# 2011 50th IEEE Conference on Decision and Control and European Control Conference

# (CDC-ECC 2011)

## Orlando, Florida, USA
## 12 – 15 December 2011

## Pages 1-662

**IEEE Catalog Number:** CFP11CDC-PRT
**ISBN:** 978-1-61284-800-6

# Content List of 50th IEEE Conference on Decision and Control and European Control Conference

**Technical Program for Monday December 12, 2011**

| **MoPL** | Bonnet Creek Ballroom VI & IX |
|---|---|
| **Encounters with System Identification** (Plenary Session) | |
| Chair: Chong, Edwin K. P. | Colorado State Univ. |
| 08:30-09:30 | MoPL.1 |
| *Encounters with System Identification**. | |
| Ljung, Lennart | Linkoping Univ. |

| **MoA01** | Orange |
|---|---|
| **Management and Control of Customer Side of the Meter Resources and Load** (Invited Session) | |
| Chair: Caramanis, Michael C. | Boston Univ. |
| Co-Chair: Stoustrup, Jakob | Aalborg Univ. |
| Organizer: Caramanis, Michael C. | Boston Univ. |
| Organizer: Baillieul, John | Boston Univ. |
| Organizer: Stoustrup, Jakob | Aalborg Univ. |
| Organizer: Annaswamy, Anuradha | Massachusetts Inst. of Tech. |
| 10:00-10:20 | MoA01.1 |
| *Residential Demand Response with Interruptible Tasks: Duality and Algorithms (I)*, pp. 1-6. | |
| Gatsis, Nikolaos | Univ. of Minnesota |
| Giannakis, Georgios B. | Univ. of Minnesota |
| 10:20-10:40 | MoA01.2 |
| *Smart Finite State Devices: A Modeling Framework for Demand Response Technologies (I)*, pp. 7-14. | |
| Turitsyn, Konstantin | Massachusetts Inst. of Tech. |
| Backhaus, Scott | Los Alamos National Lab. |
| Ananyev, Maxim | New Ec. School |
| Chertkov, Michael | Los Alamos National Lab. |
| 10:40-11:00 | MoA01.3 |
| *Aggregated Modeling of Thermostatic Loads in Demand Response: A Systems and Control Perspective (I)*, pp. 15-20. | |
| Kalsi, Karanjit | Pacific Northwest National Lab. |
| Chassin, Forrest | Pacific Northwest National Lab. |
| Chassin, David | Pacific Northwest National Lab. |
| 11:00-11:20 | MoA01.4 |
| *A Market-Based Mechanism for Providing Demand-Side Regulation Service Reserves (I)*, pp. 21-26. | |
| Paschalidis, Ioannis | Boston Univ. |
| Li, Binbin | Boston Univ. |
| Caramanis, Michael C. | Boston Univ. |
| 11:20-11:40 | MoA01.5 |
| *Distributed Algorithms for Control of Demand Response and Distributed Energy Resources (I)*, pp. 27-32. | |
| Dominguez-Garcia, Alejandro | Univ. of Illinois at Urbana-Champaign |
| Hadjicostis, Christoforos | Univ. of Cyprus |
| 11:40-12:00 | MoA01.6 |
| *Regulation and Double Price Mechanisms in Markets with Friction (I)*, pp. 33-40. | |
| Kizilkale, Arman C. | McGill Univ. |
| Mannor, Shie | Tech. |

| **MoA02** | Dixie |
|---|---|
| **Biomedical Systems I** (Regular Session) | |
| Chair: Ding, Zhengtao | The Univ. of Manchester |
| Co-Chair: Lemos, Joao M. | Inesc-id |
| 10:00-10:20 | MoA02.1 |

*Nonlinear Adaptive Control of the NeuroMuscular Blockade in Anesthesia*, pp. 41-46.

| | |
|---|---|
| Martins da Silva, Margarida | Uppsala Univ. |
| Mendonça, Teresa | Fac. de Ciências da Univ. do Porto |
| Wigren, Torbjorn | Uppsala Univ. |

10:20-10:40 MoA02.2

*Spectral Analysis of Semg Signals to Investigate Skeletal Muscle Fatigue*, pp. 47-52.

| | |
|---|---|
| Kumar, Parmod | Idaho State Univ. |
| Sebastian, Anish | Idaho State Univ. |
| Potluri, Chandrasekhar | Idaho State Univ. |
| Yihun, Yimesker | Idaho State Univ. |
| Anugolu, Madhavi | Idaho State Univ. |
| Creelman, Jim | Idaho State Univ. |
| Urfer, Alex | Idaho State Univ. |
| Naidu, D. Subbaram | Idaho State Univ. |
| Schoen, Marco | Idaho State Univ. |

10:40-11:00 MoA02.3

*An Optimal Control Problem in Closed-Loop Neuroprostheses*, pp. 53-58.

| | |
|---|---|
| Kumar, Gautam | Lehigh Univ. |
| Aggarwal, Vikram | Johns Hopkins Univ. |
| Thakor, Nitish | Johns Hopkins Univ. |
| Schieber, Marc H. | Univ. of Rochester Medical Center |
| Kothare, Mayuresh V. | Quanser |

11:00-11:20 MoA02.4

*Asymptotic Output Tracking in Blood Glucose Control. a Case Study*, pp. 59-64.

| | |
|---|---|
| Kovács, Levente | Budapest Univ. of Tech. and Ec. |
| Szalay, Peter | Budapest Univ. of Tech. and Ec. |
| Benyó, Balázs | Budapest Univ. of Tech. and Ec. |
| Chase, J. Geoffrey | Univ. of Canterbury |

11:20-11:40 MoA02.5

*Nonlinear MPC of HIV-1 Infection with Periodic Inputs*, pp. 65-70.

| | |
|---|---|
| Pinheiro, Joao | INESC-ID |
| Lemos, Joao M. | Inesc-id |
| Vinga, Susana | INESC-ID |

11:40-12:00 MoA02.6

*One-Sided Lipschitz Observer Design for Circadian Models*, pp. 71-76.

| | |
|---|---|
| Ding, Zhengtao | The Univ. of Manchester |
| Ton That, Long | The Univ. of Manchester |

## MoA03 — Columbia

**Fault Detection I** (Regular Session)

| | |
|---|---|
| Chair: Spurgeon, Sarah K. | Univ. of Kent |
| Co-Chair: Srivastava, Vaibhav | Univ. of California Santa Barbara |

10:00-10:20 MoA03.1

*A Sliding Mode Observer for Fault Reconstruction under Output Sampling: A Time-Delay Approach*, pp. 77-82.

| | |
|---|---|
| Han, Xiaoran | Univ. of Kent |
| Fridman, Emilia | Tel-Aviv Univ. |
| Spurgeon, Sarah K. | Univ. of Kent |

10:20-10:40 MoA03.2

*Stochastic Surveillance Strategies for Spatial Quickest Detection*, pp. 83-88.

| | |
|---|---|
| Srivastava, Vaibhav | Univ. of California Santa Barbara |
| Bullo, Francesco | Univ. California at Santa Barbara |

10:40-11:00 MoA03.3

*A Distributed Fault Detection Filtering Approach for a Class of Interconnected Continuous-Time Nonlinear Systems*, pp. 89-94.

| | |
|---|---|
| Keliris, Christodoulos | Univ. of Cyprus |
| Polycarpou, Marios M. | Univ. of Cyprus |

11:00-11:20 MoA03.4

*A Data-Driven and Probabilistic Approach to Residual Evaluation for Fault Diagnosis*, pp. 95-102.

| | |
|---|---|
| Svärd, Carl | Univ. of Linköping |
| Nyberg, Mattias | Scania |
| Frisk, Erik | Linkoping Univ. |
| Krysander, Mattias | Linkoping U. |

11:20-11:40 MoA03.5

*Improvement of the Sensitivity of T² Quality Control Charts by Variable Grouping and Dimension Reducing*, pp. 103-108.

| | |
|---|---|
| Friebel, Thomas | Cologne Univ. of Applied Sciences |
| Haber, Robert | Univ. of Applied Science Cologne |

11:40-12:00 MoA03.6

*Data Projection Method for Sensor Fault Detection and Isolation on Nonlinear Systems Based on Takagi Sugeno Model*, pp. 109-114.

| | | |
|---|---|---|
| Zouari, Talel | Univ. des Sciences Tech. de Lille I, | LAGISFRE 330 |
| Pekpe, Komi Midzodzi | Univ. de Lille 1 | |
| Cocquempot, Vincent | Lille 1 Univ. | |
| Ksouri, Moufida | Ec. Nationale des Ingénieurs de Tunis, ACS. | |

**MoA04** Nassau

**Advances on Reinforcement Learning, ADP and Control Applications** (Invited Session)

| | |
|---|---|
| Chair: Jiang, Zhong-Ping | Pol. Inst. NYU |
| Co-Chair: Lewis, Frank L. | Univ. of Texas at Arlington |
| Organizer: Jiang, Zhong-Ping | Pol. Inst. NYU |
| Organizer: Lewis, Frank L. | Univ. of Texas at Arlington |

10:00-10:20 MoA04.1

*Robust Approximate Dynamic Programming and Global Stabilization with Nonlinear Dynamic Uncertainties (I)*, pp. 115-120.

| | |
|---|---|
| Jiang, Yu | Pol. Inst. of New York Univ. |
| Jiang, Zhong-Ping | Pol. Inst. NYU |

10:20-10:40 MoA04.2

*Cooperative Navigation for Heterogeneous Autonomous Vehicles Via Approximate Dynamic Programming (I)*, pp. 121-127.

| | |
|---|---|
| Ferrari, Silvia | Duke Univ. |
| Anderson, Michael S. | Univ. of New Mexico |
| Fierro, Rafael | Univ. of New Mexico |
| Lu, Wenjie | Duke Univ. |

10:40-11:00 MoA04.3

*Policy Iteration Algorithm for Distributed Networks and Graphical Games (I)*, pp. 128-135.

| | |
|---|---|
| Vamvoudakis, Kyriakos | Univ. of Texas at Arlington |
| Lewis, Frank L. | Univ. of Texas at Arlington |

11:00-11:20 MoA04.4

*Stochastic Optimal Control Design for Nonlinear Networked Control System Via Neuro Dynamic Programming Using Input-Output Measurements (I)*, pp. 136-141.

| | |
|---|---|
| Xu, Hao | Missouri Univ. of Science and Tech. |
| Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |

11:20-11:40 MoA04.5

*Nonlinear Two-Player Zero-Sum Game Approximate Solution Using a Policy Iteration Algorithm (I)*, pp. 142-147.

| | |
|---|---|
| Johnson, Marcus | Univ. of florida |
| Bhasin, Shubhendu | Univ. of Florida |
| Dixon, Warren E. | Univ. of Florida |

11:40-12:00 MoA04.6

*TD-Learning with Exploration (I)*, pp. 148-155.

| | |
|---|---|
| Meyn, Sean | Univ. of Illinois |

Surana, Amit — United Tech. Res. Center

**MoA05** — Taylor

**Unveiling the Unknown Structure of a Network System** (Invited Session)

Chair: Materassi, Donatello — Univ. of Minnesota
Co-Chair: Coleman, Todd — Univ. of Illinois
Organizer: Materassi, Donatello — Univ. of Minnesota
Organizer: Coleman, Todd — Univ. of Illinois
Organizer: Giarrè, Laura — Univ. Di Palermo

10:00-10:20 — MoA05.1

*Convex vs Nonconvex Approaches for Sparse Estimation: Lasso, Multiple Kernel Learning and Hyperparameter Lasso (I)*, pp. 156-161.

Aravkin, Aleksandr Y. — Univ. of British Columbia
Burke, James V. — Univ. of Washington
Chiuso, Alessandro — Univ. di Padova
Pillonetto, Gianluigi — Univ. of Padova

10:20-10:40 — MoA05.2

*Relations between Structure and Estimators in Networks of Dynamical Systems (I)*, pp. 162-167.

Materassi, Donatello — Univ. of Minnesota
Salapaka, Murti V. — Univ. of Minnesota, Minneapolis
Giarré, Laura — Univ. Di Palermo

10:40-11:00 — MoA05.3

*A Minimal Approach to Causal Inference on Topologies with Bounded Indegree (I)*, pp. 168-173.

Quinn, Christopher — Univ. of Illinois at Urbana Champaign
Kiyavash, Negar — Univ. of Illinois, Urbana-Champaign
Coleman, Todd — Univ. of California, San Diego

11:00-11:20 — MoA05.4

*Compressive Topology Identification of Interconnected Dynamic Systems Via Clustered Orthogonal Matching Pursuit (I)*, pp. 174-180.

Molazem Sanandaji, Borhan — Colorado School of Mines
Vincent, Tyrone L. — Colorado School of Mines
Wakin, Michael — Colorado School of Mines

11:20-11:40 — MoA05.5

*Identification of Multi-Zone Building Thermal Interaction Model from Data (I)*, pp. 181-186.

Goyal, Siddharth — Univ. of Florida
Liao, Chenda — Univ. of Florida
Barooah, Prabir — Univ. of Florida

11:40-12:00 — MoA05.6

*Sample Complexity for Topology Estimation in Networks of LTI Systems (I)*, pp. 187-192.

Tan, Vincent — Univ. of Wisconsin-Madison
Willsky, Alan S. — MIT

**MoA06** — Jackson

**Networked Control Systems I** (Regular Session)

Chair: Antsaklis, Panos J. — Univ. of Notre Dame
Co-Chair: Canudas de Wit, Carlos — CNRS, GIPSA-Lab.

10:00-10:20 — MoA06.1

*An Integration Framework for Control/Communication/Computation (3C) Co-Design with Application in Fleet Control of AUVs*, pp. 193-198.

Farhadi, Alireza — Univ. of Melbourne
Canudas de Wit, Carlos — CNRS, GIPSA-Lab.

10:20-10:40 — MoA06.2

*Event-Triggered Output Feedback Control for Networked Control Systems Using Passivity: Triggering Condition and Limitations*, pp. 199-204.

| | |
|---|---|
| Yu, Han | Univ. of Notre Dame |
| Antsaklis, Panos J. | Univ. of Notre Dame |

10:40-11:00 MoA06.3

*Event-Triggered Output Feedback Control for Networked Control Systems Using Passivity: Time-Varying Network Induced Delays*, pp. 205-210.

| | |
|---|---|
| Yu, Han | Univ. of Notre Dame |
| Antsaklis, Panos J. | Univ. of Notre Dame |

11:00-11:20 MoA06.4

*Dynamical System Decomposition Using Dissipation Inequalities*, pp. 211-216.

| | |
|---|---|
| Anderson, James | Univ. of Oxford |
| Teixeira, André | KTH - Royal Inst. of Tech. |
| Sandberg, Henrik | KTH Royal Inst. of Tech. |
| Papachristodoulou, Antonis | Univ. of Oxford |

11:20-11:40 MoA06.5

*A Continuous-Time Approach to Networked Control of Nonlinear Systems*, pp. 217-221.

| | |
|---|---|
| Tavassoli, Babak | K.N. Toosi Univ. of Tech. |

11:40-12:00 MoA06.6

*The Informative Enough Property of the Data Set in a Networked Control System*, pp. 222-228.

| | |
|---|---|
| Zhang, Cong | Tsinghua Univ. |
| Ye, Hao | Tsinghua Univ. |

**MoA07** Escambia

**Game Theory I** (Regular Session)

| | |
|---|---|
| Chair: Bauso, Dario | Univ. di Palermo |
| Co-Chair: Hovakimyan, Naira | Univ. of Illinois, Urbana-Champaign |

10:00-10:20 MoA07.1

*Constrained Consensus for Bargaining in Dynamic Coalitional TU Games*, pp. 229-234.

| | |
|---|---|
| Nedich, Angelia | Univ. of Illinois, Urbana-Champaign |
| Bauso, Dario | Univ. di Palermo |

10:20-10:40 MoA07.2

*Encouraging Attacker Retreat through Defender Cooperation*, pp. 235-242.

| | |
|---|---|
| Fuchs, Zachariah | Univ. of Florida |
| Khargonekar, Pramod P. | Univ. of Florida |

10:40-11:00 MoA07.3

*A Game-Theoretic Approach to Rule Sharing Mechanism in Networked Intrusion Detection Systems: Robustness, Incentives and Security*, pp. 243-248.

| | |
|---|---|
| Zhu, Quanyan | Univ. of Illinois, Urbana-Champaign |
| Fung, Carol | Univ. of Waterloo |
| Boutaba, Raouf | Univ. of Waterloo |
| Basar, Tamer | Univ. of Illinois, Urbana-Champaign |

11:00-11:20 MoA07.4

*Load Balancing and Routing Games with Admission Price*, pp. 249-254.

| | |
|---|---|
| Bodas, Tejas | IIT Bombay |
| Ganesh, Ayalvadi | Univ. of Bristol |
| D., Manjunath | IIT Bombay, India |

11:20-11:40 MoA07.5

*A Fractional Calculus Approach to Modeling Fractal Dynamic Games*, pp. 255-260.

| | |
|---|---|
| Bogdan, Paul | Carnegie Mellon Univ. |
| Marculescu, Radu | Carnegie Mellon Univ. |

11:40-12:00 MoA07.6

*Non-Cooperative Strategies for Connectivity Maintenance among Autonomous Mobile Agents*, pp. 261-266.

