

04:25 1693
Genetic algorithms for local model and local controller network design
 Sharma, S. K. Queen's Univ. of Belfast
 McLoone, S. Queen's Univ. of Belfast
 Irwin, G. W. Queen's Univ. of Belfast

04:45 1699
Robustness design of uncertain discrete-time fuzzy descriptor systems with guaranteed admissibility
 Wang, Y. Northeastern Univ.
 Zhang, Q. L. Northeastern Univ.
 Liu, X. D. Dalian Maritime Univ.

05:05 1705
Overlapping guaranteed cost control for time-varying discrete-time uncertain systems
 Bakule, Lubomir Academy of Sciences of the Czech Republic
 Rodellar, Jose Tech. Univ. of Catalunya
 Rossell, Josep M. Tech. Univ. of Catalunya

05:25 1711
An unified approach to missile guidance laws: a 3D extension
 Tyan, Feng TamKang Univ.

Cook/Arteaga

8:00 – 9:00

Plenary Session II

Reconfigurable Logic Control for High Volume Manufacturing Systems

Dawn Tilbury
 Mechanical Engineering Department
 University of Michigan, Ann Arbor

Chair: Misawa, Eduardo A. Oklahoma State Univ.
 Co-Chair: Rhinehart, R. Russell Oklahoma State Univ.

Summit 1

**TA01
 Tutorial: Input Shaping and Time Delay Control of Maneuvering Flexible Structures**

Chair: Singh, Tarunraj State Univ. of New York at Buffalo
 Co-Chair: Singhose, William E. Georgia Inst. of Tech.
 Organizer: Singh, Tarunraj State Univ. of New York at Buffalo
 Organizer: Singhose, William E. Georgia Inst. of Tech.

09:15 1717
Tutorial on input shaping/time delay control of maneuvering flexible structures (I)
 Singh, Tarunraj State Univ. of New York at Buffalo
 Singhose, William Georgia Inst. of Tech.

10:15 1732
Limited jerk and torque input shaping for flexible spacecraft slewing control (I)
 Banerjee, Arun Lockheed Martin Advanced Tech. Ctr.

10:35 1734
Command shaping control for material handling (I)
 Dickerson, Stephen Georgia Tech

10:55 Paper not available at time of printing
Piezo nanopositioning using input shapers (I)
 Singer, Neil C. Convolve, Inc.

Summit 2

**TA02
 Model Reduction II**

Chair: Repperger, Daniel W. Air Force Research Lab.
 Co-Chair: Dahleh, Munther A. Mass. Inst. of Tech.

09:15 1736
Coarse gain recurrent integrator model for sensorimotor cortical command generation
 Ayaso, Ola Massachusetts Inst. of Tech.
 Massaquoi, Steve G. Massachusetts Inst. of Tech.
 Dahleh, Munther Massachusetts Inst. of Tech.

09:35 1742
Robustness analysis of the heat shock response in E. coli
 El-Samad, H. Iowa State Univ.
 Khammash, M. Iowa State Univ.
 Kurata, H. Kyushu Inst. of Tech.
 Doyle, J. California Inst. of Tech.

09:55 1748
Numerical algorithm for model reduction of polytopic uncertain linear systems
 Wu, Fen North Carolina State Univ.
 Jaramillo, Juan J. North Carolina State Univ.

10:15 1753
On the properties of frequency weighted balanced truncation techniques
 Sreeram, V. Univ. of Western Australia

10:35 1755
A system-theoretic formulation of the bunch train cavity interaction
 Schwartz, Charles Northwestern Univ.
 Haddad, Abraham H. Northwestern Univ.

10:55 1761
Control oriented models for TWC-equipped spark ignition engines during the warm-up phase
 Fiengo, Giovanni Univ. di Napoli Federico II
 Glielmo, Luigi Univ. del Sannio
 Santini, Stefania Univ. di Napoli Federico II
 Serra, Gabriele Magneti Marelli Powertrain Div.

Summit 3

**TA03
 Nonlinear Adaptive Control**

Chair: Leonessa, Alexander Florida Atlantic Univ.
 Co-Chair: Qu, Zhihua Univ. of Central Florida

09:15 1767
New direct adaptive active noise control algorithms in case of uncertain secondary path dynamics
 Kouno, Toshikazu Keio Univ.
 Ohmori, Hiromitsu Keio Univ.
 Sano, Akira Keio Univ.

09:35 1773
Direct adaptive control for discrete-time nonlinear uncertain dynamical systems
 Haddad, Wassim M. Georgia Inst. of Tech.
 Hayakawa, Tomohisa Georgia Inst. of Tech.
 Leonessa, Alexander Florida Atlantic Univ.

09:55 1779
Adaptive control of simple nonlinear systems using multiple models
 Narendra, Kumpati S. Yale Univ.
 George, Koshy Yale Univ.

10:15 1785
Variable structure and nonlinear adaptive flight path control
 Singh, Sahjendra N. Univ. of Nevada at Las Vegas
 Steinberg, Marc L. Naval Air Systems Command
 Page, Anthony B. Naval Air Systems Command

10:35 1791
Adaptive and robust controls of uncertain systems with nonlinear parameterization
 Qu, Zhihua Univ. of Central Florida

10:55 1797
Application of nonlinear adaptive control techniques to an electrohydraulic velocity servomechanism
 Garagic, Denis The Ohio State Univ.
 Srinivasan, Krishnaswamy The Ohio State Univ.

Summit 4

TA04

Decentralized Control

Chair: Sasiadek, Jurek, Z Carleton Univ.
 Co-Chair: Swaroop, Darbha Texas A & M Univ.

09:15 1805
Robust decentralized overlapping control of large scale winding systems
 Knittel, D. Univ. of Strasbourg I
 Gigan, D. Univ. of Strasbourg I
 Laroche, E. Univ. of Strasbourg I

09:35 1811
A study in cooperative control: the Roboflag drill
 Earl, Matthew G. Cornell Univ.
 D'Andrea, Raffaello Cornell Univ.

09:55 1813
Stability analysis of swarms
 Gazi, Veysel The Ohio State Univ.
 Passino, Kevin M. The Ohio State Univ.

10:15 1819
Stability analysis of swarms in an environment with an attractant/repellent profile
 Gazi, Veysel The Ohio State Univ.
 Passino, Kevin M. The Ohio State Univ.

10:35 1825
A multi-layer control architecture for unmanned aerial vehicles
 Boškovic, Jovan D. Scientific Systems Company, Inc.
 Prasanth, Ravi Scientific Systems Company, Inc.
 Mehra, Raman K. Scientific Systems Company, Inc.

10:55 1831
Complexity in UAV cooperative control
 Chandler, Phillip R. AFRL/VACA
 Pachter, Meir AFIT/ENG
 Swaroop, Dharba Texas A&M University
 Fowler, Jeffery M. Cornell University
 Howlett, Jason K. Brigham Young University
 Rasmussen, Steven J. Veridian, Inc
 Schumacher, Corey J. AFRL/VACA
 Nygard, Kendall E. North Dakota State University

Summit 5

TA05

Digital Control

Chair: Masten, Michael K. Texas Instruments
 Co-Chair: Moan, Michael R. Raytheon Company

09:15 1837
Reduced order controller of two-time-scale discrete non-linear systems: application to the regulation of a pm stepper motor
 Vásquez-López, V. CINVESTAV-IPN
 Castro-Linares, R. CINVESTAV-IPN
 Alvarez-Gallegos, Ja. CINVESTAV-IPN

09:35 1843
A multirate predictive approach to orbit control of small spacecraft
 Rossi, Matteo Politecnico di Milano
 Lovera, Marco Politecnico di Milano

09:55 1849
An interval arithmetic approach for discrete time nonsmooth uncertain systems with application to an antilocking system
 Heeks, J. Univ. of Ulm
 Hofer, E. P. Univ. of Ulm
 Tibken, B. Univ. of Wuppertal
 Thorwart, K. R.O.S.E. Informatik GmbH

10:15 1855
Digital control strategy on decentralized large-scale actuator systems
 Yao, Kai-chao Natl. Chinese Naval Academy

10:35 1861
Multirate digital control system design
 Lee, Seung-Hi Samsung Adv. Inst. of Tech.
 Kim, Young-Hoon Samsung Adv. Inst. of Tech.
 Chung, Chung Choo Hanyang Univ.

10:55 1867
Conditioning of the discrete-time infinite-horizon H infinity filtering problem
 Christov, N. D. Technical Univ. of Sofia
 Najim, M. ENSEIRB
 Grivel, E. ENSEIRB
 Henry, D. Université Bordeaux I

Summit 6

TA06

Switched Systems

Chair: Beck, Carolyn L. Univ. of Illinois at Urbana-Champaign
 Co-Chair: Michel, Anthony N. Univ. of Notre Dame

09:15 1869
How hard is it to control switched systems?
 Egerstedt, Magnus Georgia Inst. of Tech.
 Blondel, Vincent D. Université Catholique de Louvain

09:35 1874
Stabilization of two-dimensional single-input bilinear systems with a finite number of constant feedback controllers
 Hu, Bo Univ. of Notre Dame
 Zhai, Guisheng Wakayama Univ.
 Michel, Anthony N. Univ. of Notre Dame

09:55 1880
Qualitative analysis of discrete-time switched systems
 Zhai, Guisheng Wakayama Univ.
 Hu, Bo Univ. of Notre Dame
 Yasuda, Kazunori Wakayama Univ.
 Michel, Anthony N. Univ. of Notre Dame

10:15 1886
Necessary and sufficient conditions for an optimal controlled switching problem
 Chudoung, Jerawan Univ. of Illinois at Urbana-Champaign
 Beck, Carolyn Univ. of Illinois at Urbana-Champaign

10:35 1892
State-norm estimation of switched nonlinear systems
 García, R. A. Univ. de Buenos Aires
 Mancilla-Aguilar, J. L. Univ. de Buenos Aires

10:55 1897
Necessary and sufficient conditions for controllability of switched linear systems
 Xie, Guangming Peking University
 Wang, Long Peking University

Summit 7

**TA07
 Aerospace and Flexible Structures**

Chair: Pao, Lucy Y. Harvard Univ.
 Co-Chair: Erwin, R. Scott Air Force Research Lab

09:15 1903
Analysis and design of an adaptive input shaper for the control of flexible structures
 Cutforth, Craig F. Univ. of Colorado at Boulder
 Pao, Lucy Y. Univ. of Colorado at Boulder

09:35 1911
Shaped phase-plane control for flexible structures with friction
 La-orpacharapan, Chanat Univ. of Colorado at Boulder
 Pao, Lucy Y. Univ. of Colorado at Boulder

09:55 1917
Task allocation for wide area search munitions
 Schumacher, Corey Air Force Research Lab.
 Chandler, Phillip R. Air Force Research Lab.
 Rasmussen, Steven R. Veridian Inc.

