisy Metabolomics Data to Refine Constraint-Based Models (I), pp. 5143-5148.
Yang, Laurence — Univ. of Toronto
Mahadevan, Radhakrishnan — Univ. of Toronto
Cluett, William R. — Univ. of Toronto

10:20-10:40 FrA13.4
A Comparison of Clinical Control Strategies for the Hyperglycemia of Injury and Illness (I), pp. 5149-5154.
Borrello, Michael A. — Luminous Medical
Bequette, B. Wayne — Rensselaer Pol. Inst.
Sun, Jing — Rensselaer Pol. Inst.

10:40-11:00 FrA13.5
Modeling-Error Robustness of a Viral-Load Preconditioning Strategy for HIV Treatment Switching (I), pp. 5155-5160.
Luo, Rutao — Univ. of Delaware
Piovoso, Michael J. — Penn State Great Valley School
Zurakowski, Ryan — Univ. of Delaware

11:00-11:20 FrA13.6
Phenomenological Model of Plasma FFA, Glucose, and Insulin Concentrations During Rest and Exercise (I), pp. 5161-5166.
Roy, Anirban — Univ. of Pittsburgh
Parker, Robert S. — Univ. of Pittsburgh

FrA14 Grand Ballroom IV
Constrained Control (Regular Session)
Chair: Gomes Da Silva Jr., Joao Manoel — Univ. Federal do Rio Grande do Sul
Co-Chair: Sideris, Athanasios — Univ. of California at Irvine

09:20-09:40 FrA14.1
A Riccati Approach to Equality Constrained Linear Quadratic Optimal Control, pp. 5167-5172.
Sideris, Athanasios — Univ. of California at Irvine
Rodriguez, Luis Alberto — Univ. of California Irvine

09:40-10:00 FrA14.2
A Control Strategy for a Class of Cascade Systems Including Saturation Elements, pp. 5173-5178.
Giri, Fouad — Univ. de Caen
Chater, El Ayachi — LAII, EMI
Gning, Jean-Baptiste — Univ. of Caen
Chaoui, F.Z. — ENSET
Haloua, Mohamed — EMI

10:00-10:20 FrA14.3
Asymptotic and L2 Stability Analysis for a Class of Nonlinear Discrete-Time Control Systems Subject to Actuator Saturation, pp. 5179-5184.
Zardo Oliveira, Maurício — UFRGS
Gomes Da Silva Jr., Joao Manoel — Univ. Federal do Rio Grande do Sul
Coutinho, Daniel Ferreira — Pont. Univ. Catolica do Rio Grande

10:20-10:40 FrA14.4
State Admissible Sets for Discrete Systems under Delay Constraints, pp. 5185-5190.

Lombardi, Warody — Supélec
Luca, Anamaria — SUPELEC
Olaru, Sorin — Supelec
Niculescu, Silviu-Iulian — CNRS-Supelec

10:40-11:00 — FrA14.5
On Constructing Constrained Control Lyapunov Functions for Linear Systems, pp. 5191-5196.
Mahmood, Maaz — McMaster Univ.
Mhaskar, Prashant — McMaster Univ.

11:00-11:20 — FrA14.6
An Active Set Method for Constrained Linear Quadratic Optimal Control, pp. 5197-5202.
Rodriguez, Luis Alberto — Univ. of California Irvine
Sideris, Athanasios — Univ. of California at Irvine

FrA15 — Grand Ballroom VII
Marine Systems I (Tutorial Session)
Chair: Chalhoub, Nabil G. — Wayne State Univ.
Co-Chair: Ashrafiuon, Hashem — Villanova Univ.

09:20-09:40 — FrA15.1
Review of Nonlinear Tracking and Setpoint Control Approaches for Autonomous Underactuated Marine Vehicles (I), pp. 5203-5211.
Ashrafiuon, Hashem — Villanova Univ.
Muske, Kenneth R. — Villanova Univ.
McNinch, Lucas — Villanova Univ.

09:40-10:00 — FrA15.2
Sliding Mode Setpoint Control of an Underactuated Surface Vessel: Simulation and Experiment, pp. 5212-5217.
McNinch, Lucas — Villanova Univ.
Ashrafiuon, Hashem — Villanova Univ.
Muske, Kenneth R. — Villanova Univ.

10:00-10:20 — FrA15.3
Simplified Modeling Approach to System Identification of Non-Linear Boat Dynamics, pp. 5218-5223.
Hann, Christopher Eric — Univ. of Canterbury
Sirisena, Harsha Rajaram — Univ. of Canterbury
Wongvanich, Napasool — Univ. of Canterbury

10:20-10:40 — FrA15.4
An Electric Ray Inspired Biomimetic Autonomous Underwater Vehicle, pp. 5224-5229.
Krishnamurthy, Prashanth — Pol. Inst. of NYU
Khorrami, Farshad — Pol. Inst. of NYU
de Leeuw, Josh — Vassar Coll.
Porter, Marianne — Vassar Coll.
Livingston, Ken — Vassar Coll.
Long, John — Vassar Coll.

10:40-11:00 — FrA15.5
Guidance and Control Scheme for Under-Actuated Marine Surface Vessels, pp. 5230-5235.
Khaled, Nassim — wayne state Univ.
Chalhoub, Nabil G. — Wayne State Univ.

11:00-11:20 — FrA15.6
Path Following of a Model Ship Using Model Predictive Control with Experimental Verification, pp. 5236-5241.
Ghaemi, Reza — Univ. of Michigan (Ann Arbor)
Oh, So-ryeok — Univ. of Michigan
Sun, Jing — Univ. of Michigan

FrA16 — Grand Ballroom VIII
Robot Control I (Tutorial Session)
Chair: Lee, Kang Woong — Korea Aerospace Univ.
Co-Chair: Hsu, Liu — COPPE/UFRJ

09:20-10:00 — FrA16.1
Control of a Robot Interacting with an Uncertain Viscoelastic Environment with Adjustable Force Bounds (I), pp. 5242-5247.
Bhasin, Shubhendu — Univ. of Florida
Patre, Parag — NASA Langley Res. Center
Kan, Zhen — Univ. of Florida
Dixon, Warren E. — Univ. of Florida

10:00-10:20 — FrA16.2
Robust Adaptive Control of the Stewart-Gough Robot in the Task Space, pp. 5248-5253.
Yime, Eugenio — Univ. del Atlantico
Saltaren, Roque — Univ. Pol. de Madrid
Diaz-Gonzalez, James — BMT Designer and Planners Inc

10:20-10:40 — FrA16.3
Phase-Plane Based Feedback Scheme for Negative Amplitude Shapers, pp. 5254-5259.
Dhanda, Abhishek — Stanford Univ.
Franklin, Gene F. — Stanford Univ.

10:40-11:00 FrA16.4
A Cascaded-Based Hybrid Position-Force Control for Robot Manipulators with Nonnegligible Dynamics, pp. 5260-5265.
Leite, Antonio C. COPPE - Federal Univ. of Rio de Janeiro
Lizarralde, Fernando Federal Univ. of Rio de Janeiro
Hsu, Liu COPPE/UFRJ

11:00-11:20 FrA16.5
Image-Based Robust Control of Robot Manipulators Using Dynamic Compensator, pp. 5266-5271.
Kim, Chin Su Korea Aerospace Univ.
Lee, Kang Woong Korea Aerospace Univ.

FrA17 Grand Ballroom IX
Nonlinear Observers I (Regular Session)

Chair: Goodwin, Graham C. Univ. of Newcastle
Co-Chair: Marquez, Horacio J. Univ. of Alberta

09:20-09:40 FrA17.1
An Alternative Approach to the State Observation Problem for Lipschitz Continuous Systems with Controls, pp. 5272-5277.
Hernandez, Santiago Martin Inst. Tecnológico de Buenos Aires
Garcia, Rafael A. Inst. Tecnológico de Buenos Aires

09:40-10:00 FrA17.2
Rapprochement between Discrete and Continuous Nonlinear Filtering, pp. 5278-5283.
Goodwin, Graham C. Univ. of Newcastle
Cea, Mauricio UTFSM
Feuer, Arie Tech.

10:00-10:20 FrA17.3
Nonlinear Observer Design for One-Sided Lipschitz Systems, pp. 5284-5289.
Abbaszadeh, Masoud Univ. of Alberta
Marquez, Horacio J. Univ. of Alberta

10:20-10:40 FrA17.4
On the Observer Design through Output Scaling in Discrete--Time, pp. 5290-5295.
Califano, Claudia Univ. di Roma
Monaco, Salvatore Univ. di Roma
Normand-Cyrot, Marie-Dorothée CNRS-Supélec

10:40-11:00 FrA17.5
State Estimation and Output Feedback Stabilization of a Class of Upper-Triangular Systems Using a Homogeneous Observer, pp. 5296-5301.
Tian, Weisong Univ. of Texas at San Antonio
Qian, Chunjiang Univ. of Texas at San Antonio
Jia, Ruting Univ. of Texas at San Antonio
Lin, Wei Case Western Res. Univ.

11:00-11:20 FrA17.6
Unscented Kalman-Bucy Filtering for Nonlinear Continuous-Time Systems with Multiple Delayed Measurements, pp. 5302-5307.
Zhou, Yucheng Chinese Acad. of Forestry
Xu, Jiahe Chinese Acad. of Forestry
Jing, Yuanwei Northeastern Univ.
Dimirovski, Georgi M Dogus Univ. of Istanbul

FrA18 Grand Ballroom X
Manufacturing Systems (Regular Session)

Chair: Abdelrahman, Mohamed A. Tennessee Tech. Univ.
Co-Chair: Boutayeb, Mohamed Univ. of Henri Poincaré Nancy

09:20-09:40 FrA18.1
Transient Analysis of Dairy Filling and Packing Production Lines, pp. 5308-5313.
Wang, Junwen Univ. of Kentucky
Hu, Yao Univ. of Kentucky
Li, Jingshan Univ. of Kentucky

09:40-10:00 FrA18.2
A Feature Based Solution to Forward Problem in Electrical Capacitance Tomography, pp. 5314-5319.
Abdelrahman, Mohamed A. Tennessee Tech. Univ.
Gupta, Ankush Tennessee Tech. Univ.
Deabes, Wael Tennessee Tech. Univ.

10:00-10:20 FrA18.3
Nonlinear Single Step Fuzzy Image Reconstruction Algorithm for Grounded Conductors in ECT, pp. 5320-5325.
Deabes, Wael Tennessee Tech. Univ.
Abdelrahman, Mohamed A. Tennessee Tech. Univ.

10:20-10:40 FrA18.4
Achieving Resilience for a Class of Serial Production Networks, pp. 5326-5331.
Hu, Yao Univ. of Kentucky
Li, Jingshan Univ. of Kentucky
Holloway, Lawrence E. Univ. of Kentucky

10:40-11:00 FrA18.5
Stability Determination in a Class of Manufacturing Systems with Replenishment Signals, pp. 5332-5337.
Henninger, John Thomas — Univ. of Kentucky
Holloway, Lawrence E. — Univ. of Kentucky

11:00-11:20 FrA18.6
An Approximate Modeling of 1D Transient Heat Transfer in a Gray Participating Medium, pp. 5338-5343.
Ali, Shaikh Faruque — Swansea Univ.
Delattre, Cedric — Univ. Henri Poincaré - IUT de Longwy
Boutayeb, Mohamed — Univ. of Henri Poincaré Nancy
Fonte, Christophe — CNRS & Nancy-Univ.
Asllanaj, Fatmir — Univ. of Henri Poincare, Nancy-1

FrA19 — Dover A
Automotive Systems I (Regular Session)

Chair: Ulsoy, A. Galip — Univ. of Michigan
Co-Chair: Wang, Dexin — Ford Motor Company

09:20-09:40 FrA19.1
Data Fusion Algorithms for Lane Departure Warning Systems, pp. 5344-5349.
Cario, Gianni — Univ. degli studi della Calabria
Casavola, Alessandro — Univ. Della Calabria
Franze', Giuseppe — Univ. Degli Studi della Calabria
Lupia, Marco — Univ. degli studi della Calabria

09:40-10:00 FrA19.2
Application of Describing Function Technique to Idle Speed Control, pp. 5350-5355.
Nassirharand, Amir — Univ. of Nottingham
Teh, Sze Hong — The Univ. of Nottingham

10:00-10:20 FrA19.3
On a Robust Control System Design for an Electric Power Assist Steering System, pp. 5356-5361.
Dong, Lili — Cleveland State Univ.
Kandula, Prasanth — cleveland state Univ.
Gao, Zhiqiang — Cleveland State Univ.
Wang, Dexin — Ford Motor Company

10:20-10:40 FrA19.4
Active Steering Control Based on Piecewise Affine Regions, pp. 5362-5367.
Scalzi, Stefano — Univ. of Rome TorVergata
Benine-Neto, André — LIVIC-LCPC/INRETS
Netto, Mariana — LIVIC - LCPC/INRETS
Pasillas-Lepine, William — CNRS, SUPELEC
Mammar, Said — LSC-CNRS-FRE2494

10:40-11:00 FrA19.5
Direct Optimal Distributed Controller Design for Component Swapping Modularity with Application to ISC, pp. 5368-5373.
Li, Shifang — Univ. of Michigan
Kolmanovsky, Ilya V. — Ford Motor Co.
Ulsoy, A. Galip — Univ. of Michigan

11:00-11:20 FrA19.6
Optimal Emergency Maneuvers on Highways for Passenger Vehicles with Two and Four-Wheel Active Steering, pp. 5374-5381.
Dingle, Patrick — Kiva Systems
Guzzella, Lino — ETH Zurich

FrA20 — Dover B
Path Planning (Regular Session)

Chair: Tsiotras, Panagiotis — Georgia Inst. of Tech.
Co-Chair: Frazzoli, Emilio — Massachusetts Inst. of Tech.