| | |
|---|---|
| Bhattacharya, Sourabh | Univ. of Illinois, Urbana-Champaign |
| Basar, Tamer | Univ. of Illinois, Urbana-Champaign |

| **MoA08** | Flagler |
|---|---|
| **Optimal Control I** (Regular Session) | |
| Chair: Pereira / FEUP, Fernando Lobo | Porto Univ. |
| Co-Chair: Sanchez, Edgar N. | CINVESTAV |
| 10:00-10:20 | MoA08.1 |
| *Observer-Based Generalized Asymptotic Regulation with Sub-Optimal Transient Response*, pp. 267-272. | |
| Koroglu, Hakan | King Fahd Univ. of Petroleum and Minerals |
| 10:20-10:40 | MoA08.2 |
| *Fast Trajectory Planning Via the B-Spline Augmented Virtual Motion Camouflage Approach*, pp. 273-277. | |
| Basset, Gareth | Univ. of Central Florida |
| Xu, Yunjun | Univ. of Central Florida |
| Li, Ni | Univ. of Central Florida |
| 10:40-11:00 | MoA08.3 |
| *Aspects of Time-Optimal Control of a Particle in a Dielectrophoretic System*, pp. 278-283. | |
| Simha, Harsha | I I T Bombay |
| Banavar, Ravi N. | Indian Inst. of Tech. |
| Chang, Dong Eui | Univ. of Waterloo |
| 11:00-11:20 | MoA08.4 |
| *Experiments of Inverse Optimal Control Problem for Inverted Pendulum with Horizontal and Vertical Inputs*, pp. 284-289. | |
| Tahara, Kohei | Tokyo Inst. of Tech. |
| Kanazawa, Masao | Tokyo Inst. of Tech. |
| Sekiguchi, Kazuma | Tokyo Inst. of Tech. |
| Sampei, Mitsuji | Tokyo Inst. of Tech. |
| 11:20-11:40 | MoA08.5 |
| *Speed-Gradient Inverse Optimal Control for Discrete-Time Nonlinear Systems*, pp. 290-295. | |
| Ornelas-Tellez, Fernando | Cinvestav |
| Sanchez, Edgar N. | CINVESTAV |
| Loukianov, Alexander G. | CINVESTAV IPN GDI |
| Navarro Lopez, Eva Maria | Univ. of Manchester |
| 11:40-12:00 | MoA08.6 |
| *Optimal Static Output Feedback Design through Direct Search*, pp. 296-301. | |
| Simon, Emile | Univ. Catholique de Louvain |

| **MoA09** | Gilchrist |
|---|---|
| **Stability of Nonlinear Systems I** (Regular Session) | |
| Chair: Astolfi, Alessandro | Imperial Coll. & Univ. of Rome |
| Co-Chair: Wang, Yuan | Florida Atlantic Univ. |
| 10:00-10:20 | MoA09.1 |
| *A Lyapunov Approach in Incremental Stability*, pp. 302-307. | |
| Zamani, Majid | Univ. of California at Los Angeles |
| Majumdar, Rupak | UCLA |
| 10:20-10:40 | MoA09.2 |
| *Piecewise Polynomial Lyapunov Functions for Stability and Nonlinear L2m-Gain Computation of Saturated Uncertain Systems*, pp. 308-313. | |
| Garulli, Andrea | Univ. di Siena |
| Masi, Alfio | Univ. di Siena |
| Valmórbida, Giórgio | Univ. degli Studi di Roma "Tor Vergata" |
| Zaccarian, Luca | Univ. di Roma, Tor Vergata |
| 10:40-11:00 | MoA09.3 |
| *On Stability Properties of Time-Varying Systems with Delays*, pp. 314-319. | |
| Tiwari, Shanaz | Florida Atlantic Univ. |

Wang, Yuan — Florida Atlantic Univ.

11:00-11:20 — MoA09.4

*A LaSalle Version of Matrosov Theorem*, pp. 320-324.

Astolfi, Alessandro — Imperial Coll. & Univ. of Rome
Praly, Laurent — MINES ParisTech

11:20-11:40 — MoA09.5

*Disturbance and Delay Robustness of Gradient Feedback Systems Based on Static Noncooperative Games with Application to PEV Charging*, pp. 325-330.

Ito, Hiroshi — Kyushu Inst. of Tech.

11:40-12:00 — MoA09.6

*Global Stabilization of Non–Globally Linearizable Triangular Systems: Application to Transient Stability of Power Systems*, pp. 331-336.

Casagrande, Daniele — Univ. of Udine
Astolfi, Alessandro — Imperial Coll. & Univ. of Rome
Ortega, Romeo — LSS-SUPELEC

**MoA10** — Hamilton

**Adaptive Systems** (Regular Session)

Chair: Hoagg, Jesse B. — Univ. of Kentucky
Co-Chair: Tesi, Pietro — Univ. of Florence

10:00-10:20 — MoA10.1

*User Adaptation and Long-Run Evolution in Online Communities*, pp. 337-342.

Zhang, Yu — Univ. of California, Los Angeles
van der Schaar, Mihaela — Univ. of California Los Angeles

10:20-10:40 — MoA10.2

*Discrete Time Immersion and Invariance Adaptive Control for Systems in Strict Feedback Form*, pp. 343-347.

Yalcin, Yaprak — Imperial Coll. London & Istanbul Tech. Univ.
Astolfi, Alessandro — Imperial Coll. & Univ. of Rome

10:40-11:00 — MoA10.3

*Tracking an Unknown Two-Frequency Reference Using a Frequency Estimator-Based Servocompensator*, pp. 348-353.

Esbrook, Alex — Michigan State Univ.
Tan, Xiaobo — Michigan State Univ.
Khalil, Hassan K. — Michigan State Univ.

11:00-11:20 — MoA10.4

*Adaptive Consensus Estimation of Multi-Agent Systems*, pp. 354-359.

Demetriou, Michael A. — Worcester Pol. Inst.
Nestinger, Stephen — Worcester Pol. Inst.

11:20-11:40 — MoA10.5

*Model Reference Adaptive Control for Nonminimum-Phase Systems Using a Surrogate Tracking Error*, pp. 360-365.

Hoagg, Jesse B. — Univ. of Kentucky

11:40-12:00 — MoA10.6

*Dealing with Plant Variations in Multi-Model Unfalsified Switching Control Via Adaptive Memory Selection*, pp. 366-371.

Battistelli, Giorgio — Univ. of Florence
Mosca, Edoardo — Univ. of Florence
Tesi, Pietro — Univ. of Florence

**MoA11** — Indian River

**Discrete Event Systems I** (Regular Session)

Chair: Ricker, S. Laurie — Mount Allison Univ.
Co-Chair: Giua, Alessandro — Univ. di Cagliari

10:00-10:20 — MoA11.1

*Multiobjective Optimization in Control with Communication for Decentralized Discrete-Event Systems*, pp. 372-377.

Sadid, Md. Waselul Haque — Concordia Univ.

| | |
|---|---|
| Ricker, S. Laurie | Mount Allison Univ. |
| Hashtrudi Zad, Shahin | Concordia Univ. |
| 10:20-10:40 | MoA11.2 |
| *On Decentralized Observability of Discrete Event Systems*, pp. 378-384. | |
| Cabasino, Maria Paola | Univ. of Cagliari |
| Giua, Alessandro | Univ. di Cagliari |
| Mahulea, Cristian | Univ. of Zaragoza |
| Seatzu, Carla | Univ. of Cagliari |
| 10:40-11:00 | MoA11.3 |
| *Bounds on the Probability of Misclassification among Hidden Markov Models*, pp. 385-390. | |
| Keroglou, Christoforos | Univ. of Cyprus |
| Hadjicostis, Christoforos | Univ. of Cyprus |
| 11:00-11:20 | MoA11.4 |
| *Model Predictive Control for Stochastic Max-Min-Plus-Scaling Systems – an Approximation Approach*, pp. 391-396. | |
| S. Farahani, Samira | Delft Univ. of Tech. |
| van den Boom, Ton J. J. | Delft Univ. of Tech. |
| De Schutter, Bart | Delft Univ. of Tech. |
| 11:20-11:40 | MoA11.5 |
| *Power Series Solutions to the Time-Varying Dynamic Programming Equations*, pp. 397-402. | |
| Aguilar, Cesar O | Naval Postgraduate School |
| Krener, Arthur J | Naval Postgraduate School |
| 11:40-12:00 | MoA11.6 |
| *Evaluation of the Ability of Petri Net Centralized Implementation Techniques*, pp. 403-410. | |
| Piedrafita, Ramón | Univ. of Zaragoza |
| Villarroel, Jose Luis | Univ. of Zaragoza |

| **MoA12** | Lake |
|---|---|
| **Switched Systems I** (Regular Session) | |
| Chair: Baglietto, Marco | Univ. of Genova |
| Co-Chair: Daafouz, Jamal | CRAN, UMR CNRS - Nancy Univ. |
| 10:00-10:20 | MoA12.1 |
| *A New Class of Lyapunov Functions for Nonstandard Switching Systems: The Stability Analysis Problem*, pp. 411-416. | |
| Cavichioli Gonzaga, Carlos Alberto | CRAN - ENSEM - Nancy Univ. |
| Jungers, Marc | CNRS - Nancy Univ. ENSEM |
| Daafouz, Jamal | CRAN, UMR CNRS - Nancy Univ. |
| Castelan, Eugenio B. | Univ. Federal de Santa Catarina |
| 10:20-10:40 | MoA12.2 |
| *Commutativity and Asymptotic Stability for Linear Switched DAEs*, pp. 417-422. | |
| Liberzon, Daniel | Univ. of Illinois, Urbana-Champaign |
| Trenn, Stephan | Univ. of Würzburg |
| Wirth, Fabian R. | Univ. Würzburg |
| 10:40-11:00 | MoA12.3 |
| *Characterization of Stability Transitions and Practical Stability of Planar Singularly Perturbed Linear Switched Systems*, pp. 423-428. | |
| El Hachemi, Fouad | CRAN CNRS Nancy Univ. |
| Sigalotti, Mario | INRIA Nancy - Grand Est |
| Daafouz, Jamal | CRAN, UMR CNRS - Nancy Univ. |
| 11:00-11:20 | MoA12.4 |
| *Set-Point Tracking in Mode-Observable Switching Linear Systems*, pp. 429-434. | |
| Baglietto, Marco | Univ. of Genova |
| Battistelli, Giorgio | Univ. of Florence |
| Tesi, Pietro | Univ. of Genoa |
| 11:20-11:40 | MoA12.5 |

*A Study of the Generalized Input-To-State L_2 Gain of Discrete-Time Switched Linear Systems*, pp. 435-440.

| | |
|---|---|
| Putta, Vamsi | Purdue Univ. |
| Zhu, Guangwei | Purdue Univ. |
| Shen, Jinglai | Univ. of Maryland Baltimore County |
| Hu, Jianghai | Purdue Univ. |

11:40-12:00 MoA12.6

*Robust Invertibility of Switched Linear Systems*, pp. 441-446.

| | |
|---|---|
| Tanwani, Aneel | Univ. of Illinois at Urbana-Champaign |
| Liberzon, Daniel | Univ. of Illinois, Urbana-Champaign |

## MoA13 Manatee

**Linear Systems I** (Regular Session)

| | |
|---|---|
| Chair: Karcanias, Nicos | City Univ. |
| Co-Chair: Schmid, Robert | The Univ. of Melbourne |

10:00-10:20 MoA13.1

*Synthesis of PID Controllers with Guaranteed Non-Overshooting Transient Response*, pp. 447-452.

| | |
|---|---|
| Mohsenizadeh, Navid | Texas A&M Univ. |
| Darbha, Swaroop | Texas A & M Univ. |
| Bhattacharyya, Shankar P. | Texas A & M Univ. |

10:20-10:40 MoA13.2

*On State-Space Characterization for Strict Negative-Imaginariness of LTI Systems*, pp. 453-458.

| | |
|---|---|
| Song, Zhuoyue | Univ. of Manchester |
| Patra, Sourav | Univ. of Manchester |
| Lanzon, Alexander | Univ. of Manchester |
| Petersen, Ian | Univ. of New South Wales at the Australian Defence Force Ac |

10:40-11:00 MoA13.3

*On the Dissipative Analysis and Control of State-Space Symmetric Systems*, pp. 459-464.

| | |
|---|---|
| Bara, G. Iuliana | Univ. of Strasbourg |

11:00-11:20 MoA13.4

*Approximate Zero Polynomials of Polynomial Matrices and Linear Systems*, pp. 465-470.

| | |
|---|---|
| Karcanias, Nicos | City Univ. |
| Halikias, George | City Univ. |

11:20-11:40 MoA13.5

*The Role of Nonminimum Phase Zeros in the Transient Response of Multivariable Systems*, pp. 471-475.

| | |
|---|---|
| Schmid, Robert | The Univ. of Melbourne |
| Pandey, Amit | Univ. of Auckland, New Zealand |

11:40-12:00 MoA13.6

*Data-Driven IMC for Non-Minimum Phase Systems - Laguerre Expansion Approach*, pp. 476-481.

| | |
|---|---|
| Nguyen, Hien Thi | Kanazawa Univ. |
| Kaneko, Osamu | Kanazawa Univ. |
| Yamamoto, Shigeru | Kanazawa Univ. |

## MoA14 Sarasota

**Predictive Control for Linear Systems I** (Regular Session)

| | |
|---|---|
| Chair: Findeisen, Rolf | OVG Univ. Magdeburg |
| Co-Chair: Alessandri, Angelo | Univ. of Genoa |

10:00-10:20 MoA14.1

*Input-To-State Stabilization of Low-Complexity Model Predictive Controllers for Linear Systems*, pp. 482-488.

| | |
|---|---|
| Schildbach, Georg | ETH Zurich |
| Zeilinger, Melanie, N | ETH Zurich |
| Morari, Manfred | ETH Zurich |
| Jones, Colin Neil | EPFL, Switzerland |

| 10:20-10:40 | MoA14.2 |
|---|---|
| *Integer Tree-Based Search and Mixed-Integer Optimal Control of Distribution Chains*, pp. 489-494. | |
| Alessandri, Angelo | Univ. of Genoa |
| Gaggero, Mauro | National Res. Council of Italy |
| Tonelli, Flavio | Univ. of Genoa |
| 10:40-11:00 | MoA14.3 |
| *Improved Feed-Forward Command Governor Strategies for Discrete-Time Time-Invariant Linear Systems*, pp. 495-500. | |
| Casavola, Alessandro | Univ. Della Calabria |
| Garone, Emanuele | Univ. Libre de Bruxelles |
| Tedesco, Francesco | Univ. della Calabria |
| 11:00-11:20 | MoA14.4 |
| *Fast Predictive Control of Linear Systems Combining Nesterov's Gradient Method and the Method of Multipliers*, pp. 501-506. | |
| Koegel, Markus | OVG Univ. Magdeburg |
| Findeisen, Rolf | OVG Univ. Magdeburg |
| 11:20-11:40 | MoA14.5 |
| *Solving Constrained LQR Problems by Eliminating the Inputs from the QP*, pp. 507-512. | |
| Mancuso, Giulio | Scuola Superiore Sant'Anna |
| Kerrigan, Eric C. | Imperial Coll. London |
| 11:40-12:00 | MoA14.6 |
| *Learning a Feasible and Stabilizing Explicit Model Predictive Control Law by Robust Optimization*, pp. 513-519. | |
| Domahidi, Alexander | ETH Zurich |
| Zeilinger, Melanie, N | ETH Zurich |
| Morari, Manfred | ETH Zurich |
| Jones, Colin Neil | EPFL, Switzerland |

| **MoA15** | Union |
|---|---|
| **Formal Methods in Control: Theory I** (Invited Session) | |
| Chair: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |
| Co-Chair: Julius, Agung | Rensselaer Pol. Inst. |
| Organizer: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |
| Organizer: Julius, Agung | Rensselaer Pol. Inst. |
| Organizer: Ozay, Necmiye | California Inst. of Tech. |
| 10:00-10:20 | MoA15.1 |
| *Safety Controller Synthesis for Switched Systems Using Multi-Scale Symbolic Models (I)*, pp. 520-525. | |
| Camara, Javier | Univ. of Coimbra |
| Girard, Antoine | Univ. Joseph Fourier |
| Goessler, Gregor | INRIA |
| 10:20-10:40 | MoA15.2 |
| *On Infinite-Horizon Probabilistic Properties and Stochastic Bisimulation Functions (I)*, pp. 526-531. | |
| Tkachev, Ilya | Delft Univ. of Tech. The Netherlands |
| Abate, Alessandro | TU Delft |
| 10:40-11:00 | MoA15.3 |
| *MDP Optimal Control under Temporal Logic Constraints (I)*, pp. 532-538. | |
| Ding, Xu Chu | Boston Univ. |
| Smith, Stephen L. | Univ. of Waterloo |
| Belta, Calin | Boston Univ. |
| Rus, Daniela | MIT |
| 11:00-11:20 | MoA15.4 |
| *Optimal Design of a Class of Hybrid Systems with Uncertain Parameters (I)*, pp. 539-544. | |
| Mathew, George | United Tech. Res. Centre, Inc., Berkeley, CA |
| Pinto, Alessandro | United Tech. Res. Center, Inc |
| 11:20-11:40 | MoA15.5 |
| *Safety Control of Piece-Wise Continuous Order Preserving Systems (I)*, pp. 545-551. | |

| | |
|---|---|
| Ghaemi, Reza | MIT |
| Del Vecchio, Domitilla | Massachusetts Insitute of Tech. |

11:40-12:00 MoA15.6

*Alternating Approximately Bisimilar Symbolic Models for Nonlinear Control Systems Affected by Disturbances (I)*, pp. 552-557.

| | |
|---|---|
| Borri, Alessandro | Univ. of L'Aquila |
| Pola, Giordano | Univ. of L'Aquila |
| Di Benedetto, M. Domenica | Univ. of L'Aquila |