10:15 1923
Guidance and control for cooperative search
 Enns, Dale Honeywell Tech Ctr.
 Bugajski, Dan Honeywell Tech. Ctr.
 Pratt, Steve Honeywell Tech. Ctr.

10:35 1930
Footprint calculation methods for a reusable launch vehicle
 Ngo, Anhtuan D. U.S. Air Force Research Lab.
 Doman, David B. U.S. Air Force Research Lab.

10:55 1936
Aircraft trajectory planning with collision avoidance using mixed integer linear programming
 Richards, Arthur MIT
 How, Jonathan P. MIT

Summit 8

**TA08
 Motion Control**

Chair: Tadmor, Gilead Northeastern Univ.
 Co-Chair: Salapaka, Murti V. Iowa State Univ.

09:15 1942
Sensorless control of a non-salient PMSM with locally decoupled angle and speed estimates
 Tadmor, G. Northeastern Univ.

09:35 1948
Robust decentralized turbine-governor control subject to saturation nonlinearity
 Watanabe, Takao Tokyo Metropolitan Univ.

09:55 1954
Control of the Furuta pendulum based on a linear differential flatness approach.
 Aguilar-Ibáñez, Carlos Ctr. de Invest. en Comp. del IPN
 Sira-Ramírez, Hebert CINVESTAV-PIN

10:15 1960
The development of a MEMS gyroscope for absolute angle measurement
 Piyabongkarn, Damrongrit Univ. of Minnesota
 Rajamani, Rajesh Univ. of Minnesota

10:35 1966
Design, identification and control of a fast nanopositioning device
 Salapaka, S. Univ. of California at Santa Barbara
 Sebastian, A. Iowa State Univ.
 Cleveland, J. P. Asylum Research
 Salapaka, M. V. Iowa State Univ.

10:55 1972
Motion planning via optimal control theory
 Spindler, Karlheinz Fachhochschule Wiesbaden

Summit 9

**TA09
 Engine Control Applications**

Chair: Bialasiewicz, Jan T. Univ. of Colorado at Denver
 Co-Chair: Kheir, Naim A. Oakland Univ.

09:15 1978
Analysis of variable structure diesel/inverter operation control in renewable energy systems
 Bialasiewicz, Jan T. Univ. of Colorado at Denver
 Muljadi, Eduard Natl. Renewable Energy Lab.

09:35 1984
Modeling, design and implementation of discrete sliding mode control for an engine idle speed control system
 Lu, Manxue Oakland Univ.
 Loh, Robert N.K. Oakland Univ.

09:55 1990
Fuel injection control of a diesel engine with a rack actuator
 Li, Yuanchun Jilin Univ.
 Liu, Guangjun Ryerson Univ.
 Zhou, Xiao Jilin Univ.

10:15 1996
Sliding mode control of electronic throttle valve
 Dagci, Oguz Hasan The Ohio State Univ.
 Pan, Yaodong The Ohio State Univ.
 Ozguner, Umit The Ohio State Univ.

10:35 2002
Model based engine torque supervision for diesel engines using the engine speed signal
 Kimmich, Frank Darmstadt Univ. of Tech.
 Isermann, Rolf Darmstadt Univ. of Tech.

10:55 2008
Neural modeling and control of a diesel engine with pollution constraints
 Dovifaaz, X. CRAN
 Ouladsine, M. Domaine Univ. St. Jérôme
 Rachid, A. Univ. de Picardie Jules Verne
 Bloch, G. CRAN

Summit 10

**TA10
 Stochastic Systems**

Chair: Chen, Richard Naval Research Lab.
 Co-Chair: Pasik-Duncan, Bozenna Univ. of Kansas

09:15 2014
Dynamic programming equations for constrained stochastic control
 Chen, Richard C. Naval Research Lab.
 Blankenship, Gilmer L. Univ. of Maryland

09:35 2023
Closed-loop stochastic dynamic process optimization under input and state constraints
 van Hessem, D. H. Delft Univ. of Tech.
 Bosgra, O. H. Delft Univ. of Tech.

09:55 2029
Nonlinear stochastic control via stationary probability density functions
 Crespo, L. G. Univ. of Delaware
 Sun, J. Q. Univ. of Delaware

10:15 2035
Blind multi-channel identification of ARMA systems: a least-squares approach
 Zhang, Yi Massachusetts Inst. of Tech.
 Asada, H. Harry Massachusetts Inst. of Tech.

10:35 2037
Disturbance preview and on-line optimization to improve system performance
 Philbrick, Douglas Univ. of California at Berkeley
 Jarvis-Wloszek, Zachary Univ. of California at Berkeley
 Kaya, M. Alpaya Univ. of California at Berkeley
 Packard, Andrew Univ. of California at Berkeley
 Balas, Gary Univ. of Minnesota at Minneapolis

10:55 2044
Robust stabilization of uncertain stochastic neutral systems with multiple delays
 Lu, Chien-Yu Natl. Cheng-Kung Univ.
 Tsai, Jason Sheng-Hong Natl. Cheng-Kung Univ.
 Su, Te-Jen Natl. Kaohsiung Univ. of Applied Sci.

Summit 11

**TA11
 Applications of Adaptive Control**

Chair: Annaswamy, Anuradha Mass. Inst. of Tech.
 Co-Chair: Franchek, Matthew A. Purdue Univ.

09:15 2046
Stable adaptive multiple model-based control design for accommodation of sensor failures
 Boskovic, Jovan D. Scientific System Company, Inc.
 Mehra, Raman K. Scientific System Company, Inc.

09:35 2052
A multivariable adaptive controller for autonomous helicopters
 Krupadanam, A. S. Maxtor Corp.
 Annaswamy, A. M. Massachusetts Inst. of Tech.
 Mangoubi, R. S. C.S. Draper Lab.

09:55 2058
Indirect self-tuning regulator design for an industrial weigh belt feeder
 Zhao, Yanan Florida State Univ.
 Collins, Jr., Emmanuel G. Florida State Univ.
 Cartes, David A. Florida State Univ.

10:15 2064
Mass air flow sensor diagnostics for adaptive fueling control of internal combustion engines
 Buehler, Patrick J. Purdue Univ.
 Franchek, Matthew A. Purdue Univ.
 Makki, Imad Ford Motor Co.

10:35 2070
A new hybrid boiler master controller
 Beheshti, M. T.H. Tarbiat Modarres Univ.
 Rezaee, M. M. AZAR AB Industries Co.

10:55 2076
Adaptive decentralized compliant control of robot manipulators
 Hsu, Su-Hau Natl. Taiwan Univ.
 Fu, Li-Chen Natl. Taiwan Univ.

Summit 12

**TA12
 Observers**

Chair: White, Warren N. Kansas State Univ.
 Co-Chair: Thein, May-Win Univ. of New Hampshire

09:15 2082
A variable structure parallel observer system for periodic measurement output
 Thein, May-Win L. Univ. of New Hampshire

09:35 2088
Nonlinear observer design via convex optimization
 Howell, Adam Univ. of California at Berkeley
 Hedrick, J. Karl Univ. of California at Berkeley

09:55 2094
Learning machine for polytopic nonlinear observer design
 Millerioux, G. Ctr. de Recherche en Auto. de Nancy
 Daafouz, J. Ctr. de Recherche en Auto. de Nancy
 Bloch, G. Ctr. de Recherche en Auto. de Nancy

10:15 2100
Link between high gain observer-based residual and parity space one
 Christophe, C. Univ. des Sciences et Tech. de Lille
 Cocquempot, V. Univ. des Sciences et Tech. de Lille
 Jiang, B. Univ. des Sciences et Tech. de Lille

10:35 2106
Sliding mode observers for a class of nonlinear systems
 Koshkouei, Ali J. Univ. of Sheffield
 Zinober, A. S. I. Univ. of Sheffield

10:55 2112
Advanced design of disturbance observer for high performance motion control systems
 Kim, Bong Keun Pohang Univ. of Science & Tech.
 Chung, Wan Kyun Pohang Univ. of Science & Tech.

Summit 13

TA13

Intelligent Control I

Chair: Siciliano, Bruno Univ. degli Studi di Napoli Federico II
 Co-Chair: Zak, Stanislaw H. Purdue Univ.

09:15 2118
Study on ship steering based on hybrid intelligent control
 Yang, Guoxun Dalian Maritime Univ.
 Guo, Chen Dalian Maritime Univ.
 Jia, Xinle Dalian Maritime Univ.

09:35 2124
Design of fuzzy PD + I controller for tracking control
 Chung, Chung Choo Hanyang Univ.
 Kim, Bong Joo Pulsus Tech.