09:20-09:40 FrA20.1
On the Existence and Synthesis of Curvature-Bounded Paths Inside Nonuniform Rectangular Channels, pp. 5382-5387.
Cowlagi, Raghvendra — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

09:40-10:00 FrA20.2
Kinematic Feasibility Guarantees in Geometric Path Planning Using History-Based Transition Costs Over Cell Decompositions, pp. 5388-5393.
Cowlagi, Raghvendra — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

10:00-10:20 FrA20.3
LP-Based Path Planning for Target Pursuit and Obstacle Avoidance in 3D Relative Coordinates, pp. 5394-5399.
Chen, Yang — Shenyang Inst. of Automation, Chinese Acad. of Sciences
Han, Jianda — Shenyang Inst. of Automation

10:20-10:40 FrA20.4
Optimal Coherent Phantom Track Design Using Virtual Motion Camouflage, pp. 5400-5405.
Xu, Yunjun — Univ. of Central Florida

Basset, Gareth — Univ. of Central Florida

10:40-11:00 — FrA20.5

Bounds on Tracking Error Using Closed-Loop Rapidly-Exploring Random Trees, pp. 5406-5412.

Luders, Brandon — Massachusetts Inst. of Tech.
Karaman, Sertac — Massachusetts Inst. of Tech.
Frazzoli, Emilio — Massachusetts Inst. of Tech.
How, Jonathan P. — MIT

11:00-11:20 — FrA20.6

Channel Learning and Communication-Aware Motion Planning in Mobile Networks, pp. 5413-5420.

Ghaffarkhah, Alireza — Univ. of New Mexico
Mostofi, Yasamin — Univ. of New Mexico

FrA21 — Dover C

Fault Detection (Regular Session)

Chair: George, Jemin — SUNY at Buffalo
Co-Chair: Saif, Mehrdad — Simon Fraser Univ.

09:20-09:40 — FrA21.1

Robust Fault Detection and Isolation for Stochastic Systems, pp. 5421-5426.

George, Jemin — SUNY at Buffalo
Gregory, Irene — NASA Langley Res. Center

09:40-10:00 — FrA21.2

Sensor Fault Detection by Testing the Largest Eigenvalue of the Innovation Covariance Using Tracy-Widom Distribution, pp. 5427-5432.

Hajiyev, Chingiz — Istanbul Tech. Univ.

10:00-10:20 — FrA21.3

Sensor-Only Fault Detection Using Pseudo-Transfer-Function Identification, pp. 5433-5438.

Brzezinski, Adam — Univ. of Michigan - Ann Arbor
Kukreja, Sunil, L. — NASA Dryden Flight Res. Center
Ni, Jun — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

10:20-10:40 — FrA21.4

Minimum Rotation Partitioning for Data Analysis and Its Application to Fault Detection, pp. 5439-5444.

Yasar, Murat — Tech. Inc.
Ray, Asok — Pennsylvania State Univ.
Kwatny, Harry — Drexel Univ.

10:40-11:00 — FrA21.5

A Decentralized Technique for Robust Simultaneous Fault Detection and Control of Uncertain Systems, pp. 5445-5450.

Alavi, S.M. Mahdi — Simon Fraser Univ.
Saif, Mehrdad — Simon Fraser Univ.

FrA22 — Laurel D

Uncertain Systems (Regular Session)

Chair: Jonsson, Ulf T. — Royal Inst. of Tech. (KTH)
Co-Chair: Chen, Jie — Beijing Inst. of Tech.

09:20-09:40 — FrA22.1

Dilated LMI Conditions for the Robust Analysis of Uncertain Parameter-Dependent Descriptor Systems, pp. 5451-5457.

Bara, G. Iuliana — Univ. of Strasbourg

09:40-10:00 — FrA22.2

*Lyapunov Measure and Stability of Uncertain Dynamical Systems**. (Not Available)

Diwadkar, Amit — Iowa State Univ.
Vaidya, Umesh — Iowa State Univ.

10:00-10:20 — FrA22.3

Primal and Dual Criteria for Robust Stability and Their Application to Systems Interconnected Over a Bipartite Graph, pp. 5458-5464.

Jonsson, Ulf T. — Royal Inst. of Tech. (KTH)

10:20-10:40 — FrA22.4

Robust Expansion of Uncertain Volterra Kernels into Orthonormal Series, pp. 5465-5470.

da Rosa, Alex — State Univ. of Campinas (Unicamp)
Campello, Ricardo J. G. B. — Univ. of São Paulo at São Carlos
Ferreira, Paulo A Valente — Univ. of Campinas
Oliveira, Gustavo — PUCPR
Amaral, W.C. — FEEC/UNICAMP

10:40-11:00 — FrA22.5

Identification of Interval Models for a Class of Uncertain Systems Via Linear Programming, pp. 5471-5476.

Zhang, Guozhu — Beijing Inst. of Tech.
Chen, Jie — Beijing Inst. of Tech.
Li, Zhiping — School of Automation, Beijing Inst. ofTechnology,Beijing, Ch

11:00-11:20 — FrA22.6

Sequential Finite-Horizon Choquet-Expected Decision Problems with Uncertainty Aversion, pp. 5477-5482.

Lechevin, Nicolas — Defence R&D Canada
Rabbath, Camille Alain — Defence R&D Canada

FrB01 Harborside Ballroom A

Model Predictive Control II (Regular Session)

Chair: Parisini, Thomas — Univ. of Trieste
Co-Chair: Chachuat, Benoît — McMaster Univ.

13:40-14:00 FrB01.1
Extended Recursively Feasible Model Predictive Control of Nonlinear Discrete–Time Systems, pp. 5483-5488.
Pin, Gilberto — Danieli Automation S.p.A. (Italy)
Parisini, Thomas — Univ. of Trieste

14:00-14:20 FrB01.2
A Fast Algorithm for Stochastic Model Predictive Control with Probabilistic Constraints, pp. 5489-5494.
Shin, Minyong — Stanford Univ.
Primbs, James A. — Stanford Univ.

14:20-14:40 FrB01.3
Implementation of Neural Network-Based Nonlinear Adaptive Model Predictive Control Over a Service-Oriented Computer Network, pp. 5495-5500.
Akpan, Vincent Andrew — Aristotle Univ. of Thessaloniki
Samaras, Ioakeim Kostantinos — Aristotle Univ. of Thessaloniki
Hassapis, George — Aristotle Univ. of Thessaloniki

14:40-15:00 FrB01.4
Output Feedback Predictive Controller for a Class of Nonlinear Systems, pp. 5501-5506.
Hadj Said, Salim — Tunis Engineering School ENIT
M'sahli, Faouzi — Monastir Engineering School

15:00-15:20 FrB01.5
Optimized Decision Trees for Point Location in Polytopic Data Sets - Application to Explicit MPC, pp. 5507-5512.
Fuchs, Alexander — ETH Zurich
Jones, Colin Neil — ETH Zurich
Morari, Manfred — ETH Zurich

15:20-15:40 FrB01.6
Data-Based Predictive Control with Multirate Prediction Step, pp. 5513-5519.
Barlow, Jonathan — NASA Ames Res. Center

FrB02 Harborside Ballroom B

Optimal Pursuit (Regular Session)

Chair: Ma, Lili — Wentworth Inst. of Tech.
Co-Chair: Pham, Khanh D. — AIR FORCE Res. Lab. VEHICLES DIRECTORATE

13:40-14:00 FrB02.1
Cooperative Target-Capturing with Inaccurate Target Information, pp. 5520-5525.
Sharma, Rajnikant — Brigham Young Univ.
Kothari, Mangal — Univ. of Leicester, UK
Taylor, Clark N. — Brigham Young Univ.
Postlethwaite, Ian — Northumbria Univ.

14:00-14:20 FrB02.2
Adaptive Pursuit-Evasion under Adversarial Confrontations--Part I: Performance-Measure Statistics in Differential Games, pp. 5526-5531.
Pham, Khanh D. — AIR FORCE Res. Lab.

14:20-14:40 FrB02.3
Cyclic Pursuit with Vision-Assisted Estimation, pp. 5532-5537.
Ma, Lili — Wentworth Inst. of Tech.
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

14:40-15:00 FrB02.4
Vehicle Placement to Intercept Moving Targets, pp. 5538-5543.
Bopardikar, Shaunak D. — Univ. of California, Santa Barbara
Smith, Stephen L. — Massachusetts Inst. of Tech.
Bullo, Francesco — Univ. California at Santa Barbara

15:00-15:20 FrB02.5
Sliding Mode Based Pure Pursuit Guidance for UAV Rendezvous and Chase with a Cooperative Aircraft, pp. 5544-5549.
Yamasaki, Takeshi — National Defense Acad.
Balakrishnan, S.N. — Missouri Univ. of Science and Tech.

15:20-15:40 FrB02.6
Vision-Based Avoidance of Obstacles with Unknown Constant Velocity, pp. 5550-5555.
Ma, Lili — Wentworth Inst. of Tech.

FrB03 Harborside Ballroom D

Nonlinear Systems I (Regular Session)

Chair: Deng, Mingcong — Okayama Univ.
Co-Chair: Guay, Martin — Queen's Univ.

13:40-14:00 FrB03.1
Effectiveness Evaluation of Warfare Command Systems with Dissymmetrical Warfare Information, pp. 5556-5560.

Chen, Xiangyong — Northeastern Univ.
Jing, Yuanwei — Northeastern Univ.
Li, Chunji — Northeastern Univ.
Jiang, Nan — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul

14:00-14:20 FrB03.2
Damping Feedback Stabilization for Time-Dependent Nonlinear Control Affine Systems, pp. 5561-5566.
Hudon, Nicolas — Queen's Univ.
Guay, Martin — Queen's Univ.

14:20-14:40 FrB03.3
A Pseudo-H_infty Output Feedback Control Theory and Its Application to Pendulum-Like Systems, pp. 5567-5572.
Ouyang, Hua — UNSW@ADFA
Petersen, Ian R. — UNSW at Australian Def. Force Acad.
Ugrinovskii, Valery — Univ. of New South Wales

14:40-15:00 FrB03.4
Operator Based Control Design for Perturbed Nonlinear Systems Output Tracking, pp. 5573-5577.
Bi, Shuhui — Okayama Univ.
Deng, Mingcong — Okayama Univ.
Yanou, Akira — Kinki Univ.

15:00-15:20 FrB03.5
A Theoretical Approach to Feedback Control of Optical Soliton Propagation, pp. 5578-5583.
Koehn, Thaddeus — Univ. of Illinois at Urbana-Champaign
Langbort, Cedric — Univ. of Illinois, Urbana-Champaign

15:20-15:40 FrB03.6
Equilibrium-Independent Passivity: A New Definition and Implications, pp. 5584-5589.
Hines, George — UC Berkeley
Arcak, Murat — Univ. of California, Berkeley
Packard, Andrew K. — Univ. of California at Berkeley

FrB04 — Harborside Ballroom E
Decentralized Control I (Regular Session)

Chair: Wu, Jeff — Stanford Univ.
Co-Chair: Ebihara, Yoshio — Kyoto Univ.

13:40-14:00 FrB04.1
Decentralized mathcal{L}_{1} Adaptive Control for Large-Scale Systems with Unknown Time-Varying Interaction Parameters, pp. 5590-5595.
Yoo, Sung Jin — Univ. of Illinois at Urbana-Champaign
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign
Cao, Chengyu — Univ. of Connecticut

14:00-14:20 FrB04.2
Internal Quadratic Invariance and Decentralized Control, pp. 5596-5601.
Lessard, Laurent — Stanford Univ.
Lall, Sanjay — Stanford Univ.

14:20-14:40 FrB04.3
Decentralized Control for Discrete-Time LTI Systems: Lower Bound Analysis of H-Infinity Performance Achievable Via LTI Controllers, pp. 5602-5607.
Ebihara, Yoshio — Kyoto Univ.
Sebe, Noboru — Kyushu Inst. of Tech.

14:40-15:00 FrB04.4
Optimal Decentralized Control of Linear Systems Via Groebner Bases and Variable Elimination, pp. 5608-5613.
Shin, Hyung Sik — Stanford Univ.
Lall, Sanjay — Stanford Univ.

15:00-15:20 FrB04.5
Nonlinear Youla Parametrization and Information Constraints for Decentralized Control, pp. 5614-5619.
Wu, Jeff — Stanford Univ.
Lall, Sanjay — Stanford Univ.

15:20-15:40 FrB04.6
An Interaction Metric for Decentralized Control Systems Based on the Perron Root, pp. 5620-5625.
Seshadri, Aravind — Oklahoma State Univ.
Pagilla, Prabhakar R. — Oklahoma State Univ.

FrB05 — Essex A
Optimization III (Regular Session)

Chair: Shanbhag, Uday V. — Univ. of Illinois, Urbana-Champaign
Co-Chair: Zhang, Xiaodong — Wright State Univ.

13:40-14:00 FrB05.1
Youla-Kucera Parameter Synthesis Using Invariant Sets Techniques, pp. 5626-5631.
Luca, Anamaria — SUPELEC
Rodriguez-Ayerbe, Pedro — Supelec

Dumur, Didier — Ec. Superieure d'Electricite

14:00-14:20 — FrB05.2

On the Characterization of Solution Sets of Smooth and Nonsmooth Stochastic Nash Games, pp. 5632-5637.