## MoA16 — Palm Beach

**Mission Planning and Autonomous Navigation** (Invited Session)

| | |
|---|---|
| Chair: Rathinam, Sivakumar | Texas A & M Univ. |
| Co-Chair: Girard, Anouck | Univ. of Michigan, Ann Arbor |
| Organizer: Rathinam, Sivakumar | Texas A & M Univ. |

10:00-10:20 MoA16.1

*Vision-Based Local-Level Frame Mapping and Planning in Spherical Coordinates for Miniature Air Vehicles (I)*, pp. 558-563.

| | |
|---|---|
| Yu, Huili | Brigham Young Univ. |
| Beard, Randy | Brigham Young Univ. |

10:20-10:40 MoA16.2

*Multi-Agent Path Planning for an Unknown Number of Targets Over Dynamic Space Partitions (I)*, pp. 564-569.

| | |
|---|---|
| Wood, Jared | Univ. of California, Berkeley |
| Hedrick, Karl | Univ. of California at Berkeley |

10:40-11:00 MoA16.3

*Communication-Constrained Distributed Task Assignment (I)*, pp. 570-577.

| | |
|---|---|
| Jackson, Justin | Univ. of Michigan |
| Faied, Mariam | Fayoum Univ. |
| Kabamba, Pierre T. | Univ. of Michigan |
| Girard, Anouck | Univ. of Michigan, Ann Arbor |

11:00-11:20 MoA16.4

*Mission Planning in Unstructured Environments: A Reinforcement Learning Approach (I)*, pp. 578-583.

| | |
|---|---|
| Basso, Brandon | UC Berkeley |
| Durrant-Whyte, Hugh | Univ. of Sydney |
| Hedrick, Karl | Univ. of California at Berkeley |

11:20-11:40 MoA16.5

*An Asymptotically Optimal Algorithm for PickUp and Delivery Problems (I)*, pp. 584-590.

| | |
|---|---|
| Treleaven, Kyle | Massachusetts Inst. of Tech. |
| Pavone, Marco | California Inst. of Tech. |
| Frazzoli, Emilio | Massachusetts Inst. of Tech. |

11:40-12:00 MoA16.6

*Formation Control with Collision Avoidance (I)*, pp. 591-596.

| | |
|---|---|
| Bencatel, Ricardo | Univ. of Porto - School of Engineering |
| Faied, Mariam | Fayoum Univ. |
| Sousa, Joao | Univ. Porto - Faculdade Engenharia |
| Girard, Anouck | Univ. of Michigan, Ann Arbor |

## MoA17 — Alachua

**Distributed Parameter Systems I** (Invited Session)

| | |
|---|---|
| Chair: Demetriou, Michael A. | Worcester Pol. Inst. |
| Co-Chair: McEneaney, William | Univ. of California, San Diego |
| Organizer: Demetriou, Michael A. | Worcester Pol. Inst. |

10:00-10:20 MoA17.1

*Adaptive Consensus Filters for Collocated Infinite Dimensional Systems (I)*, pp. 597-602.

| | |
|---|---|
| Demetriou, Michael A. | Worcester Pol. Inst. |

10:20-10:40 MoA17.2

*A Linear Multi-Agent Systems Approach to Diffusively Coupled Piecewise Affine Systems: Delay Robustness (I)*, pp. 603-608.

Kashima, Kenji — Tokyo Inst. of Tech.
Papachristodoulou, Antonis — Univ. of Oxford
Allgower, Frank — Univ. of Stuttgart

10:40-11:00 MoA17.3

*Semidiscrete Approximation Schemes for LQR Control of Equations in Thermoelasticity (I)*, pp. 609-614.

Fabiano, Richard H. — Univ. of North Carolina at Greensboro

11:00-11:20 MoA17.4

*A Max-Plus Based Fundamental Solution for a Class of Infinite Dimensional Riccati Equations (I)*, pp. 615-620.

Dower, Peter M. — The Univ. of Melbourne
McEneaney, William — Univ. of California, San Diego

11:20-11:40 MoA17.5

*Compact Sets in the Graph Topology and Applications to Approximation of System Design (I)*, pp. 621-626.

Yamamoto, Yutaka — Kyoto Univ.
Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

11:40-12:00 MoA17.6

*Convergence of H-Infinity-Optimal Actuator Location (I)*, pp. 627-632.

Kasinathan, Dhanaraja — Univ. of Waterloo
Morris, Kirsten — Univ. of Waterloo

**MoA18** Baker

**Robust Control I** (Regular Session)

Chair: Lesecq, Suzanne — CEA
Co-Chair: Poulsen, Niels Kjølstad — Tech. Univ. of Denmark

10:00-10:20 MoA18.1

*Cascade Control of the Moto-Compressor of a PEM Fuel Cell Via Second Order Sliding Mode*, pp. 633-638.

Matraji, Imad — UTBM
Laghrouche, Salah — UTBM
Wack, Maxime — UTBM

10:20-10:40 MoA18.2

*Robustness Preserving Anti-Windup for SISO Systems*, pp. 639-644.

Morales, Rafael Mauricio — Univ. of Leicester
Heath, William Paul — Univ. of Manchester
Li, Guang — Univ. of Exeter

10:40-11:00 MoA18.3

*A Mu-Synthesis Approach to Robust Control of a Wind Turbine*, pp. 645-650.

Mirzaei, Mahmood — Tech. Univ. of Denmark
Niemann, Henrik — Tech. Univ. of Denmark
Poulsen, Niels Kjølstad — Tech. Univ. of Denmark

11:00-11:20 MoA18.4

*Control Techniques for High-Speed Dynamic Mode Imaging in Atomic Force Microscopes*, pp. 651-656.

Mohan, Gayathri — Univ. of Illinois at Urbana Champaign
Lee, Chibum — Univ. of Illinois, Urbana-Champaign
Salapaka, Srinivasa — Univ. of Illinois

11:20-11:40 MoA18.5

*Optimal and Robust Saturated Control for a Clock Generator*, pp. 657-662.

Albea, Carolina — CEA LETI-MINATEC
Lesecq, Suzanne — CEA
Puschini, Diego — CEA-Leti

11:40-12:00 MoA18.6

*Low-Order Control Design for Chatter Suppression in High-Speed Milling*, pp. 663-668.

van Dijk, Niels — Philips Innovation Services
Van De Wouw, Nathan — Eindhoven Univ. of Tech.
Nijmeijer, Hendrik — Eindhoven Univ. of Tech.

**MoA19** — Bay
**Robotics I** (Regular Session)

Chair: Choi, Youngjin — Hanyang Univ.
Co-Chair: Gregg, Robert D. — Northwestern Univ.

10:00-10:20 — MoA19.1

*Controlled Reduction of a Five-Link 3D Biped with Unactuated Yaw*, pp. 669-674.
Gregg, Robert D. — Northwestern Univ.

10:20-10:40 — MoA19.2

*A Gait Generation Method for the Compass-Type Biped Robot on Slopes Via Discrete Mechanics*, pp. 675-681.
Kai, Tatsuya — Kyushu Univ.
Shintani, Takeshi — Kyocera Corp.

10:40-11:00 — MoA19.3

*Compass Gait Revisited: A Human Data Perspective with Extensions to Three Dimensions*, pp. 682-689.
Sinnet, Ryan — Texas A&M Univ.
Powell, Matthew — Texas A&M Univ.
Jiang, Shu — Texas A&M Univ.
Ames, Aaron — Texas A&M Univ.

11:00-11:20 — MoA19.4

*Exploiting Elastic Energy Storage for Cyclic Manipulation: Modeling, Stability, and Observations for Dribbling*, pp. 690-697.
Haddadin, Sami — German Aerospace Center
Krieger, Kai — German Aerospace Center
Albu-Schaeffer, Alin — German Aerospace Center (DLR)

11:20-11:40 — MoA19.5

*New Robotic Motion Generation Using Digital Convolution with Physical System Limitation*, pp. 698-703.
Lee, Geon — Hanyang Univ. South Korea
Yi, Byung-Ju — Hanyang Univ.
Kim, Doik — Korea Inst. of Science and Tech. (KIST)
Choi, Youngjin — Hanyang Univ.

11:40-12:00 — MoA19.6

*Least Squares Temporal Difference Actor-Critic Methods with Applications to Robot Motion Control*, pp. 704-709.
Moazzez Estanjini, Reza — Boston Univ.
Ding, Xu Chu — Boston Univ.
Lahijanian, Morteza — Boston Univ.
Wang, Jing — Boston Univ.
Belta, Calin — Boston Univ.
Paschalidis, Ioannis — Boston Univ.

**MoA20** — Broward
**Stochastic Systems I** (Regular Session)

Chair: Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas
Co-Chair: Fagiano, Lorenzo — Pol. di Torino/Univ. California at Santa Barbara

10:00-10:20 — MoA20.1

*A Metric between Probability Distributions on Finite Sets of Different Cardinalities*, pp. 710-715.
Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

10:20-10:40 — MoA20.2

*Optimal Order Reduction of Probability Distributions by Maximizing Mutual Information*, pp. 716-721.
Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

10:40-11:00 — MoA20.3

*Asymptotic Bias of Stochastic Gradient Search*, pp. 722-727.

Tadic, Vladislav — Univ. of Bristol
Doucet, Arnaud — Univ. of British Columbia

11:00-11:20 — MoA20.4

*On the Guaranteed Accuracy of Polynomial Chaos Expansions*, pp. 728-733.

Fagiano, Lorenzo — Pol. di Torino/Univ. California at Santa Barbara
Khammash, Mustafa H. — Univ. of California at Santa Barbara
Novara, Carlo — Pol. di Torino

11:20-11:40 — MoA20.5

*On Feedback Design and Risk Allocation in Chance Constrained Control*, pp. 734-739.

Vitus, Michael P. — Stanford Univ.
Tomlin, Claire J. — UC Berkeley

11:40-12:00 — MoA20.6

*Stabilizing Composite Control for Systems Modeled by Singularly Perturbed Ito Differential Equations with Two Small Time Constants*, pp. 740-745.

Dragan, Vasile — Romanian Acad.
Mukaidani, Hiroaki — Hiroshima Univ.

**MoA21** — Brevard

**Agents and Autonomous Systems I** (Regular Session)

Chair: Leonard, Naomi Ehrich — Princeton Univ.
Co-Chair: Sakurama, Kazunori — Kyoto Univ.

10:00-10:20 — MoA21.1

*Stabilization of Rigid Formations with Direction-Only Constraints*, pp. 746-752.

Bishop, Adrian — Royal Inst. of Tech. (KTH)
Shames, Iman — The Royal Inst. of Tech.
Anderson, Brian D.O. — Australian National Univ.

10:20-10:40 — MoA21.2

*Nonuniform Coverage Control on the Line*, pp. 753-758.

Leonard, Naomi Ehrich — Princeton Univ.
Olshevsky, Alexander — Princeton Univ.

10:40-11:00 — MoA21.3

*Controllability of Diffusively-Coupled Multi-Agent Systems with General and Distance Regular Coupling Topologies*, pp. 759-764.

Zhang, Shuo — Univ. of Groningen
Camlibel, Kanat — Univ. of Groningen
Cao, Ming — Univ. of Groningen

11:00-11:20 — MoA21.4

*Formation Control with Velocity Assignment for Second-Order Multi-Agent Systems with Heterogeneous Time-Delays*, pp. 765-770.

Sakurama, Kazunori — Kyoto Univ.
Nakano, Kazushi — The Univ. of Electro-Communications

11:20-11:40 — MoA21.5

*Distributed Containment Control of Linear Multi-Agent Systems with Multiple Leaders and Reduced-Order Controllers*, pp. 771-776.

Li, Zhongkui — Beijing Inst. of Tech.
Ren, Wei — Utah State Univ.
Liu, Xiangdong — Beijing Inst. of Tech.
Xie, Lihua — Nanyang Tech. Univ.

11:40-12:00 — MoA21.6

*Synchronizing Clocks in Distributed Networks*, pp. 777-782.

Xia, Weiguo — Univ. of Groningen
Cao, Ming — Univ. of Groningen

| **MoA22** | Bradford |
|---|---|
| **System Identification I** (Regular Session) | |
| Chair: Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Co-Chair: Tóth, Roland | Delft Univ. of Tech. |
| 10:00-10:20 | MoA22.1 |
| *Compressive System Identification in the Linear Time-Invariant Framework*, pp. 783-790. | |
| Tóth, Roland | Delft Univ. of Tech. |
| Molazem Sanandaji, Borhan | Colorado School of Mines |
| Poolla, Kameshwar | Univ. of California at Berkeley |
| Vincent, Tyrone L. | Colorado School of Mines |
| 10:20-10:40 | MoA22.2 |
| *Compressive System Identification of LTI and LTV ARX Models*, pp. 791-798. | |
| Molazem Sanandaji, Borhan | Colorado School of Mines |
| Vincent, Tyrone L. | Colorado School of Mines |
| Wakin, Michael | Colorado School of Mines |
| Tóth, Roland | Delft Univ. of Tech. |
| Poolla, Kameshwar | Univ. of California at Berkeley |
| 10:40-11:00 | MoA22.3 |
| *Informative Data and Identifiability in LPV-ARX Prediction-Error Identification*, pp. 799-804. | |
| Dankers, Arne | Delft Univ. of Tech. |
| Tóth, Roland | Delft Univ. of Tech. |
| Heuberger, Peter S.C. | Delft Univ. of Tech. |
| Bombois, Xavier | Delft Univ. of Tech. |
| Van den Hof, Paul M.J. | Delft Univ. of Tech. |
| 11:00-11:20 | MoA22.4 |
| *On Optimal Input Design in System Identification for Model Predictive Control*, pp. 805-810. | |
| Larsson, Christian A. | KTH Royal Inst. of Tech. |
| Annergren, Mariette Jenny Erika | The Royal Inst. of Tech. Stockholm |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| 11:20-11:40 | MoA22.5 |
| *Input Design Using Cylindrical Algebraic Decomposition*, pp. 811-817. | |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Egebrand, Freja | Royal Inst. of Tech. KTH |
| 11:40-12:00 | MoA22.6 |
| *Identification of a Flexible Robot Manipulator Using a Linear Parameter-Varying Descriptor State-Space Structure*, pp. 818-823. | |
| Mercère, Guillaume | Univ. of Poitiers |
| Lovera, Marco | Pol. di Milano |
| Laroche, Edouard | Strasbourg Univ. |

| **MoSP1** | Bonnet Creek Ballroom III & VI |
|---|---|
| **Decentralized Activation and Decision-Making in Networks of Biosensors** (Semiplenary Session) | |
| Chair: Balakrishnan, Venkataramanan | Purdue Univ. |
| 13:30-14:20 | MoSP1.1 |
| *Decentralized Activation and Decision-Making in Networks of Biosensors**. | |
| Krishnamurthy, Vikram | Univ. of British Columbia |

| **MoSP2** | Bonnet Creek Ballroom IX & XII |
|---|---|
| **Taming Dr. Frankestein: Contract-Based Design for Cyberphysical Systems** (Semiplenary Session) | |
| Chair: Stoustrup, Jakob | Aalborg Univ. |
| 13:30-14:20 | MoSP2.1 |
| *Taming Dr. Frankestein: Contract-Based Design for Cyberphysical Systems**. | |

Sangiovanni-Vincentelli, Alberto — Univ. of California at Berkeley

| **MoB01** | Orange |
|---|---|
| **Energy Systems I** (Regular Session) | |
| Chair: Hoagg, Jesse B. | Univ. of Kentucky |
| Co-Chair: Roozbehani, Mardavij | Massachusetts Inst. of Tech. |
| 14:30-14:50 | MoB01.1 |
| *Retrospective Cost Adaptive Control for a Ground Tethered Energy System*, pp. 824-829. | |
| Isaacs, Matthew | Univ. of Kentucky |
| Hoagg, Jesse B. | Univ. of Kentucky |
| Hussein, Islam | Worcester Pol. Inst. |
| Olinger, David | Worcester Pol. Inst. |
| 14:50-15:10 | MoB01.2 |
| *Explicit Coordination for MPC-Based Distributed Control with Application to Hydro-Power Valleys*, pp. 830-835. | |
| Zarate Florez, Jennifer | INPG/ EDF R&D |
| Martinez Molina, John Jairo | GIPSA-Lab. GRENOBLE-INP |
| Besancon, Gildas | GIPSA-Lab. Grenoble INP |
| Faille, Damien | Electricité de France |
| 15:10-15:30 | MoB01.3 |
| *Clean High-Energy Density Renewable Power Generation Systems with Soft-Switching Sliding Mode Control Laws*, pp. 836-841. | |
| Lyshevski, Sergey | Rochester Inst. of Tech. |
| Smith, Trevor | Harris RF Communications |
| 15:30-15:50 | MoB01.4 |
| *Optimal Utilization of Storage and the Induced Price Elasticity of Demand in the Presence of Ramp Constraints*, pp. 842-847. | |
| Faghih, Ali | MIT |
| Roozbehani, Mardavij | Massachusetts Inst. of Tech. |
| Dahleh, Munther A. | Massachusetts Inst. of Tech. |
| 15:50-16:10 | MoB01.5 |
| *Flexible and Cost Efficient Power Consumption Using Economic MPC - a Supermarket Refrigeration Benchmark (I)*, pp. 848-854. | |
| Hovgaard, Tobias Gybel | Danfoss A/S |
| Larsen, Lars Finn Sloth | Danfoss A/S |
| Jørgensen, John Bagterp | Tech. Univ. of Denmark |

| **MoB02** | Dixie |
|---|---|
| **Biomedical Systems II** (Regular Session) | |
| Chair: Naidu, D. Subbaram | Idaho State Univ. |
| Co-Chair: Soltesz, Kristian | Lund Univ. |
| 14:30-14:50 | MoB02.1 |
| *Individualized PID Control of Depth of Anesthesia Based on Patient Model Identification During the Induction Phase of Anesthesia*, pp. 855-860. | |
| Soltesz, Kristian | Lund Univ. |
| Hahn, Jin-Oh | Univ. of Alberta |
| Dumont, Guy A. | Univ. of British Columbia |
| Ansermino, John Mark | Univ. of British Columbia |
| 14:50-15:10 | MoB02.2 |
| *Implementation of Semg-Based Real-Time Embedded Adaptive Finger Force Control for a Prosthetic Hand*, pp. 861-866. | |
| Potluri, Chandrasekhar | Idaho State Univ. |
| Anugolu, Madhavi | Idaho State Univ. |
| Yihun, Yimesker | Idaho State Univ. |
| Kumar, Parmod | Idaho State Univ. |
| Chiu, Steve | Idaho State Univ. |
| Schoen, Marco | Idaho State Univ. |

| | |
|---|---|
| Naidu, D. Subbaram | Idaho State Univ. |

15:10-15:30 MoB02.3

*An Improved Strategy for NeuroMuscular Blockade Control with Parameter Uncertainty*, pp. 867-872.