09:55 2130
Design of optimal PID controllers using memetic algorithm
 Shyr, Wen-Jye Natl. Changhua Univ. of Education
 Wang, Boi-Wei Natl. Kaohsiung Univ. of Applied Sci.
 Yeh, Yun-Yueh Natl. Kaohsiung Univ. of Applied Sci.
 Su, Te-Jen Natl. Kaohsiung Univ. of Applied Sci.

10:15 2132
Path tracking control of vehicles based on Lyapunov approach
 Zhang, J. R. Univ. de Picardie-Jules Verne
 Xu, S. J. Beijing Univ. of Aeronautics and Astronautics
 Rachid, A. Univ. de Picardie-Jules Verne

10:35 2138
PI-type iterative learning control revisited
 Chen, YangQuan Utah State Univ.
 Moore, Kevin L. Utah State Univ.

10:55 2144
Genetic fuzzy tracking controllers for autonomous ground vehicles
 Lee, Yonggon Purdue Univ.
 Zak, Stanislaw H. Purdue Univ.

Summit 14

TA14

Control of Batch and Periodic Processes

Chair: Qin, S. Joe Univ. of Texas at Austin
 Organizer: Qin, S. Joe Univ. of Texas at Austin

09:15 2150
A comparison of run-to-run control algorithms (I)
 Campbell, W. Jarrett Yield Dynamics, Inc.
 Firth, Stacy K. Yield Dynamics, Inc.
 Toprac, Anthony J. Yield Dynamics, Inc.
 Edgar, Thomas F. Univ. of Texas at Austin

09:35 2156
Stability analysis of double EWMA run-to-run control with metrology delay (I)
 Good, Richard The Univ. of Texas at Austin
 Qin, S. Joe The Univ. of Texas at Austin

09:55 2162
Synthesis of gain scheduling controllers for nonlinear batch processes (I)
 Palanki, Srinivas Florida State Univ.
 Kolavennu, Soumitri Honeywell Labs

10:15 2168
Adaptive run to run control for intermittent batch operations (I)
 Qin, S. Joe University of Texas at Austin
 Scheid, Glen W. LSI Logic
 Riley, Terrence J. Advanced Micro Devices

10:35 2174
Interplay between identification and optimization in run-to-run optimization schemes (I)
 Srinivasan, B. EPFL
 Bonvin, D. EPFL

10:55 2180
In-situ process control for semiconductor manufacturing
 Taylor, James H. Univ. of New Brunswick
 Whidden, Thomas K. FiberOptic Gateways Inc.
 Xiaozhong, Zhao Dalhousie Univ.

Williwaw

TA15

H-infinity

Chair: Kim, Ki-Baek California Inst. of Tech.
 Co-Chair: Ding, Steven X. Lausitz Univ. of Applied Sciences

09:15 2186
Intervalwise receding horizon H-infinity tracking controls for linear continuous time-varying systems
 Kim, Ki Baek California Inst. of Tech.
 Kwon, Wook Hyun Seoul Natl. Univ.

09:35 2192
Singular H-infinity-control in terms of nonstandard J--spectral factorizations
 Oara, Cristian Univ. Polytechnica Bucharest

09:55 2194
Robust H-infinity filter design for linear systems with state delay and parameter uncertainty
 Cai, Yunze Shanghai Jiaotong Univ.
 Xu, Xiaoming Shanghai Jiaotong Univ.
 He, Xing Shanghai Jiaotong Univ.
 Zhang, Weidong Shanghai Jiaotong Univ.

10:15 2196
An H-infinity approach to fault detection for sampled-data systems
 Zhang, P. Tsinghua Univ.
 Ding, S. X. Univ. of Duisburg
 Wang, G. Z. Tsinghua Univ.
 Zhou, D. H. Tsinghua Univ.
 Ding, E. L. Univ. of Applied Sci. at Gelsenkirchen

10:35 2202
Low-order H-infinity controller design for discrete-time linear systems
 Zhai, Guisheng Wakayama Univ.
 Tamaoki, Kenzou Wakayama Univ.
 Muraio, Shinichi Wakayama Univ.

10:55 2204
A generalized H-infinity control system design attenuating initial state uncertainties
 Namerikawa, Toru Nagaoka Univ. of Tech.
 Fujita, Masayuki Kanazawa Univ.
 Smith, Roy S. Univ. of California at Santa Barbara
 Uchida, Kenko Waseda Univ.

TA16

Time Delay I

Chair: DeCarlo, Raymond A. Purdue Univ.
 Co-Chair: Yang, Bingen Univ. of Southern California

09:15 2210
Robust controller and observer design for time-delay systems
 Li, Xiaoqiu Purdue Univ.
 DeCarlo, R. A. Purdue Univ.

09:35 2216
On the stability of linear systems with uncertain delay
 Kharitonov, Vladimir L. CINVSTAV-IPN
 Niculescu, Silviu-Iulian Univ. Tech. Compiegne

09:55 2221
Nonlocal stabilization via relay delay control gain adaptation
 Fridman, L. Natl. Univ. of Mexico
 Strygin, V. Chihuahua Inst. of Tech.
 Polyakov, A. Voronezh State Univ.

10:15 2227
A phase design method for delayed output feedback control of flexible mechanical systems
 Liu, Zheng Univ. Southern California
 Yang, Bingen Univ. of Southern California

10:35 2233
Analytical formulas for quasi-H infinity control of linear systems with time delay
 Zhang, Weidong None Shanghai Jiaotong Univ.
 Wang, Hao Shanghai Jiaotong Univ.
 Xu, Xiaoming Shanghai Jiaotong Univ.

10:55 2239
Fault identification for a class of time-delay systems
 Jiang, Bin Univ. des Sciences et Tech. de Lille
 Staroswiecki, Marcel Univ. des Sciences et Tech. de Lille
 Cocquempot, Vincent Univ. des Sciences et Tech. de Lille

Foraker

TA17

Bifurcation and Chaos

Chair: Wang, Hua O. Duke Univ.
 Co-Chair: Zhou, Kemin Louisiana State Univ.

09:15 2245
A fluid dynamical approach to the control, synchronization and parameter identification of chaotic systems
 Crispin, Yechiel Embry-Riddle Univ.

09:35 2251
Nonlinear recursive chaos control
 Harb, Ahmed Jordan Univ. of Science and Tech.
 Zaher, Ashraf Oakland Univ.
 Zohdy, Mohammed Oakland Univ.

09:55 2255
On global synchronization of chaotic systems
 Liao, Xiaoxin Huazhong Univ. of Science and Tech.
 Chen, Guanrong City Univ. of Hong Kong
 Wang, Hua O. Duke Univ.

10:15 2260
Stabilization of chaotic discrete-time systems by periodic delayed feedback control
 Yamamoto, Shigeru Osaka Univ.
 Ushio, Toshimitsu Osaka Univ.

10:35 2262
Local robustness of Hopf bifurcation stabilization
 Chen, Xiang Univ. of Windsor
 Gu, Guoxiang Louisiana State Univ.
 Zhou, Kemin Louisiana State Univ.

10:55 2267
Friction induced hunting limit cycles: an event mapping approach
 Hensen, Ron H. A. Eindhoven Univ. of Tech.
 van de Molengraft, Marinus J. G. Eindhoven Univ. of Tech.

Summit 1

TM01

Command Shaping for Vibration Suppression

Chair: Meckl, Peter H. Purdue Univ.
 Co-Chair: Singhose, William E. Georgia Inst. of Tech.
 Organizer: Meckl, Peter H. Purdue Univ.

01:30 2273
Comparison of filter types used for command preconditioning in vibration suppression applications (I)
 Economou, D. National Tech. Univ. of Athens
 Mavroidis, C. The State Univ. of New Jersey
 Antoniadis, I. National Tech. Univ. of Athens

01:50 2279
Discrete time-optimal command shapers and controls for multi-input multi-output systems (I)
 Baumgart, Matthew D. Univ. of Colorado at Boulder
 Pao, Lucy Y. Univ. of Colorado at Boulder

02:10 2285
Implementation alternatives for dual rate control systems with command shaping (I)
 Ballesteros, Mauricio Georgia Inst. of Tech.
 Book, Wayne Georgia Inst. of Tech.

02:30 2292
Can a time invariant input shaping technique eliminate residual vibrations of LTV systems? (I)
 Park, Juyi Univ. of Texas at San Antonio
 Chang, Pyung Hun Korea Adv. Inst. of Science and Tech.
 Lee, Eunjeong Univ. of Texas at San Antonio

02:50 2298
Command shaping and closed-loop control interactions for a ship crane (I)
 Agostini, Michael Michigan Tech. Univ.
 Parker, Gordon G. Michigan Tech. Univ.
 Groom, Kenneth Sandia Natl. Labs.
 Schaub, Hanspeter Sandia Natl. Labs.
 Robinett, Rush D. Sandia Natl. Labs.

03:10 2305
Design and control of optimal feedforward trajectories for scanners: STM example (I)
 Devasia, S. Univ. of Washington
 Perez, H. Univ. of Washington
 Zou, Q. Univ. of Washington

Summit 2

TM02

Neuromotor Control

Chair: Martin, Clyde F. Texas Tech Univ.
 Co-Chair: Levine, William S. Univ. of Maryland
 Organizer: Dayawansa, Wijesuriya P. Texas Tech Univ.
 Organizer: Schovanec, Lawrence Texas Tech Univ.

01:30 Paper not available at time of printing
Controllability of muscular hydrostat-tongues and tentacles (I)
 Levine, William S. Univ. of Maryland

01:50 2213
Modelling and control of eye-movement with musculotendon dynamics (I)
 Polpitiya, Ashoka D. Washington Univ.
 Ghosh, Bijoy K. Washington Univ.

02:10 2319
Effects of control strategies on stress development in skeletal structures (I)
 Barhorst, Alan Texas Tech Univ.
 Schovanec, Lawrence Texas Tech Univ.