Shanbhag, Uday V. — Univ. of Illinois, Urbana-Champaign
Ravat, Uma — Univ. of Illinois, Urbana-Champaign

14:20-14:40 — FrB05.3

Optimal Fireline Generation for Wildfire Fighting in Uncertain and Heterogeneous Environment, pp. 5638-5643.

HomChaudhuri, Baisravan — Univ. of Cincinnati
Kumar, Manish — Univ. of Cincinnati
Cohen, Kelly — Univ. of Cincinnati

14:40-15:00 — FrB05.4

Stochastic Approximation to Optimize the Performance of Human Operators, pp. 5644-5649.

Gong, Chaohui — Wayne State Univ.
Girard, Anouck — Univ. of Michigan, Ann Arbor
Wang, Weilin — Univ. of Michigan

15:00-15:20 — FrB05.5

Decentralized Fault Detection for a Class of Large-Scale Nonlinear Uncertain Systems, pp. 5650-5655.

Zhang, Xiaodong — Wright State Univ.

15:20-15:40 — FrB05.6

Virtual Motion Camouflage Based Phantom Track Generation through Cooperative Electronic Combat Air Vehicles, pp. 5656-5661.

Xu, Yunjun — Univ. of Central Florida
Basset, Gareth — Univ. of Central Florida

FrB06 — Essex B

Estimation and Control of DPS II (Invited Session)

Chair: Jovanovic, Mihailo — Univ. of Minnesota
Co-Chair: Demetriou, Michael A. — Worcester Pol. Inst.
Organizer: Demetriou, Michael A. — Worcester Pol. Inst.
Organizer: Armaou, Antonios — The Pennsylvania State Univ.

13:40-14:00 — FrB06.1

Towards Optimal Actuator Placement for Dissipative PDE Systems in the Presence of Uncertainty (I), pp. 5662-5667.

Armaou, Antonios — The Pennsylvania State Univ.
Demetriou, Michael A. — Worcester Pol. Inst.

14:00-14:20 — FrB06.2

Fault-Tolerant Control of Sampled-Data Nonlinear Distributed Parameter Systems (I), pp. 5668-5673.

Ghantasala, Sathyendra — Univ. of California, Davis
El-Farra, Nael H. — Univ. of California, Davis

14:20-14:40 — FrB06.3

Linear Feedback Control of a Von Karman Street by Cylinder Rotation (I), pp. 5674-5681.

Borggaard, Jeff — Virginia Tech.
Stoyanov, Miroslav — Virginia Tech.
Zietsman, Lizette — Virginia Tech.

14:40-15:00 — FrB06.4

Transient Response of Velocity Fluctuations in Inertialess Channel Flows of Viscoelastic Fluids (I), pp. 5682-5687.

Jovanovic, Mihailo — Univ. of Minnesota
Kumar, Satish — Univ. of Minnesota

15:00-15:20 — FrB06.5

Rejection of Sinusoidal Disturbance of Unknown Frequency for Linear System with Input Delay (I), pp. 5688-5693.

Pyrkin, Anton — Saint-Petersburg State Univ. of ITMO
Smyshlyaev, Andrey — Univ. of California at San Diego
Bekiaris-Liberis, Nikolaos — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California at San Diego

15:20-15:40 — FrB06.6

Discrete Mechanics Optimal Control (DMOC) and Model Predictive Control (MPC) Synthesis for Reaciton-Diffusion Process System with Moving Actuator, pp. 5694-5701.

Dubljevic, Stevan — Univ. of Alberta
Kobilarov, Marin — Caltech
Ng, James — Univ. of Alberta

FrB07 — Essex C

Numerical Algorithms I (Regular Session)

Chair: Gryazina, Elena — Inst. for Control Sciences RAS
Co-Chair: Eryilmaz, Bora — MathWorks

13:40-14:00 — FrB07.1

Detecting Data Store Access Conflict in Simulink by Solving Boolean Satisfiability Problems, pp. 5702-5707.

Han, Zhi — The Mathworks
Mosterman, Pieter — The MathWorks, Inc.

14:00-14:20 — FrB07.2

Randomized Algorithms for Uncertain Complex Dynamical Systems Design, pp. 5708-5713.

Lin, Chenxi — Univ. of Oklahoma
Runolfsson, Thordur — The Univ. of Oklahoma

14:20-14:40 FrB07.3
Preconditioners for Inexact Interior Point Methods for Predictive Control, pp. 5714-5719.
Shahzad, Amir — Imperial Coll. London
Kerrigan, Eric C. — Imperial Coll. London
Constantinides, George A. — Imperial Coll. London

14:40-15:00 FrB07.4
Integer Levinson Algorithms for Toeplitz and Certain Quasi-Toeplitz Matrices, pp. 5720-5725.
Bistritz, Yuval — Tel Aviv Univ.
Segalov, Yaron — Tel Aviv Univ.

15:00-15:20 FrB07.5
Krylov Subspace Restart Scheme for Solving Large-Scale Sylvester Equations, pp. 5726-5731.
Ahmad, Mian Ilyas — Imperial Coll. London
Jaimoukha, Imad M. — Imperial Coll. London
Frangos, Michalis — Massachusetts Inst. of Tech.

15:20-15:40 FrB07.6
Multiscale Surveillance of Riemannian Manifolds, pp. 5732-5737.
Jacobs, Henry — Caltech
Nair, Sujit — California Inst. of Tech.
Marsden, Jerrold E. — California Inst. of Tech.

FrB08 — Laurel A
Advanced Control Methods for Nano-Measurements (Invited Session)

Chair: Abramovitch, Daniel Y. — Agilent Lab.
Co-Chair: Zou, Qingze — Iowa State Univ.
Organizer: Abramovitch, Daniel Y. — Agilent Lab.
Organizer: Clayton, Garrett — Villanova Univ.
Organizer: Fleming, Andrew J. — Univ. of Newcastle
Organizer: Leang, Kam K. — Univ. of Nevada, Reno
Organizer: Pao, Lucy Y. — Univ. of Colorado at Boulder
Organizer: Zou, Qingze — Iowa State Univ.

13:40-14:00 FrB08.1
Adaptive-Delay Combined Feedforward/Feedback Control for Raster Tracking with Applications to AFMs (I), pp. 5738-5744.
Butterworth, Jeffrey A. — Univ. of Colorado at Boulder
Pao, Lucy Y. — Univ. of Colorado at Boulder
Abramovitch, Daniel Y. — Agilent Lab.

14:00-14:20 FrB08.2
Simulation of Atomic Force Microscopy of Molecular Structures and Interplay with Experiment (I), pp. 5745-5750.
Belikov, Sergey — MikroMasch
Magonov, Sergei — Agilent Tech.

14:20-14:40 FrB08.3
Image-Based Measurement of Periodic SPM Trajectories (I), pp. 5751-5756.
Clayton, Garrett — Villanova Univ.
Deshmukh, Venkaesh — Villanova Univ.

14:40-15:00 FrB08.4
Spiral Scanning: An Alternative to Conventional Raster Scanning in High-Speed Scanning Probe Microscopes (I), pp. 5757-5762.
Mahmood, Iskandar A. — The Univ. of Newcastle
Moheimani, S.O. Reza — Univ. of Newcastle

15:00-15:20 FrB08.5
Model-Based Approach to Compensate for the Dynamics Convolution Effect in Nanomechanical Property Measurement (I), pp. 5763-5768.
Xu, Zhonghua — Iowa State Univ.
Zou, Qingze — Iowa State Univ.

15:20-15:40 FrB08.6
Optimal Output Trajectory Design and Tracking in Preview-Based Nonperiodic Tracking-Transition Switching for Nonminimum-Phase Linear Systems (I), pp. 5769-5774.
Wang, Haiming — Iowa State Univ.
Zou, Qingze — Iowa State Univ.
Xu, Hongbing — Univ. of Electronic Science and Tech. of China

FrB09 — Laurel B
Time Delay Systems II (Regular Session)

Chair: Moog, Claude — CNRS
Co-Chair: Khorrami, Farshad — Pol. Inst. of NYU

13:40-14:00 FrB09.1
Dynamic Output Compensator Design for Time-Varying Discrete Time Systems with Delayed States, pp. 5775-5780.
Leite, Valter J. S. — CEFET/MG - Campus Div.
Castelan, Eugenio B. — Univ. Federal de Santa Catarina
Miranda, Marcio Fantini — Federal Univ. of Minas Gerais

Viana, Dimitri Campos — CEFET-MG

14:00-14:20 — FrB09.2

Simple Delay-Based Implementation of Continuous-Time Controllers, pp. 5781-5788.

Lavaei, Javad — California Inst. of Tech.
Sojoudi, Somayeh — California Inst. of Tech.
Murray, Richard M. — California Inst. of Tech.

14:20-14:40 — FrB09.3

Delay-Dependent Robust H_2 Control for Discrete Systems with Time-Delay and Polytopic Uncertainty, pp. 5789-5793.

Sun, Man — Northeastern Univ. at Qinhuangdao
Gu, Zhenpu — Hebei Univ. of Science and Tech.

14:40-15:00 — FrB09.4

Adaptive Dynamic High-Gain Scaling Based Output-Feedback Control of Nonlinear Feedforward Systems with Time Delays in Input and State, pp. 5794-5799.

Krishnamurthy, Prashanth — Pol. Inst. of NYU
Khorrami, Farshad — Pol. Inst. of NYU

15:00-15:20 — FrB09.5

Stabilization of Linear Systems with Distributed Input Delay, pp. 5800-5805.

Goebel, Gregor — Univ. of Stuttgart
Muenz, Ulrich — Univ. of Stuttgart
Allgower, Frank — Univ. of Stuttgart

15:20-15:40 — FrB09.6

Delay-Range Dependent Stability Analysis for T--S Fuzzy Systems with Time-Varying Delay, pp. 5806-5811.

Song, Min Kook — Yonsei Univ.
Park, Jin Bae — Yonsei Univ.
Joo, YoungHoon — Kunsan National Univ.

FrB10 — Laurel C

Hybrid Electric Vehicles (Regular Session)

Chair: Peng, Huei — Univ. of Michigan
Co-Chair: Fathy, Hosam K. — The Univ. of Michigan

13:40-14:00 — FrB10.1

Optimal Configuration Design for Hydraulic Split Hybrid Vehicles, pp. 5812-5817.

Li, Chiao-Ting — Univ. of Michigan
Peng, Huei — Univ. of Michigan

14:00-14:20 — FrB10.2

An Optimal Control-Based Algorithm for Hybrid Electric Vehicle Using Preview Route Information, pp. 5818-5823.

Ngo, Dac Viet — Eindhoven Univ. of Tech.
Hofman, Theo — Tech. Univ. Eindhoven
Steinbuch, Maarten — Eindhoven Univ. of Tech.
Serrarens, Alexander Franciscus Anita — Drivetrain Innovations BV

14:20-14:40 — FrB10.3

Charge Trajectory Optimization of Plug-In Hybrid Electric Vehicles for Energy Cost Reduction and Battery Health Enhancement, pp. 5824-5831.

Bashash, Saeid — The Univ. of Michigan
Moura, Scott — Univ. of Michigan, Ann Arbor
Fathy, Hosam K. — The Univ. of Michigan

14:40-15:00 — FrB10.4

Regenerative Braking Torque Estimation and Control Approaches for a Hybrid Electric Truck, pp. 5832-5837.

Yu, Xiangpeng — Wuhan Univ. of Tech.
Shen, Tielong — Sophia Univ.
Li, Gangyan — Wuhan Univ. of Tech.
Hikiri, Kunnihiko — Nissan Diesel Motor CO., LTD.

15:00-15:20 — FrB10.5

Torque Harmonic Reduction in Hybrid Vehicles, pp. 5838-5843.

Njeh, Mohamed — Univ. of Poitiers
Cauet, Sebastien — Univ. of Poitiers
Coirault, Patrick — Esip-laii
Martin, Pascal — Univ. of Poitiers
Mercčre, Guillaume — Univ. de Poitiers

15:20-15:40 — FrB10.6

A Stochastic Model Predictive Control Approach for Series Hybrid Electric Vehicle Power Management (I), pp. 5844-5849.

Ripaccioli, Giulio — Univ. degli Studi di Siena
Bernardini, Daniele — Univ. of Siena
Di Cairano, Stefano — Ford Motor Company
Bemporad, Alberto — Univ. of Siena
Kolmanovsky, Ilya V. — Ford Motor Co.

FrB11 — Grand Ballroom I

Control Applications V (Regular Session)

Chair: Wang, Junmin — Ohio State Univ.
Co-Chair: Chang, Timothy N. — New Jersey Inst. of Tech.

13:40-14:00 FrB11.1
Correlation Analysis of Alarm Data and Alarm Limit Design for Industrial Processes, pp. 5850-5855.
Yang, Fan — Tsinghua Univ.
Shah, Sirish L. — Univ. of Alberta
Xiao, Deyun — Tsinghua Univ.

14:00-14:20 FrB11.2
Model Reference Zero Vibration Control of Ultrahigh Precision Piezoelectric Nanopositioner, pp. 5856-5861.
Yu, Lan — New Jersey Inst. of Tech.
Chang, Timothy N. — New Jersey Inst. of Tech.

