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Bemporad, A. — Univ. of Siena

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Homogeneous Polynomial Lyapunov Functions for Piecewise Affine Systems, pp. 581-586
Xu, Jun — Nanyang Tech. Univ.
Xie, Lihua — Nanyang Tech. Univ.

WeB02 — Senate
Linear Parameter-Varying Systems (Regular Session)

Chair: Tsiotras, Panagiotis — Georgia Inst. of Tech.
Co-Chair: Brennan, Sean — Penn State Univ.

13:30-13:50
Gain-Scheduling Control of LFT Systems Using Parameter-Dependent Lyapunov Functions, pp. 587-592
Wu, Fen — North Carolina State Univ.
Dong, Ke — North Carolina State Univ.

13:50-14:10
State-Feedback Controller Synthesis for Parameter-Dependent LTI Systems, pp. 593-597
Iwasaki, Tetsuya — Univ. of Virginia
Tsiotras, Panagiotis — Georgia Inst. of Tech.
Zhang, Xiping — Georgia Inst. of Tech.

14:10-14:30
Use of Dimensional Analysis to Reduce the Parametric Space for Gain-Scheduling, pp. 598-603
Hailu, Haftay — Penn State Univ.
Brennan, Sean — Penn State Univ.

14:30-14:50
Parameter-Dependent Lyapunov Functions for Time Varying Polytopic Systems, pp. 604-608
Colaneri, Patrizio — Pol. di Milano
Geromel, José C. — UNICAMP

14:50-15:10
State-Space Formulas for Gain-Scheduled ℓ_1-Optimal Controllers, pp. 609-614
Rieber, Jochen M. — Univ. of Stuttgart
Fritsch, Alexandra — Univ. of Stuttgart
Allgöwer, Frank — Univ. of Stuttgart

15:10-15:30
Robust Performance Analysis of Linear Time-Invariant Parameter-Dependent Systems Using Higher-Order Lyapunov Functions, pp. 615-620
Sato, Masayuki — Japan Aerospace Exploration Agency

WeB03 — Galleria III
Networked Control Systems - Delays and Robustness (Regular Session)

Chair: Ulsoy, A. Galip — Univ. of Michigan
Co-Chair: Chen, Tongwen — Univ. of Alberta

13:30-13:50
Networked Real-Time Control Strategies Dealing with Stochastic Time Delays and Packet Losses, pp. 621-626
Kim, Won-jong — Texas A&M Univ.
Ji, Kun — Texas A&M Univ.
Ambike, Ajit — Texas A&M Univ.

13:50-14:10
Bi-Directional Communication among "Smart" Components in a Networked Control System, pp. 627-632
Cakmakci, Melih — Univ. of Michigan
Ulsoy, A. Galip — Univ. of Michigan

14:10-14:30
A New Method for Stabilization of Networked Control Systems with Random Delays [4], pp. 633-637
Zhang, Liqian — Univ. of Alberta
Shi, Yang — Univ. of Alberta
Chen, Tongwen — Univ. of Alberta
Huang, Biao — Univ. of Alberta

14:30-14:50
Design of Robust Networked Predictive Control Systems, pp. 638-643
Mu, Junxia — Univ. of Glamorgan
Liu, G.P. — Univ. of Nottingham
Rees, David — Univ. of Glamorgan

14:50-15:10
H_2 Networked Servo Control Systems with Time-Varying Delays, pp. 644-649
Suh, Young Soo — Univ. of Ulsan
Lee, Chang Won — Univ. of Ulsan
Lee, Hong Hee — Univ. of Ulsan
Ro, Young Shick — Univ. of Ulsan

15:10-15:30
Impulsive Control of Networked Systems with Communication Delays, pp. 650-655

Mu, Shumei — Peking Univ.
Chu, Tianguang — Peking Univ.
Wang, Long — Peking Univ.

WeB04 — Broadway II
Underwater Vehicles (Regular Session)

Co-Chair: Stilwell, Daniel J. — Virginia Pol. Inst. & State Univ.

13:30-13:50
Underwater Navigation in the Presence of Unknown Currents Based on Range Measurements from a Single Location, pp. 656-661

Gadre, Aditya S. — Virginia Pol. Inst. & State Univ.
Stilwell, Daniel J. — Virginia Pol. Inst. & State Univ.

13:50-14:10
Convergence Properties of Continuous-Time Markov Chains with Application to Target Search, pp. 662-667

Jun, Myungsoo — Univ. of Florida
Jeffcoat, David E. — Air Force Res. Lab.

14:10-14:30
Hybrid-Model Based Hierarchical Mission Control Architecture for Autonomous Underwater Vehicles, pp. 668-673

Tangirala, S. — Applied Res. Lab. Penn State Univ.
Kumar, R. — Iowa State Univ.
Bhattacharyya, S. — Univ. of Kentucky
O'Connor, M. — Applied Res. Lab. Penn State Univ.
Holloway, L.E. — Univ. of Kentucky

14:30-14:50
Optimal Trajectory Generation in Ocean Flows, pp. 674-679

Inanc, Tamer — Univ. of Louisville
Shadden, Shawn C. — California Inst. of Tech.
Marsden, Jerrold E. — California Inst. of Tech.

14:50-15:10
Cascaded Control Concept of a Robot with Two Degrees of Freedom Driven by Four Artificial Pneumatic Muscle Actuators, pp. 680-685

Hildebrandt, A. — Tech. Univ. Ilmenau
Sawodny, O. — Tech. Univ. Ilmenau
Neumann, R. — Festo AG & Co.
Hartmann, A. — Festo AG & Co.

15:10-15:30
On the Dynamics of the Pitch Control Loop in Horizontal-Axis Large Wind Turbines, pp. 686-690

Suryanarayanan, Shashikanth — Indian Inst. of Tech. Bombay
Dixit, Amit — Indian Inst. of Tech. Bombay

WeB05 — Galleria I
Analysis and Control of Nonlinear Systems II (Regular Session)

Chair: Abed, Eyad H. — Univ. of Maryland
Co-Chair: Bernstein, Dennis S. — Univ. of Michigan

13:30-13:50
Supercavitating Body Dynamics, Bifurcations and Control, pp. 691-696

Lin, Guojian — Univ. of Maryland
Balachandran, Balakumar — Univ. of Maryland
Abed, Eyad — Univ. of Maryland

13:50-14:10
Step Convergence Analysis of Nonlinear Feedback Hysteresis Models, pp. 697-702
Oh, JinHyoung — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

14:10-14:30
A Duality-Based LPV Approach to Polynomial State Feedback Design, pp. 703-708
Ebenbauer, Christian — Univ. of Stuttgart
Raff, Tobias — Univ. of Stuttgart
Allgöwer, Frank — Univ. of Stuttgart

14:30-14:50
A Novel Method of Nonlinear System-Simulation with Uncertain Parameters Providing Guaranteed Bounds, pp. 709-714
Tibken, Bernd — Univ. of Wuppertal
Gennat, Marc — Univ. of Wuppertal

14:50-15:10
The Effects of State Feedback and Input Transformation with Application to Lur'e Systems, pp. 715-719
Duan, Zhisheng — Peking Univ.
Wang, Jinzhi — Peking Univ.
Huang, Lin — Peking Univ.

15:10-15:30
Transforming a Nonlinear System to an Extended Brunovsky Canonical Form without Feedback, pp. 720-721
Zhang, Duan — Zhejiang Univ.
Lu, Jiangang — Zhejiang Univ.
Gao, Yuan — Zhejiang Univ.
Sun, Youxian — Zhejiang Univ.

WeB06 — Broadway III
Learning Control (Regular Session)

Chair: Freudenberg, James S. — Univ. of Michigan

13:30-13:50
A Driving Simulator for Teaching Embedded Automotive Control Applications, pp. 722-726
Griffiths, Paul G. — Univ. of Michigan
Gillespie, Brent R. — Univ. of Michigan

13:50-14:10
Modeling and Control of a Re-Entry Heat Transfer Problem Using Neural Networks, pp. 727-732
Grantham, K.A. — Univ. of Missouri at Rolla
Padhi, R. — Indian Inst. of Science
Balakrishnan, S.N. — Univ. of Missouri at Rolla
Look, D.C. — Univ. of Missouri at Rolla

14:10-14:30
Reverse Engineering a Multivariable Controller: A Case Study, pp. 733-738
Freudenberg, J.S. — Univ. of Michigan
Karnik, A. — Univ. of Michigan

14:30-14:50
Control Developments for Wheelchairs in Slope Environments, pp. 739-744
Oh, Sehoon — Univ. of Tokyo
Hata, Naoki — Univ. of Tokyo
Hori, Yoichi — Univ. of Tokyo

14:50-15:10
*Local Escaping Capacity of Darwinian Evolution Learning Strategy**
Yan, Ling — Zhejiang Univ.
Jiang, Jing-ping — Zhejiang Univ.

15:10-15:30
Support Vector Machine Based Ensemble Classifier, pp. 745-749

Hu, Zhonghui — Shanghai Jiao Tong Univ.
Cai, Yunze — Shanghai Jiao Tong Univ.
Li, Ye — Shanghai Jiao Tong Univ.
Xu, Xiaoming — Shanghai Jiao Tong Univ.

WeB07 — Forum

Mechanical Systems and Mechatronics (Regular Session)

Chair: Yao, Bin — Purdue Univ.
Co-Chair: Rahn, Christopher D. — Penn State Univ.

13:30-13:50
Adaptive Robust Precision Motion Control of a Flexible System with Unmatched Model Uncertainties, pp. 750-755

Liu, Song — Purdue Univ.
Garimella, Phanindra — Purdue Univ.
Yao, Bin — Purdue Univ.

13:50-14:10
Stability of Damped Membranes and Plates with Distributed Inputs, pp. 756-761

Zhao, Haiyu — Penn State Univ.
Rahn, Christopher D. — Penn State Univ.

14:10-14:30
From Input Shaping® and OATF to Vibration Suppression Shape Filter, pp. 762-767

Zhou, Li — Oklahoma State Univ.
Misawa, Eduardo A. — Oklahoma State Univ.

14:30-14:50
Generation of a Vibration Suppression Control Profile from Optimal Energy Concentration Functions, pp. 768-773

Zhou, Li — Oklahoma State Univ.
Misawa, Eduardo A. — Oklahoma State Univ.

14:50-15:10
Application of Supervisory Control Methods to Uncertain Multiple Contact Mechanical Systems, pp. 774-780

Murphey, Todd D. — Univ. of Colorado at Boulder

15:10-15:30
Raising the Bar in Teaching Mechatronics, pp. 781-785

Young, Gary E. — Oklahoma State Univ.
Stone, Marvin L. — Oklahoma State Univ.

WeB08 — Directors

Optimization Algorithms (Regular Session)

Chair: Bullo, Francesco — Univ. of California at Santa Barbara
Co-Chair: Pluymers, Bert — Katholieke Univ. Leuven

13:30-13:50
On the Point-To-Point and Traveling Salesperson Problems for Dubins' Vehicle, pp. 786-791

Savla, Ketan — Univ. of California at Santa Barbara
Frazzoli, Emilio — Univ. of California at Los Angeles
Bullo, Francesco — Univ. of California at Santa Barbara

13:50-14:10
Maximizing Visibility in Nonconvex Polygons: Nonsmooth Analysis and Gradient Algorithm Design, pp. 792-797

Ganguli, Anurag — Univ. of Illinois at Urbana-Champaign
Cortés, Jorge — Univ. of California at Santa Cruz
Bullo, Francesco — Univ. of California at Santa Barbara

14:10-14:30
Second Order Adjoint-Based Optimization of Ordinary and Partial Differential Equations with Application to Air Traffic Flow, pp. 798-803
Raffard, Robin L. — Stanford Univ.
Tomlin, Claire — Stanford Univ.

14:30-14:50
The Efficient Computation of Polyhedral Invariant Sets for Linear Systems with Polytopic Uncertainty, pp. 804-809
Pluymers, B. — Katholieke Univ. Leuven
Rossiter, J.A. — Univ. of Sheffield
Suykens, J.A.K. — Katholieke Univ. Leuven
De Moor, B.L.R. — Katholieke Univ. Leuven

14:50-15:10
Interpolation Based MPC for LPV Systems Using Polyhedral Invariant Sets, pp. 810-815
Pluymers, B. — Katholieke Univ. Leuven
Rossiter, J. A. — Univ. of Sheffield
Suykens, J.A.K. — Katholieke Univ. Leuven
De Moor, B.. — Katholieke Univ. Leuven

15:10-15:30
Unique Polyhedral Representations of Continuous Selections for Convex Multiparametric Quadratic Programs, pp. 816-821
Spjřtvold, Jřrgen — Norwegian Univ. of Sci. & Tech.
Tøndel, Petter — Norwegian Univ. of Sci. & Tech.
Johansen, Tor A. — Norwegian Univ. of Sci. & Tech.

WeB09 — Council
Nonlinear Model Predictive Control (Regular Session)
Chair: Cannon, Mark — Univ. of Oxford
Co-Chair: Sun, Jing — Univ. of Michigan

13:30-13:50
Observer Control in a Tracking Problem Via Model Predictive Control, pp. 822-827
Winstead, Vincent — Ford Motor Company
Kolmanovsky, Ilya — Ford Motor Company

13:50-14:10
Stabilization of Nonlinear Systems with State and Control Constraints Using Lyapunov-Based Predictive Control, pp. 828-833
Mhaskar, Prashant — Univ. of California at Los Angeles
El-Farra, Nael H. — Univ. of California at Davis
Christofides, Panagiotis D. — Univ. of California at Los Angeles

14:10-14:30
A Stable Block Model Predictive Control with Variable Implementation Horizon, pp. 834-839
Sun, Jing — Univ. of Michigan
Chen, Shuhao — Univ. of Michigan
Kolmanovsky, Ilya — Ford Motor Company

14:30-14:50
Model Predictive Control in Nap-Of-Earth (NOE) Flight Using Polynomial Control Basis Functions, pp. 840-845
Singh, Leena — C.S. Draper Lab.
Lapp, Tiffany — Massachusetts Inst. of Tech.

14:50-15:10
Constrained MPC Using Feedback Linearization for Systems with Unstable Inverse Dynamics, pp. 846-851
Liao, Weiheng — Univ. of Oxford
Cannon, Mark — Univ. of Oxford
Kouvaritakis, Basil — Univ. of Oxford

15:10-15:30
*Multi-Model Predictive Control for Nonlinear Systems Based on Model Switching Scheme**
Zou, Tao — Shanghai Jiao Tong Univ.
Wang, Xin — Shanghai Jiao Tong Univ.
LI,, Shaoyuan — Shanghai Jiao Tong Univ.
Zhu, Quanmin — Univ. of the West of England

WeB10 — Broadway IV
Optimal Control Theory (Regular Session)

Chair: Won, Chang-Hee — Univ. of North Dakota
Co-Chair: Rodriguez, Armando A. — Arizona State Univ.

13:30-13:50
Extended Applications of Generating Function to Optimal Feedback Control Problems, pp. 852-857
Park, Chandeok — Univ. of Michigan
Scheeres, D.J. — Univ. of Michigan

13:50-14:10
State-Feedback Optimal Controllers for Deterministic Nonlinear Systems, pp. 858-863
Won, Chang-Hee — Univ. of North Dakota

14:10-14:30
A Remark on IVP and TVP Non-Smooth Viscosity Solutions to Hamilton-Jacobi Equations, pp. 864-869
Melikyan, Arik — Inst. for Problems in Mechanics
Akhmetzhanov, Andrei — Moscow Inst. of Physics & Tech.
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.

14:30-14:50
Gain-Scheduled Control under Common Lyapunov Functions: Conservatism Revisited, pp. 870-875
Shimomura, Takashi — Osaka Prefecture Univ.
Kubotani, Takehiro — Osaka Prefecture Univ.

14:50-15:10
Self-Tuning Sub-Optimal Control of Time-Invariant Systems with Bounded Disturbance, pp. 876-882
Wu, Wei — Hong Kong Pol. Univ.
Yuan, Jing — Hong Kong Pol. Univ.
Cheng, Li — Hong Kong Pol. Univ.

15:10-15:30
A Fast Time-Optimal Control Synthesis Algorithm for a Class of Linear Systems, pp. 883-888
Penev, Borislav G. — Tech. Univ. of Sofia, Plovdiv Branch
Christov, Nicolai D. — Tech. Univ. of Sofia

WeB11 — Studio
Spacecraft Attitude Control (Regular Session)

Chair: Leitner, Jesse A. — NASA Goddard Space Flight Center
Co-Chair: How, Jonathan P. — Massachusetts Inst. of Tech.

13:30-13:50
Trajectory Optimization for Satellite Reconfiguration Maneuvers with Position and Attitude Constraints, pp. 889-894
Garcia, Ian — Massachusetts Inst. of Tech.
How, Jonathan P. — Massachusetts Inst. of Tech.

13:50-14:10
Shape Change Maneuvers for Attitude Control of Underactuated Satellites, pp. 895-900
Ashrafiuon, Hashem — Villanova Univ.
Erwin, R. Scott — Air Force Res. Lab.

14:10-14:30
Attitude Control by Means of Explicit Model Predictive Control, Via Multi-Parametric Quadratic Programming, pp. 901-906
Hegrenæs, Øyvind — Univ. Graduate Center at Kjeller
Gravdahl, Jan Tommy — Norwegian Univ. of Sci. & Tech.
Tøndel, Petter — Norwegian Univ. of Sci. & Tech.

14:30-14:50
Satellite Attitude Control by Quaternion-Based Backstepping, pp. 907-912
Kristiansen, Raymond — Narvik Univ. Coll.
Nicklasson, Per J. — Narvik Univ. Coll.

14:50-15:10
Attitude Tracking and Vibration Suppression of Flexible Spacecraft Using Implicit Adaptive Control Law, pp. 913-918
Shahravi, Morteza — Amirkabir Univ. of Tech.
Kabganian, Mansour — Amirkabir Univ. of Tech.

15:10-15:30
Application of VSC Reliable Design to Spacecraft Attitude Tracking, pp. 919-924
Liang, Yew-Wen — National Chiao Tung Univ.
Xu, Sheng-Dong — National Chiao Tung Univ.
Chu, Tzu-Chiang — National Chiao Tung Univ.
Cheng, Chiz-Chung — National Chiao Tung Univ.
Liaw, Der-Cherng — National Chiao Tung Univ.

WeB12 — Executive
Control of Population Balance Systems (Invited Session)

Chair: Wang, Hong — UMIST
Co-Chair: Immanuel, Charles David — Imperial Coll. London
Organizer: Gatzke, Edward P. — Univ. of South Carolina
Organizer: Immanuel, Charles David — Imperial Coll. London

13:30-13:50
Identification of Particle-Particle Interactions in Suspension Polymerization Reactors (I), pp. 925-930
Hukkanen, Eric J. — Mettler-Toledo Company
Braatz, Richard D. — Univ. of Illinois at Urbana-Champaign

13:50-14:10
Model of Population Heterogeneity and Metabolic Regulation in Bioreactors (I), pp. 931-936
Pinto, M. — Imperial Coll. London
Immanuel, Charles D. — Imperial Coll. London

14:10-14:30
Sensitivity Analysis of Multi-Regime Population Balance Model for Control of Multiple Particulate Properties in Granulation (I), pp. 937-942
Févotte, Francois — ENSTA
Doyle, Francis J. III — Univ. of California at Santa Barbara

14:30-14:50
Predictive Control of Particle Size Distribution in Protein Crystallization (I), pp. 943-948
Shi, Dan — Univ. of California at Los Angeles
Mhaskar, Prashant — Univ. of California at Los Angeles
El-Farra, Nael H. — Univ. of California at Davis
Christofides, Panagiotis D. — Univ. of California at Los Angeles

14:50-15:10
Batch Granulation Control Using a Simplified Population Balance and Nonlinear Model Predictive Control (I), pp. 949-954
Long, C.E. — Univ. of South Carolina
Gantt, J.A. — Univ. of South Carolina
Gatzke, E.P. — Univ. of South Carolina

15:10-15:30
Periodic Learning of B-Spline Models for Output PDF Control: Application to MWD Control (I), pp. 955-960

Wang, H. — Univ. of Manchester
Zhang, J.F. — Chinese Acad. of Sciences
Yue, H. — Univ. of Manchester

WeB13 — Broadway I

Biomodeling and Control II (Regular Session)

Chair: Verriest, Erik I. — Georgia Inst. of Tech.
Co-Chair: Chellaboina, VijaySekhar — Univ. of Tennessee

13:30-13:50
A Quantitative Model of the Human Thyroid: Development and Observations, pp. 961-966

Degon, M. — Univ. of Massachusetts at Amherst
Chait, Y. — Univ. of Massachusetts at Amherst
Hollot, C.V. — Univ. of Massachusetts at Amherst
Chipkin, S. — Univ. of Massachusetts at Amherst
Zoeller, T. — Univ. of Massachusetts at Amherst

13:50-14:10
Adaptive Control of Mammillary Drug Delivery Systems with Actuator Amplitude Constraints and System Time Delays, pp. 967-972

Hui, Qing — Georgia Inst. of Tech.
Haddad, Wassim M. — Georgia Inst. of Tech.
Chellaboina, VijaySekhar — Univ. of Tennessee
Hayakawa, Tomohisa — Japan Sci. & Tech. Agency

14:10-14:30
Optimal Control of Drug Delivery to Brain Tumors for a Distributed Parameters Model, pp. 973-978

Chakrabarty, Siddhartha P. — Univ. of Illinois at Chicago
Hanson, Floyd B. — Univ. of Illinois at Chicago

14:30-14:50
A Deterministic Annealing Approach to Combinatorial Library Design for Drug Discovery, pp. 979-984

Sharma, Puneet — Univ. of Illinois at Urbana-Champaign
Salapaka, Srinivasa — Univ. of Illinois at Urbana-Champaign
Beck, Carolyn — Univ. of Illinois at Urbana-Champaign

14:50-15:10
Control of Epidemics by Vaccination, pp. 985-990

Verriest, Erik — Georgia Inst. of Tech.
Delmotte, Florent — Georgia Inst. of Tech.
Egerstedt, Magnus — Georgia Inst. of Tech.

15:10-15:30
Nonparametric Identification of Population Pharmacokinetic Models: An MCMC Approach, pp. 991-996

Neve, Marta — Univ. di Pavia
De Nicolao, Giuseppe — Univ. di Pavia
Marchesi, Laura — Univ. di Pavia

WeB14 — Galleria II

Automotive Applications II (Engines) (Regular Session)

Chair: Hofman, Theo — Tech. Univ. Eindhoven
Co-Chair: Sarangapani, Jagannathan — Aytomated Analysis Corp.

13:30-13:50
Optimal Control of the DISC Engine Using Hierarchical and Quantized Control, pp. 997-1002

Rinehart, Michael — Massachusetts Inst. of Tech.
Dahleh, Munther — Massachusetts Inst. of Tech.
Kolmanovsky, Ilya — Ford Res. Lab.

13:50-14:10

*Heat Release Based Neuro Output Feedback Emission Control of Spark Ignition Engine**

He, Pingan — Univ. of Missouri at Rolla
Sarangapani, Jagannathan — Univ. of Missouri at Rolla

14:10-14:30

Modeling Operation of HCCI Engines Fuled with Ethanol, pp. 1003-1009

Sun, Faming — Univ. of Windsor
Chen, Xiang — Univ. of Windsor
Ting, David S-K — Univ. of Windsor
Sobiesiak, Andrzej — Univ. of Windsor

14:30-14:50

Control of Power-Shuttle Motion-Inverter, pp. 1010-1015

Savaresi, Sergio M. — Pol. di Milano
Tanelli, Mara — Pol. di Milano
Bittanti, Sergio — Pol. di Milano
Mangili, Alberto — SAME Deutz-FAhr Group SpA
Taroni, Francesco — none
Previdi, Fabio — Univ. degli Studi di Bergamo

14:50-15:10

Concept Design for Hybrid Vehicle Power Systems, pp. 1016-1020

Hofman, Theo — Tech. Univ. Eindhoven
van Druten, Roëll — Tech. Univ. Eindhoven

15:10-15:30

Narmax Model Identification of a Variable Geometry Turbocharged Diesel Engine, pp. 1021-1026

Zito, Gianluca — INPG
Landau, Ioan Doŕe — E.N.S.I.E.G.

WeB15 — Parlor A

Fault Detection and Accomodation (Regular Session)

Chair: Saif, Mehrdad — Simon Fraser Univ.
Co-Chair: Bošković, Jovan D. — Scientific Systems Co. Inc.

13:30-13:50

Distributed Diagnosis under Bounded-Delay Communication of Immediately Forwarded Local Observations, pp. 1027-1032

Qiu, Wenbin — Iowa State Univ.
Kumar, R. — Iowa State Univ.

13:50-14:10

Adaptive Accommodation of Failures in Second-Order Flight Control Actuators with Measurable Rates, pp. 1033-1038

Bošković Jovan D. — Scientific Systems Co. Inc.
Bergstrom, Sarah E. — Scientific Systems Co. Inc.
Mehra, Raman K. — Scientific Systems Co. Inc.

14:10-14:30

An Extension to the Kalman Filter for an Improved Detection of Unknown Behavior, pp. 1039-1041

Benazera, Emmanuel — USRA / RIACS
Narasimhan, Sriram — QSS Group Inc.

14:30-14:50

Run Length-Based Control Performance Monitors: A Comparison between Two Techniques, pp. 1042-1047

Owusu, Samuel O. — Oklahoma State Univ.
Li, Qing — Oklahoma State Univ.
Rhinehart, R. Russell — Oklahoma State Univ.

14:50-15:10
A Cut/Tie Set Method for Reliability Evaluation of Control Systems, pp. 1048-1053
Li, Hongbin — Univ. of Alberta
Zhao, Qing — Univ. of Alberta

15:10-15:30
Neural Adaptive Observer Based Fault Detection and Identification for Satellite Attitude Control Systems, pp. 1054-1059
Wu, Qing — Simon Fraser Univ.
Saif, Mehrdad — Simon Fraser Univ.

WeB16 — Grand Ballroom I
Cooperative Control Methods and Applications (Regular Session)
Chair: Hull, Richard A. — Lockheed Martin / Missiles & Fire Control
Co-Chair: Marshall, Joshua A. — Univ. of Toronto

13:30-13:50
Bio-Inspired Optimal Control Via Intermittent Cooperation, pp. 1060-1065
Shao, Cheng — Univ. of Maryland
Hristu-Varsakelis, D. — Univ. of Macedonia, Greece

13:50-14:10
Products of Row Stochastic Matrices and Their Applications to Cooperative Control for Autonomous Mobile Robots, pp. 1066-1071
Qu, Zhihua — Univ. of Central Florida
Wang, Jing — Univ. of Central Florida
Hull, Richard A. — Lockheed Martin / Missiles & Fire Control

14:10-14:30
Linear-Programming-Based Multi-Vehicle Path Planning with Adversaries, pp. 1072-1077
Chasparis, Georgios C. — Univ. of California Los Angeles
Shamma, Jeff S. — Univ. of California Los Angeles

14:30-14:50
Experimental Validation of an Algorithm for Cooperative Boundary Tracking, pp. 1078-1083
Hsieh, Chung H. — Univ. of California at Los Angeles
Jin, Zhipu — California Inst. of Tech.
Marthaler, Daniel — Univ. of California at Los Angeles
Nguyen, Bao Q. — Univ. of California at Los Angeles
Tung, David J. — Univ. of California at Los Angeles
Bertozzi, Andrea L. — Univ. of California at Los Angeles
Murray, Richard M. — California Inst. of Tech.

14:50-15:10
Virtual Attractive-Repulsive Potentials for Cooperative Control of Second Order Dynamic Vehicles on the Caltech MVWT, pp. 1084-1089
Nguyen, Bao Q. — Univ. of California at Los Angeles
Chuang, Yao-Li — Duke Univ.
Tung, David — Univ. of California at Los Angeles
Hsieh, Chung H. — Univ. of California at Los Angeles
Jin, Zhipu — California Inst. of Tech.
Shi, Ling — California Inst. of Tech.
Marthaler, Daniel — Univ. of California at Los Angeles
Bertozzi, Andrea L. — Univ. of California at Los Angeles
Murray, Richard M. — California Inst. of Tech.

15:10-15:30
Experimental Validation of Multi-Vehicle Coordination Strategies, pp. 1090-1095
Marshall, J.A. — Univ. of Toronto
Fung, T. — Univ. of Toronto
Broucke, M.E. — Univ. of Toronto
D'Eleuterio, G.M.T. — Univ. of Toronto
Francis, B.A. — Univ. of Toronto

WeB17 — Parlor B

Fuzzy Logic and Control II (Regular Session)

Chair: Fadali, Mohammed Sami — Univ. of Nevada
Co-Chair: Wang, Hua O. — Boston Univ.

13:30-13:50

Fuzzy Control System Designs Using Redundancy of Descriptor Representation: A Fuzzy Lyapunov Function Approach, pp. 1096-1101

Tanaka, Kazuo — Univ. of Electro-Communications
Nebuya, Takashi — Univ. of Electro-Communications
Ohtake, Hiroshi — Univ. of Electro-Communications
Wang, Hua O. — Boston Univ.

13:50-14:10

Stability of Discrete Fuzzy Systems with Nontriangular Membership Functions, pp. 1102-1107

Fadali, M. Sami — Univ. of Nevada

14:10-14:30

*Robust Adaptive Fuzzy Controller for MIMO Nonlinear Systems**

Wei, Xinjiang — Yantai Normal Univ.
Jing, Yuanwei — Northeastern Univ.
Zhao, Jun — Northeastern Univ.

14:30-14:50

Adaptive Fuzzy Modelling and Control for Discrete-Time Nonlinear Uncertain Systems, pp. 1108-1113

Qi, Ruiyun — Univ. of Birmingham
Brdys, Mietek A. — Univ. of Birmingham

14:50-15:10

Robust H∞ Control for Uncertain Takagi-Sugeno Fuzzy Systems with Interval Time-Varying Delay, pp. 1114-1119

Jiang, Xiefu — Central Queensland Univ.
Han, Qing-Long — Central Queensland Univ.
Yu, Xinghuo — RMIT

15:10-15:30

Improved Validation Index for Fuzzy Clustering, pp. 1120-1125

Tang, Yuangang — Tsinghua Univ.
Sun, Fuchun — Tsinghua Univ.
Sun, Zengqi — Tsinghua Univ.

WeB18 — Parlor C

Control Applications I (Regular Session)

Co-Chair: Adetona, Olawale — Tennessee State Univ.

13:30-13:50

Design and Analysis of Robust Track-Following Controllers for Dual-Stage Servo Systems with an Instrumented Suspension, pp. 1126-1131

Huang, Xinghui — Univ. of California at Berkeley
Horowitz, Roberto — Univ. of California at Berkeley
Li, Yunfeng — The Maxtor Corp.