02:30 Paper not available at time of printing
On the stability of spike trains in networks of coupled oscillators (I)
 Dayawansa, Wijesuriya P. Texas Tech Univ.
 Martin, Clyde F. Texas Tech Univ.

02:50 2323
Learning and adaptation in cortical control of arm movement (I)
 Jiping, He Arizona State Univ.

03:10 2329
Robustly stable fixed point assignment problems for dynamical neural networks (I)
 Inaba, Hiroshi Tokyo Denki Univ.
 Shoji, Yoshimitsu Ikegami Tsushinki Corp.

Summit 3

TM03

Nonlinear Control I

Chair: Tomizuka, Masayoshi Univ. of California at Berkeley
 Co-Chair: Kiriakidis, Kiriakos U.S. Naval Academy

01:30 2336
H-infinity optimal filters for a class of nonlinear models
 Kiriakidis, Kiriakos U.S. Naval Academy

01:50 2340
Suppression of effects of nonlinearities in a class of nonlinear systems by disturbance observers
 Shahruz, S. M. Berkeley Eng. Research Inst.
 Cloet, C. Univ. of California at Berkeley
 Tomizuka, M. Univ. of California at Berkeley

02:10 2346
Robust nonlinear output feedback control for systems with unknown integrator gains
 Cheng, Teddy M. Univ. of New South Wales
 Clements, David J. Univ. of New South Wales
 Eaton, Ray Univ. of New South Wales

02:30 2348
Robust receding horizon control for piecewise linear systems based on constrained positively invariant sets
 Mukai, Masakazu Kanazawa Univ.
 Azuma, Takehito Kanazawa Univ.
 Fujita, Masayuki Kanazawa Univ.

02:50 2354
A simple PID regulator applicable for a class of factorable nonlinear plants
 Bányász, Cs. Hungarian Academy of Sciences
 Keviczky, L. Hungarian Academy of Sciences

03:10 2360
Reliable redundant control for nonlinear uncertain systems
 Yingwei, Zhang Northeastern Univ.
 Fuli, Wang Northeastern Univ.

Summit 4

TM04

Sliding Mode Control I

Chair: Orlov, Yuri V. CICESE
 Co-Chair: Hsu, Liu COPPE/Univ. of Rio de Janeiro

01:30 2362
Sliding mode approach to PWM-controlled pneumatic systems (I)
 Barth, Eric J. Vanderbilt Univ.
 Zhang, Jianlong Vanderbilt Univ.
 Goldfarb, Michael Vanderbilt Univ.

01:50 2368
Approach angle-based switching function for sliding mode control design
 Buckholtz, Kenneth R. Delphi Automotive Systems

02:10 2374
Sliding mode method based vibration control of flexible arms
 Chen, Xinkai Kinki Univ.
 Zhai, Guisheng Wakayama Univ.

02:30 2380
Further results on smooth sliding control of uncertain systems
 Peixoto, Alessandro Jacoud Federal Univ. of Rio de Janeiro
 Lizarralde, Fernando Federal Univ. of Rio de Janeiro
 Hsu, Liu Federal Univ. of Rio de Janeiro

02:50 2386
Anti-lock braking control using a sliding mode like approach
 Schinkel, Michael Univ. of Glasgow
 Hunt, Ken Univ. of Glasgow

Summit 5

TM05
Discrete Time Systems

Chair: Tarbouriech, Sophie LAAS-CNRS
 Co-Chair: Richter, Hanz Oklahoma State Univ.

01:30 2392
Stability analysis of discrete linear systems with quantized input and state measurements
 Richter, Hanz NASA
 Misawa, Eduardo A. Oklahoma State Univ.

01:50 2398
Robust stabilization and guaranteed cost control for discrete-time linear systems by static output feedback
 Garcia, Germain LAAS-CNRS
 Pradin, Bernard LAAS-CNRS
 Tarbouriech, Sophie LAAS-CNRS
 Zeng, Fanyou INSA

02:10 2404
Robust stabilization of uncertain discrete time systems with state delay
 Tsai, Jason Sheng-Hong Natl. Cheng-Kung Univ.
 Lu, Chien-Yu Natl. Cheng-Kung Univ.
 Su, Te-Jen Natl. Kaohsiung Univ. of Applied Sci.
 Jong, Gwo-Jia Natl. Kaohsiung Univ. of Applied Sci.

02:30 2406
Stabilization of linear systems with limited information - multiple input case
 Kao, C. Y. MIT
 Venkatesh, S. R. Boston Univ.

02:50 2412
A stabilizing low-order output feedback receding horizon control for linear discrete time-invariant systems
 Lee, Kwan Ho Seoul Natl. Univ.
 Lee, Joon Hwa Univ. of Seoul
 Kwon, Wook Hyun Seoul Natl. Univ.

03:10 2418
Generalized (C,A,B)-pairs for linear periodic discrete-time systems
 Otsuka, Naohisa Tokyo Denki Univ.

Summit 6

TM06
Control of Networks and the Web

Chair: Kahne, Stephen Embry-Riddle Aeronautical Univ.
 Co-Chair: Hollot, Christopher V. Univ. of Massachusetts at Amherst

01:30 2424
Quality of service control for wireless systems: minimum power and minimum energy solutions
 Huang, Minyi McGill Univ.
 Malhame, Roland P. Ecole Polytechnique de Montreal
 Caines, Peter E. McGill Univ.

01:50 2430
Dynamic analysis of congested TCP networks (I)
 Chait, Yossi Univ. of Massachusetts at Amherst
 Hollot, C. V. Univ. of Massachusetts at Amherst
 Misra, Vishal Columbia Univ.
 Han, Huaizhong Univ. of Massachusetts at Amherst
 Halevi, Yoram Technion - I.I.T.

02:10 2436
Dynamic modeling of internet traffic for intrusion detection
 Jonckheere, E. Univ. of Southern California
 Shah, K. Univ. of Southern California
 Bohacek, S. Univ. of Southern California

02:30 2443
Bifurcation analysis of TCP-RED dynamics
 Ranjan, Priya Univ. of Maryland at College Park
 Abed, Eyad H. Univ. of Maryland at College Park

02:50 2449
Flow control based on Dahlin control algorithm in ATM networks
 Wei, Shen Shanghai Jiao Tong Univ.
 Lisheng, Hu Shanghai Jiao Tong Univ.
 Huihe, Shao Shanghai Jiao Tong Univ.

03:10 2455
A new persistent contention-based real-time ethernet MAC protocol
 Shen, Gang Shanghai Jiao Tong Univ.
 Xu, Xiaoming Shanghai Jiao Tong Univ.
 He, Xing Shanghai Jiao Tong Univ.
 Zhao, Xia Shanghai Jiao Tong Univ.
 Zhang, Weidong Shanghai Jiao Tong Univ.
 Li, Xiaomeng Shanghai Jiao Tong Univ.
 Geng, Tao Shanghai Jiao Tong Univ.

Summit 7

TM07
Control, Identification, and Monitoring of Large Structures

Chair: Johnson, Erik A Univ. of Southern California
 Co-Chair: Barroso, Luciana Texas A&M Univ.
 Organizer: Johnson, Erik A Univ. of Southern California
 Organizer: Dyke, Shirley J. Washington Univ.

01:30 Paper not available at time of printing
Model updating by output-only modal identification on civil structures (I)
 De Stefano, Alessandro Politecnico Di Torino
 Ceravolo, Rosario Politecnico Di Torino
 Sabia, Donato Politecnico Di Torino

01:50 2457
Modeling MR-dampers: the ridgenet estimation approach (I)
 Jin, Gang Univ. of Notre Dame
 Sain, Michael K. Univ. of Notre Dame
 Spencer, Jr., Billie F. Univ. of Notre Dame

02:10 2571
A class of hybrid market models: simulation, identification, and estimation (I)
 Yin, G. Wayne State Univ.
 Zhang, Q. Univ. of Georgia
 Yang, H. Univ. of Minnesota
 Yin, K. Univ. of Minnesota

02:30 2577
Stochastic learning methods for dynamic neural networks: simulated and real-data comparisons (I)
 Patan, Krzysztof Univ. of Zielona Góra
 Parisini, Thomas Univ. of Trieste

02:50 2583
Real-time control and learning using neuro-controller via simultaneous perturbation for flexible arm system (I)
 Maeda, Yutaka Kansai Univ.

03:10 2589
Heuristic random optimizer - version II (I)
 Chandran, Sandeep Honeywell
 Rhinehart, R. Russell Oklahoma State Univ.

Summit 11

**TM11
 Control Applications I**

Chair: Bosgra, Okko H. Delft Univ. of Tech.
 Co-Chair: Abdelrahman, Mohamed A. Tennessee Tech. Univ.

01:30 2595
Extrapolation of optimal lifted system ILC solution, with application to a waferstage.
 Dijkstra, B. G. Delft Univ. of Tech.
 Bosgra, O. H. Delft Univ. of Tech.

01:50 2601
Water level control for a non-minimum phase hydraulically balanced beam system
 Yang, Pai-Hsueh Nikon Research Corp. of America
 Auslander, David M. Univ. of California at Berkeley

02:10 2603
Oilwell drillbit failure detection using remote acoustic sensing
 Schultz, Roger L. Halliburton Energy Services, Inc.
 De Jesús, Orlando Oklahoma State Univ.

02:30 2609
Integration of multiple sensor fusion in controller design
 Abdelrahman, Mohamed Tennessee Tech. Univ.
 Kandasamy, Parameshwaran Tennessee Tech. Univ.

02:50 2615
Fuzzy supervisory control of field oriented controlled AC drives
 Fattah, Hossam A. Abdel Cairo Univ.
 Ismael, Mohamed M. Suez Canal Univ.
 Bahgat, Ahmed Cairo Univ.