14:20-14:40 FrB11.3
Decoupled Adaptive Control of Glucose and Dissolved Oxygen for Fed-Batch Methionine Production Using Linear Reference Model, pp. 5862-5867.
Ranjan, Amalendu — Univ. of North Texas Health Science Center
Gomes, James — Indian Inst. of Tech. Delhi

14:40-15:00 FrB11.4
Switching Control of Air-Fuel Ratio in Spark Ignition Engines, pp. 5868-5873.
Efimov, Denis — Inst. for Problems of Mechanical Eng.
Javaherian, Hossein — GM R&D
Nikiforov, Vladimir O. — St. State Univ. of Information Tech. Mechanics and

15:00-15:20 FrB11.5
An Extended Kalman Filter for Ammonia Coverage Ratio and Capacity Estimations in the Application of Diesel Engine SCR Control and Onboard Diagnosis, pp. 5874-5879.
Hsieh, Ming Feng — The Ohio State Univ. Center for Automotive Res.
Wang, Junmin — Ohio State Univ.

15:20-15:40 FrB11.6
Observer-Based Output Feedback Linear Control Applied to a Denitrification Reactor, pp. 5880-5885.
Torres, Ixbalank — Lab. d'Analyse et d'Architecture des Systčmes
Queinnec, Isabelle — LAAS-CNRS
Vilas Fernández, Carlos — IIM-CSIC
Vande Wouwer, Alain — Univ. de Mons

FrB12 — Grand Ballroom II
Heating, Ventilation, and Air Conditioning (Regular Session)

Chair: Rasmussen, Bryan — Texas A&M Univ.
Co-Chair: Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

13:40-14:00 FrB12.1
Parameter Estimation for Dynamic HVAC Models with Limited Sensor Information, pp. 5886-5891.
Hariharan, Natarajkumar — Texas A&M Univ.
Rasmussen, Bryan — Texas A&M Univ.

14:00-14:20 FrB12.2
Optimal On-Off Control of an Air Conditioning and Refrigeration System, pp. 5892-5897.
Li, Bin — Univ. of Illinois, Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

14:20-14:40 FrB12.3
A Control Architecture Solution to Superheat Nonlinearity, pp. 5898-5903.
Elliott, Matthew — Texas A&M Univ.
Shenoy, Bhaskar — Univ.
Rasmussen, Bryan — Texas A&M Univ.

14:40-15:00 FrB12.4
Decoupled Feedforward Control for an Air-Conditioning and Refrigeration System, pp. 5904-5909.
Jain, Neera — Univ. of Illinois, Urbana-Champaign
Otten, Richard — Univ. of Illinois
Alleyne, Andrew G. — Univ. of Illinois, Urbana-Champaign

15:00-15:20 FrB12.5
Microclimate Modeling and Control: A Multizone Approach, pp. 5910-5915.
Cortés, Andrés — Univ. de los Andes
Quijano, Nicanor — Univ. de los Andes

FrB13 — Grand Ballroom III
Systems Biology (Regular Session)

Chair: Asada, H. Harry — Massachusetts Inst. of Tech.
Co-Chair: Lawrence, Douglas A. — Ohio Univ.

13:40-14:00 FrB13.1
Model Discrimination of Chemical Reaction Networks by Linearization, pp. 5916-5922.
Georgiev, Daniel — Univ. of Washington
Fazel, Maryam — Univ. of Washington
Klavins, Eric — Univ. of Washington

14:00-14:20 FrB13.2
Monotonicity and Bistability of Calcium/Calmodulin-Dependent Protein Kinase-Phosphatase Activation, pp. 5923-5928.
Wu, Ming — Ohio Univ.
Lawrence, Douglas A. — Ohio Univ.

14:20-14:40 FrB13.3
Compositional Analysis of Autocatalytic Networks in Biology, pp. 5929-5935.
Buzi, Gentian — California Inst. of Tech.
Topcu, Ufuk — California Inst. of Tech.
Doyle, John C. — California Inst. of Tech.

14:40-15:00 FrB13.4
Stability Analysis of a Class of Biological Network Models, pp. 5936-5941.
Motee, Nader — Caltech
Bamieh, Bassam — Univ. of California at Santa Barbara
Khammash, Mustafa H. — Univ. of California at Sta. Barbara

15:00-15:20 FrB13.5
Effect of Coarse-Scale Modeling on Control Outcome of Genetic Regulatory Networks, pp. 5942-5947.
Pal, Ranadip — Texas Tech. Univ.
Bhattacharya, Sonal — Texas Tech. Univ.

15:20-15:40 FrB13.6
Estimation of Shape Constrained Functions in Dynamical Systems and Its Application to Gene Networks, pp. 5948-5953.
Shen, Jinglai — Univ. of Maryland Baltimore County
Wang, Xiao — Purdue Univ.

FrB14 — Grand Ballroom IV
Antiwindup Compensation (Regular Session)

Chair: Tarbouriech, Sophie — LAAS-CNRS
Co-Chair: Sajjadi-Kia, Solmaz — Univ. of California at Irvine (UCI)

13:40-14:00 FrB14.1
Symbolic Identification for Anomaly Detection in Aircraft Gas Turbine Engines, pp. 5954-5959.
Chakraborty, Subhadeep — Pennsylvania State Univ.
Sarkar, Soumik — Pennsylvania State Univ.
Ray, Asok — Pennsylvania State Univ.
Phoha, Shashi — Pennsylvania State Univ.

14:00-14:20 FrB14.2
Incorporation of Robustness Properties into the Observer Based Anti-Windup Scheme in the Case of Actuator Uncertainties, pp. 5960-5965.
Bruckner, Martin — Johannes Kepler Univ. Linz
Del Re, Luigi — Johannes Kepler Univ. Linz

14:20-14:40 FrB14.3
Analysis of Gradient Projection Anti-Windup Scheme, pp. 5966-5972.
Teo, Justin — Massachusetts Inst. of Tech.
How, Jonathan P. — MIT

14:40-15:00 FrB14.4
Geometric Properties of Gradient Projection Anti-Windup Compensated Systems, pp. 5973-5978.
Teo, Justin — Massachusetts Inst. of Tech.
How, Jonathan P. — MIT

15:00-15:20 FrB14.5
Multi-Saturation Anti-Windup Structure for Satellite Control, pp. 5979-5984.
Boada, Josep — LAAS-CNRS
Prieur, Christophe — LAAS-CNRS
Tarbouriech, Sophie — LAAS-CNRS
Pittet, Christelle — CNES
Charbonnel, Catherine — Thales Alenia Space France

FrB15 — Grand Ballroom VII
Marine Systems II (Regular Session)

Chair: Lee, Taeyoung — Florida Inst. of Tech.
Co-Chair: Canudas de Wit, Carlos — CNRS, GIPSA-Lab.

13:40-14:00 FrB15.1
Computational Geometric Optimal Control of Connected Rigid Bodies in a Perfect Fluid, pp. 5985-5990.
Lee, Taeyoung — Florida Inst. of Tech.
Leok, Melvin — Univ. of California, San Diego
McClamroch, N. Harris — Univ. of Michigan

14:00-14:20 FrB15.2
Contraction Control of a Fleet Circular Formation of AUVs under Limited Communication Range, pp. 5991-5996.
Briñon Arranz, Lara — INRIA Rhône-Alpes
Seuret, Alexandre — CNRS
Canudas de Wit, Carlos — CNRS, GIPSA-Lab.

14:20-14:40 FrB15.3

Command Filtered Backstepping Design in MOOS-IvP Helm Framework for Trajectory Tracking of USVs, pp. 5997-6003.
Djapic, Vladimir — NURC
Nad, Dula — Univ. of Zagreb

14:40-15:00 FrB15.4
Extraction of Relative Proximity from Electrostatic Images Using Wide-Field Integration Methods, pp. 6004-6009.
Dimble, Kedar — Univ. of Maryland
Faddy, James M. — Univ. of Maryland
Humbert, J. Sean — Univ. of Maryland

15:00-15:20 FrB15.5
Handling Roll Constraints for Path Following of Marine Surface Vessels Using Coordinated Rudder and Propulsion Control, pp. 6010-6015.
Li, Zhen — Univ. of Michigan
Sun, Jing — Univ. of Michigan
Oh, So-ryeok — Univ. of Michigan

15:20-15:40 FrB15.6
Control-Oriented Modeling of Ionic Polymer Metal Composites for Biomimetic Underwater Propulsion, pp. 6016-6021.
Aureli, Matteo — Pol. Inst. of New York Univ.
Kopman, Vladislav — Pol. Inst. of New York Univ.
Porfiri, Maurizio — Pol. Inst. of New York Univ.

FrB16 — Grand Ballroom VIII
Robot Control II (Regular Session)

Chair: Poignet, Philippe — Univ. Montpellier 2
Co-Chair: Zergeroglu, Erkan — Gebze Inst. of Tech.

13:40-14:00 FrB16.1
A Predictive Robust Cascade Position-Torque Control Strategy for Pneumatic Artificial Muscles, pp. 6022-6029.
Chikh, Lotfi — LIRMM (Lab. d'Informatique de Robotique et de Microélectr
Poignet, Philippe — Univ. Montpellier 2
Pierrot, Francois — LIRMM
Michelin, Micaël — Fatronik

14:00-14:20 FrB16.2
Gait Phase-Based Smoothed Sliding Mode Control for a Rotary Series Elastic Actuator Installed on the Knee Joint, pp. 6030-6035.
Bae, Joonbum — Univ. of California, Berkeley
Kong, Kyoungchul — Univ. of California, Berkeley
Tomizuka, Masayoshi — Univ. of California, Berkeley

14:20-14:40 FrB16.3
An Adaptive Full-State Feedback Controller for Bilateral Telerobotic Systems, pp. 6036-6041.
Ozbay, Ufuk — Gebze Inst. of Tech.
Zergeroglu, Erkan — Gebze Inst. of Tech.
Okur, Beytullah — Gebze Inst. of Tech.

14:40-15:00 FrB16.4
Time and Output Warping of Control Systems: Comparing and Imitating Motions, pp. 6042-6047.
Kingston, Peter — Georgia Inst. of Tech.
Egerstedt, Magnus — Georgia Inst. of Tech.

15:00-15:20 FrB16.5
Stable Walking for a Compass-Like Biped Robot in Complex Environments, pp. 6048-6053.
Hu, Yong — Zhejiang Univ.
Yan, Gangfeng — Zhejiang Univ.
Lin, Zhiyun — Zhejiang Univ.

15:20-15:40 FrB16.6
A Hierarchical Multiple-Model Approach for Detection and Isolation of Robotic Actuator Faults, pp. 6054-6059.
Hsiao, Tesheng — National Chiao Tung Univ.
Weng, Mao-Chiao — National Chiao Tung Univ.

FrB17 — Grand Ballroom IX
Nonlinear Observers II (Regular Session)

Chair: Rajamani, Rajesh — Univ. of Minnesota
Co-Chair: Lum, Kai-Yew — National Univ. of Singapore

13:40-14:00 FrB17.1
Observer Design for Lipschitz Nonlinear Systems Using Riccati Equations, pp. 6060-6065.
Phanomchoeng, Gridsada — Univ. of Minnesota
Rajamani, Rajesh — Univ. of Minnesota

14:00-14:20 FrB17.2
A New Nonlinear Filtering Algorithm Via Fourier Series, pp. 6066-6070.
Xin, Ming — Mississippi State Univ.
Jia, Bin — Mississippi State Univ.

14:20-14:40 FrB17.3
Lyapunov-Based Adaptive State Estimation for a Class of Continuous-Time Nonlinear Stochastic Systems, pp. 6071-6076.
Xie, Li — Beijing Inst. of Tech.
Khargonekar, Pramod P. — Univ. of Florida

14:40-15:00 FrB17.4
Observer-Based Nonlinear Control Allocation, pp. 6077-6082.
Liao, Fang — National Univ. of Singapore
Lum, Kai-Yew — National Univ. of Singapore
Wang, Jian Liang — Nanyang Tech. Univ.

15:00-15:20 FrB17.5
The Bounded Jacobian Approach to Nonlinear Observer Design, pp. 6083-6088.
Phanomchoeng, Gridsada — Univ. of Minnesota
Rajamani, Rajesh — Univ. of Minnesota

FrB18 — Grand Ballroom X
Metalworking (Regular Session)

Chair: Grimble, Michael John — Univ. of Strathclyde
Co-Chair: Simaan, Marwan A. — Univ. of Central Florida

13:40-14:00 FrB18.1
Temperature Control in Transport Delay Systems, pp. 6089-6094.
Hearns, Gerald — Converteam Ltd
Grimble, Michael John — Univ. of Strathclyde

14:00-14:20 FrB18.2
Controller for Improving the Quality of the Tandem Rolling of Hot Metal Strip, pp. 6095-6100.
Pittner, John — Univ. of Pittsburgh
Simaan, Marwan A. — Univ. of Central Florida

14:20-14:40 FrB18.3
Robust Adaptive Control of the Mold Level in the Continuous Casting Process Using Multiple Models, pp. 6101-6108.
Jabri, Karim — Supélec
Godoy, Emmanuel — Supelec
Dumur, Didier — Ec. Superieure d'Electricite
Mouchette, Alain — ArcelorMittal
Bele, Bertrand — ArcelorMittal

14:40-15:00 FrB18.4
Two-Stage Optimized Scheduling Method and Application for Steelmaking and Continuous Casting, pp. 6109-6114.
Xiuying, Wang — NorthEastern Univ.
Chai, Tianyou — Northeastern Univ.
Zheng, Binglin — Northeastern Univ.
Wang, Hong — The Univ. of Manchester

15:00-15:20 FrB18.5
Adaptive Fuzzy Sliding Mode Control Design for Laser Metal Deposition, pp. 6115-6120.
Zeinali, Meysar — Univ. of Waterloo
Khajepour, Amir — Univ. of Waterloo

15:20-15:40 FrB18.6
Chatter Control in the High-Speed Milling Process UsingL; -Synthesis, pp. 6121-6126.
van Dijk, Niels — Eindhoven Univ. of Tech.
Van De Wouw, Nathan — Eindhoven Univ. of Tech.
Doppenberg, E.J.J — Inst. of applied physics (TNO)
Oosterling, Han — TNO
Nijmeijer, Hendrik — Eindhoven Univ. of Tech.