13:50-14:10

Mean Flow Regulation of a High Frequency Combustion Control Valve Based on Pulse Width Modulation and System Identification, pp. 1132-1137

Yi, Tongxun — Univ. of Cincinnati
Cornwell, Michael — Univ. of Cincinnati
Gutmark, Ephraim J. — Univ. of Cincinnati

14:10-14:30

Control Systems Challenges in the HP Personal Ink Jet Printing Application, pp. 1138-1141

Harriman, Douglas — Hewlett-Packard Company

14:30-14:50
Implementation and Model Verification of a Magnetic Levitation System, pp. 1142-1147
Owen, Robert Brydon — Univ. of Toronto
Maggiore, Manfredi — Univ. of Toronto

14:50-15:10
Multivariable Output Feedback Stabilisation with Structure Constraint: Application to a Gyrometer, pp. 1148-1153
Boivin, Benoit — Univ. de Poitiers
Rambault, Laurent — Esip-laii
Coirault, Patrick — Esip-laii
Dewez, Claude — Esip-laii

15:10-15:30
Design of Linear Phase Lead Repetitive Control for CVCF PWM DC-AC Converters, pp. 1154-1159
Zhang, Bin — Nanyang Tech. Univ.
Zhou, Keliang — Nanyang Tech. Univ.
Ye, Yongqiang — Nanyang Tech. Univ.
Wang, Danwei — Nanyang Tech. Univ.

WeC01 — Grand Ballroom II
Switched and Hybrid Systems (Regular Session)
Chair: Cassandras, Christos G. — Boston Univ.
Co-Chair: Egerstedt, Magnus — Georgia Inst. of Tech.

15:45-16:05
Characterization of Zeno Behavior in Hybrid Systems Using Homological Methods, pp. 1160-1165
Ames, Aaron D. — Univ. of California at Berkeley
Sastry, S. Shankar — Univ. of California at Berkeley

16:05-16:25
Adaptive Sample Bias for Rapidly-Exploring Random Trees with Applications to Test Generation, pp. 1166-1172
Kim, Jongwoo — Univ. of Pennsylvania
Esposito, Joel M. — US Naval Acad.

16:25-16:45
Unknown Input Observer of a Class of Switched Control Systems, pp. 1173-1178
Chen, Wei-tian — Simon Fraser Univ.
Saif, Mehrdad — Simon Fraser Univ.

16:45-17:05
On Observability and Reachability in a Class of Discrete-Time Switched Linear Systems, pp. 1179-1180
Egerstedt, Magnus — Georgia Inst. of Tech.
Babaali, Mohamed — Univ. of Pennsylvania

17:05-17:25
Control of Plants Which Change Using Switching Controllers, pp. 1181-1185
Ching, ShiNung — Univ. of Toronto
Davison, Edward J. — Univ. of Toronto

17:25-17:45
Optimality of Static Control Policies in Some Discrete Event Systems, pp. 1186-1191
Miao, Lei — Boston Univ.
Cassandras, Christos G. — Boston Univ.

WeC02 — Senate
Linear System Design (Regular Session)
Chair: Najson, Federico — Univ. of California at Irvine
Co-Chair: Bhattacharyya, Shankar P. — Texas A&M Univ.

15:45-16:05
Direct Synthesis of First Order Controllers from Frequency Response Measurements, pp. 1192-1196
Keel, L.H. — Tennessee State Univ.
Bhattacharyya, S.P. — Texas A&M Univ.

16:05-16:25
On the Stability Robustness in a Closed-Loop Interconnection under a Class of Operations Performed on the Controller: A Novel Characterization for Static Controllers, pp. 1197-1202
Najson, Federico — Univ. of California at Irvine

16:25-16:45
On Optimal Criteria for Optimal Set Point Tracking, pp. 1203-1204
Mossberg, Magnus — Karlstad Univ.
Mossberg, Eva — Karlstad Univ.

16:45-17:05
On a Root Locus-Based Analysis of the Limiting Zeros of Plants of Nominal Order at Most Two under FROH-Discretization, pp. 1205-1207
Bilbao-Guillerna, A. — Univ. del País Vasco
De la Sen, M. — Univ. del Pais Vasco
Alonso-Quesada, S. — Univ. del País Vasco

17:05-17:25
Zero Optimized Tracking for Linear Continuous-Time Systems, pp. 1208-1213
Herjólfsson, Gísli — Univ. of Iceland
Ævarsson, Bergþor — Univ. of Iceland
Hauksdóttir, Anna Soffía — Univ. of Iceland
Sigurðsson, Sven Þ. — Univ. of Iceland

17:25-17:45
Randomized and Deterministic Algorithms for Stabilization with Fixed Order Controllers, pp. 1214-1219
Fujisaki, Yasumasa — Kobe Univ.
Oishi, Yasuaki — Univ. of Tokyo
Tempo, Roberto — Pol. di Torino

17:45-18:05
A Three-Step Design Method for Performance Improvement of Robust Repetitive Control, pp. 1220-1225
Wang, Yigang — Nanyang Tech. Univ.
Wang, Danwei — Nanyang Tech. Univ.
Wang, Xingcheng — Dalian Maritime Univ.

WeC03 — Galleria III
Networked Control Systems - Stability and Identification (Regular Session)
Chair: Azimi-Sadjadi, Babak — Rensselaer Pol. Inst.

15:45-16:05
Stabilization of NCSs: Asynchronous Partial Transfer Approach, pp. 1226-1230
Xie, Guangming — Peking Univ.
Wang, Long — Peking Univ.

16:05-16:25
Networked Control Systems with Intermittent Observation, pp. 1231-1232
Azimi-Sadjadi, Babak — Rensselaer Pol. Inst.

16:25-16:45
Robust Identification Over Networks, pp. 1233-1238
Ishii, Hideaki — Univ. of Tokyo
Basar, Tamer — Univ. of Illinois at Urbana-Champaign

16:45-17:05
Stability and Finite-Time Stability Analysis of Discrete-Time Nonlinear Networked Control Systems, pp. 1239-1244
Mastellone, S. — Univ. of Illinois at Urbana-Champaign
Abdallah, C.T. — Univ. of New Mexico
Dorato, P. — Univ. of New Mexico

17:05-17:25
Stability and Optimality of Constrained Model Predictive Control with Future Input Buffering in Networked Control Systems, pp. 1245-1250
Tang, P.L. — Univ. of British Columbia
de Silva, C.W. — Univ. of British Columbia

17:25-17:45
Towards a Packet-Based Control Theory - Part I: Stabilization Over a Packet-Based Network, pp. 1251-1256
Shi, Ling — California Inst. of Tech.
Murray, Richard M. — California Inst. of Tech.

WeC04 — Broadway II
Tracking (Regular Session)

Chair: Tugnait, Jitendra K. — Auburn Univ.
Co-Chair: Pachter, Meir — Air Force Inst. of Tech.

15:45-16:05
Tracking of Multiple Maneuvering Targets in Clutter with Possibly Unresolved Measurements Using IMM and JPDAM Coupled Filtering, pp. 1257-1262
Jeong, Soonho — Auburn Univ.
Tugnait, Jitendra K. — Auburn Univ.

16:05-16:25
On Adaptive Sampling for Multisensor Tracking of a Maneuvering Target Using IMM/PDA Filtering, pp. 1263-1268
Puranik, Sumedh P — Auburn Univ.
Tugnait, Jitendra K. — Auburn Univ.

16:25-16:45
An Adaptive Filtering Approach to Target Tracking, pp. 1269-1274
Madyastha, Venkatesh K. — Georgia Inst. of Tech.
Calise, Anthony J. — Georgia Inst. of Tech.

16:45-17:05
Projectile Launch Point Estimation from Radar Measurements, pp. 1275-1282
Nelson, Eric — Air Force Inst. of Tech.
Pachter, Meir — Air Force Inst. of Tech.
Musick, Stanton — Air Force Res. Lab.

17:05-17:25
A Polynomial-Time Approximation Algorithm for Joint Probabilistic Data Association, pp. 1283-1288
Oh, Songhwai — Univ. of California at Berkeley
Sastry, S. Shankar — Univ. of California at Berkeley

17:25-17:45
Motion Estimation of Plane Polynomial Curves, pp. 1289-1294
Unel, Mustafa — Sabanci Univ.
Ghosh, Bijoy K. — Washington Univ.

WeC05 — Galleria I
Theory and Applications of Nonlinear Control (Regular Session)

Chair: Fierro, Rafael — Oklahoma State Univ.
Co-Chair: Berg, Jordan M. — Texas Tech. Univ.

15:45-16:05
Modeling and Nonlinear Control of STATCOMs for Fast Voltage Regulation, pp. 1295-1300
Jain, A.K. — Univ. of Minnesota
Joshi, K. — Clarkson Univ.
Behal, A. — Clarkson Univ.
Mohan, N. — Univ. of Minnesota

16:05-16:25
Neural Network Adaptive Control for Nonlinear Uncertain Dynamical Systems with Asymptotic Stability Guarantees, pp. 1301-1306

Hayakawa, Tomohisa — Japan Sci. & Tech. Agency
Haddad, Wassim M. — Georgia Inst. of Tech.
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.

16:25-16:45
A Robust Controller for Uncertain Nonlinear Systems and Its Application to a Motor-Driven System, pp. 1307-1312

Li, Yushan — Univ. of Oklahoma
Commuri, Sesh — Univ. of Oklahoma
Cheung, John Y. — Univ. of Oklahoma
Verma, Pramode — Univ. of Oklahoma

16:45-17:05
Nonlinear System Identification for the Interaction of Synthetic Jets with a Boundary Layer, pp. 1313-1318

Kim, Kihwan — Texas A&M Univ.
Beskok, Ali — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

17:05-17:25
Quadratic Feedback Linearization and Normal Forms for Two-Input Discrete-Time Dynamics, pp. 1319-1324

Monaco, S. — Univ. di Roma
Normand-Cyrot, D. — CNRS-ESE

17:25-17:45
Generalized Output Regulation Problem for a Class of Nonlinear Systems Using Error Feedback, pp. 1325-1330

Ramos Velasco, L.E. — Univ. Autónoma del Estado de Hidalgo
Čelikovský, S. — Acad. of Science
Kučera, V. — Czech Tech. Univ. in Prague
López Morales, V. — Univ. Autónoma del Estado de Hidalgo

WeC06 — Broadway III
Neural Network Theory (Regular Session)

Chair: Zhang, Yunong — National Univ. of Ireland, Maynooth
Co-Chair: Prokhorov, Danil — Ford Motor Company

15:45-16:05
Stagewise Newton, Differential Dynamic Programming, and Neighboring Optimum Control for Neural-Network Learning, pp. 1331-1336

Mizutani, Eiji — Tsing Hua Univ.
Dreyfus, Stuart E. — Univ. of California at Berkeley

16:05-16:25
Training Neurocontrollers for Robustness Via Nprkf, pp. 1337-1342

Prokhorov, Danil — Ford Motor Company

16:25-16:45
*Neural Network Control of Nonlinear Discrete-Time Systems in Non-Strict Form**

He, Pingan — Univ. of Missouri at Rolla
Chen, Zheng — Univ. of Missouri at Rolla
Sarangapani, Jagananthan — Univ. of Missouri at Rolla

16:45-17:05
Topology Preserving Neural Networks That Achieve a Prescribed Feature Map Probability Density Distribution, pp. 1343-1350

Choi, Jongeun — Univ. of California at Berkeley
Horowitz, Roberto — Univ. of California at Berkeley

17:05-17:25
On the LVI-Based Primal-Dual Neural Network for Solving Online Linear and Quadratic Programming Problems, pp. 1351-1356
Zhang, Yunong — National Univ. of Ireland, Maynooth

17:25-17:45
Entropy Analisys Applied to NFIR Models, pp. 1357-1358
Ludwig Júnior, Oswaldo — Univ. Federal da Bahia
Castro Lima, A. C. de — Univ. Federal da Bahia
Schnitman, Leizer — Faculdade de Ciência e Tecnologia
de Souza, J.A.M. Felippe — Univ. de Beira Interior

WeC07 — Forum
Mechanical Systems and Robotics (Regular Session)
Chair: Pao, Lucy Y. — Univ. of Colorado at Boulder
Co-Chair: Villota, Elizabeth — Texas A & M Univ.

15:45-16:05
Fuzzy Adaptive Vibration Suppression and Noise Filtering for Flexible Robot Control, pp. 1359-1364
Green, Anthony — Carleton Univ.
Sasiadek, Jurek Z. — Carleton Univ.

16:05-16:25
Model Based Control of a Multidimensional Positioning System - a Comparison of Controller Designs with Experimental Validation, pp. 1365-1370
Villota, Elizabeth — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.
Kerr, Murray — Texas A&M Univ.

16:25-16:45
An Object Transportation System with Multiple Robots and Machine Leaning, pp. 1371-1376
Wang, Ying — Univ. of British Columbia
de Silva, Clarence W. — Univ. of British Columbia

16:45-17:05
Backstepping High-Order Differential Neural Network Control of Flexible-Joint Manipulator, pp. 1377-1382
Chatlatanagulchai, Withit — Purdue Univ.
Meckl, Peter H. — Purdue Univ.

17:05-17:25
A Two Degrees of Freedom H_2 Controller Design Methodology for Multi-Motors Web Handling System, pp. 1383-1388
Claveau, F. — IRCCyN - UMR CNRS
Chevrel, P.. — IRCCyN / Ec. des Mines de Nantes
Knittel, D. — IPST - Univ. Strasbourg I

17:25-17:45
Observer Design for a Flexible Robot Arm with a Tip Load, pp. 1389-1394
Nguyen, Tu Duc — Norwegian Univ. of Sci. & Tech.
Egeland, Olav — Norwegian Univ. of Sci. & Tech.

WeC08 — Directors
Optimization and Control (Regular Session)
Chair: Goebel, Rafal — no current affiliation
Co-Chair: Chellaboina, VijaySekhar — Univ. of Tennessee

15:45-16:05
Convex Optimization Proves Software Correctness, pp. 1395-1400
Roozbehani, Mardavij — Massachusetts Inst. of Tech.
Megretski, Alexandre — Massachusetts Inst. of Tech.
Feron, Eric — Massachusetts Inst. of Tech.

16:05-16:25
Continuous Time Constrained Linear Quadratic Regulator -- Convex Duality Approach, pp. 1401-1406
Goebel, R. — no current affiliation
Subbotin, Maxim — Univ. of California at Santa Barbara

16:25-16:45
Reduced Order Optimal Control Using Genetic Algorithms, pp. 1407-1412
Chellaboina, VijaySekhar — Univ. of Tennessee
Ranga, Mithun K. — Univ. of Missouri at Columbia

16:45-17:05
Linear Systems with Input Constraints: Stability and Optimality, pp. 1413-1418
Zhao, Xiaodong — Hangzhou Dianzi Univ.
Xue, Anke — Hangzhou Dianzi Univ.
Chai, Li — Hangzhou Dianzi Univ.
Wan, Feng — Laurentian Univ.

17:05-17:25
Optimal Control of Discrete-Time Linear Systems with Network-Induced Varying Delay, pp. 1419-1424
Hirano, Hiroyuki — Kanazawa Univ.
Mukai, Masakazu — Kanazawa Univ.
Azuma, Takehito — Kanazawa Univ.
Fujita, Masayuki — Kanazawa Univ.

17:25-17:45
Inverse Optimal Constrained Input-To-State Stabilization of Nonlinear Systems, pp. 1425-1430
Chen, Tianshi — Harbin Inst. of Tech.
Liu, Zhiyuan — Harbin Inst. of Tech.
Chen, Hong — Jilin Univ. Campus NanLing
Pei, Run — Harbin Inst. of Tech.

WeC09 — Council
Modeling and Identification of Process Control (Regular Session)

Chair: Braatz, Richard D. — Univ. of Illinois at Urbana-Champaign
Co-Chair: Rivera, Daniel E. — Arizona State Univ.

15:45-16:05
Control-Relevant Curvefitting for Plant-Friendly Multivariable System Identification, pp. 1431-1436
Lee, Hyunjin — Arizona State Univ.
Rivera, Daniel E. — Arizona State Univ.

16:05-16:25
Minimum Variance Benchmark for Decentralized Controllers, pp. 1437-1442
Kariwala, Vinay — Norwegian Univ. of Sci. & Tech.
Forbes, J. Fraser — Univ. of Alberta
Meadows, Edward S. — Univ. of Alberta

16:25-16:45
Adaptive Controller Using Dynamic Safety Margin for Hybrid Laboratory Plant, pp. 1443-1448
Abd-Elgeliel, M. — Univ. of Mannheim
Badreddin, E. — ETH

16:45-17:05
Modeling of a Steam Heated Rotating Cylinder - a Grey-Box Approach, pp. 1449-1454
Slätteke, Ola — Lund Inst. of Tech.
Åström, Karl Johan — Lund Inst. of Tech.

17:05-17:25
*VP_PLS for Statistical Quality and Cost Control of the Tennessee Eastman Process**
Song, Kai — Zhejiang Univ.
WANG, H.Q — Zhejiang Univ.
Li, Ping — Zhejiang Univ.

17:25-17:45
Feature Selection Via Modified RSBRA for SVM Classifiers, pp. 1455-1459

Li, Ye — Shanghai Jiao Tong Univ.
Hu, Zhonghui — Shanghai Jiao Tong Univ.
Cai, Yunze — Shanghai Jiao Tong Univ.
Xu, Xiaoming — Shanghai Jiao Tong Univ.

WeC10 — Broadway IV

Optimal Control Applications (Regular Session)

Chair: Looze, Douglas — Univ. of Massachusetts
Co-Chair: Bloch, Anthony M. — Univ. of Michigan

15:45-16:05
Data-Based Optimal Control, pp. 1460-1465

Aangenent, Wouter — Tech. Univ. Eindhoven
Kostic, Dragan — Embedded Systems Inst.
de Jager, Bram — Tech. Univ. Eindhoven
van de Molengraft, Rene — Tech. Univ. Eindhoven
Steinbuch, Maarten — Tech. Univ. Eindhoven

16:05-16:25
Minimum Variance Control Structure for Adaptive Optics Systems, pp. 1466-1471

Looze, Douglas P. — Univ. of Massachusetts

16:25-16:45
Optimal Control of Under-Actuated Systems with Application to Lie Groups, pp. 1472-1477

Hussein, I.I. — Univ. of Michigan
Bloch, A.M. — Univ. of Michigan

16:45-17:05
Optimal Velocity Profile Generation for Given Acceleration Limits: Theoretical Analysis, pp. 1478-1483

Velenis, Efstathios — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

17:05-17:25
Comparative Studies of Load Balancing with Control and Optimization Techniques, pp. 1484-1490

Diao, Yixin — IBM T.J. Watson Res. Center
Wu, Chai Wah — IBM
Hellerstein, Joe L. — IBM T.J. Watson Res. Center
Storm, Adam J. — IBM Toronto Lab.
Surendra, Maheswaran — IBM
Lightstone, Sam — IBM
Parekh, Sujay — IBM T.J. Watson Res. Center
Garcia-Arellano, Christian — IBM
Carroll, Matthew — IBM
Chu, Lee — IBM
Colaco, Jerome — IBM

17:25-17:45
Optimization-Based Correction of a Segmented Optical Telescope Using Image-Plane Sensing}, pp. 1491-1496

Olivier, Philip D — Mercer Univ.
Bernstein, Dennis S. — Univ. of Michigan

WeC11 — Studio

Aircraft Control and Applications (Regular Session)

Chair: Parthasarathy, Sanjay — Honeywell Tech. Center
Co-Chair: Agrawal, Sunil K. — Univ. of Delaware

15:45-16:05
Analysis of Aircraft Pitch Axis Stability Augmentation System Using Sum of Squares Optimization, pp. 1497-1502
Krishnaswamy, Kailash — Honeywell Lab.
Papageorgiou, George — Honeywell Lab.
Glavaski, Sonja — Honeywell Lab.
Papachristodoulou, Antonis — California Inst. of Tech.

16:05-16:25
Optimal Supervisory Control of Aircraft Propulsion: A Discrete Event Approach, pp. 1503-1508
Yasar, Murat — Penn State Univ.
Tolani, Devendra — Penn State Univ.
Ray, Asok — Penn State Univ.

16:25-16:45
Implementing and Testing a Nonlinear Model Predictive Tracking Controller for Aerial Pursuit/Evasion Games on a Fixed Wing Aircraft, pp. 1509-1514
Eklund, J. Mikael — Univ. of California at Berkeley
Sprinkle, Jonathan — Univ. of California at Berkeley
Sastry, S. Shankar — Univ. of California at Berkeley

16:45-17:05
Force and Moment Characterization of Flapping Wings for Micro Air Vehicle Application, pp. 1515-1520
Khan, Zaeem A. — Univ. of Delaware
Agrawal, Sunil K. — Univ. of Delaware

17:05-17:25
Control-Oriented Modeling and Identification of Delta Wing Vortex-Coupled Roll Dynamics, pp. 1521-1526
Pakmehr, M. — Concordia Univ.
Gordon, B.W. — Concordia Univ.
Rabbath, C.A. — Defence R&D Canada

17:25-17:45
A Drag Free Control Based on Model Predictive Techniques, pp. 1527-1532
Prieto, David — Pol. di Torino
Ahmad, Zuheir — Pol. di Torino

WeC12 — Executive

Probabilistic Methods and Stochastic Optimization (Regular Session)

Chair: De Mot, Jan — Massachusetts Inst. of Tech.
Co-Chair: Abate, Alessandro — Univ. of Calitornia, at Berkeley

15:45-16:05
Risk Analysis in Robust Control - Making the Case for Probabilistic Robust Control, pp. 1533-1538
Chen, Xinjia — Louisiana State Univ.
Aravena, Jorge L. — Louisiana State Univ.
Zhou, Kemin — Louisiana State Univ.

16:05-16:25
Probabilistic Model Validation Problems with H∞ Type Uncertainties, pp. 1539-1544
Liu, Wenguo — Univ. of California at Riverside
Chen, Jie — Univ. of California at Riverside

16:25-16:45
Formal Basis for Algorithm Comparisons in Stochastic Optimization, pp. 1545-1550
Spall, James C. — Johns Hopkins Univ.
Hill, Stacy D. — Johns Hopkins Univ.
Stark, David R. — Johns Hopkins Univ.

16:45-17:05
Randomized Path Planning with Deceptive Strategies, pp. 1551-1556
Root, Philip — Massachusetts Inst. of Tech.
De Mot, Jan — Massachusetts Inst. of Tech.
Feron, Eric — Massachusetts Inst. of Tech.

17:05-17:25
Stochastic Approximations for Hybrid Systems, pp. 1557-1562
Abate, Alessandro — Univ. of California at Berkeley
Ames, Aaron D. — Univ. of California at Berkeley
Sastry, Shankar S. — Univ. of California at Berkeley

WeC13 — Broadway I
Bioengineering (Regular Session)

Chair: Wang, Le Yi — Wayne State Univ.
Co-Chair: Asada, H. Harry — Massachusetts Inst. of Tech.

15:45-16:05
Lung Sound Pattern Analysis for Anesthesia Monitoring, pp. 1563-1568
Zheng, Han — Wayne State Univ.
Wang, H. — Detroit Medical Center/Wayne State Univ.
Wang, Le Yi — Wayne State Univ.
Yin, George — Wayne State Univ.

16:05-16:25
DSP Controller Based Signal Processing of Physiological Hand Tremor, pp. 1569-1574
Zhang, Jing — Univ. of Arkansas at Little Rock
Chu, Fang — Univ. of Arkansas at Little Rock
Mohammed, Nizamuddin — Univ. of Arkansas at Little Rock

16:25-16:45
Fusion of Hard and Soft Control Strategies for Left Ventricular Ejection Dynamics Arising in Biomedicine, pp. 1575-1580
Naidu, D. Subbaram — Idaho State Univ.
Nandikolla, Vidya K. — Idaho State Univ.

16:45-17:05
Reducing Motion Artifact in Wearable Bio-Sensors Using MEMS Accelerometers for Active Noise Cancellation, pp. 1581-1586
Gibbs, Peter — Massachusetts Inst. of Tech.
Asada, H. Harry — Massachusetts Inst. of Tech.

17:05-17:25
Phase Analysis for 2-D Weakly Coupled Oscillatory Systems, pp. 1587-1592
Rojas, Alejandro — Univ. of Newcastle
Middleton, Rick — Univ. of Newcastle

17:25-17:45
A Framework for Biomimetic Robot Fish's Design and Its Realization, pp. 1593-1598
Yu, Junzhi — Peking Univ.
Wang, Long — Peking Univ.
Tan, Min — Chinese Acad. of Sciences

WeC14 — Galleria II
Automotive Applications III (Regular Session)

Chair: Srinivasan, Krishnaswamy — Ohio State Univ.
Co-Chair: Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

15:45-16:05
Design of an Optimal Clutch Controller for Commercial Trucks, pp. 1599-1606
David, James — Eaton Corp.
Natarajan, Narasimhamurthi — Univ. of Michigan

16:05-16:25
Implementation of On-Line Clutch Pressure Estimation for Stepped Automatic Transmissions, pp. 1607-1612
Watechagit, Sarawoot — Mahidol Univ. Thailand
Srinivasan, Krishnaswamy — Ohio State Univ.

16:25-16:45
Centralized and Decentralized Powertrain Controllers for an Earthmoving Vehicle, pp. 1613-1618
Gupta, P.i — Univ. of Illinois at Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

16:45-17:05
Fault Tolerant Steer-By-Wire Road Wheel Control System, pp. 1619-1624
Zheng, Bing — Visteon Corp.
Altemare, Cliff — Visteon Corp.
Anwar, Sohel — Purdue School of Eng. & Tech.

17:05-17:25
Slip Controller Design and Implementation in a Continuously Variable Transmission, pp. 1625-1630
Pulles, R.J. — Eindhoven Univ. of Tech.
Bonsen, B. — Eindhoven Univ. of Tech.
Steinbuch, M. — Eindhoven Univ. of Tech.
Veenhuizen, P.A. — Eindhoven Univ. of Tech.

17:25-17:45
A Kalman Estimator for Detecting Repetitive Disturbance, pp. 1631-1636
Chen, Liang — Univ. of Shanghai for Sci. & Tech.
Mercorelli, Paolo — Univ. of Applied Sci. Wolfsburg
Liu, Steven — Tech. Univ. Kaiserslautern

WeC15 — Parlor A
Fault Detection in Uncertain Systems (Regular Session)
Chair: Misra, Manish — Univ. of South Alabama
Co-Chair: Zhang, Ping — Univ. of Duisburg-Essen

15:45-16:05
Early Warning of Ship Fires Using Bayesian Probability Estimation Model, pp. 1637-1641
Lee, Hung-ho — Univ. of South Alabama
Misra, Manish — Univ. of South Alabama

16:05-16:25
Information Theoretic Fault Detection, pp. 1642-1647
Joshi, Alok — Purdue Univ.
Deignan, Paul — Purdue Univ.
Meckl, Peter — Purdue Univ.
King, Galen — Purdue Univ.
Jennings, Kristofer — Purdue Univ.

16:25-16:45
Fault Detection of Uncertain Systems Based on Probabilistic Robustness Theory, pp. 1648-1653
Zhang, P. — Univ. of Duisburg-Essen
Ding, S.X. — Univ. of Duisburg-Essen
Sader, M. — Lausitz Univ. of Applied Sci.
Noack, R. — Lausitz Univ. of Applied Sci.

16:45-17:05
Robust Fault Detection of Uncertain Linear Systems Via Quasi-LMIs, pp. 1654-1659
Casavola, Alessandro — Univ. Della Calabria
Famularo, Domenico — Univ. Degli Studi Mediterranea di Reggio Calabria
Franze, Giuseppe — Univ. Degli Studi Della Calabria

17:05-17:25
Filter-Based FDD Using PDFs for Stochastic Systems with Time Delays, pp. 1660-1665
Zhang, Yu-Min — Southeast Univ.
Guo, Lei — UMIST
Wang, H. — UMIST

17:25-17:45
Robust Fault Diagnosis for Linear Time-Delay Systems with Uncertainty, pp. 1666-1671
You, Fuqiang — Shanghai Jiao Tong Univ.
Tian, Zuohua — Shanghai Jiao Tong Univ.
Shi, Songjiao — Shanghai Jiao Tong Univ.

WeC16 — Grand Ballroom I
Cooperative Control Theory (Regular Session)

Chair: Beard, Randal W. — Brigham Young Univ.
Co-Chair: Saberi, Ali — Washington State Univ.

15:45-16:05
A Control-Theoretic Perspective on the Design of Distributed Agreement Protocols, pp. 1672-1679
Roy, Sandip — Washington State Univ.
Saberi, Ali — Washington State Univ.
Herlugson, Kristin — Washington State Univ.

16:05-16:25
Analysis and Design Tools for Distributed Motion Coordination, pp. 1680-1685
Cortés, Jorge — Univ. of California at Santa Cruz
Martínez, Sonia — Univ. of California at Santa Barbara
Bullo, Francesco — Univ. of California at Santa Barbara

16:25-16:45
Consensus Algorithms Are Input-To-State Stable, pp. 1686-1690
Kingston, Derek B. — Brigham Young Univ.
Ren, Wei — Univ. of Maryland
Beard, Randal W. — Brigham Young Univ.

16:45-17:05
Connectivity and Convergence of Formations, pp. 1691-1696
Williams, Anca — Portland State Univ.
Glavaški, Sonja T. — Honeywell

17:05-17:25
Special Decentralized Control Problems and Effectiveness of Parameter-Dependent Lyapunov Function Method, pp. 1697-1702
Duan, Zhisheng — Peking Univ.
Wang, Jin Zhi — Peking Univ.
Huang, Lin — Peking Univ.

17:25-17:45
Coordination of a Group of Agents with a Leader---Part I: General Case, pp. 1703-1708
Mu, Shumei — Peking Univ.
Chu, Tianguang — Peking Univ.
Wang, Long — Peking Univ.

WeC17 — Parlor B
Intelligent Control Using Neural Networks (Regular Session)

Chair: Langari, Reza — Texas A&M Univ.
Co-Chair: Jang, Jun Oh — Uiduk Univ.

15:45-16:05
Modelling and Control Based on Generalized Fuzzy Hyperbolic Model, pp. 1709-1714
Zhang, Mingjun — Northeastern Univ. / Beihua Univ.
Zhang, Huaguang — Northeastern Univ.

16:05-16:25
Saturation and Deadzone Compensation of Systems Using Neural Network and Fuzzy Logic, pp. 1715-1720

Jang, Jun Oh	Uiduk Univ.
Chung, Hee Tae	Pusan Univ. of Foreign Studies
Jeon, Gi Joon	Kyongpook National Univ.

16:25-16:45
Sliding Mode Adaptive Output Feedback Control of Nonlinear Systems Using Neural Networks, pp. 1721-1726

Da, Feipeng	Southeast Univ.
Fei, Shumin	Southeast Univ.
Dai, Xiangzhong	Southeast Univ.

16:45-17:05
Neural Network Based Left-Inverse System Dynamic Decoupling & Compensating Method of Muti-Dimension Sensors, pp. 1727-1732

Yu, Dongchuan	Tianjin Univ.
Meng, Qinghao	Tianjin Univ.
Wang, Jiang	Tianjin Univ.
Wu, Aiguo	Tianjin Univ.