03:10 2621
Transition control using multiple adaptive models and an H-infinity controller design
 Tian, Z. Texas Tech Univ.
 Hoo, K. A. Texas Tech Univ.

Summit 12

**TM12
 Nonlinear Observers**

Chair: Lu, Xiao-yun Univ. of California Berkeley
 Co-Chair: Thein, May-Win Univ. of New Hampshire

01:30 2627
Some robust finite-time sliding reachability conditions and application to nonlinear observer
 Lu, Xiao-Yun Univ. of California at Berkeley
 Hedrick, J. Karl Univ. of California at Berkeley

01:50 2633
A discrete time variable structure observer with overlapping boundary layers
 Thein, May-Win L. Univ. of New Hampshire

02:10 2639
Reduced-order observers for the velocity estimation of non-linear mechanical systems subject to non-smooth impacts
 Menini, L. Univ. di Roma Tor Vergata
 Tornambè, A. Univ. di Roma Tor Vergata

02:30 2645
Immersion technique for nonlinear observer design
 Back, Juhoon Seoul Natl. Univ.
 Seo, Jin H. Seoul Natl. Univ.

02:50 2647
On the use of contraction theory for the design of nonlinear observers for ocean vehicles
 Jouffroy, J. Univ. de Savoie
 Lottin, J. Univ. de Savoie

03:10 2653
A discrete-time design and analysis of perturbation observer
 Kwon, SangJoo Pohang Univ. of Sci. and Tech.
 Chung, Wan Kyun Pohang Univ. of Sci. and Tech.

Summit 13

**TM13
 Nonlinear and Intelligent Control**

Chair: Sasiadek, Jurek, Z. Carleton Univ.
 Co-Chair: Feron, Eric Mass. Inst. of Tech.

01:30 2659
A fuzzy-logic rule based speed and load controller for combustion turbines in power generation
 Sánchez-Parra, Marino Inst. de Investigaciones Eléctricas
 De-Lara-Jayme, Salvador Inst. de Investigaciones Eléctricas
 Bahamaca-Fernández, Luis J. Industria SIGRAMA

01:50 2665
An adaptive critic global controller
 Ferrari, Silvia Princeton Univ.
 Stengel, Robert F. Princeton Univ.

02:10 2671
Experimental implementation of adaptive-critic based infinite time optimal neurocontrol for a heat diffusion system
 Prabhat, Prashant Univ. of Missouri at Rolla
 Balakrishnan, S. N. Univ. of Missouri at Rolla
 Look, Jr., D. C. Univ. of Missouri at Rolla

02:30 2677
Feedforward neural fuzzy control of electrical power systems containing highly varying loads
 Hoffner, Benjamin Colorado School of Mines
 Shoureshi, Rahmat A. Colorado School of Mines
 Kramer, R. A. NiSource Energy Tech. Inc.

02:50 2683
Adaptive backstepping control for a class of nonlinear systems via multilayered neural networks
 Sharma, Manu Barron Associates Inc.
 Calise, A. J. Georgia Inst. of Tech.

03:10 2689
Singularity of backstepping control for non-linear systems
 Bolek, Wiktor Andrzej Wroclaw Univ. of Tech.
 Sasiadek, Jerzy Z. Carleton Univ.

Summit 14

**TM14
 Chemical Process Identification**

Chair: Gertler, Janos J. George Mason Univ.
 Co-Chair: Soroush, Masoud Drexel Univ.

01:30 2695
CV damping versus MV suppression for MPC tuning
 Ou, Jing Westvaco
 Rhinehart, R. Russell Oklahoma State Univ.

01:50 2701
Multi-rate nonlinear state estimation in a polymerization reactor: a real-time study
 Zambare, Neeraj Drexel Univ.
 Soroush, Masoud Drexel Univ.
 Grady, Michael C. DuPont

02:10 2707
The effect of insufficient excitation in PCA estimation
 Cao, Jin George Mason Univ.
 Gertler, Janos George Mason Univ.

02:30 2713
Experiment design for MPC relevant identification
 Gopaluni, Ratna Bhushan Univ. of Alberta
 Patwardhan, Rohit S. Matrikon Consulting Inc.
 Shah, Sirish L. Univ. of Alberta

02:50 2719
Detection of process model changes in PCA based performance monitoring
 Kumar, Sukhbinder Univ. of Newcastle
 Martin, Elaine B. Univ. of Newcastle
 Morris, Julian Univ. of Newcastle

03:10 2725
Dynamic modelling of an industrial polypropylene reactor and its application in melt index prediction during grade transitions
 Wei, Jianli Tsinghua Univ.
 Fan, Shunjie Tsinghua Univ.
 Xu, Yongmao Tsinghua Univ.
 Zhang, Jie Univ. of Newcastle

Williwaw

**TM15
 Linear Robust Control**

Chair: Berg, Jordan M. Texas Tech. Univ.
 Co-Chair: Djaferis, Theodore E. Univ. of Massachusetts

01:30 2731
Robust control design using stable polynomial parameterizations
 Djaferis, T. E. Univ. of Massachusetts at Amherst
 Cushing, D. M. Univ. of Massachusetts at Amherst

01:50 2737
Loss of structurally stable regulation implies loss of stability
 Maithripala, D. H. S. Texas Tech Univ.
 Berg, Jordan M. Texas Tech Univ.
 Dayawansa, W. P. Texas Tech Univ.

02:10 2741
Robustness of decoupling with almost redundant inputs
 Freudenberg, Jim Univ. of Michigan
 Middleton, Rick Univ. of Newcastle

02:30 2747
Loop shaping with closed-loop magnitude contours on the bode plot
 Smith, S. Craig Texas A & M Univ.
 Messner, William Carnegie Mellon Univ.

02:50 2753
A skew μ lower bound
 Holland, Rod Colorado State Univ.
 Young, Peter Colorado State Univ.

03:10 2759
On the local sensitivity of the mixed H2/H-infinity-optimisation problem
 Christov, N. D. Technical Univ. of Sofia
 Konstantinov, M. M. Univ. of Civil Eng. and Architecture
 Petkov, P. Hr. Technical Univ. of Sofia

Redoubt

**TM16
 Time Delay II**

Chair: Suyama, Koichi Tokyo Univ. of Mercantile Marine
 Co-Chair: Rogers, Eric Univ. of Southampton

01:30 2761
Delay differential control theory applied to differential linear repetitive processes
 Rogers, E. Univ. of Southampton
 Galkowski, K. Univ. of Zielona Gora
 Owens, D. H. Univ. of Sheffield

01:50 2767
Realization of full state feedback via delayed output feedback
 Liu, Zheng Univ. of Southern California
 Yang, Bingen Univ. of Southern California

02:10 2773
Design of controllers for integrating and unstable time delay systems using polynomial method
 Dostál, P. Tomas Bata Univ. in Zlín
 Bobál, V. Tomas Bata Univ. in Zlín
 Sysel, M. Tomas Bata Univ. in Zlín

02:30 2779
A new type of multidimensional coprimeness and its application to finite spectrum assignment for delay systems
 Suyama, Koichi Tokyo Univ. of Mercantile Marine

02:50 2786
Robust delay-dependent sliding mode control for uncertain time-delay systems
 Xia, Yuanqing Beijing Univ. of Aeronautics and Astronautics
 Jia, Yingmin Beijing Univ. of Aeronautics and Astronautics

03:10 2792
Discrete PID control for integrator processes with time delay
 Zhang, Qing Zhejiang Univ.
 Wang, Reng-rong Zhejiang Univ.
 Liu, Xiang Zhejiang Univ.
 Sun, You-xian Zhejiang Univ.

Foraker

TM17

Geometric Methods in Control

Chair: Zenkov, Dmitry North Carolina State Univ.
 Co-Chair: Fujimoto, Kenji Kyoto Univ.
 Organizer: Zenkov, Dmitry North Carolina State Univ.
 Organizer: Fujimoto, Kenji Kyoto Univ.

01:30 2794
Controlled lagrangians and electromechanical systems (I)
 Hamberg, Johan Swedish Defence Research Agency

01:50 2800
New results on regulation of nonlinear systems in power chained form (I)
 Lin, Wei Case Western Reserve Univ.
 Pongvuthithum, Radom Case Western Reserve Univ.
 Qian, Chunjiang Univ. of Texas at San Antonio

02:10 2806
Subriemannian geodesics and optimal control of spin systems (I)
 Khaneja, Navin Harvard Univ.
 Glaser, Steffen Tech. Univ. München
 Brockett, Roger Harvard Univ.

02:30 2812
Flat nonholonomic matching (I)
 Zenkov, Dmitry V. North Carolina State Univ.
 Bloch, Anthony M. Univ. of Michigan
 Marsden, Jerrold E. California Inst. of Technology

02:50 2818
Trajectory tracking control of nonholonomic Hamiltonian systems via canonical transformations (I)
 Fujimoto, Kenji Kyoto Univ.
 Sugie, Toshiharu Kyoto Univ.

03:10 2824
Moving mass control for underwater vehicles (I)
 Woolsey, C. A. Virginia Tech
 Leonard, N. E. Princeton Univ.

Summit 1

TP01

Formation Flight

Chair: How, Jonathan P. Mass. Inst. of Tech.
 Co-Chair: Smith, Roy S. Univ. of California at Santa Barbara

03:45 2830
Advanced guidance algorithms for spacecraft formation-keeping
 Tillerson, Michael Massachusetts Inst. of Technology
 How, Jonathan P. Massachusetts Inst. of Technology

04:05 2836
Control topologies for deep space formation flying spacecraft
 Smith, Roy S. Univ. of California at Santa Barbara
 Hadaegh, Fred Y. California Inst. of Tech.