FrB19 — Dover A
Automotive Systems II (Regular Session)

Chair: Liu, Steven — Univ. of Kaiserslautern
Co-Chair: Steinbuch, Maarten — Eindhoven Univ. of Tech.

13:40-14:00 FrB19.1
Self-Tuning Control Design Strategy for an Electronic Throttle with Experimental Robustness Analysis, pp. 6127-6132.
Alt, Benedikt — Department of Aeronautical Engineering
Blath, Jan P. — IAV GmbH
Svaricek, Ferdinand — Univ. of German Armed Forces Munich
Schultalbers, Matthias — IAV GmbH, Ingenieurgesellschaft Auto und Verkehr

14:00-14:20 FrB19.2
Development and Assessment of Driveline and Stability Control, pp. 6133-6138.
Chretien, Benoît — Intedis
Holzmann, Frederic — Intedis
Glaser, Sébastien — LCPC
Mammar, Said — LSC-CNRS-FRE2494
Glasser, Nicolas — Intedis

14:20-14:40 FrB19.3
State Machine-Based Fault Diagnosis with Application in a Vehicle Chassis System, pp. 6139-6144.
Pisu, Pierluigi — Clemson Univ.
Zhang, Xian — ICAR, Clemson Univ.

14:40-15:00 FrB19.4

Cooperative Adaptive Cruise Control, Design and Experiments, pp. 6145-6150.

Naus, Gerrit — Eindhoven Univ. of Tech.
Vugts, René — Eindhoven Univ. of Tech.
Ploeg, Jeroen — TNO
Molengraft, René van de — Eindhoven Univ. of Tech.
Steinbuch, Maarten — Eindhoven Univ. of Tech.

15:00-15:20 FrB19.5

Bandwidth Extension of Dynamical Test Benches by Modified Mechanical Design under Adaptive Feed Forward Disturbance Rejection, pp. 6151-6156.

Kokal, Helmut — AVL
Gruenbacher, Engelbert — Johannes Kepler Univ. Linz
Del Re, Luigi — Johannes Kepler Univ. Linz
Schmidt, Martin — AVL
Paulweber, Michael — AVL

15:20-15:40 FrB19.6

Deterioration Modeling Strategy for Pro-Active Services of Commercial Vehicles, pp. 6157-6162.

Prothmann, Christoph — DAIMLER AG
Kokes, Michael — DAIMLER AG
Liu, Steven — Univ. of Kaiserslautern

FrB20 — Dover B
Navigation and Path Planning (Regular Session)

Chair: Tsiotras, Panagiotis — Georgia Inst. of Tech.
Co-Chair: Silvestre, Carlos — Inst. Superior Tecnico

13:40-14:00 FrB20.1

Time-Optimal Synthesis for the Zermelo-Markov-Dubins Problem: The Constant Wind Case, pp. 6163-6168.

Bakolas, Efstathios — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

14:00-14:20 FrB20.2

Considerations Choosing the Optimal Equilibrium Point on the Rotational Sphere, pp. 6169-6174.

Schlanbusch, Rune — Narvik Univ. Coll.
Kristiansen, Raymond — Narvik Univ. Coll.
Nicklasson, Per Johan — Narvik Univ. Coll.

14:20-14:40 FrB20.3

A Practical Path-Planning Algorithm for a Simple Car: A Hamilton-Jacobi Approach, pp. 6175-6180.

Takei, Ryo — Univ. of California, Los Angeles
Tsai, Yen Hsi Richard — Univ. of Texas at Austin
Shen, Haochong — Univ. of California, Los Angeles
Landa, Yanina — Univ. of Califoria Los Angeles

14:40-15:00 FrB20.4

Decentralised Navigation and Collision Avoidance for Aircraft in 3D Space, pp. 6181-6186.

Roussos, Giannis — National Tech. Univ. of Athens
Kyriakopoulos, Kostas J. — National Tech. Univ. of Athens

15:00-15:20 FrB20.5

A Method for Navigation of an Autonomous Vehicle for Border Patrol, pp. 6187-6190.

Matveev, Alexey S. — St.Petersburg Univ.
Teimoori Sangani, Hamid — Univ. of New South Wales
Savkin, Andrey — Univ. of New South Wales

15:20-15:40 FrB20.6

Single Beacon Navigation: Observability Analysis and Filter Design, pp. 6191-6196.

Batista, Pedro — Inst. Superior Técnico
Silvestre, Carlos — Inst. Superior Tecnico
Oliveira, Paulo Jorge — Inst. Superior Técnico

FrB21 — Dover C
Fault Tolerant Control (Regular Session)

Chair: González, Oscar R. — Old Dominion Univ.
Co-Chair: Franze', Giuseppe — Univ. Degli Studi della Calabria

13:40-14:00 FrB21.1

Performance Analysis of Fault Tolerant Control Systems with I.I.D. Upsets, pp. 6197-6204.

Chávez-Fuentes, Jorge R. — Old Dominion Univ.
González, Oscar R. — Old Dominion Univ.
Gray, W. Steven — Old Dominion Univ.

14:00-14:20 FrB21.2

Control Switching in High Performance and Fault Tolerant Control, pp. 6205-6209.

Niemann, Henrik — Tech. Univ. of Denmark
Poulsen, Niels Kjřlstad — Tech. Univ. of Denmark

14:20-14:40 FrB21.3

A Fault-Tolerant Real-Time Supervisory Scheme for an Interconnected Four-Tank System, pp. 6210-6215.

Casavola, Alessandro — Univ. Della Calabria
Famularo, Domenico — Univ. degli Studi Mediterranea di Reggio Calabria
Franze', Giuseppe — Univ. Degli Studi della Calabria
Furfaro, Angelo — Univ. degli Studi della Calabria

14:40-15:00 FrB21.4
Analytically Redundant Controllers for Fault Tolerance: Implementation with Separation of Concerns, pp. 6216-6221.
Hameed, Kashif — Univ. of the West of England
Williams, Rob — Univ. of the West of England
Smith, Jim — Univ. of the West of England

15:00-15:20 FrB21.5
Extension of Modified Pseudo-Inverse Method with Generalized Linear Quadratic Stabilization, pp. 6222-6224.
Ciubotaru, Bogdan D. — Pol. Univ. of Bucharest
Staroswiecki, Marcel — Univ. des Sciences et Tech. de Lille

FrB22 — Laurel D
Positive Systems (Regular Session)

Chair: Langbort, Cedric — Univ. of Illinois, Urbana-Champaign
Co-Chair: Valcher, Maria Elena — Univ. di Padova

13:40-14:00 FrB22.1
On the Stability of Continuous-Time Positive Switched Systems, pp. 6225-6230.
Fornasini, Ettore — Univ. di Padova
Valcher, Maria Elena — Univ. di Padova

14:00-14:20 FrB22.2
Nonlinear Positive Observer Design for Positive Dynamical Systems, pp. 6231-6237.
Brian, Ben — Univ. of Central Florida
Wang, Jing — Bethune-Cookman Univ.
Qu, Zhihua — Univ. of Central Florida

14:20-14:40 FrB22.3
KYP Lemma for Internally Positive Systems and a Tractable Class of Distributed H-Infinity Control Problems, pp. 6238-6243.
Tanaka, Takashi — Univ. of Illinois, Urbana-Champaign
Langbort, Cedric — Univ. of Illinois, Urbana-Champaign

14:40-15:00 FrB22.4
H-Infinity Model Reduction for Positive Systems, pp. 6244-6249.
Li, Ping — The Univ. of HongKong
Lam, James — The Univ. of Hong Kong
Wang, Zidong — Brunel Univ.

15:00-15:20 FrB22.5
On the Diagonal Stability of a Class of Almost Positive Switched Systems, pp. 6250-6255.
Shorten, Robert — Nat. Univ. of Ireland
Narendra, Kumpati S. — Yale Univ.

15:20-15:40 FrB22.6
Dwell Time Analysis for Continuous-Time Switched Linear Positive Systems, pp. 6256-6261.
Zappavigna, Annalisa — Pol. di Milano
Colaneri, Patrizio — Pol. di Milano
Geromel, Jose C. — UNICAMP
Shorten, Robert — Nat. Univ. of Ireland

FrC01 — Harborside Ballroom A
Model Predictive Control III (Regular Session)

Chair: Rossiter, J. Anthony — Univ. of Sheffield
Co-Chair: Rivera, Daniel E. — Arizona State Univ.

16:00-16:20 FrC01.1
Robust Model Predictive Control with Disturbance Invariant Sets, pp. 6262-6267.
Yu, Shuyou — Univ. of Stuttgart
Bohm, Christoph — Univ. of Stuttgart
Chen, Hong — Jilin Univ. Campus NanLing
Allgower, Frank — Univ. of Stuttgart

16:20-16:40 FrC01.2
Approximate Off-Line Receding Horizon Control of Constrained Nonlinear Discrete-Time Systems: Smooth Approximation of the Control Law, pp. 6268-6273.
Pin, Gilberto — Danieli Automation S.p.A. (Italy)
Filippo, Marco — Univ. of Trieste
Pellegrino, Felice Andrea — Univ. of Trieste, Trieste (Italy)
Fenu, Gianfranco — Univ. of Trieste
Parisini, Thomas — Univ. of Trieste

16:40-17:00 FrC01.3
Stochastic Tubes in Model Predictive Control with Probabilistic Constraints, pp. 6274-6279.
Cannon, Mark — Univ. of Oxford
Kouvaritakis, Basil — Oxford Univ.

Rakovic, Sasa V. — Imperial Coll. London
Cheng, Qifeng — Univ. of Oxford

17:00-17:20 FrC01.4
Robust Stability in Predictive Control with Soft Constraints, pp. 6280-6285.
Thomsen, Sven Creutz — Tech. Univ. of Denmark
Niemann, Henrik — Tech. Univ. of Denmark
Poulsen, Niels Kjřlstad — Tech. Univ. of Denmark

17:20-17:40 FrC01.5
A Novel Model Predictive Control Formulation for Hybrid Systems with Application to Adaptive Behavioral Interventions, pp. 6286-6292.
Nandola, Nareshkumar — Arizona State Univ.
Rivera, Daniel E. — Arizona State Univ.

17:40-18:00 FrC01.6
A Move-Blocking Strategy to Improve Tracking in Predictive Control, pp. 6293-6298.
Valencia-Palomo, Guillermo — Univ. of Sheffield
Pelegrinis, Michail — Univ. of Sheffield
Rossiter, J. Anthony — Univ. of Sheffield
Gondhalekar, Ravi — Osaka Univ.

FrC02 — Harborside Ballroom B
Consensus (Regular Session)

Chair: Preciado, Victor M. — Univ. of Pennsylvania
Co-Chair: Scardovi, Luca — Tech. Univ. München

16:00-16:20 FrC02.1
Robust Consensus Tracking of Leader-Based Multi-Agent Systems, pp. 6299-6305.
Guerrero, Jose Alfredo — Univ. de Tech. de Compiegne
Romero, Gerardo — UAM Reynosa Rodhe, Univ. Autonoma de Tamaulipas
Lozano, Rogelio — Univ. de Tech.

16:20-16:40 FrC02.2
Gossip Consensus and Averaging Algorithms with Quantization, pp. 6306-6311.
Cai, Kai — Tokyo Inst. of Tech.
Ishii, Hideaki — Tokyo Inst. of Tech.

16:40-17:00 FrC02.3
Robustness of Noisy Consensus Dynamics with Directed Communication, pp. 6312-6317.
Young, George Forrest — Princeton Univ.
Scardovi, Luca — Tech. Univ. München
Leonard, Naomi Ehrich — Princeton Univ.

17:00-17:20 FrC02.4
Sufficient Conditions for the Convergence of a Class of Nonlinear Distributed Consensus Algorithms, pp. 6318-6323.
Ajorlou, Amir — Concordia Univ.
Momeni, Ahmadreza — Concordia Univ.
Aghdam, Amir G. — Concordia Univ.

17:20-17:40 FrC02.5
An Extension of Consensus-Based Auction Algorithms for Decentralized, Time-Constrained Task Assignment, pp. 6324-6329.
Mercker, Travis — Univ. of Texas at Austin
Casbeer, David W. — Air Force Res. Lab.
Millet, Paul Travis — Brigham Young Univ.
Akella, Maruthi — The Univ. of Texas at Austin

17:40-18:00 FrC02.6
Variance Analysis of Randomized Consensus in Switching Directed Networks, pp. 6330-6335.
Preciado, Victor M. — Univ. of Pennsylvania
Tahbaz-Salehi, Alireza — Massachusetts Inst. of Tech.
Jadbabaie, Ali — Univ. of Pennsylvania

FrC03 — Harborside Ballroom D
Nonlinear Systems II (Regular Session)

Chair: Yaz, Edwin — Marquette Univ.
Co-Chair: Lin, Zongli — Univ. of Virginia

16:00-16:20 FrC03.1
Online Solution of State Dependent Riccati Equation for Nonlinear System Stabilization, pp. 6336-6341.
Yucelen, Tansel — Georgia Inst. of Tech.
Shekar Sadahalli, Arjun — Southern Illinois Univ.
Pourboghrat, Farzad — Southern Illinois Univ.