| | |
|---|---|
| Almeida, Juliana | Faculdade de Ciências da Univ. do Porto |
| Mendonça, Teresa | Fac. de Ciências da Univ. do Porto |
| Rocha, Paula | Univ. of Oporto |

15:30-15:50 MoB02.4

*Bounded Control of an Actuated Lower Limb Orthosis*, pp. 873-878.

| | |
|---|---|
| Rifaï, Hala | Univ. Paris-Est, Créteil (UPEC) |
| Hassani, Walid | Univ. Paris-Est, Créteil (UPEC) |
| Mohammed, Samer | Univ. of Paris Est Créteil (UPEC) |
| Amirat, Yacine | Univ. of Paris Est Créteil (UPEC) |

15:50-16:10 MoB02.5

*Complex Dynamic Phenomena in a Low-Order Model of Non-Basal Testosterone Regulation*, pp. 879-884.

| | |
|---|---|
| Zhusubaliyev, Zhanybai | South West State Univ. (Kursk State Tech. Univ. |
| Churilov, Alexander | St.Petersburg State Marine Tech. Univ. |
| Medvedev, Alexander V. | Uppsala Univ. |

**MoB03** Columbia

**Fault Detection II** (Regular Session)

| | |
|---|---|
| Chair: Glover, Keith | Univ. of Cambridge |
| Co-Chair: Campbell, Stephen L | North Carolina State Univ. |

14:30-14:50 MoB03.1

*An Approach to Data-Driven Design of Feedback Control Systems with Embedded Residual Generation*, pp. 885-890.

| | |
|---|---|
| Ding, Steven X. | Univ. of Duisburg-Essen |
| Wang, Yulei | Univ. of Duisburg-Essen |
| Yang, Ying | Peking Univ. |

14:50-15:10 MoB03.2

*On Solving Non-Standard H-/H2/H-Infinity Fault Detection Problems*, pp. 891-896.

| | |
|---|---|
| Glover, Keith | Univ. of Cambridge |
| Varga, Andras | German Aerospace Center (DLR) |

15:10-15:30 MoB03.3

*A Distributed Fault Detection Methodology for a Class of Large-Scale Uncertain Input-Output Discrete-Time Nonlinear Systems*, pp. 897-902.

| | |
|---|---|
| Boem, Francesca | Univ. of Trieste, Trieste, Italy |
| Ferrari, Riccardo M.G. | Danieli Automation S.p.A. |
| Parisini, Thomas | Imperial Coll. & Univ. of Trieste |
| Polycarpou, Marios M. | Univ. of Cyprus |

15:30-15:50 MoB03.4

*An Optimal Solution to an H-/Hinf Fault Detection Problem*, pp. 903-908.

| | |
|---|---|
| Zhang, Ze | Imperial Coll. London |
| Jaimoukha, Imad M. | Imperial Coll. London |

15:50-16:10 MoB03.5

*Direct Optimization Determination of Auxiliary Test Signal for Linear Problems with Model Uncertainty*, pp. 909-914.

| | |
|---|---|
| Andjelkovic, Ivan | NCSU |
| Campbell, Stephen L | North Carolina State Univ. |

**MoB04** Nassau

**Electrical Machine Control I** (Regular Session)

| | |
|---|---|
| Chair: Chung, Chung Choo | Hanyang Univ. |
| Co-Chair: Stumper, Jean-François | Tech. Univ. München |

14:30-14:50 MoB04.1

*Microstepping with Nonlinear Torque Modulation for Position Tracking Control in Permanent Magnet Stepper Motors*, pp.

915-921.

| | |
|---|---|
| Kim, Wonhee | Hanyang |
| Shin, Donghoon | Hanyang Univ. Seoul, Korea |
| Chung, Chung Choo | Hanyang Univ. |

14:50-15:10 MoB04.2

*A Nonlinear Estimator for Dynamical and Robust Sensorless Control of Permanent Magnet Synchronous Machines*, pp. 922-927.

| | |
|---|---|
| Stumper, Jean-François | Tech. Univ. München |
| Paulus, Dirk | Tech. Univ. München |
| Kennel, Ralph | Tech. Univ. München |

15:10-15:30 MoB04.3

*Interconnection and Composition of Dirac Structures in Lagrange-Dirac Systems*, pp. 928-933.

| | |
|---|---|
| Jacobs, Henry | Caltech |
| Yoshimura, Hiroaki | Waseda Univ. |

15:30-15:50 MoB04.4

*Adaptive Extended Kalman Filter for Robust Sensorless Control of PMSM Drives*, pp. 934-939.

| | |
|---|---|
| Ciabattoni, Lucio | Univ. Pol. delle Marche |
| Corradini, Maria Letizia | Univ. di Camerino |
| Grisostomi, Massimo | Univ. Pol. delle marche |
| Ippoliti, Gianluca | Univ. Pol. delle Marche |
| Longhi, Sauro | Univ. Pol. delle Marche |
| Orlando, Giuseppe | Univ. Pol. delle Marche |

15:50-16:10 MoB04.5

*Disturbance Rejection in Repetitive-Control Systems Based on Equivalent-Input-Disturbance Approach*, pp. 940-945.

| | |
|---|---|
| Wu, Min | Central South Univ. |
| Xu, Baogang | Central south Univ. School ofinformatinscienceandengineeri |
| Cao, Weihua | Central South Univ. |
| She, Jinhua | Tokyo Univ. of Tech. |

**MoB05** Taylor

**Mechatronics I** (Regular Session)

| | |
|---|---|
| Chair: Mizuno, Takeshi | Saitama Univ. |
| Co-Chair: Mercorelli, Paolo | Ostfalia Univ. of Applied Sciences |

14:30-14:50 MoB05.1

*A Switching Observer for Sensorless Control of an Electromagnetic Valve Actuator for Camless Internal Combustion Engines*, pp. 946-951.

| | |
|---|---|
| Mercorelli, Paolo | Ostfalia Univ. of Applied Sciences |

14:50-15:10 MoB05.2

*Analysis of Friction-Induced Oscillation in Negative Stiffness Control System*, pp. 952-957.

| | |
|---|---|
| Shahadat, Mhia Zaglul | Saitama Univ. |
| Mizuno, Takeshi | Saitama Univ. |
| Ishino, Yuji | Saitama Univ. |
| Takasaki, Masaya | Saitama Univ. |

15:10-15:30 MoB05.3

*Adaptive Approximation-Based Control of Hysteretic Unconventional Actuators*, pp. 958-963.

| | |
|---|---|
| Riccardi, Leonardo | Pol. di Bari - Bari, Italy |
| Naso, David | Pol. di Bari |
| Turchiano, Biagio | Pol. di bari |
| Janocha, Hartmut | Saarland Univ. |

15:30-15:50 MoB05.4

*Inferential Motion Control: Identification and Robust Control with Unmeasured Performance Variables*, pp. 964-969.

| | |
|---|---|
| Oomen, Tom | Eindhoven Univ. of Tech. |
| Grassens, Erik | Eindhoven Univ. of Tech. |
| Hendriks, Ferdinand | Eindhoven Univ. of Tech. |

| | |
|---|---|
| van Herpen, Robbert | Eindhoven Univ. of Tech. |
| Bosgra, Okko H. | Delft Univ. of Tech. |

15:50-16:10 MoB05.5

*Valve's Dynamic Damping Characteristics Measurement and Identification*, pp. 970-975.

| | |
|---|---|
| Lai, Ru | Beijing Inst. of Tech. |
| Liu, Xiangdong | Beijing Inst. of Tech. |
| Wu, Guoqiang | Beijng Inst. of Tech. |

**MoB06** Jackson

**Networked Control Systems II** (Regular Session)

| | |
|---|---|
| Chair: Leonard, Naomi Ehrich | Princeton Univ. |
| Co-Chair: Egerstedt, Magnus | Georgia Inst. of Tech. |

14:30-14:50 MoB06.1

*Distribution of Agents in Heterogeneous Multiagent Systems*, pp. 976-981.

| | |
|---|---|
| Abbas, Waseem | Georgia Inst. of Tech. |
| Egerstedt, Magnus | Georgia Inst. of Tech. |

14:50-15:10 MoB06.2

*Improved Consensus Algorithms Using Memory Effects*, pp. 982-987.

| | |
|---|---|
| Rodrigues De Campos, Gabriel | Gipsa-Lab. (UMR 5216 CNRS) |
| Seuret, Alexandre | CNRS |

15:10-15:30 MoB06.3

*On Decentralized Connectivity Maintenance for Mobile Robotic Systems*, pp. 988-993.

| | |
|---|---|
| Sabattini, Lorenzo | Univ. of Modena and Reggio Emilia |
| Chopra, Nikhil | Univ. of Maryland, Coll. Park |
| Secchi, Cristian | Univ. of Modena & Reggio Emilia |

15:30-15:50 MoB06.4

*Scaling the Size of a Multiagent Formation Via Distributed Feedback*, pp. 994-999.

| | |
|---|---|
| Coogan, Samuel | Univ. of California, Berkeley |
| Arcak, Murat | Univ. of California, Berkeley |
| Egerstedt, Magnus | Georgia Inst. of Tech. |

15:50-16:10 MoB06.5

*Rearranging Trees for Robust Consensus*, pp. 1000-1005.

| | |
|---|---|
| Young, George Forrest | Princeton Univ. |
| Scardovi, Luca | Tech. Univ. München |
| Leonard, Naomi Ehrich | Princeton Univ. |

**MoB07** Escambia

**Game Theory II** (Regular Session)

| | |
|---|---|
| Chair: Meyn, Sean | Univ. of Illinois |
| Co-Chair: Huang, Minyi | Carleton Univ. |

14:30-14:50 MoB07.1

*Mean Field Difference Games: McKean-Vlasov Dynamics*, pp. 1006-1011.

| | |
|---|---|
| Tembine, Hamidou | SUPELEC |
| Huang, Minyi | Carleton Univ. |

14:50-15:10 MoB07.2

*Mean Field LQG Games with a Major Player: Continuum Parameters for Minor Players*, pp. 1012-1017.

| | |
|---|---|
| Nguyen, Son | Carleton Univ. |
| Huang, Minyi | Carleton Univ. |

15:10-15:30 MoB07.3

*Learning Equilibria in Constrained Nash-Cournot Games with Misspecified Demand Functions*, pp. 1018-1023.

| | |
|---|---|
| Jiang, Hao | UIUC |
| Shanbhag, Uday V. | Univ. of Illinois, Urbana-Champaign |

| | |
|---|---|
| Meyn, Sean | Univ. of Illinois |

15:30-15:50 MoB07.4

*Optimal Relay UAV Guidance–A New Differential Game*, pp. 1024-1029.

| | |
|---|---|
| Choi, Youngdong | Air Force Inst. of Tech. |
| Pachter, Meir | AFIT/ENG |
| Jacques, David | Air Force Inst. of Tech. |

15:50-16:10 MoB07.5

*Asymptotic Optimal Tracking Control for an Uncertain Nonlinear Euler-Lagrange System: A RISE-Based Closed-Loop Stackelberg Game Approach*, pp. 1030-1035.

| | |
|---|---|
| Hiramatsu, Takashi | Univ. of Florida |
| Johnson, Marcus | Univ. of florida |
| Fitz-Coy, Norman | Univ. of Florida |
| Dixon, Warren E. | Univ. of Florida |

## MoB08 Flagler

**Optimal Control II** (Regular Session)

| | |
|---|---|
| Chair: Alanis, Alma Y. | Univ. de Guadalajara |
| Co-Chair: McEneaney, William | Univ. of California, San Diego |

14:30-14:50 MoB08.1

*Lower Bounds on the Performance of Analog to Digital Converters*, pp. 1036-1041.

| | |
|---|---|
| Osqui, Mitra | Massachusetts Inst. of Tech. |
| Megretski, Alexandre | Massachusetts Inst. of Tech. |
| Roozbehani, Mardavij | Massachusetts Inst. of Tech. |

14:50-15:10 MoB08.2

*Convex Relaxations for Nonconvex Optimal Control Problems*, pp. 1042-1047.

| | |
|---|---|
| Scott, Joseph | Massachusetts Inst. of Tech. |
| Barton, Paul | MIT |

15:10-15:30 MoB08.3

*Inverse Optimal Trajectory Tracking for Discrete Time Nonlinear Positive Systems*, pp. 1048-1053.

| | |
|---|---|
| Leon, Blanca S. | CINVESTAV Unidad Guadalajara |
| Alanis, Alma Y. | Univ. de Guadalajara |
| Sanchez, Edgar N. | CINVESTAV |
| Ornelas-Tellez, Fernando | Cinvestav |
| Ruiz-Velazquez, Eduardo | Univ. de Guadalajara |

15:30-15:50 MoB08.4

*Curse of Dimensionality Reduction in Max-Plus Based Approximation Methods: Theoretical Estimates and Improved Pruning Algorithms*, pp. 1054-1061.

| | |
|---|---|
| Gaubert, Stephane | INRIA and Ec. Pol. |
| McEneaney, William | Univ. of California, San Diego |
| Qu, Zheng | Ec. Pol. |

15:50-16:10 MoB08.5

*A Cone-Copositive Approach for the Stability of Piecewise Linear Differential Inclusions*, pp. 1062-1067.

| | |
|---|---|
| Iervolino, Raffaele | Univ. Degli Studi Di Napoli Federico Ii |
| Vasca, Francesco | Univ. of Sannio |
| Iannelli, Luigi | Univ. of Sannio in Benevento |

## MoB09 Gilchrist

**Nonlinear Systems I** (Regular Session)

| | |
|---|---|
| Chair: De Persis, Claudio | Univ. of Groningen |
| Co-Chair: Tall, Issa Amadou | Southern Illinois Univ. Carbondale |

14:30-14:50 MoB09.1

*Characterization of Accessibility for a Class of Nonlinear Time-Delay Systems*, pp. 1068-1073.

| | |
|---|---|
| Li, Shunjie | Nanjing Univ. of Information Science & Tech. |

| | |
|---|---|
| Moog, Claude | CNRS |
| Califano, Claudia | Univ. di Roma |
| 14:50-15:10 | MoB09.2 |
| *Feedback Stabilisation of Locally Controllable Systems*, pp. 1074-1079. | |
| Isaiah, Pantelis | Queen's Univ. |
| 15:10-15:30 | MoB09.3 |
| *Canonical Forms for Nonlinear Discrete Time Control Systems*, pp. 1080-1085. | |
| Tall, Issa Amadou | Southern Illinois Univ. Carbondale |
| 15:30-15:50 | MoB09.4 |
| *On the Passivity Approach to Quantized Coordination Problems*, pp. 1086-1091. | |
| De Persis, Claudio | Univ. of Groningen |
| 15:50-16:10 | MoB09.5 |
| *Nonlinear Superposition Formulas: Some Physically Motivated Examples*, pp. 1092-1097. | |
| Menini, Laura | Univ. di Roma 'Tor Vergata' |
| Tornambe, Antonio | Univ. Di Roma Tor Vergata |

| **MoB10** | Hamilton |
|---|---|
| **Adaptive Control I** (Regular Session) | |
| Chair: Calise, Anthony J. | Georgia Inst. of Tech. |
| Co-Chair: Tao, Gang | Univ. of Virginia |
| 14:30-14:50 | MoB10.1 |
| *Frequency-Domain Stability Analysis of Retrospective-Cost Adaptive Control for Systems with Unknown Nonminimum-Phase Zeros*, pp. 1098-1103. | |
| D'Amato, Anthony | Univ. of Michigan |
| Sumer, Dogan | Univ. of Michigan - Ann Arbor |
| Bernstein, Dennis S. | Univ. of Michigan |
| 14:50-15:10 | MoB10.2 |
| *Derivative-Free Decentralized Adaptive Control of Large-Scale Interconnected Uncertain Systems*, pp. 1104-1109. | |
| Yucelen, Tansel | Georgia Inst. of Tech. |
| Yang, Bong-Jun | Optimal Synthesis Inc. |
| Calise, Anthony J. | Georgia Inst. of Tech. |
| 15:10-15:30 | MoB10.3 |
| *Decentralized Adaptive Controller for Synchronization of Dynamical Networks with Delays and Bounded Disturbances*, pp. 1110-1115. | |
| Fradkov, Alexander | Inst. for Problems of Mech. Eng. |
| Grigoriev, Grigoriy | Saint-Petersburg State Univ. |
| Selivanov, Anton | St. Petersburg State Univ. |
| 15:30-15:50 | MoB10.4 |
| *Adaptive Receding Horizon Control for a Class of Nonlinear Differential Difference Systems*, pp. 1116-1121. | |
| Lu, Mu-Chiao | Ontario Power Generation |
| 15:50-16:10 | MoB10.5 |
| *A Feedback-Based Sensor Uncertainty Detection Scheme*, pp. 1122-1127. | |
| Guo, Jiaxing | Univ. of Virginia |
| Tao, Gang | Univ. of Virginia |

| **MoB11** | Indian River |
|---|---|
| **Discrete Event Systems II** (Regular Session) | |
| Chair: Giua, Alessandro | Univ. di Cagliari |
| Co-Chair: Su, Rong | Nanyang Tech. Univ. |
| 14:30-14:50 | MoB11.1 |
| *Consensus-Based Decentralized Supervision of Petri Nets*, pp. 1128-1135. | |
| Gasparri, Andrea | Univ. of "Roma Tre" |
| Giua, Alessandro | Univ. di Cagliari |

| | |
|---|---|
| Di Paola, Donato | National Res. Council (CNR) |
| Ulivi, Giovanni | Univ. di Roma Tre |
| Naso, David | Pol. di Bari |