04:25 2842
Adaptive neural control of deep-space formation flying
 Gurfil, Pini Princeton Univ.
 Idan, Moshe Israel Inst. of Tech.
 Kasdin, N. Jeremy Princeton Univ.

04:45 2848
Control of formation flight via extremum seeking
 Binetti, Paolo Politecnico di Milano
 Ariyur, Kartik B. Univ. of California at San Diego
 Krstic, Miroslav Univ. of California at San Diego
 Bernelli, Franco Politecnico di Milano

05:05 2854
Formation flight control design in the presence of unknown leader commands
 Boskovic, Jovan D. Scientific Systems Company, Inc.
 Li, Sai-Ming Scientific Systems Company, Inc.
 Mehra, Raman K. Scientific Systems Company, Inc.

05:25 2860
Robustness to communication failures within formation flight
 Pollini, L. Univ. of Pisa
 Giulietti, F. Univ. of Pisa
 Innocenti, M. Univ. of Pisa

Summit 2

TP02

Modeling and Control of Biological Systems

Chair: Parker, Robert S. Univ. of Pittsburgh
 Co-Chair: Daoutidis, Prodomos Univ. of Minnesota
 Organizer: Parker, Robert S. Univ. of Pittsburgh
 Organizer: Daoutidis, Prodomos Univ. of Minnesota

03:45 2867
*Nonlinear model reduction for energy metabolism in *saccharomyces cerevisiae* (I)*
 Gerdtsen, Ziomara P. Univ. of Minnesota
 Daoutidis, Prodomos Univ. of Minnesota
 Hu, Wei-Shou Univ. of Minnesota

04:05 2873
A state observer for (Bio)Processes with uncertain kinetics (I)
 Dochain, Denis Univ. Catholique de Louvain
 Perrier, Michel Ecole Polytechnique de Montréal

04:25 2879
*Nonlinear MPC for optimization of recombinant *Zymomonas mobilis* Fed-Batch Fermentation (I)*
 Hodge, David Colorado State Univ.
 Karim, M. Nazmul Colorado State Univ.

04:45 2885
Nonlinear model predictive control of a continuous bioreactor using approximate data-driven models (I)
 Parker, Robert S. Univ. of Pittsburgh

05:05 2891
Model-based control of a high pressure homogenizer (I)
 Kelly, William J. Villanova Univ.
 Miller, Justin C. Villanova Univ.
 Rogowski, Mark A. Villanova Univ.
 Muske, Kenneth R. Villanova Univ.

05:25 2897
Model predictive control of ultrasound hyperthermia treatments of cancer (I)
 Arora, Dhiraj Univ. of Utah
 Skliar, Mikhail Univ. of Utah
 Roemer, Robert B. Univ. of Utah

Summit 3

TP03

Nonlinear Control II

Chair: Hedrick, Karl Univ. of California at Berkeley
 Co-Chair: Roberts, Peter D. City Univ., London

03:45 2903
Analysis and design of multivariable extremum seeking
 Ariyur, Kartik B. Univ. of California
 Krstic, Miroslav Univ. of California

04:05 2909
A flatness based generalized PI control approach to liquid sloshing regulation in a moving container
 Sira-Ramirez, Hebert J. Cinvestav-IPN

04:25 2915
Two-dimensional analysis of an algorithm for determining the optimal control of non-linear differential algebraic equation systems
 Roberts, P D City University, London

04:45 2921
Optimal controller for ITO-Volterra Systems
 Basin, Michael V. Autonomous Univ. of Nuevo Leon
 Alcorta Garcia, Ma. Aracelia Autonomous Univ. of Nuevo Leon

05:05 2927
Recursive deconvolution of first kind Volterra equations
 Fagnani, F. Politecnico di Torino
 Pandolfi, L. Politecnico di Torino

05:25 2929
A new approach to model reference adaptive control
 Miller, Daniel E. Univ. of Waterloo

Summit 4

TP04

Sliding Mode Control II

Chair: O'Dell, Brian Oklahoma State Univ.
 Co-Chair: Fridman, Leonid M. Natl. Univ. of Mexico

03:45 2935
Boundary layer Eigenvalues in observer based discrete-time sliding mode control
 Richter, Hanz NASA - Stennis Space Center
 Misawa, Eduardo A. Oklahoma State Univ.

04:05 2937
Estimation using a new variable structure filter (I)
 Habibi, Saeid Univ. of Saskatchewan
 Burton, Richard Univ. of Saskatchewan
 Chinniah, Yuvin Univ. of Saskatchewan

04:25 2943
Multirate digital sliding mode control
 Lee, Seung-Hi Samsung Adv. Inst. of Tech.
 Chung, Chung Choo Hanyang Univ.

04:45 2949
Integral variable structure control of nonlinear system using CMAC-based learning approach
 Lin, Wei-Song Natl. Taiwan Univ.
 Hung, Chin-Pao Natl. Taiwan Univ. & Natl. Chin-Yi Inst. of Tech.

05:05 2955
Sliding-mode-based direct adaptive fuzzy controller design for a class of uncertain multivariable nonlinear systems
 Lin, Wei-Song Natl. Taiwan Univ.
 Chen, Chun-Sheng Natl. Taiwan Univ.

05:25 2961
Fuzzy indirect adaptive sliding mode tracking control for a class of nonlinear similar composite large-scale systems
 Zhang, Yanxin Northeastern Univ.
 Chen, Bing Northeastern Univ.
 Liu, Xiaoping Northeastern Univ.
 Zhang, Siying Northeastern Univ.

Summit 5

TP05

Sampled-Data Systems

Chair: Chen, Jie Univ. of California at Riverside
 Co-Chair: Lincoln, Bo Lund Inst. of Tech.

03:45 2967
Asymptotic tracking performance of sampled-data systems
 Chen, Jie King Fahd Univ.
 Chen, Jie Univ. of California

04:05 2973
Sampled-data program control via model-reference LQG
 Blachuta, Marian J. Silesian Technical Univ.
 Grygiel, Rafal Silesian Technical Univ.

04:25 2979
Optimal control for systems with varying sampling rate
 Schinkel, Michael Univ. of Glasgow
 Chen, Wen Hua Univ. of Loughborough
 Rantzer, Anders Lund Inst. of Tech.

04:45 2985
Jitter compensation in digital control systems
 Lincoln, Bo Lund Inst. of Tech.

05:05 2991
Stability analysis of discrete linear systems with quantized input
 Richter, Hanz NASA - Stennis Space Center
 Misawa, Eduardo A. Oklahoma State Univ.
 O'Dell, Brian D. Oklahoma State Univ.

05:25 2997
A study on the spectrum of the sampled-data transfer operator with application to robust exponential stability problems
 Hagiwara, Tomomichi Kyoto Univ.

Summit 6

TP06

Networked Control Systems

Chair: Tilbury, Dawn M. Univ. of Michigan
 Co-Chair: Smith, Craig Texas A&M Univ.
 Organizer: Tilbury, Dawn M. Univ. of Michigan
 Organizer: Croft, Elizabeth UBC

03:45 3003
A source coding and modulation method for power saving and interference reduction in DS-CDMA sensor network systems (I)
 Liu, Chun-Hung Massachusetts Inst. of Tech.
 Asada, H. Harry Massachusetts Inst. of Tech.

04:05 3009
Optimal controller design and evaluation for a class of networked control systems with distributed constant delays
 Lian, Feng-Li Univ. of Michigan
 Moyne, James Univ. of Michigan
 Tilbury, Dawn Univ. of Michigan

04:25 3015
Using deadbands to reduce communication in networked control systems (I)
 Otanez, Paul G. Univ. of Michigan
 Moyne, James R. Univ. of Michigan
 Tilbury, Dawn M. Univ. of Michigan

04:45 3021
Optimal pseudo-steady-state estimators for systems with Markovian intermittent measurements (I)
 Smith, S. Craig Texas A & M Univ.
 Seiler, Peter Univ. of California at Berkeley

05:05 3028
Development of a vehicle network control testbed (I)
 Stubbs, Andrew Univ. of Illinois at Urbana-Champaign
 Vladimerou, Vladimeros Univ. of Illinois at Urbana-Champaign
 Vaughn, Andy Univ. of Illinois at Urbana-Champaign
 Dullerud, Geir E. Univ. of Illinois at Urbana-Champaign

05:25 3034
Coordination layer control and decision making for automated ground vehicles (I)
 Lu, X. Y. Univ. of California at Berkeley

Summit 7

TP07

Control, Identification and Monitoring of Large Structures

Chair: Johnson, Erik A Univ. of Southern California
 Co-Chair: Barroso, Luciana Texas A&M Univ.
 Organizer: Johnson, Erik A Univ. of Southern California
 Organizer: Dyke, Shirley J. Washington Univ.

03:45 3040
Motion and vibration control of three dimensional flexible shaking table using LQI control approach (I)
 Seto, Kazuto Nihon Univ.
 Fuji, Daijirou Nihon Univ.
 Hiramathu, Hidefumi Nihon Univ.
 Watanabe, Toru Nihon Univ.

04:05 3046
Decentralized control design for cable-stayed bridge benchmark (I)
 Bakule, Lubomir Academy of Sciences of the Czech Republic
 Paulet-Crainiceanu, Fideliu Technical Univ. of Iasi
 Rodellar, Jose Technical Univ. of Catalunya

04:25 3052
On application of precision servo mode and fault control strategies to actuator models for structural applications (I)
 Sain, Patrick M. Raytheon Co.

04:45 3058
Control of a moving oscillator on an elastic continuum using smart dampers (I)
 Giraldo, Diego Washington Univ.
 Dyke, Shirley J. Washington Univ.

05:05 3064
Seismic response control of a benchmark cable-stayed bridge by variable dampers (I)
 Ruangrassamee, Anat Chulalongkorn Univ.
 Kawashima, Kazuhiko Tokyo Inst. of Tech.