17:05-17:25
Analytical Design of Takagi-Sugeno Fuzzy Control Systems, pp. 1733-1738

Ren, Guang	Dalian Maritime Univ.
Xiu, Zhi-Hong	Dalian Univ. of Tech.

17:25-17:45
Face Recognition Based on Constructive Neural Networks Covering Learning Algorithm, pp. 1739-1744

Huang, Guohong	Shanghai Jiao Tong Univ.
Xiong, Zhihua	Shanghai Jiao Tong Univ.
Shao, Huihe	Shanghai Jiao Tong Univ.

WeC18 — Parlor C

Control Applications II (Regular Session)

Chair: Judd, Robert P.	Ohio Univ.
Co-Chair: Kothare, Mayuresh V.	Lehigh Univ.

15:45-16:05
QoS-Based Resource Allocation in Dynamic Real-Time Systems, pp. 1745-1751

Judd, R.	Ohio Univ.
Drews, F.	Ohio Univ.
Lawrence, D.	Ohio Univ.
Juedes, D.	Ohio Univ.
Leal, B.	Ohio Univ.
Deshpande, J.	Ohio Univ.
Welch, L.	Ohio Univ.

16:05-16:25
Model Predictive Hydrodynamic Regulation of Microflows, pp. 1752-1757

Bleris, Leonidas G.	Lehigh Univ.
Garcia, Jesus	IEEE
Kothare, Mayuresh V.	Lehigh Univ.

16:25-16:45
Stability Analysis of Active Clock Deskewing Systems Using a Control Theoretic Approach, pp. 1758-1763

Vinil, Varghese	Colorado State Univ.
Chen, Tom	Colorado State Univ.
Young, Peter	Colorado State Univ.

16:45-17:05
Mixed Sensitivity H∞ Control of a Three-Tank-System, pp. 1764-1769

Galindo, R.	Univ. of Nuevo Leon

17:05-17:25
Voltage Regulation in Series Resonant DC-To-DC Power Converters with Unknown Resistive Load, pp. 1770-1775

Hernández, V.M. — Univ. Autonoma de Queretaro
Herrera, G. — Univ. Autonoma de Queretaro
Zúñiga, Benjamin — Univ. Autonoma de Queretaro

17:25-17:45
Event-Driven Control As an Opportunity in the Multidisciplinary Development of Embedded Controllers., pp. 1776-1781

Sandee, J.H. — Eindhoven Univ. of Tech.
Heemels, W.P.M.H. — Embedded Systems Inst.
van den Bosch, P.P.J. — Eindhoven Univ. of Tech.

ThPPL — Plenary Ballroom
Plenary Lecture: Autonomous Machines - Racing to Win the DARPA Grand Challenge (Plenary Session)

08:15-09:15
*Autonomous Machines: Racing to Win the DARPA Grand Challenge**

Murray, Richard M. — California Inst. of Tech.

ThA02 — Senate
LMIs in Estimation and Control (Regular Session)

Chair: Skelton, Robert E. — Univ. of California at San Diego
Co-Chair: Rodrigues, Luis — Concordia Univ.

09:30-09:50
Proportional Plus Integral Control and Disturbance Rejection for Differential Linear Repetitive Processes, pp. 1782-1787

Sulikowski, Bartlomiej — Univ. of Zielona Gora
Galkowski, Krzysztof — Univ. of Zielona Gora
Rogers, Eric — Univ. of Southampton
Owens, David H. — Univ. of Sheffield

09:50-10:10
A Simplified LMI Approach to ℓ_1 Controller Design, pp. 1788-1792

Cockburn, Juan C. — Rochester Inst. of Tech.
Oberoi, Anirudh — National Semiconductor Corp.

10:10-10:30
State Feedback Control of Piecewise-Affine Systems with Norm Bounded Noise, pp. 1793-1798

Rodrigues, Luis — Concordia Univ.

10:30-10:50
H∞ Fuzzy Filter Design for Uncertain Nonlinear Systems with Markovian Jumps: An LMI Approach, pp. 1799-1804

Nguang, Sing Kiong — Univ. of Auckland
Assawinchaichote, Wudhichai — King Mongkut's Univ. of Tech. Thonburi
Shi, Peng — Univ. of Glamorgan
Shi, Yan — Kyushu Tokai Univ.

10:50-11:10
Robust H∞ Control Design for Uncertain Fuzzy Systems with Markovian Jumps: An LMI Approach, pp. 1805-1810

Nguang, Sing Kiong — Univ. of Auckland
Assawinchaichote, Wudhichai — King Mongkut's Univ. of Tech. Thonburi
Shi, Peng — Univ. of Glamorgan
Shi, Yan — Kyushu Tokai Univ.

11:10-11:30
Estimation and Control of Systems with Multiplicative Noise Via Linear Matrix Inequalities, pp. 1811-1816
Li, Weiwei — Univ. of California at San Diego
Todorov, Emanuel — Univ. of California at San Diego
Skelton, Robert E. — Univ. of California at San Diego

ThA03 — Galleria III
Stability and Control of Communications Networks (Regular Session)
Chair: Sarangapani, Jagannathan — Aytomated Analysis Corp.
Co-Chair: Ranjan, Priya — Inst. For Systems Res.

09:30-09:50
Stochastic Power Control for Time-Varying Lognormal Fading Wireless Channels, pp. 1817-1822
Olama, Mohammed M. — Univ. of Tennessee
Shajaat, Shoaib M. — Univ. of Arkansas at Little Rock
Djouadi, Seddik M. — Univ. of Tennessee
Charalambous, Charalambos D. — Univ. of Cyprus

09:50-10:10
Global Stability in the Presence of Distributed Communication Delays, pp. 1823-1828
Ranjan, Priya — Inst. for Systems Res.
La, Richard J. — Univ. of Maryland
Abed, Eyad — Univ. of Maryland

10:10-10:30
Robust Capacity of a Gaussian Noise Channel with Channel and Noise Uncertainty, pp. 1829-1834
Charalambous, Charalambos D. — Univ. of Cyprus
Denic, Stojan Z. — Univ. of Ottawa
Djouadi, Seddik M. — Univ. of Tennessee

10:30-10:50
Optimal Adaptive Feedback Control of a Network Buffer., pp. 1835-1840
Guffens, V. — Univ. Catholique de Louvain
Bastin, G. — Univ. Catholique de Louvain

10:50-11:10
Experimental Verification of Stabilizing Congestion Controllers Using the Network Testbed, pp. 1841-1846
Azuma, Takehito — Kanazawa Univ.
Naitou, Hiroyuki — Kanazawa Univ.
Fujita, Masayuki — Kanazawa Univ.

11:10-11:30
Stability Analysis and Filter Design for LRED Algorithm, pp. 1847-1852
Long, Chengnian — Yanshan Univ.
Zhao, Bin — Yanshan Univ.
Guan, Xinping — Yanshan Univ.
Yang, Bo — Yanshan Univ.

ThA04 — Broadway II
Multi-Agent Coordination and Control (Regular Session)
Chair: Beard, Randal W. — Brigham Young Univ.

09:30-09:50
Information Flow and Its Relation to the Stability of the Motion of Vehicles in a Rigid Formation, pp. 1853-1858
Yadlapalli, Sai Krishna — Texas A&M Univ.
Darbha, Swaroop — Texas A&M Univ.
Rajagopal, K. R. — Texas A&M Univ.

09:50-10:10
A Survey of Consensus Problems in Multi-Agent Coordination, pp. 1859-1864
Ren, Wei — Univ. of Maryland
Beard, Randal W. — Brigham Young Univ.
Atkins, Ella — Univ. of Maryland

10:10-10:30
Multi-Agent Kalman Consensus with Relative Uncertainty, pp. 1865-1870
Ren, Wei — Univ. of Maryland
Beard, Randal W. — Brigham Young Univ.
Kingston, Derek B. — Brigham Young Univ.

10:30-10:50
Interesting Conjugate Points in Formation Constrained Optimal Multi-Agent Coordination, pp. 1871-1876
Hu, Jianghai — Purdue Univ.
Prandini, Maria — Pol. di Milano
Tomlin, Claire — Stanford Univ.

10:50-11:10
Spatial Distribution Statistics for Two-Agent Optimal Navigation with Cone-Shaped Local Observation, pp. 1877-1882
De Mot, Jan — Massachusetts Inst. of Tech.
Feron, Eric — Massachusetts Inst. of Tech.

11:10-11:30
Information Consensus of Asynchronous Discrete-Time Multi-Agent Systems, pp. 1883-1888
Fang, Lei — Univ. of Notre Dame
Antsaklis, Panos J. — Univ. of Notre Dame

ThA05 — Galleria I
Stability of Nonlinear Systems I (Regular Session)

Chair: Dayawansa, Wijesuriya P. — Texas Tech. Univ.

09:30-09:50
Further Constructions of Strict Lyapunov Functions for Time-Varying Systems, pp. 1889-1894
Malisoff, Michael — Louisiana State Univ.
Mazenc, Frédéric — Projet MERE INRIA-INRA

09:50-10:10
Stable Gain-Scheduling on Endogenous Signals, pp. 1895-1900
Rasmussen, Bryan P. — Univ. of Illinois at Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

10:10-10:30
A Globally Convergent Run-To-Run Control Algorithm with Improved Rate of Convergence, pp. 1901-1906
Francois, G. — Ec. Pol. Federale de Lausanne
Srinivasan, B. — Ec. Pol. Federale de Lausanne
Bonvin, D. — Ec. Pol. Federale de Lausanne

10:30-10:50
Non-Smooth Feedback Stabilizer for Strict-Feedback Nonlinear Systems Not Even Linearizable at the Origin, pp. 1907-1912
Cheong, S.G. — Seoul National Univ.
Back, J. — Seoul National Univ.
Shim, H. — Seoul National Univ.
Seo, J.H. — Seoul National Univ.

10:50-11:10
Nonlinear Bang-Bang Impact Control for Free Space, Impact and Constrained Motion: Multi-DOF Case, pp. 1913-1920
Kang, Sang-Hoon — Korea Adv. Inst. of Sci. & Tech.
Jin, Maolin — Korea Adv. Inst. of Sci. & Tech.
Chang, Pyung H. — Korea Adv. Inst. of Sci. & Tech.
Lee, Eunjeong — Korea Adv. Inst. of Sci. & Tech.

11:10-11:30
Controller Synthesis for a Class of Second-Order Nonlinear Systems, pp. 1921-1922

Yung, C.F.	National Taiwan Ocean Univ.
Wu, J.L.	Hwa Hsia Inst. of Tech.

ThA06 — Broadway III

Machine Learning and Classification (Regular Session)

Chair: PRINCIPE, JOSE	Univ. of Florida
Co-Chair: Ratcliffe, James David	Univ. of Southampton

09:30-09:50
Minimum Error Entropy Luenberger Observer, pp. 1923-1928

Xu, Jian-Wu	Univ. of Florida
Erdogmus, Deniz	Oregon Graduate Inst. OHSU
Principe, Jose C.	Univ. of Florida

09:50-10:10
Optimal Cluster Selection Based on Fisher Class Separability Measure, pp. 1929-1934

Wang, Xudong	Univ. of Hawaii
Syrmos, Vassilis L.	Univ. of Hawaii at Manoa

10:10-10:30
An Integrated Batch-To-Batch Iterative Learning Control and within Batch Control Strategy for Batch Processes, pp. 1935-1940

Xiong, Zhihua	Tsinghua Univ.
Zhang, Jie	Univ. of Newcastle Upon Tyne
Wang, Xiong	Tsinghua Univ.
Xu, Yongmao	Tsinghua Univ.

10:30-10:50
Fusion of Multi-Class Support Vector Machines for Fault Diagnosis, pp. 1941-1945

Hu, Zhonghui	Shanghai Jiao Tong Univ.
Cai, Yunze	Shanghai Jiao Tong Univ.
He, Xing	Shanghai Jiao Tong Univ.
Xu, Xiaoming	Shanghai Jiao Tong Univ.

10:50-11:10
Method of Combining Multi-Class SVMs Using Dempster-Shafer Theory and Its Application, pp. 1946-1950

Hu, Zhonghui	Shanghai Jiao Tong Univ.
Li, Yuangui	Shanghai Jiao Tong Univ.
Cai, Yunze	Shanghai Jiao Tong Univ.
Xu, Xiaoming	Shanghai Jiao Tong Univ.

11:10-11:30
Fast Norm-Optimal Iterative Learning Control for Industrial Applications, pp. 1951-1956

Ratcliffe, James	Univ. of Southampton
van Duinkerken, Lize	Delft Univ. of Tech.
Lewin, Paul	Univ. of Southampton
Rogers, Eric	Univ. of Southampton
Hätönen, Jari	Univ. of Sheffield
Harte, Thomas	Univ. of Sheffield
Owens, David	Univ. of Sheffield

ThA07 — Forum

Modeling, Identification and Control of Mechanical Systems (Regular Session)

Co-Chair: Book, Wayne J. — Georgia Inst. of Tech.

09:30-09:50

Optimization-Based Calibration of a Triaxial Accelerometer-Magnetometer, pp. 1957-1962

Renk, Erin L. — Univ. of Michigan
Collins, Walter — Univ. of Michigan
Rizzo, Matt — Univ. of Michigan
Lee, Fuju — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

09:50-10:10

Two Competing Linear Models for Flexible Robots: Comparison, Experimental Validation, and Refinement, pp. 1963-1968

Krauss, Ryan — Georgia Inst. of Tech.
Bruls, Olivier — Univ. of Liege
Book, Wayne J. — Georgia Inst. of Tech.

10:10-10:30

Segmentation Theory for Design of a Multi-Axis Actuator Array Using Segmented Binary Control, pp. 1969-1974

Cho, Kyu-Jin — Massachusetts Inst. of Tech.
Asada, H. Harry — Massachusetts Inst. of Tech.

10:30-10:50

Lyapunov-Based Tracking Control in the Presence of Uncertain Nonlinear Parameterizable Friction, pp. 1975-1980

Makkar, C. — Univ. of Florida
Dixon, W.E. — Univ. of Florida
Sawyer, W.G. — Univ. of Florida
Hu, G. — Univ. of Florida

10:50-11:10

System Design, Modelling, and Tracking Filter for Bearings Only Analog Camera, pp. 1981-1986

Shields, Joel — Jet Propulsion Lab.
Bailey, Richard — Automated Controlled Environments
Lytle, Brent — Automated Controlled Environments
Schroeder, Jeff — Jet Propulsion Lab.
Lurie, Boris — California Inst. of Tech.
Acikmese, Ahmet Behcet — Jet Propulsion Lab.
Singh, Guru — Jet Propulsion Lab.
Keim, Jason — Jet Propulsion Lab.
Ahmed, Asif — Jet Propulsion Lab.

11:10-11:30

Position Control of a Two-Bar Linkage with Acceleration-Based Identification and Feedback, pp. 1987-1992

Chandrasekar, Jaganath — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

ThA08 — Directors

Advanced Control for Ships in the 21st Century (Invited Session)

Organizer: Cartes, David A. — FAMU-FSU

09:30-09:50

Dynamics, Optimization and Control of a Fuel Cell Based Combined Heat Power (CHP) System for Shipboard Applications (I), pp. 1993-1998

Tsourapas, Vasilios — Univ. of Michigan
Stefanopoulou, Anna — Univ. of Michigan
Sun, Jing — Univ. of Michigan

09:50-10:10
A Universal Controller for Distributed Control of Power Electronics Systems in Electric Ships (I), pp. 1999-2004

Francis, Gerald W.	Virginia Pol. Inst. & State Univ.
Burgos, Rolando P.	Virginia Pol. Inst. & State Univ.
Celanovic, Ivan	Massachusetts Inst. of Tech.
Wang, Fred	Virginia Pol. Inst. & State Univ.
Boroyevich, Dushan	Virginia Pol. Inst. & State Univ.

10:10-10:30
Real Time Digital Simulations Augmenting the Development of Functional Reconfiguration of PEBB and Universal Controller (I), pp. 2005-2010

Ren, W.	Florida State Univ.
Qian, L.	Florida State Univ.
Liu, Y.	Florida State Univ.
Steurer, M.	FAMU-FSU
Cartes, D..	Florida State Univ.

10:30-10:50
Modeling of Uncertainty and Applications in Monitoring and Control of Power Electronics (I), pp. 2011-2016

Monti, A.	Univ. of South Carolina
Ponci, F.	Univ. of South Carolina
Lovett, T.	Univ. of South Carolina
Smith, A.	Univ. of South Carolina
Dougal, R.	Univ. of South Carolina

10:50-11:10
From Neural State-Space Description of Marine Powerplants to Reduced-Order Volterra Models (I), pp. 2017-2022

Xiros, Nikolaos I.	National Tech. Univ. of Athens
Tsourapas, Vasilios P.	Univ. of Michigan

11:10-11:30
On-Line Identification and Robust Fault Diagnosis for Nonlinear PMSM Drives (I), pp. 2023-2027

Liu, Li	Florida State Univ.
Cartes, David A.	Florida State Univ.

ThA09 Council

Modeling and Control for Industrial and Material Processing Applications (Regular Session)

Chair: Wen, John T. — Rensselaer Pol. Inst.

09:30-09:50
Computation of Shear Viscosity: A Systems Approach, pp. 2028-2033

Hurst, Joshua L.	Rensselaer Pol. Inst.
Wen, John T.	Rensselaer Pol. Inst.

09:50-10:10
A Comparison of Sequential Function Chart and Object-Modelling PLC Programming, pp. 2034-2039

Hajarnavis, Vivek	Univ. of Warwick
Young, Ken	Univ. of Warwick

10:10-10:30
*Monitoring-Motivated Modeling with Large Datasets from Industrial Control Systems**

Nilsson, Linus	Lund Inst. of Tech.
Holst, Jan	Lund Inst. of Tech.

10:30-10:50
Robust Mould Level Control, pp. 2040-2045

Schuurmans, J.	Corus Res. Develop. & Tech.
Kamperman, A.	Corus Strip Products IJmuiden
Middel, B.	Corus Group plc
van den Bosch, F.A.	Oce-Tech. BV

10:50-11:10
Non-Uniformity of Wafer and Pad in CMP: Kinematic Aspects of View, pp. 2046-2051
Tyan, Feng — Tamkang Univ.

11:10-11:30
Pad Conditioning Density Distribution in CMP Process with Diamond Dresser, pp. 2052-2057
Tyan, Feng — Tamkang Univ.

ThA10 — Broadway IV
Adaptive Linear Control (Regular Session)

Chair: Tugnait, Jitendra K. — Auburn Univ.
Co-Chair: Annaswamy, Anuradha — Massachusetts Inst. of Tech.

09:30-09:50
Multisensor Tracking of Multiple Maneuvering Targets Using Multiscan JPDA and IMM Filtering, pp. 2058-2063
Puranik, Sumedh P. — Auburn Univ.
Tugnait, Jitendra K. — Auburn Univ.

09:50-10:10
Adaptive Dynamic Inversion Control of a Linear Scalar Plant with Constrained Control Inputs, pp. 2064-2069
Tandale, Monish D. — Texas A&M Univ.
Valasek, John — Texas A&M Univ.

10:10-10:30
A Polynomial Adaptive Controller for Discretely Parameterized Systems, pp. 2070-2075
Cao, Chengyu — Virginia Pol. Inst. & State Univ.
Annaswamy, Anuradha — Massachusetts Inst. of Tech.
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.

10:30-10:50
Boundary Conditions and the Stability of a Class of 2D Continuous-Discrete Linear Systems, pp. 2076-2081
Owens, David H. — Univ. of Sheffield
Rogers, Eric — Univ. of Southampton

10:50-11:10
Decentralized Control with Input Saturation: A First Step Toward Design, pp. 2082-2087
Stoorvogel, Anton A. — Eindhoven Univ. of Tech.
Minteer, Jasmine — Washington State Univ.
Deliu, Ciprian — Delft Univ. of Tech.

11:10-11:30
Output Regulation of Linear Systems with Input Constraints, pp. 2088-2092
Zhao, Xiaodong — Hangzhou Dianzi Univ.
Chai, Li — Hangzhou Dianzi Univ.
Xue, Anke — Hangzhou Dianzi Univ.

ThA11 — Studio
Aerospace Applications (Regular Session)

Chair: Ohlmeyer, Ernest J. — Naval Surface Warfare Center
Co-Chair: Gurfil, Pini — Tech. - Israel Inst. of Tech.

09:30-09:50
Feedback Linearization Guidance for Approach and Landing of Reusable Launch Vehicles, pp. 2093-2097
Burchett, Bradley T. — Rose-Hulman Inst. of Tech.

09:50-10:10
Dynamic Control Allocation with Asymptotic Tracking of Time-Varying Control Input Commands, pp. 2098-2103
Luo, Yu — Ohio State Univ.
Doman, David B. — Air Force Res. Lab.

10:10-10:30
Closed-Form Deflection-Limiting Commands, pp. 2104-2109
Robertson, Michael J. — Georgia Inst. of Tech.
Singhose, William — Georgia Inst. of Tech.

10:30-10:50
Optimization of Hybrid Satellite and Constellation Design for GEO-Belt Space Situational Awareness Using Genetic Algorithms, pp. 2110-2115
Fahnestock, Eugene — Univ. of Michigan
Erwin, R. Scott — Air Force Res. Lab.

10:50-11:10
Reconfigurable GPC with Application to Flight Control, pp. 2116-2121
Shi, Jianjun — Iowa State Univ.
Kelkar, Atul G. — Iowa State Univ.
Soloway, Don — NASA

11:10-11:30
Stabilization of Rigid Body Dynamics Using the Serret-Andoyer Variables, pp. 2122-2127
Gurfil, Pini — Tech. - Israel Inst. of Tech.

ThA12 — Executive

Intelligent Vehicles and Highway Systems (Regular Session)

Chair: Yang, Jiann-Shiou — Univ. of Minnesota

09:30-09:50
Travel Time Prediction Using the GPS Test Vehicle and Kalman Filtering Techniques, pp. 2128-2133
Yang, Jiann-Shiou — Univ. of Minnesota

09:50-10:10
Influence of a Slowdown Warning System on a Multi-Vehicle Stream, pp. 2134-2140
Chakravarthy, Animesh — Massachusetts Inst. of Tech.
Song, KyungYeol — Massachusetts Inst. of Tech.
Feron, Eric — Massachusetts Inst. of Tech.

10:10-10:30
A Localized Switching Ramp-Metering Controller with a Queue Length Regulator for Congested Freeways, pp. 2141-2146
Sun, Xiaotian — Univ. of California at Berkeley
Horowitz, Roberto — Univ. of California at Berkeley

10:30-10:50
Optimal Velocity Profile Generation for Given Acceleration Limits: Receding Horizon Implementation, pp. 2147-2152
Velenis, Efstathios — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

10:50-11:10
Real-Time Navigation for Autonomous Vehicles: A Fuzzy Obstacle Avoidance and Goal Approach Algorithm, pp. 2153-2158
Chen, Qi — Ohio State Univ.
Özguner, Ümït — Ohio State Univ.

11:10-11:30
Decentralized Control of a Large Platoon of Vehicles Operating on a Plane with Steering Dynamics, pp. 2159-2165
Khatir, Maziar E. — Univ. of Toronto
Davison, Edward J. — Univ. of Toronto

ThA13 — Broadway I

Modeling and Control of Systems for Critical Care Ventilation (Tutorial Session)

Chair: Borrello, Michael A. — Trex Enterprises
Co-Chair: Li, Yu-Feng — Viasys Health Care
Organizer: Borrello, Michael A. — Trex Enterprises

09:30-10:30
Modeling and Control of Systems for Critical Care Ventilation (I), pp. 2166-2180
Borrello, Michael — Trex Enterprises

10:30-10:50
*Robust Feedback Design for Proportional Assist Controllers in Medical Ventilators (I)**
Jafari, Mehdi M. — Tyco Healthcare, Puritan Bennett
Lopez, Francisco J. — Tyco Healthcare, Puritan Bennett

10:50-11:10
Investigation on Dynamics of the Flow Control Unit in Ventilator Systems and Its Fundamental Performance Limitations (I), pp. 2181-2186
Li, Yufeng — Viasys HealthCare

11:10-11:30
*Critical Care Ventilation Modeling and Controller Design Using Optimization Techniques (I)**
Ahmad, Samir — Res. Inc.
Isaza, Fernando — Res. Inc.

ThA14 — Galleria II

Automotive Applications IV (Regular Session)

Chair: Shin, Kwang-Keun — General Motors R&D

09:30-09:50
Adaptive Open-Loop Rear-Wheel Steering, pp. 2187-2193
Shin, Kwang-Keun — General Motors R&D
Chen, Shih-Ken — General Motors R&D

09:50-10:10
A New Method for Adaptive Brake Control, pp. 2194-2199
Tyukin, Ivan — Riken Brain Science Inst.
Prokhorov, Danil — Ford Motor Company
van Leeuwen, Cees — Riken Brain Science Inst.

10:10-10:30
Robust Control and μ Analysis of Active Pneumatic Suspension, pp. 2200-2205
Porumamilla, H. — Iowa State Univ.
Kelkar, A.G. — Iowa State Univ.

10:30-10:50
A Model Free Control Design Approach for a Semi-Active Suspension of a Passenger Car, pp. 2206-2211
Lauwerys, Christophe — Katholieke Univ. Leuven
Swevers, Jan — Katholieke Univ. Leuven
Sas, Paul — Katholieke Univ. Leuven

10:50-11:10
An Observer and an Integrated Braking/traction and Steering Control for a Cornering Vehicle, pp. 2212-2217
Cherouat, H. — Univ. Paris Sud
Diop, S. — Univ. Paris Sud

11:10-11:30
*Three Control Approaches for Vehicle Active Suspension**
Sun, Jianmin — Beijing Inst. of Civil Eng. and Arch.
Yang, Qingmei — Beijing Union Univ.

ThA15 — Parlor A

Fault Tolerant Systems (Regular Session)

Chair: Niemann, Henrik — Tech. Univ. of Denmark
Co-Chair: Suyama, Koichi — Tokyo Univ. of Marine Sci. & Tech.

09:30-09:50
Early Active Diagnosis in Communication Networks Based on Markov Decision Process†
Du, Xiaojiang — North Dakota State Univ.
Lin, Fengjing — North Dakota State Univ.

09:50-10:10
Analysis of Fault Tolerant Control by Using Randomized Algorithms, pp. 2218-2223
Li, Hongbin — Univ. of Alberta
Zhao, Qing — Univ. of Alberta

10:10-10:30
Fault Tolerant Control Based on Active Fault Diagnosis, pp. 2224-2229
Niemann, Henrik — Tech. Univ. of Denmark

10:30-10:50
A Fault Tolerant Control Approach for Descriptor Systems, pp. 2230-2231
Niemann, Henrik — Tech. Univ. of Denmark

10:50-11:10
Probabilistic Safety Assessment and Management of Control Laws, pp. 2232-2238
Suyama, Koichi — Tokyo Univ. of Marine Sci. & Tech.

11:10-11:30
Fault Tolerant Control Design Via the Adaptive Two-Stage LQ Reliable Control, pp. 2239-2244
Hsieh, Chien-Shu — Ta Hwa Inst. of Tech.

ThA17 — Parlor B

Intelligent Control Applications (Regular Session)

Chair: Tsourdos, Antonios — Cranfield Univ. Royal Military Coll. of Sci.
Co-Chair: Marumo, Rapelang — Univ. of Sheffield

09:30-09:50
Implementation of a Hybrid Controller for Ventilation Control Using Soft Computing, pp. 2245-2250
Rieger, Craig G. — Idaho National Lab.
Naidu, D. Subbaram — Idaho State Univ.

09:50-10:10
Auto-Tuning of PID Controllers Via Extremum Seeking, pp. 2251-2256
Killingsworth, Nick — Univ. of California at San Diego
Krstić, Miroslav — Univ. of California at San Diego

10:10-10:30
*PID and GA-Based Tuning of Air Motor Control Parameters**
Marumo, Rapelang — Univ. of Sheffield
Tokhi, M.O. — Univ. of Sheffield

10:30-10:50
A Hierarchical Ramp Metering Control Scheme for Freeway Networks, pp. 2257-2262
Kotsialos, A. — Tech. Univ. of Crete
Papageorgiou, M. — Tech. Univ. of Crete

10:50-11:10
*Intelligent Control Method for BOF Steelmaking Process**
Wang, Xin — Shanghai Jiao Tong Univ.
Li, Shaoyuan — Shanghai Jiao Tong Univ.
Wang, Zhongjie — Tongji Univ.
Tao, Jun — Baosight Software Corp.
Zou, Tao — Shanghai Jiao Tong Univ.

11:10-11:30
Self-Organizing Intelligent System and Its Application for Hard Disk Drive Control, pp. 2263-2268
Li, Chunshien — Chang Gung Univ.
Cheng, Kuo-Hsiang — Chang Gung Univ.
Chen, Jin-Long — Chang Gung Univ.
Chen, Chih-Ming — Northern Taiwan Inst. of Sci. and Tech.

ThA18 — Parlor C
Computational Methods for Optimal Filtering and Control (Regular Session)

Chair: Grimble, Michael John — Univ. of Strathclyde
Co-Chair: Bobrow, James E. — Univ. California, Irvine

09:30-09:50
Generalized LQR Control and Kalman Filtering with Relations to Computations of Inner-Outer and Spectral Factorizations, pp. 2269-2274
Gu, Guoxiang — Louisiana State Univ.
Cao, Xiren — Hong Kong Univ. of Sci. & Tech.
Badr, Hesham — Louisiana State Univ.

09:50-10:10
An Efficient Sequential Linear Quadratic Algorithm for Solving Nonlinear Optimal Control Problems, pp. 2275-2280
Sideris, Athanasios — Univ. of California at Irvine
Bobrow, James E. — Univ. of California at Irvine

10:10-10:30
A Novel Termination Criterion for Optimization, pp. 2281-2286
Padmanabhan, Venkatram — Oklahoma State Univ.
Rhinehart, R. Russell — Oklahoma State Univ.

10:30-10:50
You Can Always Compute Maximally Permissive Controllers under Partial Observation When They Exist, pp. 2287-2292
Pinchinat, Sophie — Irisa
Riedweg, Stéphane — ENS Cachan

10:50-11:10
Optimized Discrete-Time State Dependent Riccati Equation Regulator, pp. 2293-2298
Dutka, Arkadiusz S. — Univ. of Strathclyde
Ordys, Andrzej W. — Univ. of Strathclyde
Grimble, Michael J. — Univ. of Strathclyde

11:10-11:30
BMI Optimization Based on Unimodal Normal Distribution Crossover GA with Relaxed LMI Convex Estimation, pp. 2299-2304
Kawanishi, Michihiro — Kobe Univ.
Ikuyama, Yuu — Kobe Univ.

ThB02 — Senate
Maximum Likelihood Subspace Identification for Linear, Nonlinear, and Closed-Loop Systems (Tutorial Session)

Chair: Larimore, Wallace E. — Adaptics, Inc.
Co-Chair: Lacy, Seth L. — Air Force Res. Lab.
Organizer: Larimore, Wallace E. — Adaptics, Inc.