14:50-15:10 MoB11.2

*A Super-Eigenvector Approach to Control Constrained Max-Plus Linear Systems*, pp. 1136-1141.

| | |
|---|---|
| Maia, Carlos Andrey | Univ. Federal de Minas Gerais |
| Hardouin, Laurent | Univ. of Angers |
| Santos-Mendes, Rafael | State Univ. of Campinas |
| Loiseau, Jean Jacques | CNRS |

15:10-15:30 MoB11.3

*Deadlock-Avoidance Control of Multithreaded Software: An Efficient Siphon-Based Algorithm for Gadara Petri Nets*, pp. 1142-1148.

| | |
|---|---|
| Liao, Hongwei | Univ. of Michigan, Ann Arbor |
| Stanley, Jason | Univ. of Michigan |
| Wang, Yin | Hewlett-Packard |
| Lafortune, Stephane | Univ. of Michigan |
| Reveliotis, Spyros A. | Georgia Inst. of Tech. |
| Mahlke, Scott | Univ. of Michigan, Ann Arbor |

15:30-15:50 MoB11.4

*Towards Geometric Control of Max-Plus Linear Systems with Applications to Manufacturing Systems*, pp. 1149-1154.

| | |
|---|---|
| Hardouin, Laurent | Univ. of Angers |
| Lhommeau, Mehdi | Univ. d'Angers |
| Shang, Ying | Southern Illinois Univ. Edwardsville |

15:50-16:10 MoB11.5

*Maximally Permissive Distributed Supervisory Control of Nondeterministic Discrete-Event Systems*, pp. 1155-1160.

| | |
|---|---|
| Su, Rong | Nanyang Tech. Univ. |
| van Schuppen, Jan H. | CWI |
| Rooda, J.E. | Eindhoven Univ. of Tech. |

## MoB12 Lake

**Switched Systems II** (Regular Session)

| | |
|---|---|
| Chair: Voulgaris, Petros G. | Univ. of Illinois, Urbana-Champaign |
| Co-Chair: Oliveira, Vilma A. | Univ. de Sao Paulo |

14:30-14:50 MoB12.1

*On the Computation of L_infty Gains of Switched Systems*, pp. 1161-1165.

| | |
|---|---|
| Voulgaris, Petros G. | Univ. of Illinois, Urbana-Champaign |

14:50-15:10 MoB12.2

*Characterization and Computation of Robust Invariant Sets for Switching Systems under Dwell-Time Consideration*, pp. 1166-1171.

| | |
|---|---|
| Dehghan, Masood | National Univ. of Singapore |
| Ong, Chong-Jin | National Univ. of Singapore |
| Chen, Peter C. Y. | National Univ. of Singapore |

15:10-15:30 MoB12.3

*Structural Stability of Equilibrium Sets for a Class of Discontinuous Vector Fields*, pp. 1172-1177.

| | |
|---|---|
| Biemond, J. J. Benjamin | Eindhoven Univ. of Tech. |
| Van De Wouw, Nathan | Eindhoven Univ. of Tech. |
| Nijmeijer, Hendrik | Eindhoven Univ. of Tech. |

15:30-15:50 MoB12.4

*An Extension of the Invariance Principle for Switched Nonlinear Systems*, pp. 1178-1182.

| | |
|---|---|
| Valentino, Michele Cristina | USP - Univ. de São Paulo |
| Oliveira, Vilma A. | Univ. de Sao Paulo |
| Alberto, Luis Fernando Costa | Univ. of Sao Paulo |
| Sant'Anna, Douglas Azevedo | USP- Univ. of São Paulo |

| 15:50-16:10 | MoB12.5 |
|---|---|
| *Stabilizing Switching Rule Design for Affine Switched Systems*, pp. 1183-1188. | |
| Trofino, Alexandre | Federal Univ. of Santa Catarina |
| Scharlau, Cesar Cataldo | Univ. Federal de Santa Catarina (UFSC) |
| Dezuo, Tiago J.M. | UFSC/CTC/DAS 88040-900 Florianopolis, Brazil |
| de Oliveira, Mauricio C. | Univ. of California, San Diego |

| **MoB13** | Manatee |
|---|---|
| **Linear Systems II** (Regular Session) | |
| Chair: Ohta, Yoshito | Kyoto Univ. |
| Co-Chair: Bonilla, Moises E. | CINVESTAV-IPN |
| 14:30-14:50 | MoB13.1 |
| *A One-Step Procedure for Frequency Response Estimation Based on Switch-Mode Transfer Function Analyzer*, pp. 1189-1194. | |
| De Keyser, Robin M.C. | Univ. of Gent |
| Ionescu, Clara | Ghent Univ. |
| Festila, Clement | Tech. Univ. |
| 14:50-15:10 | MoB13.2 |
| *A Geometric Perspective on H2-Optimal Rejection by Measurement Feedback in Strictly Proper Systems: The Continuous-Time Case*, pp. 1195-1200. | |
| Marro, Giovanni | Univ. of Bologna |
| Zattoni, Elena | Univ. of Bologna |
| 15:10-15:30 | MoB13.3 |
| *System Transformation of Unstable Systems Induced by a Shift-Invariant Subspace*, pp. 1201-1206. | |
| Ohta, Yoshito | Kyoto Univ. |
| 15:30-15:50 | MoB13.4 |
| *More about Almost Controllability Subspaces*, pp. 1207-1212. | |
| Bonilla, Moises E. | CINVESTAV-IPN |
| Mendez Delgadillo, Hugo | CINVESTAV-IPN |
| Malabre, Michel | CNRS |
| 15:50-16:10 | MoB13.5 |
| *Strong Structural Controllability of Linear Systems Revisited*, pp. 1213-1218. | |
| Svaricek, Ferdinand | Univ. of German Armed Forces Munich |
| Jarczyk, Jan Christian | Univ. der Bundeswehr München |
| Alt, Benedikt | Department of Aeronautical Engineering |

| **MoB14** | Sarasota |
|---|---|
| **Predictive Control for Linear Systems II** (Regular Session) | |
| Chair: Kerrigan, Eric C. | Imperial Coll. London |
| Co-Chair: Heemels, Maurice | Eindhoven Univ. of Tech. |
| 14:30-14:50 | MoB14.1 |
| *Constrained Spectrum Control Using MPC*, pp. 1219-1226. | |
| Gondhalekar, Ravi | Osaka Univ. |
| Jones, Colin Neil | EPFL, Switzerland |
| Besselmann, Thomas | ABB Switzerland Ltd. |
| Hours, Jean-Hubert | ABB Corp. Res. |
| Mercangoz, Mehmet | ABB Corp. Res. |
| 14:50-15:10 | MoB14.2 |
| *Synthesis of Low-Complexity Stabilizing Piecewise Affine Controllers: A Control-Lyapunov Function Approach*, pp. 1227-1232. | |
| Lu, Liang | Northeastern Univ. |
| Heemels, Maurice | Eindhoven Univ. of Tech. |
| Bemporad, Alberto | IMT Inst. for Advanced Studies Lucca |
| 15:10-15:30 | MoB14.3 |
| *Performance Analysis of Asynchronous Model Predictive Control Laws*, pp. 1233-1238. | |

| | |
|---|---|
| Gondhalekar, Ravi | Osaka Univ. |

15:30-15:50 MoB14.4

*Parallel Move Blocking Model Predictive Control*, pp. 1239-1244.

| | |
|---|---|
| Longo, Stefano | Imperial Coll. London |
| Kerrigan, Eric C. | Imperial Coll. London |
| Ling, Keck-Voon | Nanyang Tech. Univ. |
| Constantinides, George A. | Imperial Coll. London |

15:50-16:10 MoB14.5

*Strongly Feasible Stochastic Model Predictive Control*, pp. 1245-1251.

| | |
|---|---|
| Korda, Milan | Czech Tech. Univ. in Prague |
| Gondhalekar, Ravi | Osaka Univ. |
| Cigler, Jiri | Czech Tech. Univ. in Prague |
| Oldewurtel, Frauke | ETH Zurich |

## MoB15 — Union

**Time Varying Systems I** (Regular Session)

| | |
|---|---|
| Chair: Do Val, Joao B.R. | UNICAMP - FEEC |
| Co-Chair: Chen, Tongwen | Univ. of Alberta |

14:30-14:50 MoB15.1

*Observer-Based Pole Placement for Non-Lexico-Graphiacally-Fixed Linear Time-Varying Systems*, pp. 1252-1257.

| | |
|---|---|
| Mutoh, Yasuhiko | Sophia Univ. |
| Kimura, Naoto | Sophia Univ. |

14:50-15:10 MoB15.2

*Singularly Perturbed Implicit Control Law for Linear Time Varying SISO Systems. Part II: State Observation*, pp. 1258-1263.

| | |
|---|---|
| Puga, S. A. | Acad. de Sistemas, UPIITA, Inst. Pol. Nacional |
| Bonilla, Moises E. | CINVESTAV-IPN |
| Malabre, Michel | CNRS |

15:10-15:30 MoB15.3

*Stationary Policies for the Second Moment Stability in a Class of Stochastic Systems*, pp. 1264-1268.

| | |
|---|---|
| Vargas, Alessandro N. | Univ. Tec. Federal do Parana, UTFPR |
| Do Val, Joao B.R. | UNICAMP - FEEC |

15:30-15:50 MoB15.4

*Robust H-Infinity Filtering for Nonuniformly Sampled Systems*, pp. 1269-1273.

| | |
|---|---|
| Mustafa, Ghulam | Univ. of Alberta |
| Chen, Tongwen | Univ. of Alberta |
| Fujioka, Hisaya | Kyoto Univ. |

15:50-16:10 MoB15.5

*Two-Degree-Of-Freedom LPV Control for a Through-The-Road Hybrid Electric Vehicle Via Torque Vectoring*, pp. 1274-1279.

| | |
|---|---|
| Liu, Qin | Hamburg Univ. of Tech. |
| Kaiser, Gerd | Intedis |
| Boonto, Sudchai | King Mongkut's Unniversity of Tech. Thonburi |
| Werner, Herbert | Hamburg Univ. of Tech. |
| Holzmann, Frederic | Intedis |
| Chretien, Benoît | Intedis |
| Korte, Matthias | Intedis GmbH |

## MoB16 — Palm Beach

**Cooperative Control and Autonomous Systems I** (Regular Session)

| | |
|---|---|
| Chair: Banavar, Ravi N. | Indian Inst. of Tech. |
| Co-Chair: Saberi, Ali | Washington State Univ. |

14:30-14:50 MoB16.1

*Optimal Topology Design for Dynamic Networks*, pp. 1280-1285.

| | |
|---|---|
| Dai, Ran | Univ. of Washinton |

| | |
|---|---|
| Mesbahi, Mehran | Univ. of Washington |
| 14:50-15:10 | MoB16.2 |
| *Output Consensus for Networks of Non-Identical Introspective Agents*, pp. 1286-1292. | |
| Yang, Tao | Washington State Univ. |
| Saberi, Ali | Washington State Univ. |
| Stoorvogel, Anton A. | Univ. of Twente |
| Grip, Håvard Fjær | Washington State Univ. |
| 15:10-15:30 | MoB16.3 |
| *A Formation Flying Algorithm for Autonomous Underwater Vehicles*, pp. 1293-1298. | |
| Kempker, Pia L. | Vrije Univ. Amsterdam |
| Ran, André C.M. | Vrije Univ. |
| van Schuppen, Jan H. | CWI |
| 15:30-15:50 | MoB16.4 |
| *A Result on Implicit Consensus with Application to Emissions Control*, pp. 1299-1304. | |
| Knorn, Florian | National Univ. of Ireland, Maynooth |
| Corless, Martin J. | Purdue Univ. |
| Shorten, Robert | Nat. Univ. of Ireland |
| 15:50-16:10 | MoB16.5 |
| *Rendezvous in Space with Minimal Sensing and Coarse Actuation*, pp. 1305-1310. | |
| Sahoo, Soumya Ranjan | Indian Inst. of Tech. Bombay |
| Banavar, Ravi N. | Indian Inst. of Tech. |
| Sinha, Arpita | Indian Inst. of Tech. Bombay |

| **MoB17** | Alachua |
|---|---|
| **Distributed Parameter Systems II** (Regular Session) | |
| Chair: Vissers, Jochem | Eindhoven Univ. of Tech. |
| Co-Chair: Orlov, Yury | CICESE |
| 14:30-14:50 | MoB17.1 |
| *Well Posedness of the Model of an Extruder in Infinite Dimension*, pp. 1311-1316. | |
| Diagne, Mamadou | LAGEP, Univ. of Lyon |
| Dos Santos Martins, Valérie Sylvie | LAGEP |
| Couenne, Francoise | Univ. of Lyon, UMR CNRS 5007 |
| Maschke, Bernhard | Univ. Claude Bernard of Lyon |
| 14:50-15:10 | MoB17.2 |
| *Optimal L2-Gain Estimator Design for Distributed Parameter Systems*, pp. 1317-1322. | |
| Vissers, Jochem | Eindhoven Univ. of Tech. |
| Weiland, Siep | Eindhoven Univ. of Tech. |
| 15:10-15:30 | MoB17.3 |
| *Boundary Second-Order Sliding-Mode Control of an Uncertain Heat Process with Spatially Varying Diffusivity*, pp. 1323-1328. | |
| Orlov, Yury | CICESE |
| Pisano, Alessandro | Univ. of Cagliari |
| Usai, Elio | Univ. degli Studi di Cagliari |
| 15:30-15:50 | MoB17.4 |
| *Local Exponential H2 Stabilization of a 2 X 2 Quasilinear Hyperbolic System Using Backstepping*, pp. 1329-1334. | |
| Vazquez, Rafael | Univ. de Sevilla |
| Coron, Jean-michel | Univ. Pierre et Marie Curie |
| Krstic, Miroslav | Univ. of California, San Diego |
| Bastin, Georges | Univ. Catholique de Louvain |
| 15:50-16:10 | MoB17.5 |
| *Controllability and Observability of Multi Partial Differential Equation Systems with Coupled Boundary Conditions*, pp. 1335-1340. | |
| Suzuki, Masayasu | Japan Sience and Tech. Agency |
| Imura, Jun-ichi | Tokyo Inst. of Tech. |

Aihara, Kazuyuki — Univ. of Tokyo

**MoB18** — Baker

**Robust Control II** (Regular Session)

Chair: Eslami, Mansour — Univ. of Illinois at Chicago
Co-Chair: Hagiwara, Tomomichi — Kyoto Univ.

14:30-14:50 — MoB18.1

*CONSTRUCTING STABLE PATH in PARAMETER VARIATION SPACE*, pp. 1341-1346.

Eslami, Mansour — Univ. of Illinois at Chicago

14:50-15:10 — MoB18.2

*Robust Gain-Scheduled Estimation: A Convex Solution*, pp. 1347-1352.

Veenman, Joost — Univ. of Stuttgart
Scherer, Carsten W. — Univ. of Stuttgart

15:10-15:30 — MoB18.3

*On the Geometric Aspects of the Invariant Ellipsoid Method: Application to the Robust Control Design*, pp. 1353-1358.

Azhmyakov, Vadim — CINVESTAV

15:30-15:50 — MoB18.4

*Infinite Matrix Representations of Robust Stability Conditions for Discrete-Time Systems*, pp. 1359-1366.

Hosoe, Yohei — Kyoto Univ.
Hagiwara, Tomomichi — Kyoto Univ.

15:50-16:10 — MoB18.5

*Periodic FIR Controller Synthesis for Discrete-Time Uncertain Linear Systems*, pp. 1367-1372.

Tregouet, Jean-Francois — LAAS-CNRS
Arzelier, Denis — LAAS-CNRS
Peaucelle, Dimitri — LAAS-CNRS, Univ. de Toulouse
Ebihara, Yoshio — Kyoto Univ.
Pittet, Christelle — CNES
Falcoz, Alexandre — IMS

**MoB19** — Bay

**Robotics II** (Regular Session)

Chair: Farrell, Jay — Univ. of California Riverside
Co-Chair: Khorasani, Khashayar — Concordia Univ.

14:30-14:50 — MoB19.1

*Distributed Control of Multiple Wheeled Mobile Robots*, pp. 1373-1378.

Dong, Wenjie — The Univ. of Texas - Pan American
Ben Ghalia, Mounir — The Univ. of Texas - Pan American
Farrell, Jay — Univ. of California Riverside

14:50-15:10 — MoB19.2

*Distributed H-Infinity Optimal Control of Networked Uncertain Nonlinear Euler-Lagrange Systems with Switching Communication Network Topologies*, pp. 1379-1386.

Mehrabian, Ali Reza — Concordia Univ.
Tafazoli, Siamak — Concordia Univ.
Khorasani, Khashayar — Concordia Univ.