05:25 3070
Robust cost-cumulants based algorithm for second and third generation structural control benchmarks (I)
 Pham, Khanh D. Univ. of Notre Dame
 Sain, Michael K. Univ. of Notre Dame
 Liberty, Stanley R. Bradley Univ.

Summit 8

TP08

Motor Control

Chair: Chiasson, John Univ. of Tennessee
 Co-Chair: Bodson, Marc Univ. of Utah

03:45 3076
A comparison of sensorless speed estimation methods for induction motor control
 Bodson, Marc Univ. of Tennessee
 Chiasson, John Univ. of Tennessee

04:05 3082
Real-time identification of an induction motor using sinusoidal PWM voltage signals
 Zaremba, A. T. Ford Motor Co.
 Pavlov, A. V. Eindhoven Univ. of Tech.

04:25 3088
Current harmonic detection for induction motor speed sensorless control using fast orthogonal search
 Nutt, K. Royal Military College of Canada
 Tarbouchi, M. Royal Military College of Canada
 McGaughey, D. R. Royal Military College of Canada
 Chikhani, A. Royal Military College of Canada

04:45 3093
Independent control of two PM motors using a single inverter: application to elevator doors.
 Chiasson, John Univ. of Tennessee
 Seto, Danbing United Technologies
 Sun, Fanping United Technologies
 Stankovic, Alex Northeastern Univ.
 Bortoff, Scott United Technologies

05:05 3099
Nonlinear adaptive backstepping motion control of linear induction motor
 Huang, Chin-I Natl. Taiwan Univ.
 Chen, Ko-Lo Natl. Taiwan Univ.
 Lee, Hou-Tsan Natl. Taiwan Univ.
 Fu, Li-Chen Natl. Taiwan Univ.

05:25 3105
Variable structure flux linkage controller for torque ripple minimization in switched reluctance motors
 Osama, Ahmed M. Cairo Univ.
 Fattah, Hossam A. Abdel Cairo Univ.
 Sakr, Ahmed M. Cairo Univ.

Summit 9
TP09
Advances in Automotive Modeling for Control
 Chair: Liu, Sharon General Motors Powertrain
 Co-Chair: Baraszu, Robert C. Ford Motor Co.
 Organizer: Liu, Sharon General Motors Powertrain
 Organizer: Buckland, Julia Ford Motor Co.

03:45 3111
Control-oriented modeling and analysis of automotive transcritical AC system dynamics (I)
 Rasmussen, Bryan Univ. of Illinois at Urbana-Champaign
 Alleyne, Andrew Univ. of Illinois at Urbana-Champaign
 Bullard, Clark Univ. of Illinois at Urbana-Champaign
 Hrnjak, Pega Univ. of Illinois at Urbana-Champaign
 Miller, Norman Univ. of Illinois at Urbana-Champaign

04:05 3117
Modeling and control for PEM fuel cell stack system (I)
 Pukrushpan, Jay T. Univ. of Michigan
 Stefanopoulou, Anna G. Univ. of Michigan
 Peng, Huei Univ. of Michigan

04:25 3123
From stoichiometry to ultra lean burn in a direct injection spark ignition engine model (I)
 Scillieri, Joseph J. Univ. of Michigan
 Freudenberg, James S. Univ. of Michigan
 Grizzle, J. W. Univ. of Michigan

04:45 Paper not available at time of printing
Modeling, estimation, and control for torque converter equipped vehicles to minimize driveline gear backlash (I)
 Kotwicki, Allan J. Ford Motor Company
 Russell, John Ford Motor Company

05:05 3129
Regenerative braking system for a hybrid electric vehicle (I)
 Cikanek, S. R. Ford Research Lab.
 Bailey, K. E. Ford Research Lab.

05:25 3135
Analysis of automatically generated vehicle system control software in a HIL environment (I)
 Yamazaki, M. Ford Motor Co. Sci. Research Labs.
 Sureshbabu, S. Ford Motor Co. Sci. Research Labs.
 Loftus, M. Ford Motor Co. Sci. Research Labs.
 Crandell, R. Ford Motor Co. Sci. Research Labs.
 Brackx, M. Ford Motor Co. Sci. Research Labs.

Summit 10
TP10
Optimization
 Chair: Murphey, Robert AFRL / MNGN
 Co-Chair: Spall, James C. Johns Hopkins Univ.

03:45 3141
A local second- and third-order maximum principle
 Sussmann, Hector J. Rutgers Univ.

04:05 3147
Discrete-time extremum seeking algorithms
 Pan, Yaodong The Ohio State Univ.
 Özgüner, Ümit The Ohio State Univ.

04:25 3153
Theoretical framework for comparing several popular stochastic optimization approaches
 Spall, James C. The Johns Hopkins Univ.
 Hill, Stacy D. The Johns Hopkins Univ.
 Stark, David R. The Johns Hopkins Univ.

04:45 3159
Extremum seeking loops with assumed functions: estimation and control
 Banavar, R. N. Indian Inst. of Technology

05:05 3165
Nonstationary optimal positioning controller design using GA meta-optimization
 Hara, Susumu Toyota Tech. Inst.

05:25 3168
A powerful modified genetic algorithm for multimodal function optimization
 Guo, Zhijiang Zhejiang Univ.
 Zheng, Hongtao Zhejiang Univ.
 Jiang, Jingping Zhejiang Univ.

Summit 11
TP11
Control Applications II
 Chair: Wu, Fen North Carolina State Univ.
 Co-Chair: Borrello, Michael A. Trex Enterprises

03:45 3174
A distributed parameter dependent control design for a flexible beam problem
 Wu, Fen North Carolina State Univ.
 Yildizoglu, Suat E. North Carolina State Univ.

04:05 3180
Permanent magnet stepper motor control via position-only feedback
 Krishnamurthy, P. Polytechnic Univ.
 Khorrami, F. Polytechnic Univ.

04:25 3186
Shipboard disturbance control for the rapid optical beam steering (ROBS) pointing and tracking system
 Borrello, M. A. Trex Enterprises
 Leslie, D. Trex Enterprises
 Hyman, H. Trex Enterprises

04:45 3191
Nonlinear observer for pneumatic system with non negligible connection port restriction
 Bigras, Pascal École de technologie supérieure
 Khayati, Karim École de technologie supérieure

05:05 3196
Inertia equivalence principle and adaptive control of parallel manipulators with redundant actuation
 Liu, G. F. Hong Kong Univ. of Sci. & Tech.
 Yiu, Y. K. Hong Kong Univ. of Sci. & Tech.
 Li, Z. X. Hong Kong Univ. of Sci. & Tech.

05:25 3202
A new robust continuous sliding mode control for robot manipulators with parameter perturbations
 Istefanopoulos, Yorgo Bogazici Univ.
 Jafarov, Elbrous M. Istanbul Tech. Univ.
 Alpaslan Parlakci, M. N. Istanbul Bilgi Univ.

TP12
Time-Varying Estimation

Chair: Pao, Lucy Y. Harvard Univ.
 Co-Chair: Yu, Xiao-Hua Cal Poly, SLO

03:45 3207
Arrival rate identification for a class of traffic signal control problem
 Yu, Xiao-Hua California Polytechnic State Univ.
 Stubberud, Allen R. Univ. of California at Irvine

04:05 3213
A novel approach to estimation of doppler frequencies of a time-varying communication channel
 Klaput, Tomasz Tech. Univ. of Gdansk
 Niedzwiecki, Maciej Tech. Univ. of Gdansk

04:25 3219
L1 prediction error approach in system identification
 Carmona, J. C. LSIS CNRS Marseille
 Alvarado, V. M. CENIDED

04:45 3224
Robust H2 filtering for discrete-time uncertain linear systems using parameter-dependent Lyapunov functions
 Barbosa, Karina A. Univ. Federal de Santa Catarina
 de Souza, Carlos E. Lab. Nacional de Computacao Cientifica
 Trofino, Alexandre Univ. Federal de Santa Catarina

05:05 3230
Generalized minimum variance control for time varying systems without diophantine equation
 Doi, Masayoshi Natl. Defense Academy
 Mori, Yasuchika Natl. Defense Academy

05:25 3236
Parametric identification of linear time varying systems using a proportional reduced order observer
 Chavez-Manriquez, Ismael CINVESTAV-IPN40
 Martinez-Guerra, Rafael CINVESTAV-IPN
 Osorio-Cordero, Antonio CINVESTAV-IPN,

TP13
Intelligent Control II

Chair: Balas, Mark Univ. of Colorado
 Co-Chair: Kaczorek, Tadeusz Warsaw Tech. Univ.

03:45 3242
Rule base evaluation using DNA chips
 Delgado, Alberto Natl. Univ. of Colombia

04:05 3246
Adaptive NN control for a class of discrete-time nonlinear systems based on input-output model
 Ge, S. S. Natl. Univ. of Singapore
 Li, G. Y. Natl. Univ. of Singapore
 Lee, T. H. Natl. Univ. of Singapore

04:25 3252
H infinity controller design for discrete-time fuzzy systems using fuzzy weighting-dependent lyapunov functions
 Choi, Doo Jin Pohang Univ. of Sci. & Tech.
 Park, PooGyeon Pohang Univ. of Sci. & Tech.

04:45 3258
Solving inexplicit and underdetermined nonlinear systems of equations using fuzzy logic
 Selekwa, Majura F. Florida A & M Univ. – Florida State Univ.
 Collins, Emmanuel G. Florida A & M Univ. – Florida State Univ.

05:05 3264
High-fidelity simulation testing of intelligent and adaptive aircraft control laws
 Steinberg, Marc L. Naval Air Systems Command
 Page, Anthony B. Naval Air Systems Command

05:25 3269
Intelligent landing control using linearized inverse aircraft model
 Juang, Jih-Gau Natl. Taiwan Ocean Univ.
 Chang, Hao-Hsiang Natl. Taiwan Ocean Univ.
 Cheng, Kai-Chung Natl. Taiwan Ocean Univ.