13:30-14:30
Maximum Likelihood Subspace Identification for Linear, Nonlinear, and Closed-Loop Systems (I), pp. 2305-2319
Larimore, Wallace E. — Adaptics, Inc.

14:30-14:50
Subspace-Based Identification for Linear and Nonlinear Systems (I), pp. 2320-2334
Palanthandalam-Madapusi, Harish J. — Univ. of Michigan
Lacy, Seth L. — Air Force Res. Lab.
Hoagg, Jesse B. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

14:50-15:10
System Identification of Space Structures (I), pp. 2335-2340
Lacy, Seth L. — Air Force Res. Lab.
Babuška, Vit — General Dynamics
Schrader, Karl N. — Boeing-SVS, Inc.
Fuentes, Robert — Boeing-SVS, Inc.

15:10-15:30
Process Control Applications of Subspace and Regression-Based Identification and Monitoring Methods (I), pp. 2341-2346
Juricek, Ben C. — Toyon Res. Corp.
Seborg, Dale E. — Univ. of California
Larimore, Wallace E. — Adaptics, Inc.

ThB03 — Galleria III
Communication Networks (Regular Session)

Chair: Simaan, Marwan A. — Univ. of Pittsburgh
Co-Chair: Olfati-Saber, Reza — Univ. of California at Los Angeles

13:30-13:50
Competitive Team Strategies for Routing Control in Parallel-Link Communication Networks, pp. 2347-2352
Liu, Yong — Ohio State Univ.
Simaan, Marwan A. — Univ. of Pittsburgh

13:50-14:10
Real-Time Operating Environment for Networked Control Systems, pp. 2353-2358
Ambike, Ajit — Texas A&M Univ.
Kim, Won-jong — Texas A&M Univ.
Ji, Kun — Texas A&M Univ.

14:10-14:30
Average Rate in a M/M/1 Processor-Sharing Queue, pp. 2359-2364
Chen, Na — Univ. of California at Irvine
Jordan, Scott — Univ. of California at Irvine

14:30-14:50
Model-Based Networked Control for Nonlinear Systems with Stochastic Packet Dropout, pp. 2365-2370
Mastellone, S. — Univ. of Illinois at Urbana-Champaign
Abdallah, C.T. — Univ. of New Mexico
Dorato, P. — Univ. of New Mexico

14:50-15:10
Ultrafast Consensus in Small-World Networks, pp. 2371-2378
Olfati-Saber, Reza — Univ. of California at Los Angeles

15:10-15:30
OSNR Optimization in Optical Networks: Extension for Capacity Constraints, pp. 2379-2384
Pan, Yan — Univ. of Toronto
Pavel, Lacra — Univ. of Toronto

ThB04 — Broadway II

Spacecraft Formation and Control (Regular Session)

Chair: Campbell, Mark E. — Cornell Univ.
Co-Chair: Kapila, Vikram — Pol. Univ.

13:30-13:50
Model Predictive Control of Spacecraft Formations with Sensing Noise, pp. 2385-2390
Breger, Louis — Massachusetts Inst. of Tech.
How, Jonathan — Univ. of Bristol
Richards, Arthur — Massachusetts Inst. of Tech.

13:50-14:10
Dynamic Coverage Optimal Control for Interferometric Imaging Spacecraft Formations (Part II): The Nonlinear Case, pp. 2391-2396
Hussein, I.I. — Univ. of Michigan
Bloch, A.M. — Univ. of Michigan

14:10-14:30
Validation of Simplified Formation Models at L2, pp. 2397-2404
Miller, Isaac — Cornell Univ.
Campbell, Mark E. — Cornell Univ.

14:30-14:50
Optimal Fuel-Image Motion Planning for a Class of Dual Spacecraft Formations, pp. 2405-2410
Hussein, I.I. — Univ. of Michigan
Bloch, A.M. — Univ. of Michigan
Scheeres, D.J. — Univ. of Michigan
McClamroch, N.H. — Univ. of Michigan

14:50-15:10
Spacecraft Formation Flying Near Sun-Earth L_2 Lagrange Point: Trajectory Generation and Adaptive Output Feedback Control, pp. 2411-2418
Wong, Hong — Pol. Univ.
Kapila, Vikram — Pol. Univ.

15:10-15:30
Output Feedback Control for Spacecraft Formation Flying with Coupled Translation and Attitude Dynamics, pp. 2419-2426
Wong, Hong — Pol. Univ.
Pan, Haizhou — Pol. Univ.
Kapila, Vikram — Pol. Univ.

ThB05 — Galleria I

Theory and Applications of Sliding Mode Control (Regular Session)

Chair: Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Co-Chair: Gurfil, Pini — Tech. - Israel Inst. of Tech.

13:30-13:50
Multi-Rate Digital Design for Sliding-Mode-Observer-Based Feedback Control, pp. 2427-2432
Shkolnikov, I.A. — Z/I Imaging Corp.
Shtessel, Y.B. — Univ. of Alabama at Huntsville
Plekhanov, S.V. — Univ. of Alabama at Huntsville

13:50-14:10
Parameter Identification of Affine Time Varying Systems Using Traditional and High Order Sliding Modes, pp. 2433-2438
Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Poznyak, Alexander S. — CINVESTAV-IPN

14:10-14:30
Analysis of Chattering in Continuous Sliding Mode Control, pp. 2439-2444
Boiko, I. — SNC-Lavalin
Fridman, L.M. — National Autonomous Univ. of Mexico
Iriarte, R. — National Autonomous Univ. of Mexico

14:30-14:50
Observer with Multiple Sliding Modes for a Class of Nonlinear Uncertain Systems, pp. 2445-2450
Veluvolu, K.C. — Nanyang Tech. Univ.
Soh, Y.C. — Nanyang Tech. Univ.
Cao, W. — Nanyang Tech. Univ.
Liu, Z.Y. — Harbin Inst. of Tech.

14:50-15:10
On the Design of Walcott-Zak Sliding Mode Observer, pp. 2451-2456
Xiang, Ji — Zhejiang Univ. Yuquan Campus
Su, Hongye — Zhejiang Univ.
Chu, Jian — Zhejiang Univ.

15:10-15:30
Design and Experimental Study of an Observer-Based Controller for a Three-DOF Four-Wire Type Optical Pickup Head, pp. 2457-2462
Chao, C.-P. — Chung Yuan Christian Univ.
Huang, J.S. — Chung Yuan Christian Univ.
Chiu, C.-W. — Chung Yuan Christian Univ.
Shen, C.Y. — Chung Yuan Christian Univ.

ThB06 — Broadway III
Imaging, Modeling, and Control of Microscale Systems (Regular Session)
Chair: Bamieh, Bassam — Univ. of California at Santa Barbara
Co-Chair: Dayawansa, Wijesuriya P. — Texas Tech. Univ.

13:30-13:50
An Empirical Model for Dynamic Friction in Microfabricated Linear Microball Bearings, pp. 2463-2468
Tan, Xiaobo — Michigan State Univ.
Modafe, Alireza — Univ. of Maryland
Ghodssi, Reza — Univ. of Maryland

13:50-14:10
Tip Steering for Fast Imaging in AFM, pp. 2469-2474
Andersson, Sean B. — Harvard Univ.
Park, Jiwoong — The Rowland Inst. at Harvard

14:10-14:30
A Novel Sensing Scheme for the Displacement of Electrostatically Actuated Microcantilevers, pp. 2475-2480
Napoli, Mariateresa — Univ. of California at Santa Barbara
Olroyd, Craig — Univ. of California at Santa Barbara
Bamieh, Bassam — Univ. of California at Santa Barbara
Turner, Kimberly — Univ. of California at Santa Barbara

14:30-14:50
Control of Travelling Pulses in Mems Arrays: Numerical Evidence of Practical Asymptotic Stabilization, pp. 2481-2486
Palamakumbura, R. — Texas Tech. Univ.
Maithripala, S. — Texas Tech. Univ.
Dayawansa, W.P. — Texas Tech. Univ.
Inaba, H. — Tokyo Denki Univ.

14:50-15:10
Stabilization and Tracking Control of Friction Dynamics of a One-Dimensional Nanoarray, pp. 2487-2492
Guo, Yi — Univ. of Central Florida
Qu, Zhihua — Univ. of Central Florida

15:10-15:30
On the Differential Flatness and Control of Electrostatically Actuated MEMS, pp. 2493-2498
Zhu, Guchuan — Ec. Pol. de Montreal
Lévine, Jean — Ec. des Mines de Paris
Praly, Laurent — Ec. des Mines de Paris

ThB07 — Forum

Stability, Control and Modeling of Mechanical Systrems (Regular Session)

Chair: Hiramoto, Kazuhiko — Akita Univ.
Co-Chair: Bobrow, James E. — Univ. of California at Irvine

13:30-13:50

Optimal Control and Performance of Variable Stiffness Devices for Structural Control, pp. 2499-2504
Leavitt, John — Univ. of California at Irvine
Jabbari, Faryar — Univ. of California at Irvine
Bobrow, James E. — Univ. of California at Irvine

13:50-14:10

H∞ Control of a Piezo-Actuated Flexible Beam Using an Analytical Bound Approach, pp. 2505-2509
Sweeney, Robert — Worcester Pol. Inst.
Demetriou, Michael A. — Worcester Pol. Inst.
Grigoriadis, Karolos M. — Univ. of Houston

14:10-14:30

Integrated Design of Structural and Control Systems with a Homotopy Like Iterative Method, pp. 2510-2515
Hiramoto, Kazuhiko — Akita Univ.
Grigoriadis, Karolos M. — Univ. of Houston

14:30-14:50

Force/Position Output Feedback Tracking Control of Holonomically Constrained Rigid Bodies, pp. 2516-2521
Melhem, Khoder — Ec. Pol. de Montreal
Boukas, El-Kebir — Ec. Pol. de Montreal
Baron, Luc — Ec. Pol. de Montreal

14:50-15:10

Shape Change of Tensegrity Structures: Design and Control, pp. 2522-2527
van de Wijdeven, Jeroen — Tech. Univ. Eindhoven
de Jager, Bram — Tech. Univ. Eindhoven

15:10-15:30

Input-Output Decoupling with Asymptotic Stability of Linear Mechanical Systems through Connection with Another Mechanical System, pp. 2528-2533
Menini, Laura — Univ. di Roma
Tornambe, Antonio — Univ. di Roma

ThB08 — Directors

Control of Atomic Scale Surface Processes (Invited Session)

Chair: Gallivan, Martha A. — Georgia Inst. of Tech.
Co-Chair: Armaou, Antonios — Penn State Univ.
Organizer: Gallivan, Martha A. — Georgia Inst. of Tech.
Organizer: Armaou, Antonios — Penn State Univ.

13:30-13:50

Model-Based Control Methodologies for Catalytic Surface Reactions (I), pp. 2534-2539
Mastny, Ethan A. — Univ. of Wisconsin at Madison
Rawlings, James B. — Univ. of Wisconsin at Madison
Kevrekidis, Yannis G. — Princeton Univ.

13:50-14:10

Construction of Stochastic PDEs for Feedback Control of Surface Roughness in Thin Film Deposition (I), pp. 2540-2547
Ni, Dong — Univ. of California at Los Angeles
Christofides, Panagiotis D. — Univ. of California at Los Angeles

14:10-14:30
Robust Nonlinear Feedback-Feedforward Control of a Coupled Kinetic Monte Carlo-Finite Difference Simulation (I), pp. 2548-2553

Rusli, E.	Univ. of Illinois at Urbana-Champaign
Drews, T.O.	Univ. of Illinois at Urbana-Champaign
Ma, D.L.	Univ. of Illinois at Urbana-Champaign
Alkire, R.C.	Univ. of Illinois at Urbana-Champaign
Braatz, R.D.	Univ. of Illinois at Urbana-Champaign

14:30-14:50
Equation-Free, Coarse-Grained Feedback Linearization (I), pp. 2554-2558

Siettos, Constantinos I.	National Tech. Univ. of Athens
Kazantzis, Nikolaos G.	Worcester Pol. Inst.
Kevrekidis, Yannis	Princeton Univ.

14:50-15:10
Optimization of Thin Film Growth Using Multiscale Process Systems (I), pp. 2559-2565

Varshney, Amit	Penn State Univ.
Armaou, Antonios	Penn State Univ.

15:10-15:30
Complexity Reduction of a Thin Film Deposition Model Using a Trajectory Based Nonlinear Model Reduction Technique (I), pp. 2566-2571

Wolfrum, Philipp	Ruhr-Univ. Bochum
Vargas, Alejandro	Inst. of Engineering, UNAM
Gallivan, Martha	Georgia Inst. of Tech.
Allgöwer, Frank	Univ. of Stuttgart

ThB09 Council
Model Reduction I (Theory) (Regular Session)

Chair: Sawan, M. Edwin	Wichita State Univ.
Co-Chair: Bakule, Lubomir	Acad. of Sci. of Czech Rep.

13:30-13:50
On the Use of Partial Least Squares (PLS) and Balancing for Nonlinear Model Reduction, pp. 2572-2577

Sun, Chuili	Texas A&M Univ.
Hahn, Juergen	Texas A&M Univ.

13:50-14:10
Singularly Perturbed Unified Systems with Low Sensitivity to Model Reduction, pp. 2578-2583

Shim, Kyu-Hong	Sejong Univ.
Sawan, M.E.	Wichita State Univ.

14:10-14:30
Frequency Weighted Model Reduction Technique with Error Bounds, pp. 2584-2589

Sreeram, Victor	Univ. of Western Australia
Ghafoor, Abdul	Univ. of Western Australia

14:30-14:50
Complexity-Reduced Guaranteed Cost Control Design for Delayed Uncertain Symmetrically Connected Systems, pp. 2590-2595

Bakule, Lubomír	Acad. of Sci. of Czech Rep

14:50-15:10
Information Theoretic Methods for Stochastic Model Reduction Based on State Projection, pp. 2596-2601

Zhang, Hui	Zhejiang Univ.
Sun, You Xian	Zhejiang Univ.

15:10-15:30
Robust L1 Model Reduction for Uncertain Stochastic Systems with State Delay, pp. 2602-2607

Li, Yanhui	Daqing Petroleum Inst.
Qu, Yancheng	Harbin Inst. of Tech.
Gao, Huijun	Harbin Inst. of Tech.
Wang, Changhong	Harbin Inst. of Tech.

ThB10 — Broadway IV

Adaptive Control and Signal Processing (Regular Session)

Co-Chair: Sasiadek, Jurek Z — Carleton Univ.

13:30-13:50

Adaptive Filtering and Control for Wavefront Reconstruction and Jitter Control in Adaptive Optics, pp. 2608-2612

Liu, Yu-Tai — Univ. of California at Los Angeles
Chen, Neil — Univ. of California at Los Angeles
Gibson, Steve — Univ. of California at Los Angeles

13:50-14:10

Output-Feedback Control of Uncertain Nonlinear Systems Using Adaptive Fuzzy Observer, pp. 2613-2618

Wang, Yongfu — Northeastern Univ.
Chai, Tianyou — Northeastern Univ.

14:10-14:30

Adaptive Rejection of Disturbances Having Two Sinusoidal Components with Close and Unknown Frequencies, pp. 2619-2624

Guo, Xiuyan — Univ. of Utah
Bodson, Marc — Univ. of Utah

14:30-14:50

Adaptive Inverse Disturbance Canceling Control System Based on Least Square Support Vector Machines, pp. 2625-2629

Liu, Xiaojing — Chinese Acad. of Sciences
Yi, Jianqiang — Chinese Acad. of Sciences
Zhao, Dongbin — Chinese Acad. of Sciences

14:50-15:10

Invariant Measures for Jump-Type Fleming-Viot Processes, pp. 2630-2633

da Silva, Telles T. — National Lab. for Scientific Computing - LNCC / MCT
Fragoso, Marcelo D. — Lab. Nacional de Computação Científica - LNCC/CNPq

15:10-15:30

Use of Non-Convex Optimization to Recover Signals Distorted by Memoryless Non-Invertible Sensor Nonlinearities, pp. 2634-2639

Suranthiran, Sugathevan — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

ThB11 — Studio

Robust and Adaptive Control of Aerospace Vehicles (Regular Session)

Chair: Evers, Johnny — US Air Force
Co-Chair: Hull, Richard A. — Lockheed Martin / Missiles & Fire Control

13:30-13:50

Adaptation-Based Reconfiguration in the Presence of Actuator Failures and Saturation, pp. 2640-2645

Schwager, Mac — Massachusetts Inst. of Tech.
Annaswamy, Anuradha M. — Massachusetts Inst. of Tech.
Lavretsky, Eugene — The Boeing Company

13:50-14:10

An Adaptive Control Scheme for a Synthetic Jet Actuator Model, pp. 2646-2651

Deb, Dipankar — Univ. of Virginia
Tao, Gang — Univ. of Virginia
Burkholder, Jason D. — Barron Associates, Inc.
Smith, Douglas R. — Univ. of Wyoming

14:10-14:30

Retrofit Reconfigurable Flight Control in the Presence of Control Effector Damage, pp. 2652-2657

Boškovíc, Jovan D. — Scientific Systems Co. Inc.
Bergstrom, Sarah E. — Scientific Systems Co. Inc.
Mehra, Raman K. — Scientific Systems Co. Inc.

14:30-14:50
Nonlinear Lateral Command Control Using Neural Network for F-16 Aircraft, pp. 2658-2663
Suresh, S. — Indian Inst. of Science
Kannan, N. — Indian Inst. of Science
Omkar, S. N — Indian Inst. of Science
Mani, V. — Indian Inst. of Science

14:50-15:10
Reliable H∞ Aircraft Flight Controller Design against Faults with State/Output Feedback, pp. 2664-2669
Feng, Le — Nanyang Tech. Univ.
Wang, Jianliang — Nanyang Tech. Univ.
Poh, Engkee — DSO National Lab.
Liao, Fang — National Univ. of Singapore

15:10-15:30
A Model Reference Robust Control and Its Application to Autopilot Control Law Design, pp. 2670-2675
Dong, Wenhan — Air Force Engineering Univ.
Sun, Xiuxia — Air Force Engineering Univ.
Yan, Lin — Beijing Univ. of Aero. & Astro.
Zhang, Qingrong — Beijing Univ. of Aero. & Astro.

ThB12 — Executive
Mixed-Integer Programming for Control - a Tutorial (Tutorial Session)
Organizer: Richards, Arthur — Univ. of Bristol
Organizer: How, Jonathan P. — Massachusetts Inst. of Tech.

13:30-14:30
Mixed-Integer Programming for Control (I), pp. 2676-2683
Richards, Arthur — Univ. of Bristol
How, Jonathan — Massachusetts Inst. of Tech.

14:30-14:45
*Projected Variable Metric Algorithm for Mixed Integer Optimization Problem (I)**
Ahmadzadeh, Ali — Univ. of Pennsylvania
Sayyarrodsari, Bijan — Pavilion Tech. Inc
Homaifar, Abdollah — North Carolina A&T State Univ.

14:45-15:00
*MILP Assignment Problems for Multi-Vehicle Systems (I)**
Earl, Matthew — Cornell Univ.
D'Andrea, Raffaello — Cornell Univ.

15:00-15:15
*Real-Time MILP Path-Planning for Tactical UAV Applications (I)**
Ma, Cedric — Northrop Grumman Corp.
Miller, Robert H. — Univ. of Michigan

15:15-15:30
Receding Horizon Implementation of MILP for Vehicle Guidance (I), pp. 2684-2685
Kuwata, Yoshiaki — Massachusetts Inst. of Tech.
How, Jonathan — Massachusetts Inst. of Tech.

ThB13 — Broadway I
Sum of Squares in Industry: An Algorithmic Analysis Approach (Tutorial Session)
Chair: Prajna, Stephen — California Inst. of Tech.
Co-Chair: Glavaski, Sonja T. — Honeywell
Organizer: Papachristodoulou, Antonis — California Inst. of Tech.
Organizer: Prajna, Stephen — California Inst. of Tech.
Organizer: Glavaski, Sonja T. — Honeywell

13:30-14:10
A Tutorial on Sum of Squares Techniques for Systems Analysis (I), pp. 2686-2700
Papachristodoulou, Antonis — California Inst. of Tech.
Prajna, Stephen — California Inst. of Tech.

14:10-14:30
Analysis of Aircraft Pitch Axis Stability Augmentation System Using Sum of Squares Optimization (I), pp. 2701-2702
Krishnaswamy, Kailash — Honeywell Lab.
Papageorgiou, George — Honeywell Lab.
Glavaski, Sonja — Honeywell
Papachristodoulou, Antonis — California Inst. of Tech.

14:30-14:50
Controlled Hybrid System Safety Verification: Advanced Life Support System Tesbed (I), pp. 2703-2704
Glavaski, Sonja — Honeywell
Papachristodoulou, Antonis — California Inst. of Tech.
Ariyur, Kartik — Honeywell Intl. Inc.

14:50-15:10
On the Use of SoS Methods for Analysis of Connection-Level Stability in the Internet (I), pp. 2705-2708
Lakshmikantha, Ashvin — Univ. of Illinois at Urbana-Champaign
Beck, C.L. — Univ. of Illinois at Urbana-Champaign
Srikant, R. — Univ. of Illinois at Urbana-Champaign

15:10-15:30
Decentralized Stochastic Decision Problems and Polynomial Optimization (I), pp. 2709-2714
Cogill, Randy — Stanford Univ.
Lall, Sanjay — Stanford Univ.

ThB14 — Galleria II
Power Systems - Electric and Automotive Applications (Regular Session)

Chair: Adetona, Olawale — Tennessee State Univ.

13:30-13:50
Robust Nonlinear Excitation Control Based on a Novel Adaptive Back-Stepping Design for Power Systems, pp. 2715-2720
Fu, Jun — Northeastern Univ.
Zhao, Jun — Northeastern Univ.

13:50-14:10
Closed-Loop Load Balancing: Comparison of a Discrete Event Simulation with Experiments, pp. 2721-2726
Tang, Zhong — Univ. of Tennessee
White, John — Univ. of Tennessee
Chiasson, John — Univ. of Tennessee
Birdwell, J. Douglas — Univ. of Tennessee
Abdallah, Chaouki T. — Univ. of New Mexico
Hayat, Majeed M. — Univ. of New Mexico

14:10-14:30
Speed Control for Switched Reluctance Motor Drive Powered by a Fuel Cell, pp. 2727-2732
Chen, Xiang — Univ. of Windsor
Salem, Meranda — Univ. of Windsor
Das, Tuhin — Emmeskay, Inc.
Gopalswamy, Swaminathan — Emmeskay, Inc.

14:30-14:50
New Complex Frame to Model and Control an Active Filter, pp. 2733-2738
Dewez, Claude — Univ. of Poitiers
Rambault, Laurent — E.S.I.P
Gaubert, Jean Paul — Univ. of Poitiers

14:50-15:10
An On-Line Method for Tracking the Rotor Time Constant of an Induction Machine, pp. 2739-2744
Wang, Kaiyu — Univ. of Tennessee
Chiasson, John — Univ. of Tennessee
Bodson, Marc — Univ. of Utah
Tolbert, Leon M. — Univ. of Tennessee

15:10-15:30
RBF NN Based Marine Diesel Engine Generator Modeling, pp. 2745-2749
Shi, Weifeng — Shanghai Maritime Univ.
Yang, Jianmin — Shanghai Maritime Univ.
Tang, Tianhao — Shanghai Maritime Univ.

ThB15 — Parlor A
Fault Diagnosis (Regular Session)
Chair: Schuster, Eugenio — Lehigh Univ.
Co-Chair: Li, Weihua — Univ. of Alberta

13:30-13:50
*Real-Time Implementation of a Neural Speed Filter for Induction Motors Operating under Normal and Faulty Conditions**
Harihara, Parasuram — Texas A&M Univ.
Parlos, Alexander G. — Texas A&M Univ.
Bharadwaj, Raj — Ge Crd

13:50-14:10
An Integrated Approach to Bearing Fault Diagnostics and Prognostics, pp. 2750-2755
Zhang, Xiaodong — Intelligent Automation, Inc.
Xu, Roger — Intelligent Automation, Inc.
Kwan, Chi Man — Intelligent Automation, Inc.
Liang, Steven Y. — Georgia Inst. of Tech.
Xie, Qiulin — Georgia Inst. of Tech.
Haynes, Leonard — Intelligent Automation, Inc.

14:10-14:30
Dynamic System Characterization of Enterprise Servers Via Nonparametric Identification, pp. 2756-2761
Schuster, Eugenio — Lehigh Univ.
Gross, Kenneth C. — SUN Microsystems Inc.

14:30-14:50
Fault Diagnosis of Discrete Time Linear Systems Using Transmission Zeros and Zero Directions, pp. 2762-2767
Pandey, Amit — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

14:50-15:10
Data-Driven Kalman Filters for Non-Uniformly Sampled Multirate Systems with Application to Fault Diagnosis, pp. 2768-2774
Li, Weihua — Univ. of Alberta
Shah, Sirish — Univ. of Alberta

15:10-15:30
Towards a New Fault Diagnosis System for Electric Machines Based on Dynamic Probabilistic Models, pp. 2775-2780
Flores-Quintanilla, José L. — ITESM San Luis Campus
Morales-Menéndez, Rubén — ITESM Monterrey Campus
Ramírez-Mendoza, Ricardo A. — ITESM Monterrey Campus
Garza-Castañón, Luis E — ITESM Monterrey Campus
Cantú-Ortiz, Francisco J — ITESM Monterrey Campus

ThB17 — Parlor B
Control of Hybrid Systems (Regular Session)
Co-Chair: Wang, Long — Peking Univ.

13:30-13:50
A Nonlinear Model Predictive Control Solution for a Hybrid Dynamic System: NASA Life Support System, pp. 2781-2786
Subramanian, Dharmashankar — Honeywell Lab.
Lamba, Nitin — Honeywell Lab.

13:50-14:10
Performance Analysis of Recoverable Flight Control Systems Using Hybrid Dynamical Models, pp. 2787-2792
Zhang, Hong — Old Dominion Univ.
Gray, W. Steven — Old Dominion Univ.
González, Oscar R. — Old Dominion Univ.

14:10-14:30
Optimal Control for Singularly Impulsive Dynamical Systems, pp. 2793-2798
Kablar, Nataša A. — Lola Inst.

14:30-14:50
Trajectory Tracking Control of Bimodal Piecewise Affine Systems, pp. 2799-2804
Sakurama, Kazunori — Univ. of Electro-Communications
Sugie, Toshiharu — Kyoto Univ.
Nakano, Kazushi — Univ. of Electro-Communications

14:50-15:10
Hybrid Output-Feedback Guaranteed Cost H∞ Robust Control for Linear Systems, pp. 2805-2810
Sun, Wenan — Northeastern Univ.
Zhao, Jun — Northeastern Univ.

15:10-15:30
On Controllability and Reachability of Switched Systems with Digraph-Directed Switchings, pp. 2811-2816
Xie, Guangming — Peking Univ.
Fu, Qi — Peking Univ.
Wang, Long — Peking Univ.

ThB18 — Parlor C
Computational Methods for Stability of Time-Delay Systems (Regular Session)
Chair: Gu, Keqin — Southern Illinois Univ. at Edwardsville
Co-Chair: Kalmar-Nagy, Tamas — United Tech. Res. Center

13:30-13:50
Stability Criteria for Linear Discrete-Time Systems with Interval-Like Time-Varying Delay, pp. 2817-2822
Jiang, Xiefu — Central Queensland Univ.
Han, Qing-Long — Central Queensland Univ.
Yu, Xinghuo — RMIT

13:50-14:10
A Novel Method for Efficient Numerical Stability Analysis of Delay-Differential Equations, pp. 2823-2826
Kalmár-Nagy, Tamás — United Tech. Res. Center

14:10-14:30
Stability of Linear Neutral Systems with Linear Fractional Norm-Bounded Uncertainty, pp. 2827-2832
Han, Qing-Long — Central Queensland Univ.

14:30-14:50
Delay-Dependent Robust Resilient Guaranteed Cost Control for Uncertain Singular Time-Delay Systems, pp. 2833-2838
Zhu, Shuqian — Shandong Univ.
Cheng, Zhaolin — Shandong Univ.

14:50-15:10
Delay-Dependent Robust Stability Criterion and Robust Stabilization for Uncertain Singular Time-Delay Systems, pp. 2839-2844
Zhu, Shuqian — Shandong Univ.
Cheng, Zhaolin — Shandong Univ.
Feng, June — Shandong Univ.

15:10-15:30

Constructing Lyapunov-Krasovskii Functionals for Linear Time Delay Systems, pp. 2845-2850

Papachristodoulou, Antonis — California Inst. of Tech.
Peet, Matthew — Stanford Univ.
Lall, Sanjay — Stanford Univ.

ThC01 — Grand Ballroom II

Robust Control Design (Regular Session)

Chair: Zachery, Randy A. — Army Res. Office
Co-Chair: Messner, William — Carnegie Mellon Univ.

15:45-16:05

Robust and Gain-Scheduled H_2 Synthesis of LFT Parameter-Dependent Systems, pp. 2851-2856

Wu, Fen — North Carolina State Univ.
Dong, Ke — North Carolina State Univ.

16:05-16:25

An Improved Non-Sequential MIMO QFT Design Method, pp. 2857-2862

Kerr, Murray — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

16:25-16:45

Robust Control of a Morphing Airfoil Structure, pp. 2863-2868

Whitmer, Christopher E. — Iowa State Univ.
Kelkar, Atul G. — Iowa State Univ.

16:45-17:05

Loop Shaping for Robust Performance Using Rbode Plot, pp. 2869-2874

Xia, Lu — Carnegie Mellon Univ.
Messner, William — Carnegie Mellon Univ.

17:05-17:25

A Generic Approach to the Design of Decentralized Linear Output-Feedback Controllers, pp. 2875-2882

Bavafa-Toosi, Yazdan — Keio Univ.
Ohmori, Hiromitsu — Keio Univ.
Labibi, Batool — K.N. Toosi Univ. of Tech.

17:25-17:45

Robust Motion Control for Nonholonomic Constrained Mechanical Systems: Sliding Mode Approach, pp. 2883-2888

Song, Zuoshi — Chinese Acad. of Sciences
Zhao, Dongbin — Chinese Acad. of Sciences
Yi, Jianqiang — Chinese Acad. of Sciences
Li, Xinchun — Chinese Acad. of Sciences

ThC02 — Senate

H Infinity Filtering and Control (Regular Session)

Chair: Ridgely, Brett — Raytheon Missile Systems
Co-Chair: Wang, Long — Peking Univ.

15:45-16:05

A New Fuzzy H∞Filter Design for a Class of Nonlinear Continuous-Time Dynamic Systems, pp. 2889-2894

Lun, shuxian — Northeastern Univ.
Zhang, Huaguang — Northeastern Univ.

16:05-16:25

Delay-Dependent Robust Stability and H∞ Control for Jump Linear Systems with Delays, pp. 2895-2900

Wu, Jing — Univ. of Alberta
Chen, Tongwen — Univ. of Alberta
Wang, Long — Peking Univ.