15:10-15:30 — MoB19.3

*A Dual Model-Free Control of Non-Minimum Phase Systems for Generation of Stable Limit Cycles*, pp. 1387-1392.

Andary, Sebastien — LIRMM - Univ. Montpellier 2
Chemori, Ahmed — CNRS

15:30-15:50 — MoB19.4

*New Method for Global Identification of the Joint Drive Gains of Robots Using a Known Inertial Payload*, pp. 1393-1398.

Gautier, Maxime — Univ. of Nantes
Briot, Sebastien — IRCCyN, Inst. de recherches en communications et cybernetique

15:50-16:10 MoB19.5

*Increasing Efficiency of Optimization-Based Path Planning for Robotic Manipulators*, pp. 1399-1404.

Ding, Hao — Univ. of Kassel
Reissig, Gunther — Univ. of the Federal Armed Forces Munich
Stursberg, Olaf — Univ. of Kassel

**MoB20** Broward

**Stochastic Systems II** (Regular Session)

Chair: Fujimoto, Kenji — Nagoya Univ.
Co-Chair: Wang, Hong — The Univ. of Manchester

14:30-14:50 MoB20.1

*Multiobjective Meta-Heuristic Product Scheduling for Multi-Machine Manufacturing Systems*, pp. 1405-1410.

Ghasemi Afshar, Puya — The Univ. of Manchester
Wang, Hong — The Univ. of Manchester

14:50-15:10 MoB20.2

*A Stochastic Reachability Framework for Autonomous Surveillance with Pan-Tilt-Zoom Cameras*, pp. 1411-1416.

Kariotoglou, Nikolaos — Automatic Control Lab. Swiss Federal Inst. of Tech.
Raimondo, Davide Martino — Univ. degli Studi di Pavia
Summers, Sean — ETH Zurich
Lygeros, John — ETH Zurich

15:10-15:30 MoB20.3

*Optimal Management of a Two Dam System Via Stochastic Control: Parallel Computing Approach*, pp. 1417-1423.

Miller, Boris — Monash Univ.
McInnes, Daniel James — Monash Univ.

15:30-15:50 MoB20.4

*Optimal Control of Linear Systems with Stochastic Parameters for Variance Suppression*, pp. 1424-1429.

Fujimoto, Kenji — Nagoya Univ.
Ota, Yuhei — Nagoya Univ.
Nakayama, Makishi — Kobe Steel Ltd.

15:50-16:10 MoB20.5

*Control Performance Improvements Due to Fluctuations in Dynamics of Stochastic Control Systems*, pp. 1430-1436.

Ushida, Shun — Osaka Inst. of Tech.

**MoB21** Brevard

**Agents and Autonomous Systems II** (Regular Session)

Chair: Aghdam, Amir G. — Concordia Univ.
Co-Chair: Hara, Shinji — The Univ. of Tokyo

14:30-14:50 MoB21.1

*Aggregation and Rendezvous in an Unbounded Domain without a Shared Coordinate System*, pp. 1437-1442.

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

14:50-15:10 MoB21.2

*Structural Controllability of Multi-Agent Systems Subject to Simultaneous Failure of Links and Agents*, pp. 1443-1448.

Rahimian, Mohammad Amin — Sharif Univ. of Tech.
Aghdam, Amir G. — Concordia Univ.

15:10-15:30 MoB21.3

*Hierarchical Network Synthesis for Output Consensus by Eigenvector-Based Interlayer Connections*, pp. 1449-1454.

Fujimori, Naotsuna — The Univ. of Tokyo
Liu, Lu — The Univ. of Nottingham
Hara, Shinji — The Univ. of Tokyo
Tsubakino, Daisuke — Hokkaido Univ.

| 15:30-15:50 | MoB21.4 |
|---|---|
| *Leaderless Consensus Control of Dynamical Agents under Directed Interaction Topology*, pp. 1455-1460. | |
| Qin, Jiahu | Australian National Univ. Australia |
| Yu, CHANGBIN (Brad) | The Australian National Univ. |
| Gao, Huijun | Harbin Inst. of Tech. |
| Wang, Xiangke | The Australian National Univ. |
| 15:50-16:10 | MoB21.5 |
| *Advection on Graphs*, pp. 1461-1466. | |
| Chapman, Airlie | Univ. of Washington |
| Mesbahi, Mehran | Univ. of Washington |

| **MoB22** | Bradford |
|---|---|
| **System Identification II** (Regular Session) | |
| Chair: Ljung, Lennart | Linkoping Univ. |
| Co-Chair: Ramos, Jose A. | Nova Southeastern Univ. |
| 14:30-14:50 | MoB22.1 |
| *A Convex Approach to Subspace Clustering*, pp. 1467-1472. | |
| Ohlsson, Henrik | Linköping Univ. |
| Ljung, Lennart | Linkoping Univ. |
| 14:50-15:10 | MoB22.2 |
| *Identification of Linear Systems Using Output Measurements with Only Two Possible Values*, pp. 1473-1478. | |
| Depraetere, Bruno | Katholieke Univ. Leuven |
| Pinte, Gregory | Flanders' Mechatronics Tech. Centre |
| Swevers, Jan | K. U. Leuven |
| 15:10-15:30 | MoB22.3 |
| *A New Metric for Multivariate Spectral Estimation Leading to Lowest Complexity Spectra*, pp. 1479-1484. | |
| Ferrante, Augusto | Univ. di Padova |
| Masiero, Chiara | Univ. of Padova |
| Pavon, Michele | Univ. di Padova |
| 15:30-15:50 | MoB22.4 |
| *A Note on Generalized Factor Analysis Models*, pp. 1485-1490. | |
| Bottegal, Giulio | Univ. OF PADOVA |
| Picci, Giorgio | Univ. di Padova |
| 15:50-16:10 | MoB22.5 |
| *Subspace System Identification of Separable-In-Denominator 2-D Stochastic Systems*, pp. 1491-1496. | |
| Ramos, Jose A. | Nova Southeastern Univ. |
| Lopes dos Santos, P. | Univ. do Porto |

| **MoC01** | Orange |
|---|---|
| **Energy Systems II** (Regular Session) | |
| Chair: Cassandras, Christos G. | Boston Univ. |
| Co-Chair: Bemporad, Alberto | Univ. of Trento |
| 16:30-16:50 | MoC01.1 |
| *Optimal Control of Multi-Battery Energy-Aware Systems*, pp. 1497-1502. | |
| Wang, Tao | Boston Univ. |
| Cassandras, Christos G. | Boston Univ. |
| 16:50-17:10 | MoC01.2 |
| *Maximum Power Point Tracking for Photovoltaic Systems Using Adaptive Extremum Seeking Control*, pp. 1503-1508. | |
| Li, Xiao | Univ. of Wisconsin Milwaukee |
| Li, Yaoyu | Univ. of Wisconsin-Milwaukee |
| Seem, John E. | Johnson Controls Inc. |
| Lei, Peng | Univ. of Wisconsin-Milwaukee |

| 17:10-17:30 | MoC01.3 |
|---|---|
| *A Multi-Stage Stochastic Optimization Approach to Optimal Bidding on Energy Markets*, pp. 1509-1514. | |
| Puglia, Laura | Univ. degli Studi di Trento |
| Bernardini, Daniele | Univ. of Trento |
| Bemporad, Alberto | IMT Inst. for Advanced Studies Lucca |
| 17:30-17:50 | MoC01.4 |
| *Robust Economic MPC for a Power Management Scenario with Uncertainties*, pp. 1515-1520. | |
| Hovgaard, Tobias Gybel | Danfoss A/S |
| Larsen, Lars Finn Sloth | Danfoss A/S |
| Jørgensen, John Bagterp | Tech. Univ. of Denmark |
| 17:50-18:10 | MoC01.5 |
| *Optimal Contract for Wind Power in Day-Ahead Electricity Markets*, pp. 1521-1527. | |
| Cai, Desmond W. H. | California Inst. of Tech. |
| Adlakha, Sachin | California Inst. of Tech. |
| Chandy, K. Mani | California Inst. of Tech. |

| **MoC02** | Dixie |
|---|---|
| **Behavioural Systems** (Regular Session) | |
| Chair: Rocha, Paula | Univ. of Oporto |
| Co-Chair: Roozbehani, Mardavij | Massachusetts Inst. of Tech. |
| 16:30-16:50 | MoC02.1 |
| *Impulsive Solutions, Inadmissible Initial Conditions and Pole/zero Structure at Infinity*, pp. 1528-1533. | |
| Belur, Madhu N. | Indian Inst. of Tech. Bombay |
| Praagman, Cornelis | Univ. of Groningen |
| 16:50-17:10 | MoC02.2 |
| *On the Stability of Switched Behavioral Systems*, pp. 1534-1538. | |
| Rocha, Paula | Univ. of Oporto |
| Willems, Jan C. | K.U. Leuven |
| Rapisarda, Paolo | Univ. of Southampton |
| Napp, Diego | Univ. of Valladolid |
| 17:10-17:30 | MoC02.3 |
| *The Intertemporal Utility of Demand and Price-Elasticity of Consumption in Power Grids with Shiftable Loads*, pp. 1539-1544. | |
| Roozbehani, Mardavij | Massachusetts Inst. of Tech. |
| Faghih, Ali | MIT |
| Ohannessian, Mesrob | Massachusetts Inst. of Tech. |
| Dahleh, Munther A. | Massachusetts Inst. of Tech. |
| 17:30-17:50 | MoC02.4 |
| *State Space Representation of SISO Periodic Behaviors*, pp. 1545-1550. | |
| Aleixo, José Carlos | Univ. of Beira Interior |
| Rocha, Paula | Univ. of Oporto |
| Willems, Jan C. | K.U. Leuven |
| 17:50-18:10 | MoC02.5 |
| *Open Stochastic Systems*, pp. 1551-1556. | |
| Willems, Jan C. | K.U. Leuven |

| **MoC03** | Columbia |
|---|---|
| **Fault Detection III** (Regular Session) | |
| Chair: Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |
| Co-Chair: Hamelin, Frederic | Univ. Henri Poincare, Nancy 1 |
| 16:30-16:50 | MoC03.1 |
| *A Robust Algebraic Approach to Fault Diagnosis of Uncertain Linear Systems*, pp. 1557-1562. | |
| Moussa Ali, Abdouramane | CRAN - CNRS - Nancy Univ. |

| | |
|---|---|
| Join, Cedric | Univ. Henri Poincare, Nancy 1 |
| Hamelin, Frederic | Univ. Henri Poincare, Nancy 1 |
| 16:50-17:10 | MoC03.2 |
| *Quantitative Stochastic Fault Diagnosability Analysis*, pp. 1563-1569. | |
| Eriksson, Daniel | Linköping Univ. |
| Krysander, Mattias | Linkoping U. |
| Frisk, Erik | Linkoping Univ. |
| 17:10-17:30 | MoC03.3 |
| *A Unified Model-Based Fault Diagnosis Scheme for Nonlinear Discrete-Time Systems with Additive and Multiplicative Faults*, pp. 1570-1575. | |
| Ferdowsi, Hasan | Missouri Univ. of Science and Tech. |
| Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |
| 17:30-17:50 | MoC03.4 |
| *Sensor Fault Diagnosis for Bilinear Systems Using Data-Based Residuals*, pp. 1576-1582. | |
| Hakem, Assia | Lille 1 Univ. |
| Pekpe, Komi Midzodzi | Univ. de Lille 1 |
| Cocquempot, Vincent | Lille 1 Univ. |
| 17:50-18:10 | MoC03.5 |
| *Modified Pseudo-Inverse Method with Generalized Linear Quadratic Regulator for Fault Tolerant Model Matching with Prescribed Stability Degree*, pp. 1583-1588. | |
| Ciubotaru, Bogdan D. | Pol. Univ. of Bucharest |
| Staroswiecki, Marcel | Univ. des Sciences et Tech. de Lille |
| Christov, Nicolai | Univ. des Sciences et Tech. de Lille |

| **MoC04** | Nassau |
|---|---|
| **Electrical Machine Control II** (Regular Session) | |
| Chair: Zanasi, Roberto | Univ. of Modena and Reggio Emilia |
| Co-Chair: Wu, Wei | Lexmark International |
| 16:30-16:50 | MoC04.1 |
| *Multi-Phase Vectorial Control of Synchronous Motors with Currents and Voltages Saturations*, pp. 1589-1595. | |
| Fei, Marco | Univ. of Modena and Reggio Emilia |
| Zanasi, Roberto | Univ. of Modena and Reggio Emilia |
| 16:50-17:10 | MoC04.2 |
| *Two Loop Based Dynamical Feedback Stabilization Control of a Diesel Engine with EGR & VGT*, pp. 1596-1601. | |
| Wang, Haoping | Univ. de Picardie Jules Verne |
| Bosche, Jerome | Univ. of Amiens |
| Tian, Yang | LAGIS-UMR CNRS 8146, Ec. centrale de Lille |
| El Hajjaji, Ahmed | Univ. de Picardie-Jules Verne |
| 17:10-17:30 | MoC04.3 |
| *Tracking Control of Direct-Drive Servos*, pp. 1602-1607. | |
| Lyshevski, Sergey | Rochester Inst. of Tech. |
| Smith, Trevor | Harris RF Communications |
| 17:30-17:50 | MoC04.4 |
| *On Hysteresis and Air Gap Disturbance in Current and Voltage Mode Feed-Forward Control of Variable Reluctance Actuators*, pp. 1608-1613. | |
| Katalenic, Andelko | Eindhoven Univ. of Tech. |
| van Lierop, C.M.M. | Eindhoven Univ. of Tech. |
| van den Bosch, P. P. J. | Eindhoven Univ. of Tech. |
| 17:50-18:10 | MoC04.5 |
| *Disturbance Compensation for DC Motor Mechanism Low Speed Regulation : A Feedforward and Feedback Implementation*, pp. 1614-1619. | |
| Wu, Wei | Lexmark International |

| **MoC05** | Taylor |
|---|---|
| **Mechatronics II** (Regular Session) | |
| Chair: Lin, Zongli | Univ. of Virginia |
| Co-Chair: Blanke, Mogens | Tech. Univ. of Denmark |
| 16:30-16:50 | MoC05.1 |
| *Fault Diagnosis for Nonlinear Hydraulic-Mechanical Drilling Pipe Handling System*, pp. 1620-1626. | |
| Choux, Martin | Univ. of Agder |
| Blanke, Mogens | Tech. Univ. of Denmark |
| 16:50-17:10 | MoC05.2 |
| *Design and Implementation of a Surge Controller for an AMB Supported Compressor in the Presence of Piping Acoustics*, pp. 1627-1632. | |
| Yoon, Se Young (Pablo) | Univ. of Virginia |
| Lin, Zongli | Univ. of Virginia |
| Allaire, Paul | Univ. of Virginia |
| 17:10-17:30 | MoC05.3 |
| *Control of a Multi-Axis Platform for Metrological Purposes Using Differential Flatness*, pp. 1633-1638. | |
| Rodriguez-Fortun, Jose M. | Inst. Tecnologico de Aragon |
| Orus, Javier | Inst. Tecnologico de Aragon |
| Alfonso, Jesus | Inst. Tecnologico de Aragon |
| Rotella, Frederic | ENIT |
| Castellanos, Jose A. | Univ. of Zaragoza |
| 17:30-17:50 | MoC05.4 |
| *Observer Based Output Feedback Control of Thrust Magnetic Bearings*, pp. 1639-1643. | |
| Okur, Beytullah | Yildiz Tech. Univ. |
| Zergeroglu, Erkan | Gebze Inst. of Tech. |
| Tatlicioglu, Enver | Izmir Inst. of Tech. |
| Sivrioglu, Selim | Gebze Inst. of Tech. |
| Basaran, Sinan | Gebze Inst. of Tech. |
| 17:50-18:10 | MoC05.5 |
| *Robust Repetitive Controller Design and Its Application on the Track-Following Control System in Optical Disk Drives*, pp. 1644-1649. | |
| Doh, Tae-Yong | Hanbat National Univ. |
| Ryoo, Jung Rae | Korea Adv. Inst. of Sci. & Tech. |

| **MoC06** | Jackson |
|---|---|
| **Networked Control Systems III** (Regular Session) | |
| Chair: Di Benedetto, M. Domenica | Univ. of L'Aquila |
| Co-Chair: Lemmon, Michael | Univ. of Notre Dame |
| 16:30-16:50 | MoC06.1 |
| *Model-Based Event-Triggered Control with Time-Varying Network Delays*, pp. 1650-1655. | |
| Garcia, Eloy | Univ. of Notre Dame |
| Antsaklis, Panos J. | Univ. of Notre Dame |
| 16:50-17:10 | MoC06.2 |
| *Performance and Average Sampling Period of Sub-Optimal Triggering Event in Event Triggered State Estimation*, pp. 1656-1661. | |
| Li, Lichun | U. of Notre Dame |
| Lemmon, Michael | Univ. of Notre Dame |
| 17:10-17:30 | MoC06.3 |
| *Qualitative Analysis of a One-Step Finite-Horizon Boundary for Event-Driven Controllers*, pp. 1662-1667. | |
| Velasco, Manel | Tech. Univ. of Catalonia |
| Marti, Pau | Tech. Univ. of Catalonia |
| Yepez, Jose | Tech. Univ. of Catalonia |
| Ruiz, Francisco J. | Tech. Univ. of Catalonia |
| Fuertes, Josep M. | Tech. Univ. of Catalonia |