16:20-16:40 FrC03.2
Further Results on Disturbance Attenuation for Multiple Input Multiple Output Nonlinear Systems, pp. 6342-6347.
Liu, Xinmin — Univ. of Virginia
Lin, Zongli — Univ. of Virginia

16:40-17:00 FrC03.3
On Incrementally Bounded Systems, pp. 6348-6350.
Kapinski, James — Carnegie Mellon Univ.

Krogh, Bruce H. — Carnegie Mellon Univ.

17:00-17:20 — FrC03.4

Nonsmooth Backstepping Design for a Class of Parametric Strict-Feedback Nonlinear Systems Based on Lipschitz Feedback, pp. 6351-6356.

Zheng, Kai — Dalian Maritime Univ. China
Shen, Tielong — Sophia Univ.
He, Fenghua — Harbin Inst. of Tech.
Yang, Ming — Dalian Maritime Univ.

17:20-17:40 — FrC03.5

Robust Nonlinear Feedback Control of Discrete-Time Nonlinear Systems with Mixed Performance Criteria, pp. 6357-6362.

Wang, Xin — Marquette Univ.
Yaz, Edwin — Marquette Univ.
Jeong, Chung Seop — Marquette Univ.

17:40-18:00 — FrC03.6

Robust and Resilient Optimal Controller Design for a Class of Nonlinear Systems with General Criteria, pp. 6363-6368.

Jeong, Chung Seop — Marquette Univ.
Feng, Fan — Marqutte Univ.
Yaz, Edwin — Marquette Univ.
Yaz, Yvonne — Milwaukee School of Engineering

FrC04 — Harborside Ballroom E

Decentralized Control II (Regular Session)

Chair: Martins, Nuno C. — Univ. of Maryland
Co-Chair: Mukhopadhyay, Snehasis — Indiana-Purdue Univ.

16:00-16:20 — FrC04.1

To Communicate or Not to Communicate: A Decision-Theoretic Approach to Decentralized Adaptive Control, pp. 6369-6376.

Narendra, Kumpati S. — Yale Univ.
Mukhopadhyay, Snehasis — Indiana-Purdue Univ.

16:20-16:40 — FrC04.2

On Disturbance Attenuation for Linear Systems under Stable, Additive Plant Perturbations, pp. 6377-6384.

Sabau, Serban — Univ. of Maryland, Coll. Park
Martins, Nuno C. — Univ. of Maryland

16:40-17:00 — FrC04.3

An Explicit State-Space Solution for a Decentralized Two-Player Optimal Linear-Quadratic Regulator, pp. 6385-6390.

Swigart, John — Stanford Univ.
Lall, Sanjay — Stanford Univ.

17:00-17:20 — FrC04.4

A Structural Result for Delayed Sharing Information Structures, pp. 6391-6396.

Nayyar, Ashutosh — Univ. of Michigan, Ann Arbor
Mahajan, Aditya — Yale Univ.
Teneketzis, Demosthenis — Univ. of Michigan

17:20-17:40 — FrC04.5

Measure and Cost Dependent Properties of Information Structures, pp. 6397-6402.

Mahajan, Aditya — Yale Univ.
Yuksel, Serdar — Queen's Univ.

17:40-18:00 — FrC04.6

Optimal Semistable Control for Continuous-Time Coupled Systems, pp. 6403-6408.

Hui, Qing — Texas Tech. Univ.

FrC05 — Essex A

Optimal Searching (Regular Session)

Chair: Krishnaprasad, P. S. — Univ. of Maryland
Co-Chair: Moore, Brandon — Univ. of Michigan

16:00-16:20 — FrC05.1

Partitioned Searching and Deconfliction: Analysis and Flight Tests, pp. 6409-6416.

Lum, Christopher — Univ. of Washington
Vagners, Juris — Univ. of Washington
Jang, Jung Soon — Stanford Univ.
Vian, John L — The Boeing Company

16:20-16:40 — FrC05.2

Source Seeking Via Collaborative Measurements by a Circular Formation of Agents, pp. 6417-6422.

Moore, Brandon — Univ. of Michigan
Canudas de Wit, Carlos — CNRS, GIPSA-Lab.

16:40-17:00 — FrC05.3

Cost-Aware Sequential Bayesian Tasking and Decision-Making for Search and Classification, pp. 6423-6428.

Wang, Yue — Worcester Pol. Inst.
Hussein, Islam — Worcester Pol. Inst.
Brown, Donald — WPI
Erwin, Richard Scott — Air Force Res. Lab.

17:00-17:20 FrC05.4
Motion Camouflage for Coverage, pp. 6429-6435.
Mischiati, Matteo — Univ. of Maryland
Krishnaprasad, P. S. — Univ. of Maryland

17:20-17:40 FrC05.5
A Coverage Algorithm for Drifters in a River Environment, pp. 6436-6441.
Kwok, Andrew — Univ. of California at San Diego
Martinez, Sonia — Univ. of California at San Diego

17:40-18:00 FrC05.6
Periodic Optimal Search Control Considering Reduction of Energy Consumption, pp. 6442-6447.
Saito, Mamoru — Sony Corp.
Hatanaka, Takeshi — Tokyo Inst. of Tech.
Fujita, Masayuki — Tokyo Inst. of Tech.

FrC06 Essex B
Fuzzy Systems (Regular Session)
Chair: Wang, Xin — Marquette Univ.
Co-Chair: Fadali, Mohammed Sami — Univ. of Nevada

16:00-16:20 FrC06.1
Dynamic Output Feedback for T-S Fuzzy Model Based on Chaotic Systems with Uncertainties, pp. 6448-6453.
Chen, Zhaona — Northeastern Univ.
Jing, Yuanwei — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul

16:20-16:40 FrC06.2
Fuzzy TSK Approximation Using Type-2 Fuzzy Logic Systems and Its Application to Modeling a Photovoltaic Array, pp. 6454-6459.
Fadali, Mohammed Sami — Univ. of Nevada
Jafarzadeh, Saeed — Univ. of Nevada Reno
Nafeh, Abd El-Shafy — Electronics Res. Inst. (ERI)

16:40-17:00 FrC06.3
Robust Multi-Criteria Optimal Fuzzy Control of Continuous-Time Nonlinear Systems, pp. 6460-6465.
Wang, Xin — Marquette Univ.
Yaz, Edwin — Marquette Univ.

17:00-17:20 FrC06.4
Lane Keeping Automation at Tire Saturation, pp. 6466-6471.
Mammar, Said — LSC-CNRS-FRE2494
Minoiu Enache, Nicoleta — INRETS/LCPC - LIVIC Lab.
Glaser, Sébastien — LCPC
Lusetti, Benoit — LIVIC - INRETS
Benine-Neto, André — LIVIC-LCPC/INRETS

17:20-17:40 FrC06.5
Universal Approximation of TS Fuzzy Systems Constructed Dynamically--MISO Cases, pp. 6472-6479.
Yan, ShiYu — State Key Lab. on Intelligent Tech. and Systems,Tsing
Sun, Zengqi — Tsinghua Univ.
Li, Zhe — Central Univ. of Finance and Ec.

17:40-18:00 FrC06.6
Fuzzy Control of Delayed Systems: Less Conservative Convex Conditions, pp. 6480-6485.
Viana, Dimitri Campos — CEFET-MG
Leite, Valter J. S. — CEFET/MG - Campus Div.
Miranda, Marcio Fantini — Federal Univ. of Minas Gerais

FrC07 Essex C
Numerical Algorithms II (Regular Session)
Chair: Hasan, Mohammed A. — Univ. of Minnesota
Co-Chair: Cao, Ming — Univ. of Groningen

16:00-16:20 FrC07.1
Fault Tolerant Tracking Control for Nonlinear Systems Based on Derivative Estimation, pp. 6486-6493.
Mai, Philipp — Univ. der Bundeswehr Muenchen
Hillermeier, Claus — Univ. d. Bundeswehr, München

16:20-16:40 FrC07.2
On UAV Routing Protocols for Sparse Sensor Data Exfiltration, pp. 6494-6500.
Klein, Daniel J. — Univ. of California, Santa Barbara
Schweikl, Johann Josef — Univ. of California, Santa Barbara
Isaacs, Jason T. — Univ. of California, Santa Barbara
Hespanha, Joao P. — Univ. of California, Santa Barbara

16:40-17:00 FrC07.3
System Identification and Uncertainty Domain Determination: A Subspace-Based Approach, pp. 6501-6506.
Farah, Wafa — Univ. of Poitiers
Mercčre, Guillaume — Univ. de Poitiers
Poinot, Thierry — Ec. Supérieure d'Ingénieurs de Poitiers

17:00-17:20 FrC07.4
On Second Derivative-Free Zero Finding Methods, pp. 6507-6512.
Hasan, Mohammed A. Univ. of Minnesota

17:20-17:40 FrC07.5
Cluster Synchronization Algorithms, pp. 6513-6518.
Xia, Weiguo Univ. of Groningen
Cao, Ming Univ. of Groningen

17:40-18:00 FrC07.6
Estimation of State-Transition Probability Matrices in Asynchronous Population Markov Processes, pp. 6519-6524.
Farahat, Waleed MIT
Asada, H. Harry Massachusetts Inst. of Tech.

FrC08 Laurel A
Nano Systems (Regular Session)
Chair: Alleyne, Andrew G. Univ. of Illinois, Urbana-Champaign
Co-Chair: Komaee, Arash Univ. of Maryland Coll. Park

16:00-16:20 FrC08.1
Modal Actuation for High Bandwidth Nano-Positioning, pp. 6525-6530.
van Hulzen, Jan Roelf Delft Univ. of Tech.
Schitter, Georg Delft Univ. of Tech.
Van den Hof, Paul M.J. Delft Univ. of Tech.
van Eijk, Jan Delft Univ. of Tech.

16:20-16:40 FrC08.2
Control of Systems with Hysteresis Via Servocompensation and Its Application to Nanopositioning, pp. 6531-6536.
Esbrook, Alexander Michigan State Univ.
Guibord, Matt Michigan State Univ.
Tan, Xiaobo Michigan State Univ.
Khalil, Hassan K. Michigan State Univ.

16:40-17:00 FrC08.3
Control of High-Resolution Electrohydrodynamic Jet Printing, pp. 6537-6542.
Mishra, Sandipan Univ. of Illinois
Barton, Kira Univ. of Illinois, Urbana-Champaign
Alleyne, Andrew G. Univ. of Illinois, Urbana-Champaign

17:00-17:20 FrC08.4
Steering a Ferromagnetic Particle by Magnetic Feedback Control: Algorithm Design and Validation, pp. 6543-6548.
Komaee, Arash Univ. of Maryland Coll. Park
Shapiro, Benjamin Univ. of Maryland

17:20-17:40 FrC08.5
Apply Tapping Mode Atomic Force Microscope with CD/DVD Pickup Head in Fluid, pp. 6549-6554.
Yen, Shih Hsun National Taiwan Univ.
Wu, Jim Wei National Taiwan Univ.
Fu, Li-Chen National Taiwan Univ.

17:40-18:00 FrC08.6
Robust H-Infinity Control of a Scanning Tunneling Microscope under Parametric Uncertainties, pp. 6555-6560.
Ahmad, Irfan Univ. Joseph Fourier (UJF Grenoble)
Voda, Alina UJF
Besancon, Gildas GIPSA-Lab. Grenoble INP

FrC09 Laurel B
Time Delay Systems III (Regular Session)
Chair: Aghdam, Amir G. Concordia Univ.
Co-Chair: Krstic, Miroslav Univ. of California at San Diego

16:00-16:20 FrC09.1
Multimodel-Based Techniques for the Identification of the Delay in MIMO Systems, pp. 6561-6566.
Herrera Cuartas, Jorge Univ. Autňnoma de Barcelona
Ibeas, Asier Univ. Autónoma de Barcelona
Alcántara, Salva Univ. Autňnoma de Barcelona
Vilanova, Ramon Univ. Autonoma de Barcelona

16:20-16:40 FrC09.2
On Linear Equivalence for Time-Delay Systems, pp. 6567-6572.
Califano, Claudia Univ. di Roma
Marquez-Martinez, Luis Alejandro CICESE Res. Center
Moog, Claude CNRS

16:40-17:00 FrC09.3
Improved Jensen Integral Inequality Approach to Stability Analysis of Continuous-Time Systems with Interval Time-Varying Delay, pp. 6573-6578.
Zhu, Xun-Lin Nanyang Tech. Univ.
Wang, Youyi Nanyang Tech. Univ.

17:00-17:20 FrC09.4

Stabilization of Linear Strict-Feedback Systems with Delayed Integrators, pp. 6579-6584.

Bekiaris-Liberis, Nikolaos — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California at San Diego

17:20-17:40 FrC09.5

Passivity-Based Model Reference Robust Control for a Class of Nonlinear Systems with Input and State Measurement Delays, pp. 6585-6592.

Rodríguez-Seda, Erick J. — Univ. of Illinois, Urbana-Champaign
López-Montesinos, Pedro Omar — Univ. of Illinois
Stipanovic, Dusan M. — Univ. of Illinois, Urbana-Champaign
Spong, Mark W. — Univ. of Texas at Dallas

17:40-18:00 FrC09.6

Decentralized Fixed Modes for LTI Time-Delay Systems, pp. 6593-6599.

Momeni, Ahmadreza — Concordia Univ.
Aghdam, Amir G. — Concordia Univ.
Davison, Edward J. — Univ. of Toronto

FrC10 — Laurel C

Modeling, Estimation, and Control of Fuel Cells and Batteries (Invited Session)

Chair: Findeisen, Rolf — OVG Univ. Magdeburg
Co-Chair: Chaturvedi, Nalin A. — Robert Bosch LLC
Organizer: Findeisen, Rolf — OVG Univ. Magdeburg
Organizer: Chaturvedi, Nalin A. — Robert Bosch LLC
Organizer: Kienle, Achim — Magdeburg Univ.