16:25-16:45
On the Design of a Reduced Order H∞ Filter for Systems with Unknown Delay, pp. 2901-2906
Alif, A. — Univ. Henri Poincare-Nancy I
Darouach, M. — Univ. Henri Poincare-Nancy I
Boutayeb, M. — Univ. of Louis Pasteur - Strasbourg

16:45-17:05
Improving the Rotational and Transient Performance of Magnetic Bearings by the H∞ DIA Control, pp. 2907-2912
Namerikawa, Toru — Nagaoka Univ. of Tech.
Seto, Hiroki — Nagaoka Univ. of Tech.

17:05-17:25
LMI-Based H∞; Fuzzy Equalizer Design for Discrete-Time Nonlinear Channels, pp. 2913-2918
Lin, Sheng-Yi — National Kaohsiung Univ. of Applied Sci.
Su, Te-Jen — National Kaohsiung Univ. of Applied Sci.
Jong, Gwo-Jia — National Kaohsiung Univ. of Applied Sci.

17:25-17:45
H∞ Fixed-Lag Smoothing for Descriptor Systems, pp. 2919-2924
Wang, Haoqian — Harbin Inst. of Tech.
Zhang, Huanshui — Harbin Inst. of Tech.
Duan, Guang-Ren — Harbin Inst. of Tech.

ThC03 — Galleria III
Networked Control Systems II (Invited Session)

Chair: Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign
Co-Chair: Tilbury, Dawn M. — Univ. of Michigan
Organizer: Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign
Organizer: Tilbury, Dawn M. — Univ. of Michigan

15:45-16:05
Time-Dependent Dynamics in Networked Sensing and Control (I), pp. 2925-2932
Hartman, Justin R. — Rockwell Automation
Branicky, Michael S. — Case Western Res. Univ.
Liberatore, Vincenzo — Case Western Res. Univ.

16:05-16:25
Stabilization of Networked Control Systems under Feedback-Based Communication (I), pp. 2933-2938
Zhang, Lei — Univ. of Maryland
Hristu-Varsakelis, D. — Univ. of Macedonia, Greece

16:25-16:45
Clustered-Architecture Motion Control System Utilizing IEEE 1394b Communication Network (I), pp. 2939-2945
Hosek, Martin — Brooks Automation

16:45-17:05
Wirelessly Networked Distributed Controllers for Real-Time Control of Civil Structures (I), pp. 2946-2952
Seth, Sangati — Univ. of Michigan
Lynch, Jerome P. — Univ. of Michigan
Tilbury, Dawn M. — Univ. of Michigan

17:05-17:25
Stability and Feedback Control of Wireless Networked Systems (I), pp. 2953-2959
Kawka, Paul A. — Univ. of Illinois at Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

17:25-17:45
Design and Application of an Engineering Model for Distributed Process Automation (I), pp. 2960-2965
Katzke, Uwe — Univ. of Wuppertal
Vogel-Heuser, Birgit — Univ. of Wuppertal

ThC04 — Broadway II

UAV Autonomy and Formation Control (Regular Session)

Chair: White, Brian A. — Cranfield Univ. Royal Mil. Coll. of Sci.
Co-Chair: Shima, Tal — Air Force Res. Lab.

15:45-16:05

Information Structures to Secure Control of Rigid Formations with Leader-Follower Architecture, pp. 2966-2971

Eren, Tolga — Columbia Univ.
Whiteley, Walter — York Univ.
Anderson, Brian D.O. — Australian National Univ.
Morse, A. Stephen — Yale Univ.
Belhumeur, Peter N. — Columbia Univ.

16:05-16:25

NLDI Guidance Control Laws for Close Formation Flight, pp. 2972-2977

Campa, Giampiero — West Virginia Univ.
Seanor, Brad — West Virginia Univ.
Gu, Yu — West Virginia Univ.
Napolitano, Marcello R. — West Virginia Univ.

16:25-16:45

Reactive Inflight Obstacle Avoidance Via Radar Feedback, pp. 2978-2982

Ariyur, Kartik B. — Honeywell Intl. Inc.
Lommel, Peter — Massachusetts Inst. of Tech.
Enns, Dale F. — Honeywell Lab.

16:45-17:05

Orthogonal Transformation Based Robust Adaptive Close Formation Control of Multi-UAVs, pp. 2983-2988

Song, Y.D. — North Carolina A&T State Univ.
Li, Yao — Univ. of Maryland
Liao, X.H. — North Carolina A&T State Univ.

17:05-17:25

UAV Cooperative Multiple Task Assignments Using Genetic Algorithms, pp. 2989-2994

Shima, Tal — Air Force Res. Lab.
Rasmussen, Steven J. — General Dynamics
Sparks, Andrew G. — Air Force Res. Lab.

17:25-17:45

Multiple UAV Search Using Agent Based Negotiation Scheme, pp. 2995-3000

Sujit, P.B. — Indian Inst. of Science
Ghose, D. — Indian Inst. of Science

ThC05 — Galleria I

Nonlinear Control Applications (Regular Session)

Chair: Singh, Leena — Charles Stark Draper Lab.
Co-Chair: Rabbath, Camille Alain — Defence R&D Canada

15:45-16:05

Nonlinear Torque Control of the Induction Motor in Hybrid Electric Vehicle Applications, pp. 3001-3006

Dilmi, Sabri — Teradyne, Inc.
Yurkovich, Stephen — Ohio State Univ.

16:05-16:25

A Combined First and Second Order Sliding Mode Approach for Position and Pressure Control of an Electropneumatic System, pp. 3007-3012

Smaoui, M. — INSA de Lyon
Brun, X. — INSA de Lyon
Thomasset, D. — INSA de Lyon

16:25-16:45
On the Control of Nonlinear Systems with Unknown Prandtl-Ishlinskii Hysteresis, pp. 3013-3018
Su, Chun-Yi — Concordia Univ.
Wang, Qingqing — Concordia Univ.
Chen, Xinkai — Shibaura Inst. of Tech.
Rakheja, Subhash — Concordia Univ.

16:45-17:05
Quasipassivity-Based Robust Nonlinear Control Synthesis for Flap Positioning Using Shape Memory Alloy Micro-Actuators, pp. 3019-3024
Léchevin, N. — Defence R&D Canada
Rabbath, C.A. — Defence R&D Canada

17:05-17:25
A Stability Property of Nonlinear Systems with Inputs Having Slowly Varying Average and Its Application to HIV Problem, pp. 3025-3029
Choi, Y.U. — Seoul National Univ.
Shim, H. — Seoul National Univ.
Seo, J.H. — Seoul National Univ.

17:25-17:45
Stabilization of a 3D Rigid Pendulum, pp. 3030-3035
Chaturvedi, Nalin A. — Univ. of Michigan
Bacconi, Fabio — Univ. di Firenze
Sanyal, Amit K. — Univ. of Michigan
Bernstein, Dennis — Univ. of Michigan
McClamroch, N. Harris — Univ. of Michigan

ThC06 — Broadway III
Mechatronics Applications (Regular Session)
Chair: Tsiotras, Panagiotis — Georgia Inst. of Tech.
Co-Chair: Fu, Li-Chen — National Taiwan Univ.

15:45-16:05
State-Periodic Adaptive Compensation of Cogging and Coulomb Friction in Permanent Magnet Linear Motors, pp. 3036-3041
Ahn, Hyo-Sung — Utah State Univ.
Chen, YangQuan — Utah State Univ.
Dou, Huifang — Utah State Univ.

16:05-16:25
A Novel Multi-DOF Precision Positioning Methodology Using Two-Axis Hall-Effect Sensors, pp. 3042-3047
Kawato, Yusuke — Texas A&M Univ.
Kim, Won-jong — Texas A&M Univ.

16:25-16:45
Use of Describing Functions for Predicting Low-Loss AMB Performance, pp. 3048-3053
Diemunsch, Kenneth — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

16:45-17:05
Control Design Implementation for Sawyer Motors Used in Manufacturing Systems, pp. 3054-3059
Krishnamurthy, P. — Pol. Univ.
Khorrami, F. — Pol. Univ.
Ng, T.L. — Pol. Univ.
Cherepinsky, I. — Sikorsky

17:05-17:25
Transparency of a Phantom Premium Haptic Interface for Active and Passive Human Interaction, pp. 3060-3065
McJunkin, Samuel T. — Rice Univ.
O'Malley, Marcia K. — Rice Univ.
Speich, John E, — Virginia Commonwealth Univ.

17:25-17:45

Integrated Design of a Planar Maglev System for Micro Positioning, pp. 3066-3071

Chen, Mei-Yung — National Taiwan Univ.
Tsai, Chia-Feng — National Taiwan Univ.
Huang, Hsuan-Han — National Taiwan Univ.
Fu, Li-Chen — National Taiwan Univ.

ThC07 — Forum

Control and Identification of Large Structural Systems (Invited Session)

Chair: Sain, Patrick M. — Raytheon Company
Co-Chair: Johnson, Erik A — Univ. of Southern California
Organizer: Christenson, Richard — Colorado School of Mines
Organizer: Barroso, Luciana — Texas A&M Univ.

15:45-16:05

*A Limit Cycle Approach for the Parametric Identification of a Hysteretic System (I)**

ikhouane, Fayçal — Univ. Pol. de Catalunya
Rodellar, Jose — Tech. Univ. of Catalonia

16:05-16:25

Reachability Analysis for N-Squared State Charts Over a Boolean Semiring Applied to a Hysteretic Discrete Event Structural Control Model (I), pp. 3072-3077

Sain, Patrick M. — Raytheon Company
Shang, Ying — Univ. of Notre Dame
Sain, Michael K. — Univ. of Notre Dame

16:25-16:45

The Third Generation Wind Structural Benchmark: A Nash Cumulant Robust Approach (I), pp. 3078-3083

Diersing, Ronald W. — Univ. of Notre Dame
Sain, Michael K. — Univ. of Notre Dame

16:45-17:05

Investigation of Dissipativity for Control of Smart Dampers Via LMI Synthesis (I), pp. 3084-3089

Johnson, Erik A — Univ. of Southern California
Erkus, Baris — Univ. of Southern California

17:05-17:25

*Development of a Smart System for the Phase I Base Isolation Benchmark Control Problem (I)**

Wang, Yumei — Washington Univ.
Dyke, Shirley J. — Washington Univ.

17:25-17:45

Statistical Control for Smart Base-Isolated Buildings Via Cost Cumulants and Output Feedback Paradigm (I), pp. 3090-3095

Pham, Khanh D. — Univ. of Notre Dame
Sain, Michael K. — Univ. of Notre Dame
Liberty, Stanley R. — Bradley Univ.

ThC08 — Directors

Batch Control (Invited Session)

Chair: Soroush, Masoud — Drexel Univ.
Co-Chair: Selekwa, Majura F. — FAMU - FSU
Organizer: Soroush, Masoud — Drexel Univ.
Organizer: El-Farra, Nael H. — Univ. of California at Davis

15:45-16:05

Multivariable Predictive Control of Thin Film Deposition Using a Stochastic PDE Model (I), pp. 3096-3101

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

16:05-16:25
Optimal Control of a High-Temperature Semi-Batch Solution Polymerization Reactor (I), pp. 3102-3107
Rantow, Felix S. — Drexel Univ.
Soroush, Masoud — Drexel Univ.
Grady, Michael C. — DuPont

16:25-16:45
Batch Control of Genetic Alterations for Optimal Metabolic Engineering (I), pp. 3108-3114
Gadkar, Kapil G. — Univ. of California at Santa Barbara
Mahadevan, Radhakrishnan — Genomatica Inc.
Doyle, Francis J. III — Univ. of California at Santa Barbara

16:45-17:05
Worst-Case and Distributional Robustness Analysis of the Full Molecular Weight Distribution During Free Radical Bulk Polymerization (I), pp. 3115-3120
Hukkanen, Eric J. — Mettler-Toledo Company
Braatz, Richard D. — Univ. of Illinois at Urbana-Champaign

17:05-17:25
End-Point Optimization of Single-Reaction Systems (I), pp. 3121-3126
Vemuri, Jyothy — Intel Corp.
Selekwa, Majura — FAMU - FSU
Palanki, Srinivas — Florida State Univ.

17:25-17:45
Validation of a Solution Model for the Optimization of a Binary Batch Distillation Column (I), pp. 3127-3132
Welz, C. — École Pol. Fédérale de Lausanne
Srinivasan, B. — École Pol. Fédérale de Lausanne
Marchetti, A. — École Pol. Fédérale de Lausanne
Bonvin, D. — École Pol. Fédérale de Lausanne
Ricker, N.L. — Univ. of Washington

ThC09 — Council
Model Reduction II (Regular Session)

Chair: Lawrence, Douglas A. — Ohio Univ.
Co-Chair: Nobakhti, Amin — The Univ. of Manchester

15:45-16:05
Order Reduction of n for Robust Adaptive Control Design of SISO Linear Systems, pp. 3133-3138
Zhao, Qingrong — Univ. of Cincinnati
Pan, Zigang — Univ. of Cincinnati

16:05-16:25
On Model Reduction Via Empirical Balanced Truncation, pp. 3139-3144
Lawrence, D. — Ohio Univ.
Myatt, James H. — AFRL/VACA
Camphouse, R. Chris — AFRL/VACA

16:25-16:45
Entropy of Spatiotemporal Data As a Dynamic Truncation Indicator for Model Reduction Applications, pp. 3145-3150
Bleris, Leonidas G. — Lehigh Univ.
Kothare, Mayuresh V. — Lehigh Univ.

16:45-17:05
Modeling and Control of Spherical Robot within the Framework of Lagrangian Model Reduction[†]
Tai, Meihua — Pol. Univ.

17:05-17:25
A Solution to the Reduced Structure Control Problem, pp. 3151-3156
Nobakhti, Amin — Univ. of Manchester

17:25-17:45
A Novel Feature Decomposition Method to Develop Multi-Hierarchy Model, pp. 3157-3161
Wang, Qing-Dong — Zhejiang Univ.
Dai, Hua-Ping — Zhejiang Univ.
Sun, Youxian — Zhejiang Univ.

ThC10 — Broadway IV
Direct Adaptive Control (Regular Session)
Chair: Macnab, Chris — Univ. of Calgary
Co-Chair: Keel, Lee H. — Tennessee State Univ.

15:45-16:05
Stability of Unfalsified Adaptive Control Using Multiple Controllers, pp. 3162-3167
Wang, R. — Univ. of Southern California
Safonov, M.G. — Univ. of Southern California

16:05-16:25
Adaptive Tracking Control of On-Line Path Planners: Velocity Fields and Navigation Functions, pp. 3168-3173
McIntyre, M.L. — Clemson Univ.
Dixon, W.E. — Univ. of Florida
Dawson, D.M. — Clemson Univ.
Xian, B. — Duke Univ.

16:25-16:45
Lyapunov-Stable Discrete-Time Model Reference Adaptive Control, pp. 3174-3179
Akhtar, Suhail — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

16:45-17:05
Lyapunov-Stable Adaptive Stabilization of Nonlinear Systems with Matched Uncertainty, pp. 3180-3185
Hoagg, Jesse B. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

17:05-17:25
Adaptive Output Feedback Design for Actuator Failure Compensation Using Dynamic Bounding: Output Tracking and an Application, pp. 3186-3191
Tang, Xidong — Univ. of Virginia
Tao, Gang — Univ. of Virginia
Joshi, Suresh M. — NASA Langley Res. Ctr.

17:25-17:45
Getting Weights to Behave Themselves: Achieving Stability and Performance in Neural-Adaptive Control When Inputs Oscillate, pp. 3192-3197
Macnab, J.B — Univ. of Calgary

ThC11 — Studio
Control for Disk Drives (Regular Session)
Chair: Pagilla, Prabhakar R. — Oklahoma State Univ.
Co-Chair: Gao, Zhiqiang — Cleveland State Univ.

15:45-16:05
Experimental Investigation of Disc Drive Seek Control When Subject to a Nonlinear Magnetic Bias, pp. 3198-3203
Ratliff, Ryan — Oklahoma State Univ.
Pagilla, Prabhakar — Oklahoma State Univ.

16:05-16:25
A Time-Optimal Unified Servo Control Method with a Two-Degree-Of-Freedom Structure for Hard Disk Drive, pp. 3204-3209
Hu, Shaohua — Harvard Univ.
Gao, Zhiqiang — Cleveland State Univ.

16:25-16:45
Multi-Rate Short-Seeking Control of Dual-Actuator Hard Disk Drives for Computation Saving, pp. 3210-3215
Yang, Li — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California at Berkeley/NSF

16:45-17:05
Spinstand Control Characterization of an Electromagnetic Slider Microactuator, pp. 3216-3222
Bedillion, Mark D. — Seagate Tech.
Karaman, Mahmut — Seagate Tech.
Chu, Patrick B. — Seagate Tech.

17:05-17:25
Discrete-Time Closed-Form Solution of Time-Optimal Seek Control for Hard Disk Drives, pp. 3223-3228
Shim, Wonbo — Seagate Tech.
Morris, John — Seagate Tech.

17:25-17:45
Nonuniform Multi-Rate Sampled-Data H∞Following Control of HDDs, pp. 3229-3234
Ohno, Keitaro — Fujitsu Lab. Limited
Hara, Shinji — Univ. of Tokyo

ThC12 — Executive
Adaptive Control of Rapidly Time-Varying Systems (Tutorial Session)

Co-Chair: Feiler, Matthias — Munich Tech. Univ.
Organizer: Narendra, Kumpati S. — Yale Univ.

15:45-16:05
*Introduction (I)**
Narendra, Kumpati S. — Yale Univ.

16:05-16:35
*Stability of Hybrid Systems (I)**
Shorten, Robert — National Univ. of Ireland, Maynooth

16:35-16:55
*Introduction to Multiple-Model Based Adaptive Control (I)**
Narendra, Kumpati S. — Yale Univ.

16:55-17:15
*Rapidly Time-Varying Plants (I)**
Feiler, Matthias — Munich Tech. Univ.
Narendra, Kumpati S. — Yale Univ.

17:15-17:35
*Applications (I)**
Narendra, Kumpati S. — Yale Univ.
Feiler, Matthias — Munich Tech. Univ.
Shorten, Robert — National Univ. of Ireland, Maynooth

17:35-17:45
*Conclusion (I)**
Narendra, Kumpati S. — Yale Univ.

ThC13 — Broadway I
Modeling and Control for Biological Systems (Invited Session)

Chair: Henson, Michael A. — Univ. of Massachusetts
Co-Chair: El-Farra, Nael H. — Univ. of California at Davis
Organizer: Parker, Robert S. — Univ. of Pittsburgh
Organizer: El-Farra, Nael H. — Univ. of California at Davis

15:45-16:05
Optimal Phase-Tracking of the Nonlinear Circadian Oscillator (I), pp. 3235-3240
Bagheri, Neda — Univ. of California at Santa Barbara
Stelling, Jörg — ETH, Zurich
Doyle, Francis J. III — Univ. of California at Santa Barbara

16:05-16:25
Image-Based Dynamic Modeling of Thermal Therapies Using Proper Orthogonal Decomposition of Magnetic Resonance Thermometry Images (I), pp. 3241-3246

Niu, Ran — Univ. of Utah
Skliar, Mikhail — Univ. of Utah

16:25-16:45
A Switched Systems Approach for the Analysis and Control of Mode Transitions in Biological Networks (I), pp. 3247-3252

El-Farra, Nael H. — Univ. of California at Davis
Gani, Adiwinata — Univ. of California at Los Angeles
Christofides, Panagiotis D. — Univ. of California at Los Angeles

16:45-17:05
Population Modeling for Ethanol Productivity Optimization in Fed-Batch Yeast Fermenters (I), pp. 3253-3258

Hjersted, Jared — Univ. of Massachusetts
Henson, Michael A. — Univ. of Massachusetts

17:05-17:25
Modeling and Predictive Control of a Rotating Disk Bioreactor (I), pp. 3259-3264

Kuure-Kinsey, Matthew — Rensselaer Pol. Inst.
Weber, Dale — Rensselaer Pol. Inst.
Bungay, Henry R. — Rensselaer Pol. Inst.
Plawsky, Joel L. — Rensselaer Pol. Inst.
Bequette, B. Wayne — Rensselaer Pol. Inst.

17:25-17:45
Maximum Likelihood Estimation of Multiple-Bond Kinetics from Single-Molecule Pulling Experiments (I), pp. 3265-3270

Hukkanen, E.J. — Mettler-Toledo Company
Wieland, J.A. — Univ. of Illinois at Urbana-Champaign
Leckband, D.E. — Univ. of Illinois at Urbana-Champaign
Braatz, R.D. — Univ. of Illinois at Urbana-Champaign

ThC14 — Galleria II

Automotive Powertrain Controls: Fundamentals and Frontiers (Tutorial Session)

Chair: Sun, Jing — Univ. of Michigan
Co-Chair: Buckland, Julia — Ford Motor Company
Organizer: Sun, Jing — Univ. of Michigan

15:45-16:45
Modeling and Control of Automotive Powertrain Systems: A Tutorial (I), pp. 3271-3283

Sun, Jing — Univ. of Michigan
Kolmanovsky, Ilya — Ford Motor Company
Cook, Jeffrey A. — Ford Motor Company
Buckland, Julia H. — Ford Motor Company

16:45-17:05
Challenges and Opportunities in Automotive Transmission Control (I), pp. 3284-3289

Sun, Zongxuan — General Motors Corp.
Hebbale, Kumar — General Motors Corp.

17:05-17:25
Automotive Emissions Control (I), pp. 3290-3295

Buckland, Julia H. — Ford Motor Company
Cook, Jeffrey A. — Ford Motor Company

17:25-17:45
Towards a Concurrent Engine System Design Methodology (I), pp. 3296-3302

Ohata, Akira — Toyota Motor Corp.
Butts, Kenneth R. — Toyota Tech. Center, USA

ThC15 — Parlor A

Fault Detection/Accomodation - Theory and Applications (Regular Session)

Chair: Ray, Asok — Penn State Univ.
Co-Chair: Saif, Mehrdad — Simon Fraser Univ.

15:45-16:05
Threshold Selection for Timely Fault Detection in Feedback Control Systems, pp. 3303-3308
Hsiao, Tesheng — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California at Berkeley/NSF

16:05-16:25
Online Detection of Fatigue Failure Via Symbolic Time Series Analysis, pp. 3309-3314
Gupta, Shalabh — Penn State Univ.
Ray, Asok — Penn State Univ.
Keller, Eric — Penn State Univ.

16:25-16:45
Adaptive Output Feedback Design for Actuator Failure Compensation Using Dynamic Bounding: Output Regulation, pp. 3315-3320
Tang, Xidong — Univ. of Virginia
Tao, Gang — Univ. of Virginia
Joshi, Suresh M. — NASA Langley Res. Ctr.

16:45-17:05
An Actuator Fault Isolation Strategy for Linear and Nonlinear Systems, pp. 3321-3326
Chen, Weitian — Simon Fraser Univ.
Saif, Mehrdad — Simon Fraser Univ.

17:05-17:25
Fault Diagnosis in Discrete-Event Systems: Incomplete Models and Learning, pp. 3327-3332
Yeung, David L. — Univ. of Waterloo
Kwong, Raymond H. — Univ. of Toronto

17:25-17:45
Fault Isolation for Nonlinear Hessenberg Systems, pp. 3333-3338
Verde, C. — Inst. de Ingenieria, UNAM

ThC16 — Grand Ballroom I

Cooperative Electronic Attack (Tutorial Session)

Chair: Mears, Mark J. — AFRL/VAC
Co-Chair: Lepanto, Janet A. — C.S. Draper Lab.
Organizer: Mears, Mark J. — AFRL/VAC

15:45-16:30
Cooperative Electronic Attack Using Unmanned Air Vehicles (I), pp. 3339-3347
Mears, Mark J. — AFRL/VAC

16:30-16:55
*Cooperative Jamming Tactics (I)**
Adams, Milton B. — C.S. Draper Lab.
Lepanto, Janet A. — C.S. Draper Lab.

16:55-17:20
*Cooperative Electronic Attack (I)**
Kenney, Don — Boeing Company

17:20-17:45
*Dynamic Non-Kinetic Electronic Attack Management (I)**
Huang, Chris (Chien Y.) — Northrop Grumman Corp.
Eadan, Eitan — Northrop Grumman Corp.

ThC17 — Parlor B

Control of Networks - Applications (Regular Session)

Co-Chair: Murray, Richard M. — California Inst. of Tech.

15:45-16:05

Decentralized Control Accross Bit-Limited Communication Channels: An Example, pp. 3348-3353

Shi, Ling — California Inst. of Tech.
Ko, Chih-Kai — California Inst. of Tech.
Jin, Zhipu — California Inst. of Tech.
Gayme, Dennice — California Inst. of Tech.
Gupta, Vijay — California Inst. of Tech.
Waydo, Stephen — California Inst. of Tech.
Murray, Richard M. — California Inst. of Tech.

16:05-16:25

Optimal Control with Unreliable Communication: The TCP Case, pp. 3354-3359

Sinopoli, Bruno — Univ. of California at Berkeley
Schenato, Luca — Univ. of Padova
Franceschetti, Massimo — Univ. of California at San Diego
Poolla, Kameshwar — Univ. of California at Berkeley
Sastry, Shankar S. — Univ. of California at Berkeley

16:25-16:45

Constructive Output Feedback AQM Design, pp. 3360-3365

Fan, Yi — Pol. Univ.
Jiang, Zhong-Ping — Pol. Univ.
Panwar, Shivendra — Pol. Univ.
Zhang, Hao — Pol. Univ.
Wu, Xingxing — Pol. Univ.

16:45-17:05

*AQM Controller Design Based on LMI Approach**

Lv, Hongqing — Beihang Univ.
Li, Tong — Beihang Univ.

17:05-17:25

Priority Scheduling in Switched Industrial Ethernet, pp. 3366-3370

Zhang, Qizhi — Shanghai Jiao Tong Univ.
Zhang, Weidong — Shanghai Jiao Tong Univ.

17:25-17:45

Medium Access Control with Packet Length Priority Towards a Real Time Ethernet, pp. 3371-3372

Yin, Rupo — Shanghai Jiao Tong Univ.
Cai, Yunze — Shanghai Jiao Tong Univ.
Zhang, Weidong — Shanghai Jiao Tong Univ.
Shen, Gang — Shanghai Jiao Tong Univ.

ThC18 — Parlor C

Constrained Control (Regular Session)

Chair: Teel, Andrew R. — Univ. of California at Santa Barbara
Co-Chair: Lin, Zongli — Univ. of Virginia

15:45-16:05

Positive μ-Modification for Stable Adaptation in Dynamic Inversion Based Adaptive Control with Input Saturation, pp. 3373-3378

Lavretsky, Eugene — The Boeing Company
Hovakimyan, Naira — Virginia Pol. Inst. and State Univ.

16:05-16:25

Guaranteed Reachable Domain and Control Design for a Cable Robot Subject to Input Constraints, pp. 3379-3384

Oh, So-Ryeok — Univ. of Delaware
Agrawal, Sunil K. — Univ. of Delaware

16:25-16:45
Output Feedback Stabilization of Linear Systems with Actuator Saturation, pp. 3385-3390
Wu, Fen — North Carolina State Univ.
Lin, Zongli — Univ. of Virginia
Zheng, Qian — North Carolina State Univ.

16:45-17:05
Nonlinear L_2 Gain and Regional Analysis for Linear Systems with Anti-Windup Compensation, pp. 3391-3396
Hu, Tingshu — Univ. of California at Santa Barbara
Teel, A.R. — Univ. of California at Santa Barbara
Zaccarian, Luca — Univ. di Roma, Tor Vergata

17:05-17:25
Regional Anti-Windup Compensation for Linear Systems with Input Saturation, pp. 3397-3402
Hu, Tingshu — Univ. of California at Santa Barbara
Teel, A.R. — Univ. of California at Santa Barbara
Zaccarian, Luca — Univ. di Roma, Tor Vergata

17:25-17:45
L∞ Performance Analysis of Feedback Systems with Saturation Nonlinearities: An Approach Based on Polytopic Representation, pp. 3403-3408
Wada, Nobutaka — Hiroshima Univ.
Oomoto, Tomonori — Hiroshima Univ.
Saeki, Masami — Hiroshima Univ.

FrPPL — Plenary Ballroom
Eckman Lecture: Control of Nonlinear Distributed Process Systems (Plenary Session)

08:15-09:15
*Control of Nonlinear Distributed Process Systems**
Christofides, Panagiotis D. — Univ. of California at Los Angeles

FrA01 — Grand Ballroom II
Robust Stability and Control (Regular Session)
Chair: Rodriguez, Armando A. — Arizona State Univ.
Co-Chair: Boulet, Benoit — McGill Univ.

09:30-09:50
An Improved Sufficient Condition for Robust L∞ Stability of Systems with Repeated Perturbations, pp. 3409-3414
Cadotte, Patrick — McGill Univ.
Michalska, Hannah — McGill Univ.
Boulet, Benoit — McGill Univ.

09:50-10:10
H∞ Mixed Sensitivity Minimization for Stable Infinite-Dimensional Plants Subject to Convex Constraints, pp. 3415-3420
Cifdaloz, Oguzhan — Arizona State Univ.
Rodriguez, Armando A. — Arizona State Univ.

10:10-10:30
Robust Stabilization of Non-Linear Sampled-Data Systems, pp. 3421-3426
Yu, Mei — Peking Univ.
Wang, Long — Peking Univ.
Chu, Tianguang — Peking Univ.

10:30-10:50
Generalized State Scaling-Based Robust Control of Nonlinear Systems and Applications to Triangular Systems, pp. 3427-3432
Krishnamurthy, P. — Pol. Univ.
Khorrami, F. — Pol. Univ.

10:50-11:10
Minimax Polynomial Optimization by Using Sum of Squares Relaxation and Its Application to Robust Stability Analysis of Parameter-Dependent Systems, pp. 3433-3434
Ichihara, Hiroyuki — Kyushu Inst. of Tech.
Nobuyama, Eitaku — Kyushu Inst. of Tech.

11:10-11:30
Robust Stabilization of Discrete-Time Systems with Time-Varying Delays, pp. 3435-3440
Yu, Mei — Peking Univ.
Wang, Long — Peking Univ.
Chu, Tianguang — Peking Univ.