| | |
|---|---|
| Bini, Enrico | Scuola Superiore Sant'Anna |
| 17:30-17:50 | MoC06.4 |
| *Delay System Method to Design of Event-Triggered Control of Networked Control Systems*, pp. 1668-1673. | |
| Yue, Dong | Huazhong Univ. of Science and Tech. |
| Tian, Engang | Nanjing Normal Univ. |
| Han, Qing-Long | Central Queensland Univ. |
| 17:50-18:10 | MoC06.5 |
| *Digital Self Triggered Robust Control of Nonlinear Systems*, pp. 1674-1679. | |
| Di Benedetto, M. Domenica | Univ. of L'Aquila |
| Di Gennaro, Stefano | Univ. of L'Aquila |
| D'Innocenzo, Alessandro | Univ. of L'Aquila |

| **MoC07** | Escambia |
|---|---|
| **Model Validation** (Regular Session) | |
| Chair: Silvestre, Carlos | Inst. Superior Tecnico |
| Co-Chair: Medvedev, Alexander V. | Uppsala Univ. |
| 16:30-16:50 | MoC07.1 |
| *Model Selection in Stochastic Chemical Reaction Networks Using Flow Cytometry Data*, pp. 1680-1685. | |
| Lillacci, Gabriele | Univ. of California at Santa Barbara |
| Khammash, Mustafa H. | Univ. of California at Santa Barbara |
| 16:50-17:10 | MoC07.2 |
| *Model Refinement for the Active Control of Thermoacoustic Instability*, pp. 1686-1691. | |
| Yuan, Xiaochuan | Univ. of Cambridge |
| Glover, Keith | Univ. of Cambridge |
| 17:10-17:30 | MoC07.3 |
| *Model Validation: A Probabilistic Formulation*, pp. 1692-1697. | |
| Halder, Abhishek | Texas A&M Univ. |
| Bhattacharya, Raktim | Texas A&M |
| 17:30-17:50 | MoC07.4 |
| *Dynamic Smooth Pursuit Gain Estimation from Eye Tracking Data*, pp. 1698-1703. | |
| Jansson, Daniel | Uppsala Univ. |
| Medvedev, Alexander V. | Uppsala Univ. |
| 17:50-18:10 | MoC07.5 |
| *Model Falsification Using SVOs for a Class of Discrete-Time Dynamic Systems: A Coprime Factorization Approach*, pp. 1704-1709. | |
| Rosa, Paulo Andre Nobre | Inst. Superior Tecnico, Lisbon |
| Silvestre, Carlos | Inst. Superior Tecnico |
| Athans, Michael | Inst. Superior Tecnico |

| **MoC08** | Flagler |
|---|---|
| **Optimal Control III** (Regular Session) | |
| Chair: Parisini, Thomas | Imperial Coll. London & Univ. of Trieste |
| Co-Chair: Hui, Qing | Texas Tech. Univ. |
| 16:30-16:50 | MoC08.1 |
| *Robust Minimum-Time Constrained Control of Nonlinear Discrete-Time Systems: New Results*, pp. 1710-1715. | |
| Pin, Gilberto | Danieli Automation S.p.A. (Italy) |
| Parisini, Thomas | Imperial Coll. & Univ. of Trieste |
| 16:50-17:10 | MoC08.2 |
| *Approximate Finite-Horizon Optimal Control without PDE's*, pp. 1716-1721. | |
| Sassano, Mario | Imperial Coll. London |
| Astolfi, Alessandro | Imperial Coll. & Univ. of Rome |
| 17:10-17:30 | MoC08.3 |

*On Generalized Policy Iteration for Continuous-Time Linear Systems*, pp. 1722-1728.

| | |
|---|---|
| Lee, Jae Young | Yonsei Univ. |
| Chun, Tae Yoon | Yonsei Univ. |
| Park, Jin Bae | Yonsei Univ. |
| Choi, Yoon Ho | Kyonggi Univ. |

17:30-17:50 MoC08.4

*A Constrained Optimal Control Approach to Smoothing Splines*, pp. 1729-1734.

| | |
|---|---|
| Shen, Jinglai | Univ. of Maryland Baltimore County |
| Wang, Xiao | Purdue Univ. |

17:50-18:10 MoC08.5

*Optimal Coordinated Resource Allocation in Ad Hoc Network Systems: A Sequential Two-Stage Approach*, pp. 1735-1740.

| | |
|---|---|
| Hui, Qing | Texas Tech. Univ. |

**MoC09** Gilchrist

**Nonlinear Systems II** (Regular Session)

| | |
|---|---|
| Chair: Efimov, Denis | Inst. for Problems of Mechanical Eng. |
| Co-Chair: Alexandridis, Antonis | Univ. of Patras |

16:30-16:50 MoC09.1

*On Norm-Controllability of Nonlinear Systems*, pp. 1741-1746.

| | |
|---|---|
| Muller, Matthias Albrecht | Univ. of Stuttgart |
| Liberzon, Daniel | Univ. of Illinois, Urbana-Champaign |
| Allgower, Frank | Univ. of Stuttgart |

16:50-17:10 MoC09.2

*Oscillating System Design Applying Universal Formula for Control*, pp. 1747-1752.

| | |
|---|---|
| Efimov, Denis | Inst. for Problems of Mechanical Eng. |
| Perruquetti, Wilfrid | Ec. Centrale de Lille |

17:10-17:30 MoC09.3

*Stability and Convergence Analysis for a Class of Nonlinear Passive Systems*, pp. 1753-1758.

| | |
|---|---|
| Konstantopoulos, George | Univ. of Patras |
| Alexandridis, Antonis | Univ. of Patras |

17:30-17:50 MoC09.4

*Bounded Control Based on Saturation Functions of Nonlinear Under-Actuated Mechanical Systems : The Cart-Pendulum System Case*, pp. 1759-1764.

| | |
|---|---|
| Aguilar-Ibanez, Carlos | Cent. de Investigacion en Comput. |
| Martinez-Garcia, Juan Carlos | CINVESTAV-IPN |
| Soria, Alberto | CINVESTAV |

17:50-18:10 MoC09.5

*Control of Nonlinear Bilateral Teleoperation Systems Subject to Disturbances*, pp. 1765-1770.

| | |
|---|---|
| Mohammadi, Alireza | Univ. of Toronto |
| Tavakoli, Mahdi | Univ. of Alberta |
| Marquez, Horacio J. | Univ. of Alberta |

**MoC10** Hamilton

**Adaptive Control II** (Regular Session)

| | |
|---|---|
| Chair: Nazin, Alexander V. | Inst. of Control Sciences RAS |
| Co-Chair: Chen, Xinkai | Shibaura Inst. of Tech. |

16:30-16:50 MoC10.1

*Bandit Problems in Networks: Asymptotically Efficient Distributed Allocation Rules*, pp. 1771-1778.

| | |
|---|---|
| Kar, Soummya | Princeton Univ. |
| Poor, H. Vincent | Princeton Univ. |
| Cui, Shuguang | Texas A&M Univ. |

16:50-17:10 MoC10.2

*The Mirror Descent Control Algorithm for Weakly Regular Homogeneous Finite Markov Chains with Unknown Mean Losses*

*(I)*, pp. 1779-1783.

| | |
|---|---|
| Nazin, Alexander V. | Inst. of Control Sciences RAS |
| Miller, Boris | Monash Univ. |

17:10-17:30 MoC10.3

*Multivariable State Feedback for Output Tracking MRAC for Piecewise Linear Systems*, pp. 1784-1789.

| | |
|---|---|
| Sang, Qian | Univ. of Virginia |
| Tao, Gang | Univ. of Virginia |

17:30-17:50 MoC10.4

*Adaptive Control for Continuous-Time Systems in the Presence of Actuator and Sensor Hysteresis*, pp. 1790-1795.

| | |
|---|---|
| Chen, Xinkai | Shibaura Inst. of Tech. |
| Feng, Ying | Concordia Univ. |
| Su, Chun-Yi | Concordia Univ. |

17:50-18:10 MoC10.5

*A Reproducing Kernel Hilbert Space Approach for the Online Update of Radial Bases in Neuro-Adaptive Control*, pp. 1796-1802.

| | |
|---|---|
| Kingravi, Hassan | Georgia Inst. of Tech. |
| Chowdhary, Girish | Georgia Inst. of Tech. |
| Vela, Patricio A. | Georgia Inst. of Tech. |
| Johnson, Eric N. | Georgia Inst. of Tech. |

## MoC11 — Indian River

**Discrete Event Systems III** (Regular Session)

| | |
|---|---|
| Chair: Lopes, Gabriel | Delft Univ. of Tech. |
| Co-Chair: van Schuppen, Jan H. | CWI |

16:30-16:50 MoC11.1

*Synthesis of Communicating Controllers for Distributed Systems*, pp. 1803-1810.

| | |
|---|---|
| Kalyon, Gabriel | Univ. Libre de Bruxelles (ULB) |
| Le Gall, Tristan | CEA LIST |
| Marchand, Herve | IRISA/INRIA Rennes |
| Massart, Thierry | Univ. Libre de Bruxelles |

16:50-17:10 MoC11.2

*Supervisory Control of Concurrent Discrete-Event Systems*, pp. 1811-1816.

| | |
|---|---|
| Su, Rong | Nanyang Tech. Univ. |

17:10-17:30 MoC11.3

*Hierarchical Control with Partial Observations: Sufficient Conditions*, pp. 1817-1822.

| | |
|---|---|
| Boutin, Olivier | CWI |
| Komenda, Jan | Czech Acad. of Sciences |
| Masopust, Tomas | Czech Acad. of Sciences |
| Schmidt, Klaus | Cankaya Univ. |
| van Schuppen, Jan H. | CWI |

17:30-17:50 MoC11.4

*On the Eigenstructure of a Class of Max-Plus Linear Systems*, pp. 1823-1828.

| | |
|---|---|
| Lopes, Gabriel | Delft Univ. of Tech. |
| Kersbergen, Bart | Delft Univ. of Tech. |
| van den Boom, Ton J. J. | Delft Univ. of Tech. |
| De Schutter, Bart | Delft Univ. of Tech. |
| Babuska, R. | Delft Univ. of Tech. |

17:50-18:10 MoC11.5

*Data Demand Dynamics and Profit Maximization in Communications Markets*, pp. 1829-1833.

| | |
|---|---|
| Ren, Shaolei | Univ. of California, Los Angeles |
| van der Schaar, Mihaela | Univ. of California Los Angeles |

## MoC12 — Lake

**Switched Systems III** (Regular Session)

Chair: Blanchini, Franco — Univ. degli Studi di Udine
Co-Chair: Petreczky, Mihaly — Maastricht Univ.

16:30-16:50 — MoC12.1

*Is Stabilization of Switched Positive Linear Systems Equivalent to the Existence of an Hurwitz Convex Combination of the System Matrices?*, pp. 1834-1839.

Blanchini, Franco — Univ. degli Studi di Udine
Colaneri, Patrizio — Pol. di Milano
Valcher, Maria Elena — Univ. di Padova

16:50-17:10 — MoC12.2

*On the Notion of Persistence of Excitation for Linear Switched Systems*, pp. 1840-1847.

Petreczky, Mihaly — Maastricht Univ.
Bako, Laurent — Ec. des Mines de Douai

17:10-17:30 — MoC12.3

*H∞ Control of Discrete-Time Switched Itˆo Stochastic Systems Via Dynamic Output Feedback*, pp. 1848-1853.

Wu, Ligang — Harbin Inst. of Tech.
Ho, Daniel W. C. — City Univ. of Hong Kong

17:30-17:50 — MoC12.4

*Active Mode and Switching Time Estimation for Switched Linear Systems*, pp. 1854-1859.

Mincarelli, Diego — INRIA
Floquet, Thierry — CNRS
Belkoura, Lotfi — Univ. Des Sciences Et Tech. De Lille

17:50-18:10 — MoC12.5

*An Overview on Averaging for Pulse-Modulated Switched Systems*, pp. 1860-1865.

Pedicini, Carmen — Univ. of Sannio
Vasca, Francesco — Univ. of Sannio
Iannelli, Luigi — Univ. of Sannio in Benevento
Jonsson, Ulf T. — Royal Inst. of Tech. (KTH)

**MoC13** — Manatee

**Linear Systems III** (Regular Session)

Chair: Zelazo, Daniel — Univ. Stuttgart
Co-Chair: Korogui, Rubens H. — UNESP Sorocaba

16:30-16:50 — MoC13.1

*Hoo Control Design for Time-Delay Linear Systems: A Rational Transfer Function Based Approach*, pp. 1866-1871.

Korogui, Rubens H. — UNESP Sorocaba
Fioravanti, Andre R. — UNICAMP
Geromel, Jose C. — UNICAMP

16:50-17:10 — MoC13.2

*Stabilization of Abstract Delay Systems on Banach Lattices Using Nonnegative Semigroups*, pp. 1872-1877.

Hashimoto, Tomoaki — Osaka Univ.

17:10-17:30 — MoC13.3

*Stability and Stabilization of 2D Continuous State-Delayed Systems*, pp. 1878-1883.

Ghamgui, Mariem — ENSIP-LAII
Yeganefar, Nima — Laii
Bachelier, Olivier — Univ. of Poitiers
Mehdi, Driss — ESIP-LAII
Mercère, Guillaume — Univ. of Poitiers

17:30-17:50 — MoC13.4

*H Infinity Robust Design of PID Controllers for Arbitrary-Order LTI Systems with Time Delay*, pp. 1884-1889.

Ou, Linlin — Zhejiang Univ. of Tech.
Zhou, Peidong — Zhejiang Univ. of Tech.
Zhang, Weidong — Shanghai Jiaotong Univ.

| | |
|---|---|
| Yu, Li | Zhejiang Univ. of Tech. |

| 17:50-18:10 | MoC13.5 |
|---|---|

*On the Zeros of Consensus Networks*, pp. 1890-1895.

| | |
|---|---|
| Briegel, Benjamin | Univ. Stuttgart |
| Zelazo, Daniel | Univ. Stuttgart |
| Bürger, Mathias | Univ. of Stuttgart |
| Allgower, Frank | Univ. of Stuttgart |

| **MoC14** | Sarasota |
|---|---|
| **Predictive Control for Linear Systems III** (Regular Session) | |
| Chair: Calafiore, Giuseppe | Pol. di Torino |
| Co-Chair: Jørgensen, John Bagterp | Tech. Univ. of Denmark |

| 16:30-16:50 | MoC14.1 |
|---|---|

*Finite Horizon MPC for Systems in Innovation Form*, pp. 1896-1903.

| | |
|---|---|
| Jørgensen, John Bagterp | Tech. Univ. of Denmark |
| Huusom, Jakob Kjøbsted | Tech. Univ. of Denmark |
| Rawlings, James B. | Univ. of Wisconsin-Madison |

| 16:50-17:10 | MoC14.2 |
|---|---|

*Interpolation in Output-Feedback Tube-Based Robust MPC*, pp. 1904-1909.

| | |
|---|---|
| Balandat, Maximilian | Univ. of California, Berkeley |

| 17:10-17:30 | MoC14.3 |
|---|---|

*Robust Model Predictive Control Via Random Convex Programming*, pp. 1910-1915.

| | |
|---|---|
| Calafiore, Giuseppe | Pol. di Torino |
| Fagiano, Lorenzo | Pol. di Torino/Univ. California at Santa Barbara |

| 17:30-17:50 | MoC14.4 |
|---|---|

*A Memory-Efficient Representation of Explicit MPC Solutions*, pp. 1916-1921.

| | |
|---|---|
| Szucs, Alexander | STU |
| Kvasnica, Michal | Slovak Univ. of Tech. in Bratislava |
| Fikar, Miroslav | Slovak Univ. of Tech. in Bratislava |

| 17:50-18:10 | MoC14.5 |
|---|---|

*Improving Industrial MPC Performance with Data-Driven Disturbance Modeling*, pp. 1922-1927.

| | |
|---|---|
| Sun, Zhijie | Univ. of Southern California |
| Zhao, Yu | Univ. of Southern California |
| Qin, S. Joe | Univ. of Southern California |

| **MoC15** | Union |
|---|---|
| **Time Varying Systems II** (Regular Session) | |
| Chair: Sato, Masayuki | Japan Aerospace Exploration Agency |
| Co-Chair: Szabo, Zoltan | Hungarian Acad. of Sciences |

| 16:30-16:50 | MoC15.1 |
|---|---|

*Input-Output Finite-Time Stabilization of LTV Systems Via Dynamic Output Feedback*, pp. 1928-1932.

| | |
|---|---|
| Amato, Francesco | Univ. Magna Graecia di Catanzaro |
| Carannante, Giuseppe | Univ. degli Studi di Napoli Federico II |
| De Tommasi, Gianmaria | Univ. degli Studi di Napoli "Federico II" |
| Pironti, Alfredo | Univ. degli Studi di Napoli Federico II |

| 16:50-17:10 | MoC15.2 |
|---|---|

*Necessary and Sufficient Conditions for Input-Output Finite-Time Stability of Linear Time-Varying Systems*, pp. 1933-1937.

| | |
|---|---|
| Amato, Francesco | Univ. Magna Graecia di Catanzaro |
| Carannante, Giuseppe | Univ. degli Studi di Napoli Federico II |
| De Tommasi, Gianmaria | Univ. degli Studi di Napoli "Federico II" |
| Pironti, Alfredo | Univ. degli Studi di Napoli Federico II |

| 17:10-17:30 | MoC15.3 |
|---|---|

*Discrete-Time Gain-Scheduled Output-Feedback Controllers Exploiting Inexact Scheduling Parameters Via Parameter-Dependent Lyapunov Functions*, pp. 1938-1943.

| | |
|---|---|
| Sato, Masayuki | Japan Aerospace Exploration Agency |

| | |
|---|---|
| 17:30-17:50 | MoC15.4 |

*Discrete Inversion Based FDI for Sampled LPV Systems*, pp. 1944-1949.