16:00-16:20 FrC10.1

Optimal Spatial Distribution of Microstructure in Porous Electrodes for Li-Ion Batteries (I), pp. 6600-6605.

Methekar, Ravi N. — Washington Univ. in St. Louis
Boovaragavan, Vijayasekaran — Tennessee Tech. Univ.
Arabandi, Mounika — Tennessee Tech. Univ.
Ramadesigan, Venkatasailanathan — Washington Univ. in St. Louis
Subramanian, Venkat R. — Washington Univ. in St. Louis
Latinwo, Folarin — Univ. of Illinois at Urbana-Champaign
Braatz, Richard D. — Univ. of Illinois, Urbana-Champaign

16:20-16:40 FrC10.2

Parameterization of GDL Liquid Water Front Propagation and Channel Accumulation for Anode Purge Scheduling in Fuel Cells (I), pp. 6606-6611.

Siegel, Jason — Univ. of Michigan
Stefanopoulou, Anna G. — Univ. of Michigan

16:40-17:00 FrC10.3

Power System and Controller Design for Hybrid Fuel Cell Vehicles (I), pp. 6612-6617.

Ahmed, Syed — IIT
Chmielewski, Donald J. — Illinois Inst. of Tech.

17:00-17:20 FrC10.4

State Estimation of a Reduced Electrochemical Model of a Lithium-Ion Battery (I), pp. 6618-6623.

Klein, Reinhardt — Bosch Palo Alto
Chaturvedi, Nalin A. — Robert Bosch LLC
Christensen, Jake — Robert Bosch LLC
Ahmed, Jasim — Program Manager
Findeisen, Rolf — OVG Univ. Magdeburg
Kojic, Aleksandar — Robert Bosch Res. and Tech. Center

17:20-17:40 FrC10.5

Two Degree of Freedom Control Concept for a Hydrogen Production Unit in Fuel Cell Based Power Plants (I), pp. 6624-6629.

Weickgenannt, Martin — Univ. Stuttgart
Sawodny, Oliver — Univ. of Stuttgart

17:40-18:00 FrC10.6

Control of a PEM Fuel Cell Based on a Distributed Model (I), pp. 6630-6635.

Mangold, Michael — Max Planck Inst. for Dynamics of Complex Tech. Systems

FrC11 — Grand Ballroom I

Control Applications VI (Regular Session)

Chair: Judd, Robert P. — Ohio Univ.
Co-Chair: Steinbuch, Maarten — Eindhoven Univ. of Tech.

16:00-16:20 FrC11.1

Attitude Control of Acrobot by Gain Scheduling Control Based on Sum of Squares, pp. 6636-6643.

Ichihara, Hiroyuki — Meiji Univ.
Kawata, Masakatsu — Maizuru National Coll. of Tech.

16:20-16:40 FrC11.2

Nonlinearities in Industrial Motion Stages - Detection and Classification, pp. 6644-6649.

Rijlaarsdam, David Jan — Eindhoven Univ. of Tech.
Loon, van, S.J.L.M. (Bas) — Eindhoven Univ. of Tech.
Nuij, Pieter Waltherus Jozef Maria — Eindhoven Univ. of Tech.

Steinbuch, Maarten — Eindhoven Univ. of Tech.

16:40-17:00 FrC11.3

Control of Two Contact Point Sheet Registration Devices for Xerographic Printers, pp. 6650-6655.

Krucinski, Martin — Xerox Corp.

17:00-17:20 FrC11.4

Signal Flow Graphs Over Max-Plus Algebra and Applications, pp. 6656-6661.

Imaev, Aleksey — Ohio Univ.
Judd, Robert P. — Ohio Univ.

17:20-17:40 FrC11.5

L1 Adaptive Controller for Systems with Hysteresis Uncertainties, pp. 6662-6667.

Zou, Xiaotian — Univ. of Connecticut
Cao, Chengyu — Univ. of Connecticut
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

17:40-18:00 FrC11.6

Control Structure and Limitations of Biochemical Networks, pp. 6668-6673.

López-Caamal, Fernando — National Univ. of Ireland, Maynooth
Oyarzún, Diego — National Univ. of Ireland, Maynooth
Moreno, Jaime A. — Univ. Nacional Autonoma de Mexico-UNAM
Kalamatianos, Dimitrios — National Univ. of Ireland, Maynooth

FrC12 — Grand Ballroom II

Fractional Control (Regular Session)

Chair: Chen, YangQuan — Utah State Univ.
Co-Chair: Pisano, Alessandro — Univ. of Cagliari

16:00-16:20 FrC12.1

Tuning of Fractional PI Controllers for Fractional Order System Models with and without Time Delays, pp. 6674-6679.

Narang, Anuj — Univ. of Alberta
Shah, Sirish L. — Univ. of Alberta
Chen, Tongwen — Univ. of Alberta

16:20-16:40 FrC12.2

On Second-Order Sliding-Mode Control of Fractional-Order Dynamics, pp. 6680-6685.

Pisano, Alessandro — Univ. of Cagliari
Rapaic, Milan — Univ. of Novi Sad
Jelicic, Zoran D. — Univ. of Novi Sad
Usai, Elio — Univ. degli Studi di Cagliari

16:40-17:00 FrC12.3

Optimized Fractional Order Conditional Integrator, pp. 6686-6691.

Luo, Ying — Utah State Univ.
Chen, YangQuan — Utah State Univ.
Pi, Youguo — South China Univ. of Tech. China
Vinagre, B. M. — Univ. de Extremadura
Monje, Concepción A. — Univ. of Extremadura

17:00-17:20 FrC12.4

Sensitivity Function of LTI Fractional Order Dynamic Systems with Respect to the Orders, pp. 6692-6697.

Li, Yan — Shandong Univ.
Chen, YangQuan — Utah State Univ.
Xue, Dingyu — Northeastern Univ.

17:20-17:40 FrC12.5

Remote Stabilization for Fractional-Order Systems Via Communication Networks, pp. 6698-6703.

Song, Xiaona — Nanjing U of Sci and Tech. and Utah State Univ.
Tejado, Inés — Univ. of Extremadura
Chen, YangQuan — Utah State Univ.

17:40-18:00 FrC12.6

Comparison between Two Set Membership Methods for Frequency Domain System Identification Using Fractional Models, pp. 6704-6709.

Khemane, Firas — Bordeaux
Malti, Rachid — Univ. Bordeaux 1
Moreau, Xavier — LAP-Univ. Bordeaux 1
Raďssi, Tarek — Univ. Bordeaux 1
Thomassin, Magalie — Bordeaux

FrC13 — Grand Ballroom III

Biological Systems (Regular Session)

Chair: Zhang, Mingjun — The Univ. of Tennessee
Co-Chair: Mazenc, Frederic — INRIA Sophia-Antipolis,

16:00-16:20 FrC13.1

An Integer Programming Approach to Control Problems in Probabilistic Boolean Networks, pp. 6710-6715.

Kobayashi, Koichi — Japan Adv Inst. of Sci & Tech.
Hiraishi, Kunihiko — JAIST

16:20-16:40 FrC13.2

Dynamic Power Shaping Control of a Continuous Fermentation Process, pp. 6716-6721.

Liu, Zhitao — Zhejiang Univ.
Su, Hongye — Zhejiang Univ.

16:40-17:00 FrC13.3

Evolutionary Game Theoretical Approach for Understanding CCR5 to CXCR4 Coreceptor Switch, pp. 6722-6727.

Wu, Jing — The Univ. of Tennessee
Bewick, Sharon — Univ. of Tennessee, Knoxville
Yang, Ruoting — The Univ. of Tennessee, Knoxville
Lenaghan, Scott — The Univ. of Tennessee
Zhang, Mingjun — The Univ. of Tennessee

17:00-17:20 FrC13.4

Military Defense Strategies: An Inspiration from Game Theoretic Analysis of the Immune Defense, pp. 6728-6733.

Bewick, Sharon — Univ. of Tennessee, Knoxville
Wu, Jing — The Univ. of Tennessee
Hamel, W. R. — Univ. of Tennessee
Zhang, Mingjun — The Univ. of Tennessee

17:20-17:40 FrC13.5

Lyapunov-Based Continuous-Stirred Tank Bioreactor Control to Maximize Biomass Production Using the Haldane and Monod Specific Growth Models, pp. 6734-6739.

Kapadia, Apoorva — Clemson Univ.
Nath, Nitendra — Clemson Univ.
Burg, Timothy C. — Clemson Univ.
Dawson, Darren M. — Clemson Univ.

17:40-18:00 FrC13.6

Stabilization of Two-Species Chemostats with Delayed Measurements and Haldane Growth Functions, pp. 6740-6744.

Mazenc, Frederic — Projet INRIA DISCO
Malisoff, Michael — Louisiana State Univ.

FrC14 — Grand Ballroom IV

Anti-Windup Compensation for Constrained Control (Invited Session)

Chair: Turner, Matthew C. — Univ. of Leicester
Co-Chair: Herrmann, Guido — Univ. of Bristol
Organizer: Herrmann, Guido — Univ. of Bristol
Organizer: Turner, Matthew C. — Univ. of Leicester

16:00-16:20 FrC14.1

Robust Anti-Windup Control of SISO Systems (I), pp. 6745-6750.

Kerr, Murray Lawrence — Deimos Space
Turner, Matthew C. — Univ. of Leicester
Postlethwaite, Ian — Northumbria Univ.

16:20-16:40 FrC14.2

Scheduled Static Anti-Windup Augmentation Synthesis for Open-Loop Stable Plants (I), pp. 6751-6756.

Sajjadi-Kia, Solmaz — Univ. of California at Irvine (UCI)
Jabbari, Faryar — Univ. of California at Irvine

16:40-17:00 FrC14.3

Application of a Novel Robust Anti-Windup Technique to Dynamically Substructured Systems (I), pp. 6757-6762.

Li, Guang — Univ. of Bristol
Herrmann, Guido — Univ. of Bristol
Stoten, David P. — Univ. of Bristol
Tu, Jia-Ying — Univ. of Bristol
Turner, Matthew C. — Univ. of Leicester

17:00-17:20 FrC14.4

A Convex Framework for the Design of Dynamic Anti-Windup for State-Delayed Systems (I), pp. 6763-6768.

Bender, Fernando Augusto — UFRGS
Gomes Da Silva Jr., Joao Manoel — Univ. Federal do Rio Grande do Sul
Tarbouriech, Sophie — LAAS-CNRS

17:20-17:40 FrC14.5

An Almost Anti-Windup Scheme for Plants with Magnitude, Rate and Curvature Saturation (I), pp. 6769-6774.

Forni, Fulvio — Univ. di Roma Tor Vergata
Galeani, Sergio — Univ. Di Roma Tor Vergata
Zaccarian, Luca — Univ. di Roma, Tor Vergata

17:40-18:00 FrC14.6

Generalized Sector Synthesis of Reduced-Order Output Feedback Controllers for Discrete-Time Servosystems with Saturation (I), pp. 6775-6780.

Kiyama, Tsuyoshi — Osaka Univ.
Osuka, Koichi — Kobe Univ.

FrC15 — Grand Ballroom VII

Sensor Fusion (Regular Session)

Chair: Becis-Aubry, Yasmina — Univ. d'Orléans, Inst. PRISME UPRES EA 4229
Co-Chair: Castanon, David A. — Boston Univ.

16:00-16:20 FrC15.1
Multisensor Fusion for State Estimation of Linear Models in the Presence of Bounded Disturbances, pp. 6781-6782.
Becis-Aubry, Yasmina — Univ. d'Orléans, Inst. PRISME UPRES EA 4229

16:20-16:40 FrC15.2
Attribute-Distributed Learning: The Iterative Covariance Optimization Algorithm and Its Applications, pp. 6783-6788.
Zheng, Haipeng — Princeton Univ.
Kulkarni, Sanjeev R. — Princeton Univ.
Poor, H. Vincent — Princeton Univ.

16:40-17:00 FrC15.3
On the Time Complexity of Information Dissemination Via Linear Iterative Strategies, pp. 6789-6794.
Sundaram, Shreyas — Univ. of Waterloo
Hadjicostis, Christoforos — Univ. of Cyprus

17:00-17:20 FrC15.4
On-The-Field Calibration of an Array of Sensors, pp. 6795-6802.
Dorveaux, Eric — MINES ParisTech
Petit, Nicolas — MINES ParisTech
Vissičre, David — SYSNAV

17:20-17:40 FrC15.5
Robust Hinfinity Fusion Filtering for Discrete-Time Nonlinear Delayed Systems with Missing Measurement, pp. 6803-6808.
Liu, Meiqin — Zhejiang Univ.
Qiu, Meikang — Univ. of Kentucky
Zhang, Senlin — Zhejing Univ.
Lin, Zhiyun — Zhejiang Univ.

17:40-18:00 FrC15.6
Receding Horizon Stochastic Control Algorithms for Sensor Management, pp. 6809-6815.
Castanon, David A. — Boston Univ.
Hitchings, Darin — Boston Univ.