FrA02 — Senate
Estimation and Filtering I (Regular Session)
Chair: Sheng, Jie — Univ. of New South Wales
Co-Chair: Basin, Michael V. — Autonomous Univ. of Nuevo Leon

09:30-09:50
Optimal State Estimation of the General Linear ODE with Multiplicative and Additive Wiener Noises, pp. 3441-3446
Zhang, Huichai — Univ. of Utah
Basin, Michael V. — Autonomous Univ. of Nuevo Leon
Skliar, Mikhail — Univ. of Utah

09:50-10:10
Partial-State Estimation Using an Adaptive Disturbance Rejection Algorithm, pp. 3447-3452
Bernstein, Dennis S. — Univ. of Michigan
Jaganath, Chandrasekar — Univ. of Michigan
Ridley, Aaron — Univ. of Michigan

10:10-10:30
New Gaussian Mixture State Estimation Schemes for Discrete Time Hybrid Gauss-Markov Systems, pp. 3453-3458
Elliott, R.J. — Univ. of Calgary
Dufour, F. — Univ. Bordeaux France
Malcolm, W.P. — The National ICT Australia

10:30-10:50
Optimal Filtering for Multirate Systems Based on Lifted Models, pp. 3459-3461
Sheng, Jie — Univ. of New South Wales

10:50-11:10
Kalman Filter for Continuous State-Space System with Continuous, Multirate, Randomly Sampled and Delayed Measurements, pp. 3462-3467
Zhang, Huichai — Univ. of Utah
Basin, Michael V. — Autonomous Univ. of Nuevo Leon
Skliar, Mikhail — Univ. of Utah

11:10-11:30
Spatially Localized Kalman Filtering for Data Assimilation, pp. 3468-3473
Barrero Mendoza, Oscar — Katholieke Univ. Leuven
Bernstein, Dennis S. — Univ. of Michigan
De Moor, B.L.R. — Katholieke Univ. Leuven

FrA03 — Galleria III
Autonomous Systems and Networks (Regular Session)
Chair: Tan, Xiaobo — Michigan State Univ.

09:30-09:50
Self-Organized Motion in a Class of Anisotropic Swarms: Convergence vs Oscillation, pp. 3474-3479
Chu, Tianguang — Peking Univ.
Wang, Long — Peking Univ.
Chen, Tongwen — Univ. of Alberta

09:50-10:10
Neural Network Control for TCP Network Congestion, pp. 3480-3485
Cho, Hyun C. — Univ. of Nevada, Reno
Fadali, M. Sami — Univ. of Nevada, Reno
Lee, Hyunjeong — Univ. of Nevada, Reno

10:10-10:30
A Hybrid Scheme for Distributed Control of Autonomous Swarms, pp. 3486-3491
Xi, Wei — Univ. of Maryland
Tan, Xiaobo — Michigan State Univ.
Baras, John S. — Univ. of Maryland

10:30-10:50
Efficient Computation of Fair Communication Equilibria in Generalized Coordination Games, pp. 3492-3493
Maskery, Michael — Univ. of British Columbia
Krishnamurthy, Vikram — Univ. of British Columbia

10:50-11:10
A New Protocol for the Development and Maintenance of Autonomous Mobile Sensor Networks, pp. 3494-3499
Dharne, Avinash Gopal — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

11:10-11:30
Cooperative Hybrid Control of Robotic Sensors for Perimeter Detection and Tracking, pp. 3500-3505
Clark, Justin — Oklahoma State Univ.
Fierro, Rafael — Oklahoma State Univ.

FrA04 — Broadway II
Unmanned Vehicles (Regular Session)

Chair: Balas, Gary J. — Univ. of Minnesota
Co-Chair: Shima, Tal — Air Force Res. Lab.

09:30-09:50
Deciding to Land a UAV Safely in Real Time, pp. 3506-3511
Sprinkle, Jonathan — Univ. of California at Berkeley
Eklund, J. Mikael — Univ. of California at Berkeley
Sastry, S. Shankar — Univ. of California at Berkeley

09:50-10:10
Estimating Radar Positions Using Cooperative Unmanned Air Vehicle Teams, pp. 3512-3517
Purvis, Keith B. — Univ. of California at Santa Barbara
Åström, Karl J. — Univ. of California at Santa Barbara
Khammash, Mustafa — Univ. of California at Santa Barbara

10:10-10:30
Flight Test of a Receding Horizon Controller for Autonomous UAV Guidance, pp. 3518-3523
Keviczky, Tamás — Univ. of Minnesota
Balas, Gary J. — Univ. of Minnesota

10:30-10:50
Convoy Protection Using Multiple Unmanned Aerial Vehicles: Organization and Coordination, pp. 3524-3529
Spry, Stephen C. — Univ. of California at Berkeley
Girard, Anouck R. — Columbia Univ.
Hedrick, Karl J. — Univ. of California at Berkeley

10:50-11:10
Forest Fire Monitoring Using Multiple Small UAVs, pp. 3530-3535
Casbeer, David W. — Brigham Young Univ.
Li, Sai-Ming — Scientific Systems Co. Inc.
Beard, Randal W. — Brigham Young Univ.
McLain, Timothy W. — Brigham Young Univ.
Mehra, Raman K. — Scientific Systems Co. Inc.

11:10-11:30
On the Time Complexity of Conflict-Free Vehicle Routing, pp. 3536-3541
Savchenko, Michael — Univ. of Illinois at Urbana-Champaign
Frazzoli, Emilio — Univ. of California at Los Angeles

FrA05 — Galleria I
Feedback Linearization Theory and Applications (Regular Session)
Chair: Serrani, Andrea — Ohio State Univ.

09:30-09:50
Dynamic Inversion for Nonaffine-In-Control Systems Via Time-Scale Separation: Part I, pp. 3542-3547
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.
Lavretsky, Eugene — The Boeing Company
Sasane, Amol J. — Virginia Pol. Inst. & State Univ.

09:50-10:10
Adaptive Dynamic Inversion for Nonaffine-In-Control Systems Via Time-Scale Separation: Part II, pp. 3548-3553
Lavretsky, Eugene — The Boeing Company
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.

10:10-10:30
Inverse Optimality and Performance in Forwarding, pp. 3554-3555
Krstic, Miroslav — Univ. of California at San Diego

10:30-10:50
Explicit Forwarding Controllers - Beyond Linearizable Class, pp. 3556-3561
Krstic, Miroslav — Univ. of California at San Diego

10:50-11:10
External Model-Based Disturbance Rejection in Tracking Control of Euler-Lagrange Systems, pp. 3562-3567
Zarikian, Garo — Ohio State Univ.
Serrani, Andrea — Ohio State Univ.

11:10-11:30
Feedback Linearization Based Arc Length Control for Gas Metal Arc Welding, pp. 3568-3573
Thomsen, Jesper S. — Aalborg Univ.

FrA06 — Broadway III
Micro-Motion Control of Mechanical Systems (Regular Session)
Chair: Leland, Robert — Univ. of Alabama
Co-Chair: Gokcek, Cevat — Michigan State Univ.

09:30-09:50
Vibration Control Via Pre-Loading, pp. 3574-3579
Dhanda, Abhishek — Stanford Univ.
Franklin, Gene — Stanford Univ.

09:50-10:10
Adaptive Resonance Tuning through Feedback, pp. 3580-3585
Jeltema, Jeffrey A. — Michigan State Univ.
Gökçek, Cevat — Michigan State Univ.

10:10-10:30
Adaptive Control of a MEMS Steering Mirror for Suppression of Laser Beam Jitter, pp. 3586-3591
Pérez Arancibia, Nestor O. — Univ. of California at Los Angeles
Chen, Neil — Univ. of California at Los Angeles
Gibson, J. Steven — Univ. of California at Los Angeles
Tsao, Tsu-chin — Univ. of California at Los Angeles

10:30-10:50
The Adaptive Control System of a MEMS Gyroscope with Time-Varying Rotation Rate, pp. 3592-3597
Dong, Lili — Univ. of Alabama
Leland, Robert P. — Univ. of Alabama

10:50-11:10
Real-Time Tuning of MEMS Gyro Dynamics, pp. 3598-3603
Kim, D.J. — Univ. of California at Los Angeles
M'Closkey, R.T. — Univ. of California at Los Angeles

11:10-11:30
Nanoscale Path Planning and Motion Control, pp. 3604-3609
Shakir, Huzefa — Texas A&M Univ.
Kim, Won-jong — Texas A&M Univ.

FrA07 — Forum
Observers I (Regular Session)

Chair: Xiao, MingQing — Southern Illinois Univ.
Co-Chair: Yaz, Edwin — Marquette Univ.

09:30-09:50
A Parametric Approach to Robust State and Parameter Estimation for a Certain Class of Nonlinear Systems, pp. 3610-3615
Rajaraman, Srinivasan — Texas A&M Univ.
Mannan, M. Sam — Texas A&M Univ.
Hahn, Juergen — Texas A&M Univ.

09:50-10:10
A Direct Construction of Nonlinear Discrete-Time Observer with Linearizable Error Dynamics, pp. 3616-3621
Xiao, Mingqing — Southern Illinois Univ.

10:10-10:30
Observers for Systems with Nonlinearities Satisfying an Incremental Quadratic Inequality, pp. 3622-3629
Açikmeşe, Ahmet Behçet — Jet Propulsion Lab.
Corless, Martin J. — Purdue Univ.

10:30-10:50
A SDRE-Based Asymptotic Observer for Nonlinear Discrete-Time Systems, pp. 3630-3635
Jaganath, Chandrasekar — Univ. of Michigan
Ridley, Aaron — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

10:50-11:10
Nonlinear Observer Design with General Criteria, pp. 3636-3640
Yaz, Edwin Engin — Marquette Univ.
Jeong, Chung Seop — Marquette Univ.
Bahakeem, Adil — Univ. of Arkansas
Yaz, Yvonne Ilke — MSOE

11:10-11:30
Observer Design for a Class of Stochastic Bilinear Systems with Multiplicative Noise, pp. 3641-3642
Souley Ali, H. — Cran
Rafaralahy, H. — Univ. Henri Poincaré, Nancy I
Zasadzinski, M. — Cran
Halabi, S. — Univ. Henri Poincare, Nancy I
Darouach, M. — Univ. Henri Poincare, Nancy I

FrA08 — Directors
Analysis and Control of Industrial Processes (Regular Session)

Chair: Hoo, Karlene — Texas Tech. Univ.
Co-Chair: Yang, Jiann-Shiou — Univ. of Minnesota

09:30-09:50
Fundamental Spatial Performance Limitation Analysis of Multiple Array Paper Machine Cross-Directional Processes, pp. 3643-3649
Fan, Junqiang — Honeywell Auto. & Control Sol.
Stewart, Greg E. — Honeywell Auto. & Control Sol.

09:50-10:10
Optimization-Based PI/PID Control for a Binary Distillation Column, pp. 3650-3655
Yang, Jiann-Shiou — Univ. of Minnesota

10:10-10:30
Investigating Chaos in an Industrial Fluid Catalytic Cracking Unit, pp. 3656-3658
Ramachandran, Rohit — National Univ. of Singapore
Samavedham, Lakshminarayanan — National Univ. of Singapore
Rangaiah, Gade Pandu — National Univ. of Singapore

10:30-10:50
On-Line Application Oriented Scheduling for Fed-Batch Antibiotic Fermentation, pp. 3659-3664
Xue, Y.F. — Shanghai Jiao Tong Univ.
Yuan, J.Q. — Shanghai Jiao Tong Univ.

10:50-11:10
A Study of Thermal Comfort Control Using Least Enthalpy Estimator on HVAC System, pp. 3665-3670
Chu, Chi-Min — National Tsing Hua Univ.
Jong, Tai-Lang — National Tsing Hua Univ.
Huang, Yue-Wei — National Chang-hwa Univ. of Education

11:10-11:30
*Intelligent Fault Tolerant Control and Diagnostics in Industrial Processes Using Wavelet Neural Networks**
Ghasemi Afshar, Puya — Tarbiat Modarres Univ.
Johari Majd, Vahid — Tarbiat Modarres Univ.

FrA09 — Council

Visual Servos (Regular Session)

Co-Chair: Oh, Paul — Drexel Univ.

09:30-09:50
Range Identification for Perspective Dynamic Systems with 3D Imaging Surfaces, pp. 3671-3675
Ma, Lili — Utah State Univ.
Chen, YangQuan — Utah State Univ.
Moore, Kevin L. — Johns Hopkins Univ. Applied Physics Lab.

09:50-10:10
Feedforward-Output Tracking Regulation Control for Human-In-The-Loop Camera Systems, pp. 3676-3681
Stanciu, Rares — Drexel Univ.
Oh, Paul Y. — Drexel Univ.

10:10-10:30
Navigation Function Based Visual Servo Control, pp. 3682-3687
Chen, J. — Clemson Univ.
Dawson, D.M. — Clemson Univ.
Dixon, W.E. — Univ. of Florida
Chitrakaran, V.K. — Clemson Univ.

10:30-10:50
A New Fuzzy Visual Servoing with Application to Robot Manipulator, pp. 3688-3693
Moreno-Armendariz, Marco A. — Univ. La Salle
Yu, Wen — CINVESTAV-IPN

10:50-11:10
An Adaptive Neural Network Controller for Visual Tracking of Constrained Robot Manipulators, pp. 3694-3700
García-Rodríguez, R. — Cinvestav
Dean-León, E. — Cinvestav
Parra-Vega, V. — Cinvestav
Ruíz-Sánchez, F. — Cinvestav

11:10-11:30
Passivity-Based Dynamic Visual Feedback Control with Uncertainty of Camera Coordinate Frame, pp. 3701-3706
Kawai, Hiroyuki — Hosei Univ.
Murao, Toshiyuki — Kanazawa Univ.
Fujita, Masayuki — Kanazawa Univ.

FrA10 — Broadway IV
Robust Adaptive Control (Regular Session)
Chair: Sasiadek, Jurek Z — Carleton Univ.

09:30-09:50
Asymptotic Adaptive Regulation of Parametric Strict-Feedback Systems with Additive Disturbance, pp. 3707-3712
Cai, Z. — Louisiana State Univ.
de Queiroz, M.S. — Louisiana State Univ.
Dawson, D.M. — Clemson Univ.

09:50-10:10
Adaptive Output-Feedback for Nonlinear Systems with No a Priori Bounds on Parameters, pp. 3713-3718
Krishnamurthy, P. — Pol. Univ.
Khorrami, F. — Pol. Univ.

10:10-10:30
Adaptive Controller Design and Disturbance Attenuation for SISO Linear Systems with Zero Relative Degree under Noisy Output Measurements, pp. 3719-3724
Zeng, Sheng — Univ. of Cincinnati
Chen, Yu — Univ. of Cincinnati
Pan, Zigang — Univ. of Cincinnati

10:30-10:50
Robust Adaptive Control for a Class of Nonlinear Systems with Uncertainties and Input Constraints, pp. 3725-3730
Madani, Kaveh Moezzi — Amir Kabir Univ. of Tech.
Eslami, Mansour — Univ. of Illinois at Chicago

10:50-11:10
Robust Direct Adaptive Control of Nonlinear Uncertain Systems with Unknown Disturbances, pp. 3731-3736
Fu, Simon Hsu-Sheng — National Sun Yat-Sen Univ.
Cheng, Chi-Cheng — National Sun Yat-Sen Univ.

11:10-11:30
State and Configuration Feedback for Almost Global Tracking of Simple Mechanical Systems on a General Class of Lie Groups, pp. 3737-3742
Maithripala, D. H. S. — Texas Tech. Univ.
Berg, J.M. — Texas Tech. Univ.
Dayawansa, W.P. — Texas Tech. Univ.

FrA11 — Studio
Control and Pointing Challenges of Antennas and Telescopes (Tutorial Session)
Chair: Gawronski, Wodek — California Inst. of Tech.
Co-Chair: Erm, Toomas — California Inst. of Tech.
Organizer: Gawronski, Wodek — California Inst. of Tech.

09:30-10:05
Telescopes As Mechatronic Systems (I), pp. 3743-3757
Kärcher, Hans Jürgen. — MAN Tech. AG

10:05-10:40
Control and Pointing Challenges of Antennas and (Radio)Telescopes (I), pp. 3758-3769
Gawronski, Wodek — California Inst. of Tech.

10:40-10:55
Fast Switching Modes at the 12m ALMA Telescope (I), pp. 3770-3772
Willmeroth, Klaus — Vertex Antennentechnik GmbH
Mutzberg, Uwe — Vertex Antennentechnik GmbH

10:55-11:10
Developing Improved Servos for the Multiple Mirror Telescope (I), pp. 3773-3775
Clark, Dusty — Univ. of Arizona

11:10-11:30
Adaptive Correction of Periodic Errors Improves Telescope Performance (I), pp. 3776-3777
Erm, Toomas — California Inst. of Tech.
Sandrock, Stefan — European Southern Observatory

FrA12 — Executive
Stability of Switched Systems (Regular Session)

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

09:30-09:50
On the Stabilizability of Two-Dimensional Linear Systems Via Switched Output Feedback, pp. 3778-3783
Santarelli, Keith R. — Massachusetts Inst. of Tech.
Megretski, Alexandre — Massachusetts Inst. of Tech.
Dahleh, Munther — Massachusetts Inst. of Tech.

09:50-10:10
New Results on Practical Stabilization and Practical Reachability of Switched Systems, pp. 3784-3789
Xu, Xuping — Penn State Univ. at Erie
Zhai, Guisheng — Osaka Prefecture Univ.

10:10-10:30
Practical Attractivity and Practical Asymptotic Stabilizability of a Class of Switched Systems, pp. 3790-3791
Xu, Xuping — Penn State Univ. at Erie

10:30-10:50
Output Feedback Control of Switched Nonlinear Systems Using Multiple Lyapunov Functions, pp. 3792-3799
El-Farra, Nael H. — Univ. of California at Davis
Mhaskar, Prashant — Univ. of California at Los Angeles
Christofides, Panagiotis D. — Univ. of California at Los Angeles

10:50-11:10
Analysis of Switched Normal Discrete-Time Systems, pp. 3800-3805
Zhai, Guisheng — Osaka Prefecture Univ.
Lin, Hai — Univ. of Notre Dame
Xu, Xuping — Penn State Univ. at Erie
Imae, Joe — Osaka Prefecture Univ.
Kobayashi, Tomoaki — Osaka Prefecture Univ.

11:10-11:30
Stability and Stabilizability of Discrete-Time Switched Linear Systems with State Delay, pp. 3806-3811
Montagner, Vinícius F. — Univ. of Campinas
Leite, Valter J. S. — CEFET/MG - UnED Div.
Tarbouriech, Sophie — LAAS-CNRS
Peres, Pedro L. D. — Univ. of Campinas

FrA13 — Broadway I

Control Applications in Ventricular Assist Device Development (Interactive Session)

Chair: Simaan, Marwan A. — Univ. of Pittsburgh
Co-Chair: Yu, Yih-Choung — Lafayette Coll.
Organizer: Simaan, Marwan A. — Univ. of Pittsburgh
Organizer: Yu, Yih-Choung — Lafayette Coll.

09:30-09:50

Minimally Invasive Estimation of Cardiac Function for Patients with Rotary VAD Support (I), pp. 3812-3816
Yu, Yih-Choung — Lafayette Coll.
Weerakoon, Pujitha — Yale Univ.

09:50-10:10

Fluidic Operational Amplifier for Mock Circulatory Systems - Simulation and Experimental Results (I), pp. 3817-3822
Gwak, Kwan-woong — LaunchPoint Tech.
Noh, Myounggyu D. — Chungnam National Univ.
Paden, Brad E. — Univ. of California at Santa Barbara
Antaki, James F. — Carnegie Mellon Univ.

10:10-10:30

Achieving Physiologic Perfusion with Ventricular Assist Devices: Comparison of Control Strategies (I), pp. 3823-3828
Giridharan, Guruprasad — Univ. of Utah
Pantalos, George — Univ. of Louisville
Koenig, Steven — Univ. of Louisville
Gillars, Kevin — Univ. of Louisville
Skliar, Mikhail — Univ. of Utah

10:30-10:50

Physiological Control of Left Ventricular Assist Devices Based on Gradient of Flow (I), pp. 3829-3834
Chen, Shaohui — Univ. of Pittsburgh
Antaki, James F. — Carnegie-Mellon Univ.
Simaan, Marwan A. — Univ. of Pittsburgh
Boston, J.Robert — Univ. of Pittsburgh

10:50-11:10

Model-Based Prediction of a Percutaneous Ventricular Assist Device Performance (I), pp. 3835-3840
Yu, Yih-Choung — Lafayette Coll.
Simaan, Marwan A. — Univ. of Pittsburgh
Zorn, Nicholas V. — MIT Lincoln Lab.
Mushi, Simon E. — Lafayette Coll.

11:10-11:30

Modeling, Estimation and Control of Cardiovascular Systems with a Left Ventricular Assist Device (I), pp. 3841-3846
Wu, Yi — Penn State Univ. at Erie
Allaire, Paul — Univ. of Virginia
Tao, Gang — Univ. of Virginia
Olsen, Don — Utah Artificial Heart Inst.

FrA14 — Galleria II

Modeling and Control of Advanced Automotive Propulsion Systems (Invited Session)

Chair: Brennan, Sean — Penn State Univ.
Co-Chair: Fischbach, P.E., Kevin — Visteon Corp.
Organizer: Buckland, Julia — Ford Motor Company
Organizer: Brennan, Sean — Penn State Univ.

09:30-09:50

Control of Thermal Ignition in Gasoline Engines (I), pp. 3847-3852
Chiang, C.J. — Univ. of Michigan
Stefanopoulou, Anna — Univ. of Michigan

09:50-10:10
Analysis of Non-Minimum Phase Behavior of PEM Fuel Cell Membrane Humidification System (I), pp. 3853-3858
Chen, Dongmei — Univ. of Michigan
Peng, Huei — Univ. of Michigan

10:10-10:30
Testing, Modeling, and Control of a Fuel Cell Hybrid Vehicle (I), pp. 3859-3864
Kim, Min Joong — Univ. of Michigan
Peng, Huei — Univ. of Michigan
Stamos, Euthie — DaimlerChrysler Corp.
Lin, Chan-Chiao — DaimlerChrysler Corp.
Tran, Doanh — DaimlerChrysler Corp.

10:30-10:50
Constraint Management in Fuel Cells: A Fast Reference Governor Approach (I), pp. 3865-3870
Vahidi, Ardalan — Univ. of Michigan
Kolmanovsky, Ilya — Ford Motor Company
Stefanopoulou, Anna — Univ. of Michigan

10:50-11:10
Decoupled Control of Combustion Timing and Work Output in Residual-Affected HCCI Engines (I), pp. 3871-3876
Shaver, Gregory M. — Stanford Univ.
Roelle, Matthew — Stanford Univ.
Gerdes, J. Christian — Stanford Univ.

11:10-11:30
Supervisory Control for NOx Reduction of an HEV with a Mixed-Mode HCCI/CIDI Engine (I), pp. 3877-3881
Musardo, Cristian — Pol. di Milano
Staccia, Benedetto — Pol. di Milano
Midlam-Mohler, Shawn — Ohio State Univ.
Guezennec, Yann — Ohio State Univ.
Rizzoni, Giorgio — Ohio State Univ.

FrA15 — Parlor A
Distributed Parameter Systems (Regular Session)

Chair: Demetriou, Michael A. — Worcester Pol. Inst.
Co-Chair: Polis, Michael P. — Oakland Univ.

09:30-09:50
Thermal Convection Loop Control by Continuous Backstepping and Singular Perturbations, pp. 3882-3887
Vazquez, Rafael — Univ. of California at San Diego
Krstic, Miroslav — Univ. of California at San Diego

09:50-10:10
Boundary Heat Flux Estimation in Quasi-Static Thermoelastic Systems, pp. 3888-3893
Sivergina, Irina — Kettering Univ.
Polis, Michael P. — Oakland Univ.
Kolmanovsky, Ilya — Ford Motor Company

10:10-10:30
Design of Worst Spatial Distribution of Disturbances for a Class of Parabolic Partial Differential Equations, pp. 3894-3899
Demetriou, Michael A. — Worcester Pol. Inst.
Borggaard, Jeff — Virginia Pol. Inst. & State Univ.

10:30-10:50
Optimal Control of a Class of One-Dimensional Nonlinear Distributed Parameter Systems with Discrete Actuators, pp. 3900-3905
Padhi, R. — Indian Inst. of Science
Balakrishnan, S.N. — Univ. of Missouri at Rolla

10:50-11:10
Computation and Control of Solutions to the Burgers Equation Using Viability Theory, pp. 3906-3911
Aubin, Jean-pierre — Univ. Paris Dauphine
Bayen, Alexandre M. — Univ. of California at Berkeley
Saint-Pierre, Patrick — Univ. Paris Dauphine

11:10-11:30
Finite Horizon Optimal Control of Switched Distributed Parameter Systems with Moving Actuators, pp. 3912-3917
Demetriou, Michael A. — Worcester Pol. Inst.
Iftime, Orest V. — TU Delft

FrA16 — Grand Ballroom I
Adaptive Flight Control (Tutorial Session)

Chair: Wise, Kevin A. — Boeing Phantom Works
Organizer: Wise, Kevin A. — Boeing Phantom Works

09:30-10:30
*Adaptive Flight Control for Manned / Unmanned Military Aircraft (I)**
Lavretsky, Eugene — The Boeing Company
Wise, Kevin A. — Boeing Phantom Works

10:30-10:50
*Adaptive Flight Control for Unmanned Air Vehicles (I)**
Wise, Kevin A. — Boeing Phantom Works

10:50-11:30
Missile Autopilot Design Using Adaptive Nonlinear Dynamic Inversion (I), pp. 3918-3919
Hindman, Rick — Raytheon Missile Systems
Shell, William M. — Raytheon Missile Systems

10:50-11:30
*To Be Determined (I)**
Ward, David G. — Barron Associates, Inc.

FrA17 — Parlor B
Discrete Event Systems (Regular Session)

Chair: Wenck, Florian — Tech. Univ. Hamburg-Harburg
Co-Chair: Kumar, Ratnesh — Iowa State Univ.

09:30-09:50
A Structural Approach to the Enforcement of Language and Disjunctive Constraints, pp. 3920-3925
Iordache, Marian V. — LeTourneau Univ.
Antsaklis, Panos J. — Univ. of Notre Dame

09:50-10:10
Deadlock Avoidance Algorithm for Flexible Manufacturing Systems by Calculating Effective Free Space of Circuits, pp. 3926-3931
Zhang, Wenle — Ohio Univ.
Judd, Robert P. — Ohio Univ.

10:10-10:30
Stability of Deterministic Finite State Machines, pp. 3932-3936
Tarraf, Danielle C. — Massachusetts Inst. of Tech.
Dahleh, Munther — Massachusetts Inst. of Tech.
Megretski, Alexandre — Massachusetts Inst. of Tech.

10:30-10:50
Small Model Theorem for Bisimilarity Control under Partial Observation, pp. 3937-3942
Zhou, Changyan — Iowa State Univ.
Kumar, R. — Iowa State Univ.

10:50-11:10
Prioritized Synchronization under Mask for Interaction/Control of Partially Observed Discrete Event Systems, pp. 3943-3948
Zhou, Changyan — Iowa state Univ.
Kumar, R. — Iowa State Univ.

11:10-11:30
Conservation of Normality for Master-Slave and Strict Discrete-Event System Composition, pp. 3949-3954
Wenck, Florian — Tech. Univ. Hamburg-Harburg
Richter, Jan H. — Ruhr-Univ. Bochum

FrA18 — Parlor C
Control of Wireless Communications Networks (Regular Session)

Chair: Borrello, Michael A. — Trex Enterprises
Co-Chair: Buche, Robert — North Carolina State Univ.

09:30-09:50
Power Control in Lognormal Fading Wireless Channels with Uptime Probability Specifications Via Robust Geometric Programming, pp. 3955-3959
Hsiung, Kan-Lin — Stanford Univ.
Kim, Seung-Jean — Stanford Univ.
Boyd, Stephen — Stanford Univ.

09:50-10:10
New Economic Perspectives for Resource Allocation in Wireless Networks, pp. 3960-3965
Fattahi, Ahmad Reza — Univ. of California at Los Angeles
Paganini, Fernando — Univ. of California at Los Angeles

10:10-10:30
Stochastic Approximation for Adapting Weighted Least-Squares Algorithms: Applications in Wireless Adaptive Antenna Arrays with Time-Varying Channels and Periodically Blind Signaling, pp. 3966-3971
Buche, Robert T. — North Carolina State Univ.

10:30-10:50
Heavy Traffic Control Policies for Wireless Systems with Time-Varying Channels, pp. 3972-3974
Buche, Robert T. — North Carolina State Univ.
Lin, Chuan — North Carolina State Univ.

10:50-11:10
A Multi Stage Pointing Acquisition and Tracking (PAT) Control System Approach for Air to Air Laser Communications, pp. 3975-3980
Borrello, Mike — Trex Enterprises

11:10-11:30
Intelligent Call Admission Control Using Fuzzy Logic in Wireless Networks, pp. 3981-3985
Ma, Yufeng — Huazhong Univ. of Sci. & Tech.
Hu, Xiulin — Huazhong Univ. of Sci. & Tech.
Zhang, Yunyu — Huazhong Univ. of Sci. & Tech.
Shi, Yimei — Shanghai PRC

FrB01 — Grand Ballroom II
Robust Control (Regular Session)

Co-Chair: Ranjan, Priya — Inst. For Systems Res.

13:30-13:50
Robust Parallel Design of the Subsystems Constituting a Complex System, pp. 3986-3993
Mahmoud, Haitham A. — Univ. of Michigan
Kabamba, Pierre T. — Univ. of Michigan
Ulsoy, A. Galip — Univ. of Michigan
Brusher, Gerald A. — Ford Motor Company

13:50-14:10
Robust Parametric Predictive Control Design for Polytopically Uncertain Systems, pp. 3994-3999
Manthanwar, Amit M. — Imperial Coll. London
Sakizlis, V. — Imperial Coll. London
Pistikopoulos, E.N. — Imperial Coll. London

14:10-14:30
Robustness Margin Maximization for Inaccurate Controller Implementation, pp. 4000-4005
Kobayashi, Yasuhide — Nagaoka Univ. of Tech.
Asai, Toru — Osaka Univ.

14:30-14:50
On Coprime Factorization for Linear System with Finite Discrete Jumps, pp. 4006-4009
Yang, Xiao-jun — Shanghai Jiao Tong Univ.
Weng, Zheng-xin — Shanghai Jiao Tong Univ.
Tian, Zuo-hua — Shanghai Jiao Tong Univ.

14:50-15:10
H∞ Measurement Feedback Control for Time Delay Systems Via Krein Space, pp. 4010-4015
Liu, Mei — Harbin Inst. of Tech.
Zhang, Huanshui — Harbin Inst. of Tech.
Duan, Guangren — Harbin Inst. of Tech.

15:10-15:30
A Robust Adaptive Nonlinear Control Approach to Ship Straight-Path Tracking Design, pp. 4016-4021
Li, Tieshan — Dalian Maritime Univ.
Yang, Yansheng — Dalian Maritime Univ.
Hong, Biguang — Dalian Maritime Univ.
Ren, Junshen — Dalian Maritime Univ.
Du, Jiali — Dalian Maritime Univ.

FrB02 — Senate
Estimation and Filtering II (Regular Session)

Chair: Skliar, Mikhail — Univ. of Utah
Co-Chair: Julier, Simon J. — None

13:30-13:50
Optimal Filtering for Partially Measured Polynomial System States, pp. 4022-4027
Basin, Michael — Autonomous Univ. of Nuevo Leon
Skliar, Mikhail — Univ. of Utah

13:50-14:10
Fusion of Time Delayed Measurements with Uncertain Time Delays, pp. 4028-4033
Julier, Simon J. — ITT AES / NRL
Uhlmann, Jeffrey K. — Univ. of Missouri at Columbia

14:10-14:30
Unbiased Minimum Variance Estimator Design for Scalar Quadratic Maps, pp. 4034-4038
Zhai, Tongyan — Marquette Univ.
Yaz, Edwin E. — Marquette Univ.
Ruan, Huawei — Marquette Univ.