TP14
Engine and Chemical Process Control

Chair: Qin, S. Joe Univ. of Texas at Austin
 Co-Chair: Devasia, Santosh Univ. of Washington

03:45 3275
Behavior of a CSTR with a recirculating jacket heat transfer system
 Bequette, B. Wayne Rensselaer Polytechnic Inst.

04:05 3281
Output tracking between operating points for nonlinear processes: Van de Vusse example
 Perez, H. Univ. of Washington
 Ogunnaike, B. Du Pont Central Research & Development
 Devasia, S. Univ. of Washington

04:25	3287	
<i>Robust fault detection for nonlinear Hessenberg systems</i>		
Verde, C.	Instituto de Ingeniería UNAM	
04:45	3293	
<i>Speed control of a diesel engine: a nonlinear approach</i>		
Outbib, R.	CRAN	
Dovifaaz, X.	CRAN-ESSTIN	
Rachid, A.	Univ. de Jules Verne	
Ouladsine, M.	LSIS, IUSPIM	
05:05	3295	
<i>Robustness of rotating stall control for axial-flow compressors</i>		
Tahmasebi, Ali	Univ. of Windsor	
Chen, Xiang	Univ. of Windsor	
05:25	3301	
<i>Robust stabilization of a centrifugal compressor with spool dynamics</i>		
Liaw, Der-Cherng	Natl. Chiao Tung Univ.	
Song, Chau-Chung	Chin Min College	
Huang, Jeng-Tze	Van Nung Inst. of Tech.	

Williwaw

TP15

Linear Identification

Chair: Watkins, John United States Naval Academy
 Co-Chair: Goodwin, Graham C. Univ. of Newcastle

03:45	3307	
<i>Subspace identification with guaranteed stability using constrained optimization</i>		
Lacy, Seth L.	Univ. of Michigan	
Bernstein, Dennis S.	Univ. of Michigan	
04:05	3313	
<i>Data compression for subspace-based identification using periodic inputs</i>		
Hussein, Islam I.	Univ. of Michigan	
Lacy, Seth L.	Univ. of Michigan	
Bernstein, Dennis S.	Univ. of Michigan	

04:25	3319	
<i>Identification of closed-loop MIMO systems from time-domain data using polyspectral analysis</i>		
Tugnait, Jitendra Kumar	Auburn Univ.	
Zhou, Yi	Spirent Communications	

04:45	3325	
<i>An algorithm for joint identification and control</i>		
Date, P.	Univ. of Cambridge	
Lanzon, A.	Georgia Inst. of Tech.	

05:05	3331	
<i>Self excited closed loop parametric estimation in the presence of noise undermodelling</i>		
Goodwin, Graham C.	Univ. of Newcastle	
Welsh, James S.	Univ. of Newcastle	

05:25	3337	
<i>Decentralized control of serial interconnected systems for river water quality via subspace identification</i>		
Bottura, Celso P.	UNICAMP	
Cáceres, Angel F. Torrico	Univ. Fed. do Maranhão	

Redoubt

TP16

Time Delay Systems

Chair: Stewart, Paul Univ. of Sheffield
 Co-Chair: Xiao, Yang Northern Jiaotong Univ.

03:45	3343	
<i>The response surface methodology for rapid prototyping of real-time control systems</i>		
Stewart, Paul	Univ. of Sheffield	
Fleming, Peter J.	Univ. of Sheffield	

04:05	3349	
<i>In-cycle dynamics of forming operations</i>		
Moore, B.	McGill Univ.	
Girard, P.	NRC Industrial Materials Inst.	
Boulet, B.	McGill University	
DiRaddo, R.	NRC Industrial Materials Inst.	

04:25	3351	
<i>2-d algebraic test for stability of time-delay systems</i>		
Xiao, Yang	Northern Jiaotong Univ.	

04:45	3357	
<i>Delay-dependent robust stabilization for uncertain time-delay systems with saturating actuators-LMI approach</i>		
Su, Te-Jen	Natl. Kaohsiung Univ. of Applied Sciences	
Lu, Chien-Yu	National Cheng-Kung Univ.	
Tsai, Jason Sheng-Hong	National Cheng-Kung Univ.	

05:05	3359	
<i>Robustness limits of time delay control systems</i>		
Keviczky, L.	Hungarian Academy of Sciences	
Banyasz, Cs.	Hungarian Academy of Sciences	

05:25	3365	
<i>Robust stabilization of uncertain dynamic time-delay systems with unknown bounds of uncertainties</i>		
Hua, Changchun	Yanshan Univ.	
Long, Chengnian	Yanshan Univ.	
Guan, Xinpeng	Yanshan Univ.	
Duan, Guangren	Queens Univ. of Belfast	

Foraker

TP17

Control & the Innovation Process

Chair: Wellstead, Peter E. UMIST
 Co-Chair: Schooling, Steven Univ. College London
 Organizer: Wellstead, Peter E. UMIST
 Organizer: Schooling, Steven Univ. College London

03:45	3371	
<i>Control and modelling concepts in the innovation process (I)</i>		
Wellstead, Peter	UMIST	

04:05	3377	
<i>Distribution in control and innovation (I)</i>		
Schooling, Steven	Univ. College London	

04:25	3383	
<i>Integration of business and production processes (I)</i>		
Kjaer, Allan P.	Balslev Ltd.	

04:45	3389	
<i>Systems thinking in developing production concepts for new products (I)</i>		
Pettit, Njal		Danfoss A/S
05:05	3395	
<i>Data-centric decision support (I)</i>		
Kulhavy, Rudolf		Honeywell Labs
05:25	3401	
<i>Control objectives and systems analysis : innovation drivers for electric power-assisted steering (I)</i>		
Burton, A. W.		TRW LucusVarity Electric Steering Ltd

8:00 – 9:00 Cook/Arteaga

Plenary Session III
Perceptions and Problems:
A Users' View of Advanced Control

Paul Studebaker
CONTROL Magazine

Chair: Rhinehart, R. Russell Oklahoma State Univ.
Co-Chair: Misawa, Eduardo A. Oklahoma State Univ.

Summit 1

FA01
Adaptive Output Feedback Control

Chair: Pagilla, Prabhakar R. Oklahoma State Univ.
Co-Chair: Qu, Zhihua Univ. of Central Florida

09:15 3407
Decentralized adaptive control
Narendra, Kumpati S. Yale Univ.
Oleng', Nicholas O. Yale Univ.

09:35 3413
Multivariable adaptive output-feedback control
Kazemi, Mohammad Hosein Amir Kabir Univ.
Menhaj, Mohammad Bagher OSU
Karrari, Mehdi Amir Kabir Univ.

09:55 3419
Uniformly ultimately bounded adaptive tracking control of uncertain systems
Lee, Yonggon Purdue Univ.
Zak, Stanislaw H. Purdue Univ.

10:15 3425
Simplified robust control for nonlinear uncertain systems: a method of projection and online estimation
Saengdeeing, Apiwat Univ. of Central Florida
Qu, Zhihua Univ. of Central Florida

10:35 3431
Output-feedback robust adaptive receding horizon controller design
Jeong, Seung Cheol Pohang Univ. of Sci. and Tech.
Park, PooGyeon Pohang Univ. of Sci. and Tech.

10:55 3437
A simple controller for unknown nonlinear systems
Vargas, José A. Ruiz Tech. Inst. Of Aeronautics
Hemerly, Elder M. Tech. Inst. Of Aeronautics

Summit 2

FA02
New Perspectives in the Control of Biomedical Systems

Chair: Ledzewicz, Urszula Southern Ill. Univ. at Edwardsville
Co-Chair: Schattler, Heinz M. Washington Univ.
Organizer: Ledzewicz, Urszula Southern Ill. Univ. at Edwardsville
Organizer: Schattler, Heinz M. Washington Univ.

09:15 3443
Stochastic models of progression of cancer and their use in controlling cancer-related mortality (I)
Kimmel, Marek Rice Univ.
Gorlova, Olga MD Anderson Cancer Center

09:35 3449
Control theoretic approach to random branching walk models arising in molecular biology (I)
Swierniak, Andrzej Silesian Univ. of Tech.
Polanski, Andrzej Silesian Univ. of Tech.
Smieja, Jaroslaw Silesian Univ. of Tech.
Kimmel, Marek Rice Univ.
Rzeszowska-Wolny, Joanna Inst. of Oncology Branch Gliwice

09:55 3454
On optimal controls for a general mathematical model for chemotherapy of HIV (I)
Ledzewicz, Urszula Southern Illinois Univ.
Schättler, Heinz Washington Univ.

10:15 3460
Analysis of a class of optimal control problems arising in cancer chemotherapy (I)
Ledzewicz, Urszula Southern Illinois Univ.
Schättler, Heinz Washington Univ.

10:35 3466
Optimal control of certain infinite dimensional systems with application to chemotherapy modelling (I)
Smieja, J. Silesian Univ. of Tech.
Swierniak, A. Silesian Univ. of Tech.

10:55 3472
Methods for estimation of demographic parameters from dna sequence samples (I)
Polanski, Andrzej Rice Univ.
Kimmel, Marek Rice Univ.

Summit 3

FA03
Nonlinear Control III

Chair: Arcak, Murat Rensselaer Polytechnic Inst.
Co-Chair: Ito, Hiroshi Kyushu Inst. of Tech.

09:15 3478
Observer-based backstepping with weak nonlinear damping
Arcak, Murat Rensselaer Polytechnic Inst.

09:35 3484
Disturbance rejection for nonlinear systems
Sun, Zongxuan General Motors Corp.
Tsao, Tsu-Chin Univ. of California