FrC16 — Grand Ballroom VIII
Control of Multiple Robots (Regular Session)

Chair: Fierro, Rafael — Univ. of New Mexico
Co-Chair: Kumar, Manish — Univ. of Cincinnati

16:00-16:20 FrC16.1
Slip Estimation for Small-Scale Robotic Tracked Vehicles, pp. 6816-6821.
Dar, Tehmoor — Univ. of Texas at Austin
Longoria, Raul — Univ. of Texas at Austin

16:20-16:40 FrC16.2
*Velocity Observer Based Control of a Mobile Robot**. (Not Available)
Rodríguez-Cortés, Hugo — CINVESTAV-IPN
Velasco-Villa, Martin — CINVESTAV-IPN
Aranda-Bricaire, Eduardo — CINVESTAV

16:40-17:00 FrC16.3
Adaptive Leader-Follower Formation Control for Autonomous Mobile Robots, pp. 6822-6827.
Guo, Jing — Zhejiang Univ.
Lin, Zhiyun — Zhejiang Univ.
Cao, Ming — Univ. of Groningen
Yan, Gangfeng — Zhejiang Univ.

17:00-17:20 FrC16.4
Tethering of Mobile Router Networks, pp. 6828-6833.
Bezzo, Nicola — UNM
Fierro, Rafael — Univ. of New Mexico

17:20-17:40 FrC16.5
A Novel Way to Implement Self-Localization in a Multi-Robot Experimental Platform, pp. 6834-6839.
Zhao, Sheng — Univ. of Cincinnati
Kumar, Manish — Univ. of Cincinnati

17:40-18:00 FrC16.6
H-Inf Control for Distributed Multi-Agent Formation Systems with Toeplitz-Based Consensus Algorithms, pp. 6840-6845.
Huang, Huang — Beijing Inst. of Tech.
Wu, Qinghe — Beijing Inst. of Tech.

FrC17 — Grand Ballroom IX
Nonlinear Observers III (Regular Session)

Chair: Dimirovski, Georgi M — Dogus Univ. of Istanbul
Co-Chair: Straka, Ondrej — Univ. of West Bohemia in Pilsen

16:00-16:20 FrC17.1
A New Resampling Algorithm for Generic Particle Filters, pp. 6846-6851.
Fu, Xiaoyan — Beihang Univ. (BUAA)
Jia, Yingmin — Beihang Univ.
Du, Junping — Beijing Univ. of Posts and Telecommunications

Yuan, Shiying — Henan Pol. Univ.

16:20-16:40 FrC17.2
Estimation of Load Side Position in Indirect Drive Robots by Sensor Fusion and Kalman Filtering, pp. 6852-6857.
Chen, Wenjie — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California, Berkeley

16:40-17:00 FrC17.3
Multiple-Model Filtering with Multiple Constraints, pp. 6858-6863.
Dunik, Jindrich — Univ. of West Bohemia
Simandl, Miroslav — Univ. of West Bohemia in Pilsen
Straka, Ondrej — Univ. of West Bohemia

17:00-17:20 FrC17.4
Hinfini Observers Design for Singular Bilinear Systems, pp. 6864-6869.
Zerrougui, Mohamed — UHP, NANCY1
Boutat-Baddas, Latifa — Centre de Recherche d'Automatique de Nancy (CRAN)
Darouach, Mohamed — Univ. Henri Poincare-Nancy
Souley Ali, Harouna — Univ. Henri Poincaré

17:20-17:40 FrC17.5
Cholesky-Based Reduced-Rank Square-Root Ensemble Kalman Filtering, pp. 6870-6875.
Zhou, Yucheng — Chinese Acad. of Forestry
Xu, Jiahe — Chinese Acad. of Forestry
Jing, Yuanwei — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul

17:40-18:00 FrC17.6
Extended Target Tracking Using an IMM Based Nonlinear Kalman Filters, pp. 6876-6881.
Zhou, Yucheng — Chinese Acad. of Forestry
Xu, Jiahe — Chinese Acad. of Forestry
Jing, Yuanwei — Northeastern Univ.
Dimirovski, Georgi M — Dogus Univ. of Istanbul

FrC18 — Grand Ballroom X
Finance (Regular Session)

Chair: Primbs, James A. — Stanford Univ.
Co-Chair: Ye, Jinchun — CTC Holdings

16:00-16:20 FrC18.1
Pricing of American Retail Options, pp. 6882-6887.
Burton, Christina — Brigham Young Univ.
Heasley, Mckay — Brigham Young Univ.
Humpherys, Jeffrey — Brigham Young Univ.
Li, Jialin — Brigham Young Univ.

16:20-16:40 FrC18.2
The Decibel and Mr. Dow, pp. 6888-6890.
Messner, William — Carnegie Mellon Univ.

16:40-17:00 FrC18.3
LQR and Receding Horizon Approaches to Multi-Dimensional Option Hedging under Transaction Costs, pp. 6891-6896.
Primbs, James A. — Stanford Univ.

17:00-17:20 FrC18.4
A Numerical Method for a Continuous-Time Insurance-Consumption-Investment Model, pp. 6897-6903.
Ye, Jinchun — CTC Holdings

17:20-17:40 FrC18.5
Fluctuations and Limitations of a Multi-Sector Economic Model with Delays, pp. 6904-6909.
Tonita, Robert — Univ. of Cambridge
Lestas, Ioannis — Univ. of Cambridge,
Goncalves, Jorge M. — Univ. of Cambridge
Vinnicombe, Glenn — Univ. of Cambridge

17:40-18:00 FrC18.6
A Confidence Interval Triggering Method for Stock Trading Via Feedback Control, pp. 6910-6916.
Iwarere, Olusesan — Univ. of Wisconsin
Barmish, B. Ross — Univ. of Wisconsin

FrC19 — Dover A
Automotive Systems III (Regular Session)

Chair: Vahidi, Ardalan — Clemson Univ.
Co-Chair: Das, Tuhin — Rochester Inst. of Tech.

16:00-16:20 FrC19.1
Real-Time Optimal Control of Plug-In Hybrid Vehicles with Trip Preview (I), pp. 6917-6922.
Zhang, Chen — Clemson Univ.
Vahidi, Ardalan — Clemson Univ.

16:20-16:40 FrC19.2
Robust Nonlinear Control of Fuel Cell Ultra-Capacitor Hybrid System, pp. 6923-6929.

Allag, Tahar — Rochester Inst. of Tech.
Das, Tuhin — Rochester Inst. of Tech.

16:40-17:00 FrC19.3
A Reference Governor Approach for Dynamic Reconfiguration of Hybrid Power Systems, pp. 6930-6935.
Seenumani, Gayathri — The Univ. of Michigan
Sun, Jing — Univ. of Michigan
Peng, Huei — Univ. of Michigan

17:00-17:20 FrC19.4
A Method to Estimate the Lateral Tire Force and the Sideslip Angle of a Vehicle: Experimental Validation, pp. 6936-6942.
Doumiati, Moustapha — Univ. Univ. de Tech. de Compičgne
Victorino, Alessandro — Univ. Univ. de Tech. de Compičgne
Charara, Ali — UMR CNRS 6599
Lechner, Daniel — INRETS MA

17:20-17:40 FrC19.5
Position Control of a 6x6 ATV Using a MIMO Fuzzy Controller, pp. 6943-6948.
Gariepy, Ryan — Univ. of Waterloo
Waslander, Steven L. — Univ. of Waterloo

17:40-18:00 FrC19.6
A Pre-Crash Discrimination System for an Airbag Crash Algorithm (I), pp. 6949-6954.
Cho, Kwanghyun — Korea Advanced Inst. of Science and Tech.
Choi, Seibum Ben — KAIST
Yun, You-Sik — Hyundai motors
Shin, Kyung-Jae — Hyundai motors

FrC20 — Dover B
Target Tracking (Regular Session)

Chair: Najjaran, Homayoun — Univ. of British Columbia Okanagan
Co-Chair: Vela, Patricio A. — Georgia Inst. of Tech.

16:00-16:20 FrC20.1
Visual Closed-Loop Tracking with Area Stabilization, pp. 6955-6961.
Karasev, Peter — Georgia Inst. of Tech.
Serrano, Miguel — Georgia Inst. of Tech.
Vela, Patricio A. — Georgia Inst. of Tech.
Tannenbaum, Allen — Georgia Tech.

16:20-16:40 FrC20.2
Structure and Motion Estimation of a Moving Object Using a Moving Camera, pp. 6962-6967.
Dani, Ashwin — Univ. of Florida
Kan, Zhen — Univ. of Florida
Fischer, Nicholas — Univ. of Florida
Dixon, Warren E. — Univ. of Florida

16:40-17:00 FrC20.3
Vision-Based Tracking and Estimation of Ground Moving Target Using Unmanned Aerial Vehicle, pp. 6968-6973.
Zhang, Mingfeng — Univ. of Toronto
Liu, Hugh Hong-Tao — Univ. of Toronto

17:00-17:20 FrC20.4
A Bank of Maximum a Posteriori Estimators for Single-Sensor Range-Only Target Tracking, pp. 6974-6980.
Huang, Guoquan — Univ. of Minnesota
Zhou, Ke — Univ. of Minnesota
Trawny, Nikolas — Univ. of Minnesota
Roumeliotis, Stergios — Univ. of Minnesota

17:20-17:40 FrC20.5
Tracking Evasive Object Via Search Allocation Game (I), pp. 6981-6986.
Chen, Huimin — Univ. of New Orleans
Shen, Dan — DCM Res. Res. LLC
Chen, Genshe — DCM Res. Res. LLC
Blasch, Erik — AFRL/SNAT
Pham, Khanh D. — AIR FORCE Res. Lab.

17:40-18:00 FrC20.6
A Higher Order Rao-Blackwellized Particle Filter for Monocular Vslam, pp. 6987-6992.
Farrokhsiar, Morteza — School of Engineering, UBC Okanagan
Najjaran, Homayoun — Univ. of British Columbia Okanagan

FrC21 — Dover C
Process Monitoring and Fault Diagnosis (Regular Session)

Chair: Zhang, Xiaodong — Wright State Univ.
Co-Chair: Wang, Jin — Auburn Univ.

16:00-16:20 FrC21.1
Fault Progression Modeling: An Application to Bearing Diagnosis and Prognosis, pp. 6993-6998.
Zhang, Bin — Nanyang Tech. Univ.

Orchard, Marcos E. — Univ. of Chile
Patrick, Romano — Georgia Inst. of Tech.
Vachtsevanos, George J. — Georgia Inst. of Tech.

16:20-16:40 FrC21.2
Probabilistic Process Monitoring with Bayesian Regularization, pp. 6999-7003.
Zhang, MuGuang — Zhejiang Univ.
Ge, Zhiqiang — Zhejiang Univ.
Song, Zhi-Huan — Zhejiang Univ.

16:40-17:00 FrC21.3
Control Performance Assessment and Diagnosis for Semiconductor Processes, pp. 7004-7009.
Wang, Jin — Auburn Univ.
He, Qinghua — Tuskegee Univ.
Edgar, Thomas F. — Univ. of Texas at Austin

17:00-17:20 FrC21.4
Sensor Bias Fault Diagnosis in a Class of Nonlinear Uncertain Systems with Lipschitz Nonlinearities, pp. 7010-7015.
Zhang, Xiaodong — Wright State Univ.

17:20-17:40 FrC21.5
Simultaneous Sensor and Actuator Fault Reconstruction and Diagnosis Using Generalized Sliding Mode Observers, pp. 7016-7021.
Raoufi, Reza — Univ. of Alberta
Marquez, Horacio J. — Univ. of Alberta

17:40-18:00 FrC21.6
Reconstruction-Based Contribution for Process Monitoring with Kernel Principal Component Analysis, pp. 7022-7027.
Alcala, Carlos F. — Univ. of Southern California
Qin, S. Joe — Univ. of Southern California

FrC22 Laurel D
Polynomial Systems (Regular Session)
Chair: Casavola, Alessandro — Univ. Della Calabria
Co-Chair: Zheng, Qian — Univ. of Minnesota

16:00-16:20 FrC22.1
A SOS-Based Robust Fault Detection Method for Polynomial Nonlinear Systems, pp. 7028-7033.
Casavola, Alessandro — Univ. Della Calabria
Famularo, Domenico — Univ. degli Studi Mediterranea di Reggio Calabria
Franze', Giuseppe — Univ. Degli Studi della Calabria

16:20-16:40 FrC22.2
*Balanced Model Reduction of Polynomial Dynamical Systems**. (Not Available)
Lyes, Nechak — Mouloud Mammeri Univ.
Djennoune, Sad'd — Univ. of Mouloud Mammeri, Tizi-Ouzou
Bettayeb, Maamar — Univ. of Sharjah

16:40-17:00 FrC22.3
Optimal Controller for Unmeasured Stochastic Polynomial System States with State-Dependent Polynomial Input, pp. 7034-7039.
Basin, Michael V. — Autonomous Univ. of Nuevo Leon
Loukianov, Alexander G. — CINVESTAV IPN GDl
Hernandez-Gonzalez, Miguel — Centro de investigacion y estudios avanzados

17:00-17:20 FrC22.4
Approximate SEM Identification of Polynomial Input-Output Models, pp. 7040-7045.
Farina, Marcello — Pol. di Milano
Piroddi, Luigi — Pol. di Milano

17:20-17:40 FrC22.5
Optimal Risk-Sensitive Control for Third Degree Polynomial Systems, pp. 7046-7051.
Alcorta Garcia, Maria Aracelia — Autonomous Univ. of Nuevo Leon RFC:UAN691126MK2
Basin, Michael V. — Autonomous Univ. of Nuevo Leon
Anguiano, Sonia G. — Autonomous Univ. of Nuevo Leon
Nava Aleman, Yosefat — Autonomous Univ. of Nuevo Leon

17:40-18:00 FrC22.6
Resilient Control Design for Polynomial Nonlinear Systems with Controller Gain Variations, pp. 7052-7057.
Zheng, Qian — Univ. of Minnesota
Wu, Fen — North Carolina State Univ.