14:30-14:50
Optimal Filtering for Linear Systems with State and Observation Delays, pp. 4039-4044
Basin, Michael — Autonomous Univ. of Nuevo Leon
Alcorta-Garcia, M. Aracelia — Autonomous Univ. of Nuevo Leon
Rodriguez Gonzalez, Jesus — Autonomous Univ. of Nuevo Leon

14:50-15:10
A Deterministic Approach for General Discrete-Time Kalman Filter for Singular Systems, pp. 4045-4050
Bianco, Aline F. — Univ. of Sao Paulo at Sao Carlos
Ishihara, João Y. — Univ. of Brasília
Terra, Marco H. — Univ. of Sao Paulo at Sao Carlos

15:10-15:30
Unscented Kalman Filtering for Additive Noise Case: Augmented vs. Non-Augmented, pp. 4051-4055
Wu, Yuanxin — Naitonal Univ. of Defense Tech.
Hu, Dewen — National Univ. of Defense Tech.
Wu, Meiping — National Univ. of Defense Tech.
Hu, Xiaoping — National Univ. of Defense Tech.

FrB03 — Galleria III
Sliding Mode Control I (Theory) (Regular Session)

Chair: Akar, Mehmet — Univ. of Southern California
Co-Chair: Fu, Li-Chen — National Taiwan Univ.

13:30-13:50
Robust Tracking for a Class of Nonlinear Systems Using Multiple Models and Switching, pp. 4056-4061
Akar, Mehmet — Hamilton Inst. NUI

13:50-14:10
On the Output Regulation for TS Fuzzy Models Using Sliding Modes, pp. 4062-4067
Meda-Campańa, J.A. — CINVESTAV-IPN Unidad Guadalajara
Castillo-Toledo, B. — CINVESTAV-GDL, Mexico

14:10-14:30
Delay-Independent Sliding Mode Control of Nonlinear Time-Delay Systems, pp. 4068-4073
Hong, F. — National Univ. of Singapore
Ge, S. — National Univ. of Singapore
Lee, T.H. — National Univ. of Singapore

14:30-14:50
*Chattering Reduction for Sliding Mode Control by Second-Order Design**
Chen, Min-Shin — National Taiwan Univ.
Chen, Chia-Hong — National Taiwan Univ.

14:50-15:10
Robust Sliding Mode Control Based on Integral Switching Surfaces, pp. 4074-4077
Zhang, Xiaoyu — Zhejiang Univ.
Su, Hongye — Zhejiang Univ.
Xiao, Lingfei — Zhejiang Univ.
Chu, Jian — Zhejiang Univ.

15:10-15:30
Robust Sliding Mode Output Feedback Control Design Using ILMI Approach, pp. 4078-4083
Xiang, Ji — Zhejiang Univ. Yuquan Campus
Su, Hongye — Zhejiang Univ.
Chu, Jian — Zhejiang Univ.

FrB04 — Broadway II
UAV's: Control, Estimation and Applications (Invited Session)

Organizer: Iyer, Ram Venkataraman — Texas Tech. Univ.
Organizer: Chandler, Phillip R. — USAF
Organizer: Orr, Matthew — Air Force Res. Lab.

13:30-13:50
Time-Dependent Cooperative Assignment (I), pp. 4084-4089
Kingston, Derek B. — Brigham Young Univ.
Schumacher, Corey J. — Air Force Res. Lab.

13:50-14:10
Optimum Cooperative UAV Sensing Based on Cramer-Rao Bound (I), pp. 4090-4095
Gu, G. — Louisiana State Univ.
Chandler, P.R. — USAF
Schumacher, C.J. — Air Force Res. Lab.
Sparks, A. — Air Force Res. Lab.
Pachter, M. — AFIT/ENG

14:10-14:30
Framework for Developing and Evaluating MAV Control Algorithms in a Realistic Urban Setting (I), pp. 4096-4101
Orr, Matthew W. — Air Force Res. Lab.
Rasmussen, Steven J. — General Dynamics
Karni, Etan D. — Purdue Univ.
Blake, William B. — Air Force Res. Lab.

14:30-14:50
Radar Deception through Phantom Track Generation (I), pp. 4102-4106
Maithripala, D.H.A. — Texas A&M Univ.
Jayasuriya, Suhada — Texas A&M Univ.

14:50-15:10
UAV Team Decision and Control Using Efficient Collaborative Estimation (I), pp. 4107-4112
Shima, Tal — Air Force Res. Lab.
Rasmussen, Steven J. — General Dynamics
Chandler, Phillip — USAF

15:10-15:30
A New Method for the Computation of Motion from Image Sequences (I), pp. 4113-4118
Iyer, Ram — Texas Tech. Univ.
Holsapple, Raymond — Texas Tech. Univ.
Chandler, Phillip — USAF

FrB05 — Galleria I
Stability of Nonlinear Systems II (Regular Session)

Chair: Pinsky, Mark A. — Univ. of Nevada-Reno
Co-Chair: Michel, Anthony N. — Univ. of Notre Dame

13:30-13:50
Exponential Stability of Discontinuous Dynamical Systems Determined by Differential Equatios in Banach Space, pp. 4119-4124
Michel, Anthony N. — Univ. of Notre Dame
Sun, Ye — Credit Suisse First Boston

13:50-14:10
A New Appproach to the Lur'e Problem for Non-Autonomous Systems with Arbitrary Delay, pp. 4125-4130
Zevin, Alexandr A. — Acad. of Sciences of Ukraine
Pinsky, Mark A. — Univ. of Nevada-Reno

14:10-14:30
Explicit Solutions to State-Dependent Scaling Problems for Interconnected iISS and ISS Nonlinear Systems, pp. 4131-4136
Ito, Hiroshi — Kyushu Inst. of Tech.

14:30-14:50
A Parametrization of Supply Rates for Small-Gain Conditions for Global Stability of Interconnected iISS and ISS Systems, pp. 4137-4142
Ito, Hiroshi — Kyushu Inst. of Tech.

14:50-15:10
Adaptive Schemes for Stable Teleoperation with Communication Delay Based on IOS Small Gain Theorem, pp. 4143-4148
Polushin, Ilia G. — Carleton Univ.
Tayebi, Abdelhamid — Lakehead Univ.
Marquez, Horacio J. — Univ. of Alberta

15:10-15:30
New Stability Conditions for Discrete Polynomials, pp. 4149-4153
Nurges, Ü. — Tallinn Univ. of Tech.
Rüstern, E. — Tallinn Univ. of Tech.

FrB06 — Broadway III
Modelling and Control of MEMS in Industrial Applications (Invited Session)

Chair: Napoli, Mariateresa — Univ. of California at Santa Barbara
Co-Chair: Salapaka, Srinivasa — Univ. of Illinois at Urbana-Champaign
Organizer: Napoli, Mariateresa — Univ. of California at Santa Barbara
Organizer: Salapaka, Srinivasa — Univ. of Illinois at Urbana-Champagne

13:30-13:50
A Robust Controller for the Manipulation of Micro-Scale Objects (I), pp. 4154-4159
Jagannathan, S. — Univ. of Missouri at Rolla
Yang, Qinmin — Univ. of Missouri at Rolla

13:50-14:10
Sliding Mode Control of a Simulated MEMS Gyroscope (I), pp. 4160-4165
Batur, C. — Univ. of Akron
Sreeramreddy, T. — Univ. of Akron
Khasawneh, Q. — Univ. of Akron

14:10-14:30
Real-Time Implementation of Model Predictive Control (I), pp. 4166-4171
Bleris, Leonidas — Lehigh Univ.
Kothare, Mayuresh V. — Lehigh Univ.

14:30-14:50
Modeling and Analysis of Steady-State Torque Characteristics for a Miniature Electromagnetic Retarder (I), pp. 4172-4175
Anwar, Sohel — Purdue School of Eng. & Tech.

14:50-15:10
Robust Feedback Control Design of an Ultra-Sensitive, High Bandwidth Tunneling Accelerometer (I), pp. 4176-4180
Khammash, M. — Univ. of California at Santa Barbara
Oropeza-Ramos, Laura — Univ. of California at Santa Barbara
Turner, Kimberly L. — Univ. of California at Santa Barbara

15:10-15:30
Nanopositioning for Probe Storage (I), pp. 4181-4186
Sebastian, A. — IBM Res.
Pantazi, A. — IBM
Cherubini, G. — IBM
Eleftheriou, E. — IBM
Lantz, M.A. — IBM
Pozidis, H. — IBM

FrB07 — Forum

Observers II (Regular Session)

Chair: Arcak, Murat — Rensselaer Pol. Inst.
Co-Chair: Zak, Stanislaw H. — Purdue Univ.

13:30-13:50
Newton Observer Design in the Absence of an Exact Discrete-Time Model, pp. 4187-4191
Biyik, Emrah — Rensselaer Pol. Inst.
Arcak, Murat — Rensselaer Pol. Inst.

13:50-14:10
Low-Order Unknown Input Observers, pp. 4192-4197
Hui, Stefen — San Diego State Univ.
Żak, Stanislaw H. — Purdue Univ.

14:10-14:30
Design of Unknown Input Observers for Lipschitz Nonlinear Systems., pp. 4198-4203
Pertew, A. — Univ. of Alberta
Marquez, H.J. — Univ. of Alberta
Zhao, Q. — Univ. of Alberta

14:30-14:50
An Approximate Solution to Optimal Lp State Estimation Problems, pp. 4204-4209
Alessandri, A. — National Res. Council of Italy
Cervellera, C. — National Res. Council of Italy
Grassia, F.A. — National Res. Council of Italy
Sanguineti, M. — Univ. di Genova

14:50-15:10
Current Observer for Sampled-Data Fuzzy Systems, pp. 4210-4214
Lo, Ji-Chang — National Central Univ.
Su, Chien-Hao — National Central Univ.

15:10-15:30
Observer Design for Discrete Time-Delay Singular Systems with Unknown Inputs, pp. 4215-4219
Ma, Shuping — Shandong Univ.
Cheng, Zhaolin — Shandong Univ.

FrB08 — Directors

PI/PID Control (Regular Session)

Chair: Kim, Youngchol — Chungbuk National Univ.
Co-Chair: Gundes, A. Nazli — Univ. of California at Davis

13:30-13:50
Adaptive Optimal PI Controller for High-Precision Low-Temperature Experiments, pp. 4220-4224
Liu, Jinyang — Univ. of New Mexico
Sergatskov, Dmitri A. — Univ. of New Mexico
Duncan, Robert V. — Univ. of New Mexico/California Inst. of Tech.

13:50-14:10
PID Stabilizability Conditions and Controller Synthesis for MIMO Plants, pp. 4225-4230
Gündeş, A.N. — Univ. of California at Davis
Wai, Edgar C. — Univ. of California at Davis

14:10-14:30
A Run-To-Run Film Thickness Control for Chemical-Mechanical Planarization Processes, pp. 4231-4236
Yi, Jingang — Texas A&M Univ.
Sang, Wei-Shu — Lam Res. Corp.
Zhao, Eugene — Lam Res. Corp.

14:30-14:50
A Necessary Stabilization Condition for PID Control, pp. 4237-4241
Bajcinca, Naim — DLR

14:50-15:10
Multi-Resolution Hardness Feed-Forward Automatic Gauge Control for Hot-Rolling Mill Based on Wavelets, pp. 4242-4246

Wang, Zhenglin — Univ. of Sci. and Tech.
Sun, Yikang — Univ. of Sci. and Tech.
Peng, Kaixiang — Univ. of Sci. and Tech.

15:10-15:30
Stability Analysis of PID Controllers for Integral Processes with Time Delay, pp. 4247-4252

Ou, Linlin — Shanghai Jiao Tong Univ.
Tang, Youchun — Shanghai Univ. of Eng. Sci.
Gu, Danying — Shanghai Jiao Tong Univ.
Zhang, Weidong — Shanghai Jiao Tong Univ.

FrB09 — Council

Analysis and Control of Time-Delay Systems (Regular Session)

Chair: Knospe, Carl R. — Univ. of Virginia
Co-Chair: Niculescu, Silviu-Iulian — Univ. de Tech. de Compiegne

13:30-13:50
Stabilization of Nonlinear Time Delay Systems with Delay-Independent Feedback, pp. 4253-4258

Jankovic, Mrdjan — Ford Res. Lab.

13:50-14:10
Stability of Linear Neutral Time-Delay Systems: Exact Conditions Via Matrix Pencil Solutions, pp. 4259-4264

Fu, Peilin — Univ. of California at Riverside
Niculescu, Silviu-Iulian — Univ. de Tech. de Compiegne
Chen, Jie — Univ. of California at Riverside

14:10-14:30
Robust Stability and H∞ Performance Analysis of Interval-Dependent Time-Delay Systems, pp. 4265-4270

Roozbehani, Mardavij — Massachusetts Inst. of Tech.
Knospe, Carl R. — Univ. of Virginia

14:30-14:50
Further Results on Singular Time Delayed System Stability, pp. 4271-4276

Debeljkovic, D. LJ. — Univ. of Belgrade
Stojanovic, S.B. — Univ. of Belgrade
Jovanovic, M.B. — Univ. of Belgrade
Milinkovic, S.A. — Univ. of Belgrade

14:50-15:10
An Adaptive Lag-Synchronization Method for Time-Delay Chaotic Systems, pp. 4277-4282

Chen, Cailian — City Univ. of Hong Kong
Feng, Gang — City Univ. of Hong Kong
Guan, Xinping — Yanshan Univ.

15:10-15:30
Use of Lambert W Function to Stability Analysis of Time-Delay Systems, pp. 4283-4288

Hwang, Chyi — I-Shou Univ.
Cheng, Yi-Cheng — National Chung Cheng Univ.

FrB10 — Broadway IV

Robust and Optimal Control (Regular Session)

Chair: Birdwell, J. Douglas — Univ. of Tennessee
Co-Chair: Collins, Emmanuel G. — FAMU - FSU

13:30-13:50
On the Optimal Two-Block H∞ Problem, pp. 4289-4294

Djouadi, Seddik M. — Univ. of Tennessee
Birdwell, J. Douglas — Univ. of Tennessee

13:50-14:10
Robust ℓ_1 Design of a Multivariable PI Controller Using a Real-Coded Genetic Algorithm, pp. 4295-4300
Curry, Tramone D. — FAMU - FSU
Collins, Emmanuel G. — FAMU - FSU

14:10-14:30
Computational Aspects of a Criterion for Robust ℓ1-Stability of Systems with Repeated Perturbations, pp. 4301-4302
Cadotte, Patrick — McGill Univ.
Michalska, Hannah — McGill Univ.
Boulet, Benoit — McGill Univ.

14:30-14:50
H∞ Control of Descriptor Systems in a Differential Inclusion Setting, pp. 4303-4308
Rehm, Ansgar — Univ. of Stuttgart
Allgöwer, Frank — Univ. of Stuttgart

14:50-15:10
Feasibility of H∞ Design Specifications : An Interpolation Method, pp. 4309-4314
Ferreres, Gilles — ONERA-CERT / DCSD
Puyou, Guilhem — Airbus France / ONERA / Supaero

15:10-15:30
Robust H_2 and H∞ Control of Discrete-Time Systems with Polytopic Uncertainties Via Dynamic Output Feedback, pp. 4315-4320
Lu, Lilei — Northeastern Univ.
Yang, Ran — Univ. of Melbourne
Xie, Lihua — Nanyang Tech. Univ.

FrB11 — Studio
Control of Underwater Vehicles (Regular Session)
Chair: Stilwell, Daniel J. — Virginia Pol. Inst. & State Univ.
Co-Chair: Feemster, Matthew — United States Naval Acad.

13:30-13:50
Tracking Control of an Underactuated Unmanned Underwater Vehicle, pp. 4321-4326
Baviskar, Abhijit — Clemson Univ.
Feemster, Matthew — United States Naval Acad.
Dawson, Darren — Clemson Univ.
Xian, Bin — Duke Univ.

13:50-14:10
Nonlinear Feedback Stabilization of High-Speed Planing Vessels by a Controllable Transom Flap, pp. 4327-4332
Xi, Handa — Univ. of Michigan
Sun, Jing — Univ. of Michigan

14:10-14:30
Control of an Autonomous Underwater Vehicle Platoon with a Switched Communication Network, pp. 4333-4338
Roberson, D. Gray — Virginia Pol. Inst. & State Univ.
Stilwell, Daniel J. — Virginia Pol. Inst. & State Univ.

14:30-14:50
Fuzzy Model-Based Robust Controller Design for Hydrofoil Catamaran, pp. 4339-4344
Ren, Junsheng — Dalian Maritime Univ.
Yang, Yansheng — Dalian Maritime Univ.
Zheng, Yunfeng — Dalian Maritime Univ.
Li, Tieshan — Dalian Maritime Univ.

14:50-15:10
Study on Fuzzified CMAC Control for Ship Steering Based on Eligibility, pp. 4345-4350
Shen, Zhipeng — Dalian Maritime Univ.
Guo, Chen — Dalian Maritime Univ.

15:10-15:30
Nonlinear Tracking Control of Underactuated Surface Vessel, pp. 4351-4356
Dong, Wenjie — Tsinghua Univ.
Guo, Yi — Univ. of Central Florida

FrB12 — Executive
Power and Energy (Regular Session)
Chair: Kelkar, Atul G. — Iowa State Univ.

13:30-13:50
Delaying Instability and Voltage Collapse in Power Systems Using SVCs with Washout Filter-Aided Feedback, pp. 4357-4362
Saad, Mohamed S. — Univ. of Maryland
Hassouneh, Munther A. — Univ. of Maryland
Abed, Eyad — Univ. of Maryland
Edris, Abdel-Aty — EPRI

13:50-14:10
Modeling and Control of Two Stage Twin Spool Servo-Valve for Energy-Saving, pp. 4363-4368
Yuan, QingHui — Univ. of Minnesota
Lew, Jae Y. — Eaton Corp.

14:10-14:30
Adaptive Control System for Electrohydraulic Camless Engine Gas Valve Actuator, pp. 4369-4374
Hanks, Thomas C. — Milwaukee School of Eng.
Lumkes, Jr., John H. — Purdue Univ.

14:30-14:50
Energy-Saving Control of an Unstable Valve with a MR Brake, pp. 4375-4380
Yuan, QingHui — Eaton Corp. Innovation Center
Li, Perry Y. — Univ. of Minnesota

14:50-15:10
Robust Control Design for a Wheel Loader Using Mixed Sensitivity H-Infinity and Feedback Linearization Based Methods, pp. 4381-4386
Fales, Roger — Univ. of Missouri at Columbia
Kelkar, Atul G. — Iowa State Univ.

15:10-15:30
Robust H∞ Load-Frequency Control for Interconnected Power Systems with D-Stability Constraints Via LMI Approach, pp. 4387-4392
Kanchanaharuthai, Adirak — Rangsit Univ.
Ngamsom, Pinit — Rangsit Univ.

FrB13 — Broadway I
Design of Biological Feedback Circuits (Invited Session)
Chair: El-samad, Hana — Univ. of California at Santa Barbara
Co-Chair: Iglesias, Pablo A. — Johns Hopkins Univ.
Organizer: El-samad, Hana — Univ. of California at Santa Barbara
Organizer: Del Vecchio, Domitilla — California Inst. of Tech.
Organizer: Murray, Richard M. — California Inst. of Tech.

13:30-13:50
Feedback Induced Biphasic Response in the Chemotaxis Pathway of Dictyostelium (I), pp. 4393-4398
Yang, Liu — Johns Hopkins Univ.
Iglesias, Pablo A. — Johns Hopkins Univ.

13:50-14:10
Dynamic Control in a Coordinated Multi-Cellular Maze Solving System (I), pp. 4399-4404
Hsu, Allen — Princeton Univ.
Vijayan, Vikram — Princeton Univ.
Fomundam, Lawrence — Univ. of Maryland, Baltimore County
Gerchman, Yoram — Princeton Univ.
Basu, Subhayu — Princeton Univ.
Karig, David — Princeton Univ.
Hooshangi, Sara — Princeton Univ.
Weiss, Ron — Princeton Univ.

14:10-14:30
Repressilators and Promotilators: Loop Dynamics in Synthetic Gene Networks (I), pp. 4405-4410
El-Samad, H. — Univ. of California at Santa Barbara
Del Vecchio, D. — California Inst. of Tech.
Khammash, M. — Univ. of California at Santa Barbara

14:30-14:50
Robustness in Gene Circuits: Clustering of Functional Responses (I), pp. 4411-4416
Dunlop, Mary J. — California Inst. of Tech.
Wall, Michael E. — Los Alamos National Lab.

14:50-15:10
A Query-Based Technique for Interpreting Reachable Sets for Hybrid Automaton Models of Protein Feedback Signaling (I), pp. 4417-4422
Ghosh, Ronojoy — Stanford Univ.
Tomlin, Claire — Stanford Univ.

15:10-15:30
*Standard Biological Parts and the Engineering of Biology (I)**
Endy, Drew — Massachusetts Inst. of Tech.

FrB14 — Galleria II

Modeling and Control of Automotive Powertrain Systems (Invited Session)

Chair: Buckland, Julia — Ford Motor Company
Co-Chair: Brennan, Sean — Penn State Univ.
Organizer: Buckland, Julia — Ford Motor Company
Organizer: Fischbach, Kevin — Visteon Corp.

13:30-13:50
A High Fidelity Starter Model for Engine Start Simulations (I), pp. 4423-4427
Ma, Qi — Ohio State Univ.
Rajagopalan, Sai S V — Ohio State Univ.
Yurkovich, Stephen — Ohio State Univ.
Guezennec, Yann G — Ohio State Univ.

13:50-14:10
Implementation of AFR Controller in an Event-Driven Real-Time Language (I), pp. 4428-4433
Ghosal, Arkadeb — Univ. of California at Berkeley
Zavala, J. Carlos — Univ. of California at Berkeley
Sanvido, Marco A.A. — Univ. of California at Berkeley
Hedrick, J. Karl — Univ. of California at Berkeley

14:10-14:30
Electronic Throttle and Wastegate Control for Turbocharged Gasoline Engines (I), pp. 4434-4439
Karnik, A. — Univ. of Michigan
Buckland, Julia H. — Ford Motor Company
Freudenberg, J.S. — Univ. of Michigan

14:30-14:50
Control of Engines with Fully Variable Valvetrains (I), pp. 4440-4445
Jankovic, Mrdjan — Ford Res. Lab.
Magner, Stephen — Ford Motor Company

14:50-15:10
A Control – Oriented Model of Combustion Process in a HCCI Diesel Engine (I), pp. 4446-4451
Canova, Marcello — Univ. degli Studi di Parma
Garcin, Renaud — Ec. Centrale De Lyon
Midlam-Mohler, Shawn — Ohio State Univ.
Guezennec, Yann — Ohio State Univ.
Rizzoni, Giorgio — Ohio State Univ.

15:10-15:30
Optimal Control-Based Powertrain Feasibility Assessment: A Software Implementation Perspective (I), pp. 4452-4457
Kolmanovsky, Ilya — Ford Motor Company
Sivashankar, N. Shiva — Emmeskay, Inc.
Sun, Jing — Univ. of Michigan

FrB15 — Parlor A
Identification I (Regular Session)
Chair: Brown, Lyndon J. — Univ. of Western Ontario
Co-Chair: Singhal, Ashish — Johnson Controls, Inc.

13:30-13:50
A New Approach for ARMA Pole Estimation Using Higher-Order Crossings, pp. 4458-4463
Salsbury, Timothy I. — Johnson Controls, Inc.
Singhal, Ashish — Johnson Controls, Inc.

13:50-14:10
On Consistency of Stochastic Gradient Algorithms for ARMAX Models with Disturbances, pp. 4464-4469
Ding, Feng — Univ. of Alberta
Chen, Tongwen — Univ. of Alberta

14:10-14:30
Modifications and Design of a Frequency Estimation Algorithm for Disturbance Rejection, pp. 4470-4475
Zhao, Zhenyu — Univ. of Western Ontario
Brown, Lyndon — Univ. of Western Ontario

14:30-14:50
Bounding the Parameters of Linear Systems with Input Backlash, pp. 4476-4481
Cerone, V. — Pol. di Torino
Regruto, D. — Pol. di Torino

14:50-15:10
Fast Estimation of Continuous-Time ARX Parameters from Unevenly Sampled Data, pp. 4482-4483
Mossberg, Magnus — Karlstad Univ.
Larsson, Erik K. — Uppsala Univ.

15:10-15:30
Modeling Identification of Power Plant Thermal Process Based on PSO Algorithm, pp. 4484-4489
Yijian, Liu — Nanjing Normal Univ.
Xiongxiong, He — Zhejiang Univ. of Tech.

FrB16 — Grand Ballroom I
Introduction to the MultiUAV Simulation and Its Application to Cooperative Control Research (Tutorial Session)
Co-Chair: Niland, William — Inst. for Scientific Res.
Organizer: Rasmussen, Steven — General Dynamics

13:30-14:00
Introduction to the MultiUAV2 Simulation and Its Application to Cooperative Control Research (I), pp. 4490-4501
Rasmussen, S.J. — General Dynamics
Mitchell, J.W. — Emergent Space Tech.
Chandler, P.R. — USAF
Schumacher, C.J. — USAF
Smith, A.L. — Purdue Univ.

14:00-14:30
*MultiUAV-JIMM Integration Using HLA (I)**
Stolarik, Brian — Inst. for Scientific Res.
Niland, William — Inst. for Scientific Res.

14:30-15:00
*Forest Fire Monitoring Using MultiUAV2 (I)**
Casbeer, David Wellman — Brigham Young Univ.
Kingston, Derek B. — Brigham Young Univ.
Beard, Randal W. — Brigham Young Univ.

15:00-15:30
Ground Moving Target Engagement by Cooperative UAVs (I), pp. 4502-4505
Schumacher, Corey — Air Force Res. Lab.

15:00-15:30
*Multiple UAV Assignment for Continuous Target Surveillance (I)**
Bakich, Michael — Air Force Res. Lab.

FrB17 — Parlor B

Advanced Controls for Manufacturing (Invited Session)

Chair: Landers, Robert G. — Univ. of Missouri at Rolla
Co-Chair: Vincent, Tyrone L. — Colorado School of Mines
Organizer: Landers, Robert G. — Univ. of Missouri at Rolla
Organizer: Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

13:30-13:50
Hierarchical Optimal Force–position–contour Control of Machining Processes: Part I – Controller Methodology (I), pp. 4506-4511
Tang, Yan — Univ. of Central Florida
Landers, Robert G. — Univ. of Missouri at Rolla
Balakrishnan, S.N. — Univ. of Missouri at Rolla

13:50-14:10
Hierarchical Optimal Force–position–contour Control of Machining Processes: Part II – Illustrative Example (I), pp. 4512-4517
Tang, Yan — Univ. of Central Florida
Landers, Robert G. — Univ. of Missouri at Rolla
Balakrishnan, S.N. — Univ. of Missouri at Rolla

14:10-14:30
BIBO Stability of an Adaptive Time-Frequency Iterative Learning Control with Application to Microscale Robotic Deposition (I), pp. 4518-4524
Bristow, Douglas A. — Univ. of Illinois at Urbana-Champaign
Alleyne, Andrew G. — Univ. of Illinois at Urbana-Champaign

14:30-14:50
Estimating Relative Deposition in a Multi-Zone Process Using a Single Composition Sensor, pp. 4525-4530
Hilt, Matthew J. — Colorado School of Mines
Vincent, Tyrone L. — Colorado School of Mines
Joshi, Bharat S. — ITN Energy Systems
Simpson, Lin J. — ITN Energy Systems

14:50-15:10
Command Shaping for Micro-Mills and CNC Controllers, pp. 4531-4536
Fortgang, Joel — Georgia Inst. of Tech.
Singhose, William — Georgia Inst. of Tech.
Márquez, Juan de Juanes — Escuela Técnica Superior de Ingenieros Industriales
Perez, Jesus — Escuela Técnica Superior de Ingenieros Industriales

15:10-15:30
Uniform Synchronization in Multi-Axis Motion Control, pp. 4537-4542
Liu, Hugh H.T. — Univ. of Toronto
Sun, Dong — City Univ. of Hong Kong

FrB18 — Parlor C

Industry Needs in Embedded Control Education (Tutorial Session)

Chair: Krogh, Bruce H. — Carnegie Mellon Univ.
Co-Chair: Cook, Jeffrey A. — Ford Motor Co.
Organizer: Freudenberg, James S. — Univ. of Michigan
Organizer: Krogh, Bruce H. — Carnegie Mellon Univ.

13:30-14:30
Industry Needs for Embedded Control Education (I), pp. 4543-4550
Freudenberg, J.S. — Univ. of Michigan
Krogh, B.H. — Carnegie Mellon Univ.

14:30-14:50
*Capability Development for Automotive Embedded Systems - a Ford Motor Company Perspective (I)**
Cook, Jeffrey A. — Ford Motor Company

14:50-15:10
*Why Should Automotive Manufacturers Be Good at Embedded Systems? (I)**
Butts, Kenneth R. — Toyota Tech. Center, USA

15:10-15:30
*Dynamic Modeling and Controls - Challenges at the Intersection of Mechanical, Controls and Computer Engineering (I)**
Ward, Jon — Eaton Corp.

FrC01 — Grand Ballroom II

Control and Optimization of Distributed Processes (Invited Session)

Chair: Armaou, Antonios — Penn State Univ.
Co-Chair: Jovanovic, Mihailo — Univ. of Minnesota
Organizer: Armaou, Antonios — Penn State Univ.
Organizer: Demetriou, Michael A. — Worcester Pol. Inst.

15:45-16:05
Predictive Control of Diffusion-Reaction Processes (I), pp. 4551-4556
Dubljevic, Stevan — Univ. of California at Los Angeles
Mhaskar, Prashant — Univ. of California at Los Angeles
El-Farra, Nael H. — Univ. of California at Davis
Christofides, Panagiotis D. — Univ. of California at Los Angeles

16:05-16:25
Backstepping Boundary Control for PDEs with Non-Constant Diffusivity and Reactivity (I), pp. 4557-4562
Smyshlyaev, Andrey — Univ. of California at San Diego
Krstic, Miroslav — Univ. of California at San Diego

16:25-16:45
Adaptive Extremum Seeking Control of a Tubular Reactor with Limited Actuation (I), pp. 4563-4568
Hudon, Nicolas — Ec. Pol. de Montreal
Guay, Martin — Queen's Univ.
Perrier, Michel — Ec. Pol.
Dochain, Denis — Univ. Catholique de Louvain

16:45-17:05
Optimal Actuator Placement and Model Reduction for a Class of Parabolic Partial Differential Equations Using Spatial H_2 Norm (I), pp. 4569-4574
Demetriou, Michael A. — Worcester Pol. Inst.
Armaou, Antonios — Penn State Univ.

17:05-17:25
Microscopic Simulations and Nonlinear Control of Dissipative Distributed Processes (I), pp. 4575-4582
Armaou, Antonios — Penn State Univ.

17:25-17:45
On the Optimality of Localized Distributed Controllers (I), pp. 4583-4588
Jovanović, Mihailo R. — Univ. of Minnesota

FrC02 — Senate

Filtering Applications (Regular Session)

Chair: Ohlmeyer, Ernest J. — Naval Surface Warfare Center
Co-Chair: Bayard, David S. — California Inst. of Tech.

15:45-16:05

An Estimation Algorithm for Vision-Based Exploration of Small Bodies in Space, pp. 4589-4595
Bayard, David S. — California Inst. of Tech.
Brugarolas, Paul B. — California Inst. of Tech.

16:05-16:25

On Dropping Noisy Packets in Kalman Filtering Over a Wireless Fading Channel, pp. 4596-4600
Mostofi, Yasamin — California Inst. of Tech.
Murray, Richard M. — California Inst. of Tech.

16:25-16:45

Euclidean Position Estimation of Features on a Moving Object Using a Single Camera: A Lyapunov-Based Approach, pp. 4601-4606
Chitrakaran, V.K. — Clemson Univ.
Dawson, D.M. — Clemson Univ.
Chen, J. — Clemson Univ.
Dixon, W.E. — Univ. of Florida

16:45-17:05

Uniform Clustered Particle Filtering for Robot Localization, pp. 4607-4612
Yang, Tun — Carleton Univ.
Aitken, Victor — Carleton Univ.

17:05-17:25

Fixed Structure Multirate State Estimation, pp. 4613-4618
Kräemer, Stefan — BP Koeln
Gesthuisen, Ralf — BP Koeln
Engell, Sebastian — Univ. of Dortmund

17:25-17:45

Impact of Correlation Errors on Optimum Kalman Filter Matrices Gains Identification in Multicoordinate Systems, pp. 4619-4624
Cardoso, Rafael — Univ. Federal de Santa Maria
Hemerly, Elder Moreira — Inst. Tecnologico De Aeronautica
Câmara, Helder Tavares — Federal Univ. of Santa Maria
Gründling, Hilton Abílio — Federal Univ. of Santa Maria

FrC03 — Galleria III

Sliding Mode Control II - Theory and Applications (Regular Session)

Chair: Zourntos, Takis — Texas A&M Univ.
Co-Chair: Shtessel, Yuri B. — Univ. of Alabama at Huntsville

15:45-16:05

Oversampled Encoding without Delta-Sigma Modulation: A Novel Alternative Based on Nonlinear Control, pp. 4625-4630
Zourntos, Takis — Texas A&M Univ.

16:05-16:25

Higher-Order Optimal Control Design Via Singular Perturbation, pp. 4631-4636
Salinas, Rodolfo — Univ. Autonoma de Nuevo Leon
Drakunov, Sergey — Tulane Univ.

16:25-16:45

Position Control of a PMSM Using Conditional Integrators, pp. 4637-4642
Seshagiri, Sridhar — San Diego State Univ.
Khalil, Hassan K. — Michigan State Univ.

16:45-17:05

A New Discrete Variable Structure Control Algorithm Based on Sliding Mode Prediction, pp. 4643-4648

Xiao, Lingfei — Zhejiang Univ.
Su, Hongye — Zhejiang Univ.
Zhang, Xiaoyu — Zhejiang Univ.
Chu, Jian — Zhejiang Univ.

17:05-17:25

Design of Cascade Fuzzy Sliding-Mode Controller, pp. 4649-4654

Wang, Wei — Chinese Acad. of Sciences
Yi, Jianqiang — Chinese Acad. of Sciences
Zhao, Dongbin — Chinese Acad. of Sciences
Liu, Xiaojing — Chinese Acad. of Sciences

17:25-17:45

Post-Filtering Output Feedback Variable Structure Control, pp. 4655-4660

Lin, Chia-Fu — Chung-Shan Inst. of Sci. & Tech.
Su, Wu-Chung — National Chung Hsing Univ.
Liou, Kwang-Hau — National Chung Hsing Univ.

FrC04 — Broadway II

Multiple Unmanned Air Vehicles (Invited Session)

Chair: Tsourdos, Antonios — Cranfield Univ. Royal Mil. Coll. of Sci.
Co-Chair: Gurfil, Pini — Tech. - Israel Inst. of Tech.
Organizer: Tsourdos, Antonios — Cranfield Univ. Royal Mil. Coll. of Sci.
Organizer: Gurfil, Pini — Tech. - Israel Inst. of Tech.

15:45-16:05

Cooperative Task Assignment of Unmanned Aerial Vehicles in Adversarial Environments (I), pp. 4661-4666

Alighanbari, Mehdi — Massachusetts Inst. of Tech.
How, Jonathan P. — Massachusetts Inst. of Tech.

16:05-16:25

Decentralized Stabilization and Collision Avoidance of Multiple Air Vehicles with Limited Sensing Capabilities (I), pp. 4667-4672

Dimarogonas, Dimos V. — National Tech. Univ. of Athens
Kyriakopoulos, Kostas J. — National Tech. Univ. of Athens

16:25-16:45

Stable Receding-Horizon Cooperative Control of a Class of Distributed Agents (I), pp. 4673-4678

Franco, Elisa — Univ. of Trieste
Parisini, Thomas — Univ. of Trieste
Polycarpou, Marios M. — Univ. of Cyprus

16:45-17:05

Evaluating UAV Flock Mission Performance Using Dudek's Taxonomy (I), pp. 4679-4684

Gurfil, Pini — Tech. - Israel Inst. of Tech.

17:05-17:25

Optimal and Hierarchical Formation Control for UAVs (I), pp. 4685-4689

Wang, Xiaohua — Univ. of Missouri at Rolla
Balakrishnan, S.N. — Univ. of Missouri at Rolla

17:25-17:45

Formal Techniques for the Modelling and Validation of a Co-Operating UAV Team That Uses Dubins Set for Path Planning (I), pp. 4690-4695

Jeyaraman, Suresh — Cranfield Univ. Royal Mil. Coll. of Sci.
Tsourdos, A. — Cranfield Univ. Royal Mil. Coll. of Sci.
Zbikowski, Rafat — Cranfield Univ. Royal Mil. Coll. of Sci.
White, B.A. — Cranfield Univ. Royal Mil. Coll. of Sci.

FrC05 — Galleria I

Control of Output Feedback Nonlinear Systems (Regular Session)

Chair: Qian, Chunjiang — Univ. of Texas at San Antonio
Co-Chair: Lin, Wei — Case Western Res. Univ.

15:45-16:05
Output-Feedback Adaptive Stabilization for Nonlinear Systems with Unknown Direction Control Coefficients, pp. 4696-4701
Liu, Yun-Gang — Shandong Univ.
Ge, Shuzhi Sam — National Univ. of Singapore

16:05-16:25
Robust Stabilization of Uncertain Nonlinear Systems by Nonsmooth Output Feedback, pp. 4702-4707
Yang, Bo — Case Western Res. Univ.
Lin, Wei — Case Western Res. Univ.

16:25-16:45
A Homogeneous Domination Approach for Global Output Feedback Stabilization of a Class of Nonlinear Systems, pp. 4708-4715
Qian, Chunjiang — Univ. of Texas at San Antonio

16:45-17:05
Global Finite-Time Stabilization of a Class of Nonsmooth Nonlinear Systems by Output Feedback, pp. 4716-4721
Li, Ji — Univ. of Texas at San Antonio
Qian, Chunjiang — Univ. of Texas at San Antonio

17:05-17:25
Finite-Time Control of Linear Time-Varying Systems Via Output Feedback, pp. 4722-4726
Amato, F. — Univ. degli Studi Magna Graecia di Catanzaro
Ariola, M. — Univ. degli Studi di Napoli Federico II - Associazione Euratom/E
Cosentino, C. — Univ. degli Studi di Napoli Federico II

17:25-17:45
Output Feedback Stabilization of Nonlinear Feedforward Systems Using Arbitrarily Bounded Control, pp. 4727-4729
Polendo, Jason — Univ. of Texas at San Antonio
Schrader, Cheryl B. — Boise State Univ.

FrC06 — Broadway III

Vibration, Analysis and Control (Regular Session)

Chair: Agrawal, Sunil K. — Univ. of Delaware

15:45-16:05
A Methodology for Analyzing Vibration Data from Planetary Gear Systems Using Complex Morlet Wavelets, pp. 4730-4735
Saxena, Abhinav — Georgia Inst. of Tech.
Wu, Biqing — Georgia Inst. of Tech.
Vachtsevanos, George — Georgia Inst. of Tech.

16:05-16:25
Vibration Suppression Control Profile Generation with Both Acceleration and Velocity Constraints, pp. 4736-4741
Zhou, Li — Oklahoma State Univ.
Misawa, Eduardo A. — Oklahoma State Univ.

16:25-16:45
Low Frequency Vibration Suppression Shape Filter and High Frequency Vibration Suppression Shape Filter, pp. 4742-4747
Zhou, Li — Oklahoma State Univ.
Misawa, Eduardo A. — Oklahoma State Univ.

16:45-17:05
A Cutting Plane Algorithm for Frequency Domain Specification with Application to Bending Modes Attenuation, pp. 4748-4752

Abbas-Turkl, Mohamed	Supélec - Ec. Supérieure D' Electricité
Duc, Gilles	Supélec - Ec. Supérieure D' Electricité
Font, Stephane	Supélec - Ec. Supérieure D' Electricité
Clement, Benoît	Supélec - Ec. Supérieure D' Electricité

17:05-17:25
*Design of Controllers for Vibration Isolation System.**

Hoque, Md. Emdadul	Saitama Univ.

17:25-17:45
Fully Adaptive Vibration Control for Uncertain Structure Installed with MR Damper, pp. 4753-4759

Terasawa, Takashi	Keio Univ.
Sano, Akira	Keio Univ.

FrC07 — Forum

Control Theory and Applications (Regular Session)

Chair: Berg, Jordan M.	Texas Tech. Univ.
Co-Chair: Mossberg, Magnus	Karlstad Univ.

15:45-16:05
Feedback Performance Control for Computer Systems: An LPV Approach, pp. 4760-4765

Qin, Wubi	Penn State Univ.
Wang, Qian	Penn State Univ.

16:05-16:25
Identification of Continuous-Time ARX Models Using Sample Cross-Covariances, pp. 4766-4771

Mossberg, Magnus	Karlstad Univ.

16:25-16:45
Multi-Layer Switching Control, pp. 4772-4777

Karuei, Idin	Concordia Univ.
Meskin, Nader	Concordia Univ.
Aghdam, Amir G.	Concordia Univ.

16:45-17:05
Least Square Identification of Non-Stationary MA Systems, pp. 4778-4783

Ding, Feng	Univ. of Alberta
Shi, Yang	Univ. of Alberta
Chen, Tongwen	Univ. of Alberta

17:05-17:25
Adaptive Quantized Control for Linear Uncertain Discrete-Time Systems, pp. 4784-4789

Hayakawa, Tomohisa	Japan Sci. & Tech. Agency
Ishii, Hideaki	Univ. of Tokyo
Tsumura, Koji	Univ. of Tokyo

17:25-17:45
Adaptive Neural Network Control of Nonlinear MIMO Time-Delay Systems with Unknown Bounds on Delay Functionals, pp. 4790-4795

Ge, Shuzhi Sam	National Univ. of Singapore
Tee, Keng-Peng	National Univ. of Singapore

FrC08 — Directors

Observer Design and Applications (Regular Session)

Chair: Arcak, Murat	Rensselaer Pol. Inst.
Co-Chair: Beltran-Carbajal, Francisco	ITESM, Campus Guadalajara

15:45-16:05
A Voltage-Based Observer Design for Membrane Water Content in PEM Fuel Cells, pp. 4796-4801

Görgun, Haluk	Univ. of Connecticut
Arcak, Murat	Rensselaer Pol. Inst.
Barbir, Frano	Univ. of Connecticut

16:05-16:25

Natural Observers for Singularly Perturbed Mechanical Systems, pp. 4802-4807

Demetriou, Michael A. — Worcester Pol. Inst.
Kazantzis, Nikolaos — Worcester Pol. Inst.

16:25-16:45

Observers for a Special Class of Bilinear Systems: Design, Analysis and Application, pp. 4808-4813

Joshi, K. — Clarkson Univ.
Behal, A. — Clarkson Univ.
Jain, A.K. — Analog Power Design, Inc.
Sadagopan, R. — Clarkson Univ.

16:45-17:05

Nonlinear Observer Design and Experimental Verification for Heat Exchangers During the Start-Up Process, pp. 4814-4819

Cheng, Tao — Massachusetts Inst. of Tech.
He, Xiang-Dong — Daikin US Corp. / MIT
Asada, H. Harry — Massachusetts Inst. of Tech.

17:05-17:25

Active Vibration Control Using On-Line Algebraic Identification of Harmonic Vibrations, pp. 4820-4825

Beltrán-Carbajal, F. — ITESM, Campus Guadalajara
Silva-Navarro, G. — Cinvestav-ipn
Sira-Ramirez, H. — CINVESTAV-IPN
Quezada-Andrade, F.J. — ITESM, Campus Guadalajara

17:25-17:45

Control of the Process with Inverse Response and Dead-Time Based on Disturbance Observer, pp. 4826-4831

Hongdong, Zhu — Shanghai Jiao Tong Univ.
Guanghui, Zhang — Shanghai Jiao Tong Univ.
Huihe, Shao — Shanghai Jiao Tong Univ.

FrC09 — Council

Large/Distributed Systems (Regular Session)

Chair: Bamieh, Bassam — Univ. of California at Santa Barbara

15:45-16:05

Thermodynamic Modeling, Energy Equipartition, and Nonconservation of Entropy for Discrete-Time Dynamical Systems, pp. 4832-4837

Haddad, Wassim M. — Georgia Inst. of Tech.
Hui, Qing — Georgia Inst. of Tech.
Nersesov, Sergey G. — Georgia Inst. of Tech.
Chellaboina, VijaySekhar — Univ. of Tennessee

16:05-16:25

A Perturbation Approach to the H_2 Analysis of Spatially Periodic Systems, pp. 4838-4843

Fardad, Makan — Univ. of California at Santa Barbara
Bamieh, Bassam — Univ. of California at Santa Barbara

16:25-16:45

Distributed Architectures and Implementations of Observer Based Controllers for Performance Optimization, pp. 4844-4849

Yadav, Vikas — Iowa State Univ.
Voulgaris, Petros G. — Univ. of Illinois at Urbana-Champaign
Salapaka, Murti V. — Iowa State Univ.

16:45-17:05

Distributed Control Design with Robustness to Small Time Delays, pp. 4850-4855

Chandra, R.S. — Cornell Univ.
Langbort, C. — California Inst. of Tech.
D'Andrea, R. — Cornell Univ.

17:05-17:25
A Sequential Design Methodology for Large-Scale LBT Systems, pp. 4856-4861
Claveau, F. — IRCCyN - UMR CNRS
Chevrel, Ph. — IRCCyN / Ec. des Mines de Nantes

17:25-17:45
*Based on Evolutionary Relation among Systems to Analyze Brittleness of Complex System**
Guo, Jian — Harbin Univ. of Commerce
Wu, Dongjian — Harbin Engineering Univ.

FrC10 — Broadway IV
Output FeedbackTracking and Control (Regular Session)
Chair: PAN, Ya-Jun — Univ. of Alberta
Co-Chair: Marquez, Horacio J. — Univ. of Alberta

15:45-16:05
Adaptive Output Feedback Compensation of Variant Actuator Failures, pp. 4862-4867
Tao, Gang — Univ. of Virginia
Joshi, Suresh M. — NASA Langley Res. Ctr.

16:05-16:25
Robust Output Feedback Tracking Control for a Class of MIMO Nonlinear Systems, pp. 4868-4873
Pan, Ya-Jun — Dalhousie Univ.
Marquez, Horacio J. — Univ. of Alberta
Chen, Tongwen — Univ. of Alberta

16:25-16:45
Output Tracking for Non Input Affine Systems Using Extended Hammerstein Models, pp. 4874-4879
Gruenbacher, E. — Johannes Kepler Univ. Linz
del Re, L. — Johannes Kepler Univ. Linz

16:45-17:05
An LMI-Based Optimization Approach for Integrated Plant/Output-Feedback Controller Design, pp. 4880-4885
Liao, Fang — National Univ. of Singapore
Lum, Kai Yew — National Univ. of Singapore
Wang, Jian Liang — Nanyang Tech. Univ.

17:05-17:25
Output Feedback Stabilization of Nonlinear Systems with Delayed Output, pp. 4886-4891
Zhang, Xianfu — Shandong Inst. of Arch. and Eng.
Cheng, Zhaolin — Shandong Univ.
Wang, Xing-Ping — Naval Aeronautical Eng. Inst.

17:25-17:45
H∞ Output Feedback Control for Descriptor Systems with Delayed-State, pp. 4892-4896
Feng, Jun'e — Shandong Univ.
Zhang, Weihai — Jinan Shandong Univ.
Cheng, Zhaolin — Shandong Univ.
Cui, Peng — Shandong Univ.

FrC11 — Studio
Mobility and Locomotion (Regular Session)
Chair: Byrne, Raymond H. — Sandia National Lab.
Co-Chair: Ray, Asok — Penn State Univ.

15:45-16:05
Language-Measure-Based Supervisory Control of a Mobile Robot, pp. 4897-4902
Wang, Xi — Penn State Univ.
Mallapragada, Goutham — Penn State Univ.
Ray, Asok — Penn State Univ.

16:05-16:25
Extraction of Salient Features for Mobile Robot Navigation Via Teleoperation, pp. 4903-4908
Peng, Jian — Tennessee State Univ.
Peters, Alan — Vanderbilt Univ.

16:25-16:45
Planar Bipedal Walking with Foot Rotation, pp. 4909-4916
Choi, Jun Ho — Univ. of Michigan
Grizzle, J.W. — Univ. of Michigan

16:45-17:05
Experimental Implementation of Flocking Algorithms in Wheeled Mobile Robots, pp. 4917-4922
Regmi, Ananda — Univ. of New Mexico
Sandoval, R. — Univ. of New Mexico
Byrne, R. — Sandia National Lab.
Tanner, H. — Univ. of New Mexico
Abdallah, C.T. — Univ. of New Mexico

17:05-17:25
Nonlinear Tracking Control for Nonholonomic Mobile Robots with Input Constraints: An Experimental Study, pp. 4923-4928
Ren, Wei — Univ. of Maryland
Sun, Ji-Sang — Brigham Young Univ.
Beard, Randal W. — Brigham Young Univ.
McLain, Timothy W. — Brigham Young Univ.

17:25-17:45
Reactive Robot Navigation Using Optimal Timing Control, pp. 4929-4934
Axelsson, Henrik — Georgia Inst. of Tech.
Egerstedt, Magnus — Georgia Inst. of Tech.
Wardi, Yorai — Georgia Inst. of Tech.

FrC12 — Executive

Discrete-Time Systems: Design and Applications (Regular Session)

Chair: Watkins, John — Wichita State Univ.
Co-Chair: Hoagg, Jesse B. — Univ. of Michigan

15:45-16:05
A Unified Procedure for Discrete-Time Root Locus and Bode Design, pp. 4935-4940
O'Brien, Richard T. — United States Naval Acad.
Watkins, John M. — Wichita State Univ.

16:05-16:25
An FPGA-Based Digital Control and Communication Module for Space Power Management and Distribution Systems, pp. 4941-4946
Ping, Zhan — Cleveland State Univ.
Gao, Zhiqiang — Cleveland State Univ.

16:25-16:45
Design and DSP Microprocessor Implementation of Digital Sinusoidal Tracking Controllers, pp. 4947-4952
Chang, B.C. — Drexel Univ.
Hu, Chunlong — Drexel Univ.
Ilg, Mark — Drexel Univ.

16:45-17:05
Broadband Adaptive Disturbance Rejection for a Deployable Optical Telescope Testbed, pp. 4953-4958
Hoagg, Jesse B. — Univ. of Michigan
Lacy, Seth L. — Air Force Res. Lab.
Bernstein, Dennis S. — Univ. of Michigan

17:05-17:25
A Class of Dual-Rate Sampled-Data Models for Continuous-Time Systems, pp. 4959-4964
Rabbath, C.A. — Defence R&D Canada
Léchevin, N. — Defence R&D Canada
Hori, N. — McGill Univ.

17:25-17:45
Sliding Mode Fuzzy Gain Scheduling in Sampled Data Nonlinear Systems, pp. 4965-4970
Andrade Da Silva, José Manuel — Univ. Simón Bolívar
Teppa Garrán, Pedro Antonio — Univ. Simón Bolívar
Ferrer Suárez, José Jesús — Univ. Simón Bolívar

FrC13 — Broadway I
Autonomous Systems (Regular Session)

Chair: Saberi, Ali — Washington State Univ.
Co-Chair: Ghose, Debasish — Indian Inst. of Science

15:45-16:05
Static Decentralized Control of a Single-Integrator Network with Markovian Sensing Topology, pp. 4971-4978
Roy, Sandip — Washington State Univ.
Saberi, Ali — Washington State Univ.

16:05-16:25
Trajectory Generation for Four Wheeled Omnidirectional Vehicles, pp. 4979-4984
Purwin, Oliver — Cornell Univ.
D'Andrea, Raffaello — Cornell Univ.

16:25-16:45
Satisficing Approach to Human-In-The-Loop Safeguarded Control, pp. 4985-4990
Ren, Wei — Univ. of Maryland
Beard, Randal W. — Brigham Young Univ.

16:45-17:05
Ground Vehicle Guidance Along Collision-Free Trajectories Using Elastic Bands, pp. 4991-4996
Sattel, Thomas — Univ. of Paderborn
Brandt, Thorsten — Univ. of Paderborn

17:05-17:25
Generalization of the Cyclic Pursuit Problem, pp. 4997-5002
Sinha, A. — Indian Inst. of Science
Ghose, D. — Indian Inst. of Science

17:25-17:45
Introducing 'Personality' into the Multi-Robot Cooperation, pp. 5003-5008
Ding, Yingying — Zhejiang Univ.
He, Yan — Zhejiang Univ.
Jiang, Jingping — Zhejiang Univ.

FrC14 — Galleria II
Advances in Automotive Sensing and Actuation (Invited Session)

Chair: Fischbach, Kevin — Visteon Corp.
Co-Chair: Peterson, Katherine — Univ. of Michigan
Organizer: Fischbach, Kevin — Visteon Corp.
Organizer: Buckland, Julia — Ford Motor Company

15:45-16:05
Sensor Fault Detection in Vehicle Lateral Control Systems Via Switching Kalman Filtering (I), pp. 5009-5014
Hsiao, Tesheng — Univ. of California at Berkeley
Tomizuka, Masayoshi — Univ. of California at Berkeley/NSF

16:05-16:25
A Sensor Management Protocol for Tracking with Diverse Sensors (I), pp. 5015-5020
Kulkarni, Vishwesh V. — Univ. of Colorado at Boulder
Pao, Lucy Y. — Univ. of Colorado at Boulder

16:25-16:45
Current versus Flux in the Control of Electromechanical Valve Actuators (I), pp. 5021-5026
Peterson, Katherine S. — Univ. of Michigan
Stefanopoulou, Anna — Univ. of Michigan
Freudenberg, James — Univ. of Michigan

16:45-17:05
Stochastic Limit Control and Its Application to Spark Limit Control Using Ionization Feedback (I), pp. 5027-5034
Zhu, Guoming — Visteon Corp.
Haskara, Ibrahim — Visteon Corp.
Winkelman, Jim — Visteon Corp.

17:05-17:25
Computationally Efficient Filtering Algorithms for Engine Torque Estimation (I), pp. 5035-5040
Stotsky, Alexander — Volvo Car Corp.
Kolmanovsky, Ilya — Ford Motor Company

17:25-17:45
Diagnostics for Automotive Electronic Throttle Body Systems (I), pp. 5041-5045
Ma, Qi — Ohio State Univ.
Shao, Liang — Hitachi America, Ltd.
Yurkovich, Stephen — Ohio State Univ.

FrC15 — Parlor A
Identification II (Regular Session)

Chair: Kolodziej, Jason — General Motors
Co-Chair: Juang, Jih-Gau — National Taiwan Ocean Univ.

15:45-16:05
A Novel Approach to Model Determination Using the Minimum Model Error Estimation, pp. 5046-5051
Kolodziej, Jason R. — General Motors Fuel Cell Activities
Mook, D. Joseph — Univ. at Buffalo State Univ. of New York

16:05-16:25
Identification and Prediction of Ionospheric Dynamics Using a Hammerstein-Wiener Model with Radial Basis Functions, pp. 5052-5057
Palanthandalam-Madapusi, Harish I. — Univ. of Michigan
Ridley, Aaron J. — Univ. of Michigan
Bernstein, Dennis S. — Univ. of Michigan

16:25-16:45
Scaling of the Sampling Period in Nonlinear System Identification, pp. 5058-5065
Wigren, Torbjörn — Uppsala Univ.

16:45-17:05
Recursive Identification Based on Nonlinear State Space Models Applied to Drum-Boiler Dynamics with Nonlinear Output Equations, pp. 5066-5072
Wigren, Torbjörn — Uppsala Univ.

17:05-17:25
Nonlinear System Identification by Evolutionary Computation and Recursive Estimation Method, pp. 5073-5078
Juang, Jih-Gau — National Taiwan Ocean Univ.
Lin, Bo-Shian — National Taiwan Ocean Univ.

17:25-17:45
*Random Sampling Fuzzy C-Means Clustering and Recursive Least Square Based Fuzzy Identification**
Lu, pingli — Peking Univ.
Yang, Ying — Peking Univ.
Huang, Lin — Peking Univ.

FrC16 — Grand Ballroom I

Active-Vision Control Systems for Complex Adversarial 3-D Environments (Tutorial Session)

Chair: Johnson, Eric N. — Georgia Inst. of Tech.
Organizer: Johnson, Eric N. — Georgia Inst. of Tech.
Organizer: Calise, Anthony J. — Georgia Inst. of Tech.
Organizer: Tannenbaum, Allen — Univ. of Minnesota
Organizer: Soatto, Stefano — Univ. of California at Los Angeles
Organizer: Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.
Organizer: Yezzi, Anthony — Georgia Inst. of Tech.

15:45-16:05
*Overview (I)**
Johnson, Eric N. — Georgia Inst. of Tech.

16:05-16:30
Estimation and Guidance Strategies for Vision-Based Target Tracking (I), pp. 5079-5084
Calise, Anthony J. — Georgia Inst. of Tech.
Johnson, Eric N. — Georgia Inst. of Tech.
Sattigeri, Ramachandra — Georgia Inst. of Tech.
Watanabe, Yoko — Georgia Inst. of Tech.
Madyastha, Venkatesh — Georgia Inst. of Tech.

16:30-16:55
Flying in Formation Using a Pursuit Guidance Algorithm (I), pp. 5085-5090
Betser, Amir — Georgia Inst. of Tech.
Vela, Patricio A. — Georgia Inst. of Tech.
Pryor, Gallagher — Georgia Inst. of Tech.
Tannenbaum, Allen — Univ. of Minnesota

16:55-17:20
Vision-Based Aerial Tracking Using Intelligent Excitation (I), pp. 5091-5096
Cao, Chengyu — Virginia Pol. Inst. & State Univ.
Hovakimyan, Naira — Virginia Pol. Inst. & State Univ.

17:20-17:45
Recent Flight Test Results of Active-Vision Control Systems (I), pp. 5097-5102
Johnson, Eric N. — Georgia Inst. of Tech.
Proctor, Alison A. — Georgia Inst. of Tech.
Ha, Jincheol — Georgia Inst. of Tech.
Watanabe, Yoko — Georgia Inst. of Tech.

FrC17 — Parlor B

Advances in Nonlinear Control (Invited Session)

Chair: Huang, Jie — Chinese Univ. of Hong Kong
Co-Chair: Lin, Zongli — Univ. of Virginia
Organizer: Huang, Jie — Chinese Univ. of Hong Kong
Organizer: Lin, Zongli — Univ. of Virginia

15:45-16:05
Lyapunov-Based Switching Control of Nonlinear Systems Using High-Gain Observers (I), pp. 5103-5108
Freidovich, Leonid B. — Michigan State Univ.
Khalil, Hassan K. — Michigan State Univ.

16:05-16:25
On Controllability of Switched Bilinear Systems (I), pp. 5109-5114
Cheng, Daizhan — Chinese Acad. of Sciences
Liu, Jiang B — Bradley Univ.

16:25-16:45
Decentralized Regulation for a Class of Large-Scale Networks with Saturation (I), pp. 5115-5120
Fan, Yi — Pol. Univ.
Jiang, Zhong-Ping — Pol. Univ.
Wu, Xingxing — Pol. Univ.

16:45-17:05
Adaptive Partial State Feedback Control of the DC-To-DC Ćuk Converter (I), pp. 5121-5126
Rodríguez-Cortes, Hugo — Northeastern Univ.
Ortega, Romeo — LSS-SUPELEC
Astolfi, Alessandro — Imperial Coll. London

17:05-17:25
Semi-Global Robust Output Regulation for a Class of Nonlinear Systems Using Output Feedback (I), pp. 5127-5132
Lan, Weiyao — Chinese Univ. of Hong Kong
Chen, Zhiyong — Chinese Univ. of Hong Kong
Huang, Jie — Chinese Univ. of Hong Kong

17:25-17:45
A Further Result on Global Stabilization of Oscillators with Bounded Delayed Input (I), pp. 5133-5138
Fang, Haijun — Univ. of Virginia
Lin, Zongli — Univ. of Virginia

FrC18 — Parlor C
Control Education (Regular Session)

Chair: Davari, Asad — WVU Tech.
Co-Chair: Burchett, Bradley T. — Rose-hulman Inst. of Tech.

15:45-16:05
A Web-Based Linear-Systems iLab, pp. 5139-5144
Viedma, Gerardo — Massachusetts Inst. of Tech.
Dancy, Isaac J. — Massachusetts Inst. of Tech.
Lundberg, Kent H. — Massachusetts Inst. of Tech.

16:05-16:25
An Undergraduate System Identification Experiment, pp. 5145-5149
Burchett, Bradley T. — Rose-Hulman Inst. of Tech.
Layton, Richard A. — Rose-Hulman Inst. of Tech.

16:25-16:45
An Educational Java Applet for Linear Systems, pp. 5150-5155
Lundberg, Kent H. — Massachusetts Inst. of Tech.
Williams, Brian F. — Massachusetts Inst. of Tech.

16:45-17:05
Control Experimentation for Undergraduate Students, pp. 5156-5161
Chandrasekara, Chetan — West Virginia Univ. Inst. of Tech.
Davari, Asad — West Virginia Univ. Inst. of Tech.

17:05-17:25
A Platform for Building PIC Applications for Control and Instrumentation, pp. 5162-5168
Kuczenski, Brandon — Carnegie Mellon Univ.
LeDuc, Philip R. — Carnegie Mellon Univ.
Messner, William C. — Carnegie Mellon Univ.