| | |
|---|---|
| Szabo, Zoltan | Hungarian Acad. of Sciences |
| Edelmayer, András | Hungarian Acad. of Sciences |
| Bokor, Jozsef | MTA SZTAKI Hungarian Acad. of Sciences |

| | |
|---|---|
| 17:50-18:10 | MoC15.5 |

*A Toolbox for the Analysis of Linear Systems with Delays*, pp. 1950-1955.

| | |
|---|---|
| Antritter, Felix | Univ. der Bundeswehr München |
| Middeke, Johannes | Res. Inst. for Symbolic Computation (RISC) |

| **MoC16** | Palm Beach |
|---|---|
| **Cooperative Control and Autonomous Systems II** (Regular Session) | |
| Chair: Ishii, Hideaki | Tokyo Inst. of Tech. |
| Co-Chair: Yu, CHANGBIN (Brad) | The Australian National Univ. |

| | |
|---|---|
| 16:30-16:50 | MoC16.1 |

*Average Consensus on General Digraphs*, pp. 1956-1961.

| | |
|---|---|
| Cai, Kai | Tokyo Inst. of Tech. |
| Ishii, Hideaki | Tokyo Inst. of Tech. |

| | |
|---|---|
| 16:50-17:10 | MoC16.2 |

*Distributed Attitude Synchronization Control*, pp. 1962-1967.

| | |
|---|---|
| Thunberg, Anders, Johan | Royal Inst. of Tech. |
| Montijano, Eduardo | Univ. of Zaragoza |
| Hu, Xiaoming | Royal Inst. of Tech. |

| | |
|---|---|
| 17:10-17:30 | MoC16.3 |

*Request-Based Gossiping*, pp. 1968-1973.

| | |
|---|---|
| Liu, Ji | Yale Univ. |
| Mou, Shaoshuai | Yale Univ. |
| Morse, A. Stephen | Yale Univ. |
| Anderson, Brian D.O. | Australian National Univ. |
| Yu, CHANGBIN (Brad) | The Australian National Univ. |

| | |
|---|---|
| 17:30-17:50 | MoC16.4 |

*Contractions for Consensus Processes*, pp. 1974-1979.

| | |
|---|---|
| Liu, Ji | Yale Univ. |
| Morse, A. Stephen | Yale Univ. |
| Anderson, Brian D.O. | Australian National Univ. |
| Yu, CHANGBIN (Brad) | The Australian National Univ. |

| | |
|---|---|
| 17:50-18:10 | MoC16.5 |

*Voronoi Coverage Control with Time-Driven Communication for Mobile Sensing Networks with Obstacles*, pp. 1980-1985.

| | |
|---|---|
| Teraoka, Saori | Osaka Univ. |
| Ushio, Toshimitsu | Osaka Univ. |
| Kanazawa, Takafumi | Osaka Univ. |

| **MoC17** | Alachua |
|---|---|
| **Distributed Parameter Systems III** (Invited Session) | |
| Chair: Demetriou, Michael A. | Worcester Pol. Inst. |
| Co-Chair: Schuster, Eugenio | Lehigh Univ. |
| Organizer: Demetriou, Michael A. | Worcester Pol. Inst. |

| | |
|---|---|
| 16:30-16:50 | MoC17.1 |

*Lyapunov Based Guidance of a Mobile Sensing Agent for State Estimation of a Gaseous Source in a 3D Spatial Domain (I)*, pp. 1986-1992.

| | |
|---|---|
| Demetriou, Michael A. | Worcester Pol. Inst. |
| Gatsonis, Nikolaos | Worcester Pol. Inst. |
| Court, Jeffrey | Worcester Pol. Inst. |

16:50-17:10 MoC17.2

*Backstepping Control of Density and Energy Profiles in a Burning Tokamak Plasma (I)*, pp. 1993-1998.

| | |
|---|---|
| Boyer, Mark D. | Lehigh Univ. |
| Schuster, Eugenio | Lehigh Univ. |

17:10-17:30 MoC17.3

*Root Locus for Infinite-Dimensional Systems (I)*, pp. 1999-2003.

| | |
|---|---|
| Jacob, Birgit | Univ. of Wuppertal |
| Morris, Kirsten | Univ. of Waterloo |

17:30-17:50 MoC17.4

*Predictive Control of PDEs Using Adaptive Reduced Order Modeling (I)*, pp. 2004-2009.

| | |
|---|---|
| Pitchaiah, Sivakumar | Pennsylvania state Univ. |
| Armaou, Antonios | The Pennsylvania State Univ. |

17:50-18:10 MoC17.5

*Observer-Based LPV Control of a Nonlinear PDE*, pp. 2010-2015.

| | |
|---|---|
| Hashemi, Seyed Mahdi | Hamburg Univ. of Tech. |
| Werner, Herbert | Hamburg Univ. of Tech. |

## MoC18 Baker

**Robust Control III** (Regular Session)

| | |
|---|---|
| Chair: Chen, YangQuan | Utah State Univ. |
| Co-Chair: Liu, Tengfei | The Australian National Univ. |

16:30-16:50 MoC18.1

*Robust Control under Weakened Real-Time Constraints*, pp. 2016-2021.

| | |
|---|---|
| Andrianiaina, Patrick Jocelyn | Airbus Operations SAS & Inria Rhône Alpes |
| Seuret, Alexandre | CNRS |
| Simon, Daniel | Inria Grenoble Rhône-Alpes |

16:50-17:10 MoC18.2

*Robust Design of Dead-Time Compensator Controllers for Constrained Non-Linear Systems*, pp. 2022-2027.

| | |
|---|---|
| Limon, Daniel | Univ. de Sevilla |
| Pomar, Martín | Departamento de Automaçao e Sistemas. Univ. Federal de San |
| Normey-Rico, Julio Elias | Federal Univ. of Santa Catarina |
| Santos, Tito Luís | Federal Univ. of Santa Catarina |
| Camacho, Eduardo F. | Univ. of Sevilla |

17:10-17:30 MoC18.3

*Robust Stability Properties of the Nu-Gap Metric for Time-Varying Systems*, pp. 2028-2033.

| | |
|---|---|
| Khong, Sei Zhen | Univ. of Melbourne |
| Cantoni, Michael | Univ. of Melbourne |
| Jonsson, Ulf T. | Royal Inst. of Tech. (KTH) |

17:30-17:50 MoC18.4

*Robust Control of Nonlinear Strict-Feedback Systems with Measurement Errors*, pp. 2034-2039.

| | |
|---|---|
| Liu, Tengfei | The Australian National Univ. |
| Jiang, Zhong-Ping | Pol. Inst. NYU |
| Hill, David J. | The Univ. of Sydney |

17:50-18:10 MoC18.5

*Stabilizing and Robust FOPI Controller Synthesis for First Order Plus Time Delay Systems*, pp. 2040-2045.

| | |
|---|---|
| Luo, Ying | Utah State Univ. |
| Chen, YangQuan | Utah State Univ. |

## MoC19 Bay

**Autonomous Systems** (Regular Session)

Chair: Lee, Ji-Woong — Pennsylvania State Univ.
Co-Chair: Khorrami, Farshad — Pol. Inst. of NYU

16:30-16:50 MoC19.1

*Multi-Robot 3D Coverage of Unknown Terrains*, pp. 2046-2051.

Renzaglia, Alessandro — INRIA Rhone-Alpes
Doitsidis, Lefteris — Tech. Educational Inst. of Crete
Martinelli, Agostino — INRIA
Kosmatopoulos, Elias — Democritus Univ. Thrace & ITI/CERTH

16:50-17:10 MoC19.2

*Optimal Synthesis for Finite-Time Consensus under Fixed Graphs*, pp. 2052-2057.

Ghosh, Supratim — The Pennsylvania State Univ.
Lee, Ji-Woong — Pennsylvania State Univ.

17:10-17:30 MoC19.3

*Model Predictive Control of Remotely Operated Underwater Vehicles*, pp. 2058-2063.

Fernandez, Gerardo — Univ. Simon Bolivar
Dunia, Ricardo — The Univ. of Texas at Austin
Molero, Alexander — PDVSA INTEVEP
Cappelletto, Jose — Univ. Simon Bolivar

17:30-17:50 MoC19.4

*Probabilistic Certification of Pan-Tilt-Zoom Camera Surveillance Systems*, pp. 2064-2069.

Raimondo, Davide Martino — Univ. degli Studi di Pavia
Kariotoglou, Nikolaos — Automatic Control Lab. Swiss Federal Inst. of Tech.
Summers, Sean — ETH Zurich
Lygeros, John — ETH Zurich

17:50-18:10 MoC19.5

*A Hierarchical Control and Obstacle Avoidance System for Unmanned Sea Surface Vehicles*, pp. 2070-2075.

Krishnamurthy, Prashanth — FarCo Tech. Inc.
Khorrami, Farshad — Pol. Inst. of NYU

**MoC20** — Broward

**Stochastic Systems III** (Regular Session)

Chair: Fradkov, Alexander — Inst. for Problems of Mech. Eng.
Co-Chair: Poznyak, Alexander S. — CINVESTAV-IPN

16:30-16:50 MoC20.1

*Continuous-Time Averaged Models of Discrete-Time Stochastic Systems: Survey and Open Problems (I)*, pp. 2076-2081.

Fradkov, Alexander — Inst. for Problems of Mech. Eng.

16:50-17:10 MoC20.2

*Averaged Attractive Ellipsoid Technique Applied to Inventory Projectional Control with Uncertain Stochastic Demands (I)*, pp. 2082-2087.

Alazki, Hussain — CINVESTAV
Poznyak, Alexander S. — CINVESTAV-IPN

17:10-17:30 MoC20.3

*Average Consensus and Gossip Algorithms in Networks with Stochastic Asymmetric Communications*, pp. 2088-2093.

Antunes, Duarte — Inst. Superior Tecnico, Lisbon
Silvestre, Daniel — Inst. Superior Tecnico
Silvestre, Carlos — Inst. Superior Tecnico

17:30-17:50 MoC20.4

*Fault Detection and Diagnosis for General Discrete-Time Stochastic Systems Using Output Probability Density Estimation*, pp. 2094-2099.

Skaf, Zakwan — The Univ. of Manchester
Al-Bayati, Ahmad — Univ. of Manchester / Electric andElectronicEngineering Sch
Wang, Hong — The Univ. of Manchester

17:50-18:10 MoC20.5

*Iterative Fault Tolerant Control Based on Stochastic Distribution*, pp. 2100-2105.


Skaf, Zakwan — The Univ. of Manchester
Al-Bayati, Ahmad — Univ. of Manchester / Electric andElectronicEngineering Sch
Wang, Hong — The Univ. of Manchester
Wang, Aiping — Anhui Univ.


**MoC21** Brevard

**Agents and Autonomous Systems III** (Regular Session)

Chair: Jadbabaie, Ali — Univ. of Pennsylvania
Co-Chair: Hadjicostis, Christoforos — Univ. of Cyprus

16:30-16:50 MoC21.1

*An Internal-Model Principle for the Synchronisation of Autonomous Agents with Individual Dynamics*, pp. 2106-2111.


Lunze, Jan — Ruhr-Univ. Bochum


16:50-17:10 MoC21.2

*Coordinated Networked Estimation Strategies Using Structured Systems Theory*, pp. 2112-2117.


Khan, Usman — Tufts Univ.
Jadbabaie, Ali — Univ. of Pennsylvania


17:10-17:30 MoC21.3

*White Noise Disturbance and Topological Heterogeneity Analysis for the Hybrid Consensus Protocol*, pp. 2118-2123.


Zhang, Haopeng — Texas Tech. Univ.
Mullen, Sean — Texas Tech. Univ.
Hui, Qing — Texas Tech. Univ.


17:30-17:50 MoC21.4

*Distributed Strategies for Average Consensus in Directed Graphs*, pp. 2124-2129.


Dominguez-Garcia, Alejandro — Univ. of Illinois at Urbana-Champaign
Hadjicostis, Christoforos — Univ. of Cyprus


17:50-18:10 MoC21.5

*L2 Gain Stability Analysis of Event-Triggered Agreement Protocols*, pp. 2130-2135.


Dimarogonas, Dimos V. — Royal Inst. of Tech.


**MoC22** Bradford

**System Identification III** (Regular Session)

Chair: Bernstein, Dennis S. — Univ. of Michigan
Co-Chair: Bokor, Jozsef — MTA SZTAKI Hungarian Acad. of Sciences

16:30-16:50 MoC22.1

*Pole Structure Estimation from Laguerre Representations Using Hyperbolic Metrics on the Unit Disc*, pp. 2136-2141.


Soumelidis, Alexandros — Computer and Automation Res. Inst.
Schipp, Ferenc — Eotvos Lorand Univ. of Budapest
Bokor, Jozsef — MTA SZTAKI Hungarian Acad. of Sciences


16:50-17:10 MoC22.2

*Retrospective-Cost-Based Model Refinement for System Emulation and Subsystem Identification*, pp. 2142-2147.


Morozov, Alexey — Univ. of Michigan
Ali, Asad — Univ. of Michigan
D'Amato, Anthony — Univ. of Michigan
Ridley, Aaron — Univ. of Michigan
Kukreja, Sunil, L. — NASA Dryden Flight Res. Center
Bernstein, Dennis S. — Univ. of Michigan


17:10-17:30 MoC22.3

*User Friendly Box-Jenkins Identification Using Nonparametric Noise Models*, pp. 2148-2153.


Schoukens, Johan — Vrije Univ. Brussels
Rolain, Yves J. — Vrije Univ. Brussels

| | |
|---|---|
| Vandersteen, Gerd G. | Vrije Univ. Brussels |
| Pintelon, Rik M. | Vrije Univ. Brussels |

17:30-17:50 MoC22.4

*Identification of Sensor-Only MIMO Pseudo Transfer Functions*, pp. 2154-2159.

| | |
|---|---|
| Brzezinski, Adam | Univ. of Michigan - Ann Arbor |
| Kukreja, Sunil, L. | NASA Dryden Flight Res. Center |
| Ni, Jun | Univ. of Michigan |
| Bernstein, Dennis S. | Univ. of Michigan |

17:50-18:10 MoC22.5

*A Least Squares Approach to Direct Frequency Response Estimation*, pp. 2160-2165.

| | |
|---|---|
| Hägg, Per | KTH Royal Inst. of Tech. |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Wahlberg, Bo | KTH Royal Inst. of Tech. |

| **TuPL** | Bonnet Creek Ballroom VI & IX |
|---|---|
| **Universal Laws and Architectures** (Plenary Session) | |
| Chair: Polycarpou, Marios M. | Univ. of Cyprus |
| 08:30-09:30 | TuPL.1 |
| *Universal Laws and Architectures**. | |
| Doyle, John C. | California Inst. of Tech. |

| **TuA01** | Orange |
|---|---|
| **Smart Grid Integration of Renewable Energy** (Invited Session) | |
| Chair: Annaswamy, Anuradha | Massachusetts Inst. of Tech. |
| Co-Chair: Stoustrup, Jakob | Aalborg Univ. |
| Organizer: Annaswamy, Anuradha | Massachusetts Inst. of Tech. |
| Organizer: Stoustrup, Jakob | Aalborg Univ. |
| Organizer: Baillieul, John | Boston Univ. |
| Organizer: Caramanis, Michael C. | Boston Univ. |
| 10:00-10:20 | TuA01.1 |
| *Optimal Control of Cascading Power Grid Failures (I)*, pp. 2166-2173. | |
| Bienstock, Daniel | Columbia Univ. |
| 10:20-10:40 | TuA01.2 |
| *Exact and Efficient Algorithm to Discover Extreme Stochastic Events in Wind Generation Over Transmission Power Grids (I)*, pp. 2174-2180. | |
| Chertkov, Michael | Los Alamos National Lab. |
| Stepanov, Mikhail | Univ. of Arizona, Tucson |
| Pan, Feng | Los Alamos National Lab. |
| Baldick, Ross | Univ. of Texas, Austin |
| 10:40-11:00 | TuA01.3 |
| *Cascade Mitigation in Energy Hub Networks (I)*, pp. 2181-2188. | |
| Almassalkhi, Mads | Univ. of Michigan |
| Hiskens, Ian A. | Univ. of Michigan |
| 11:00-11:20 | TuA01.4 |
| *Wide-Area Damping Control of Large Power Systems Using a Model Reference Approach (I)*, pp. 2189-2194. | |
| Chakrabortty, Aranya | North Carolina State Univ. |
| 11:20-11:40 | TuA01.5 |
| *Cyber-Physical Attacks in Power Networks: Models, Fundamental Limitations and Monitor Design (I)*, pp. 2195-2201. | |
| Pasqualetti, Fabio | Univ. of California, Santa Barbara |
| Dörfler, Florian | Univ. of California at Santa Barbara |
| Bullo, Francesco | Univ. California at Santa Barbara |
| 11:40-12:00 | TuA01.6 |
| *Wholesale Energy Market in a Smart Grid: Dynamic Modeling and Stability (I)*, pp. 2202-2207. | |
| Kiani, Arman | Tech. Univ. of Munich |
| Annaswamy, Anuradha | Massachusetts Inst. of Tech. |

| **TuA02** | Dixie |
|---|---|
| **Identification and Analysis of Biomolecular Networks** (Invited Session) | |
| Chair: Blanchini, Franco | Univ. degli Studi di Udine |
| Co-Chair: Belta, Calin | Boston Univ. |
| Organizer: Julius, Agung | Rensselaer Pol. Inst. |
| Organizer: Belta, Calin | Boston Univ. |
| 10:00-10:20 | TuA02.1 |
| *Genetic Regulatory Network Identification Using Multivariate Monotone Functions (I)*, pp. 2208-2213. | |
| Cooper, Nicholas | Rensselaer Pol. Inst. |

| | |
|---|---|
| Belta, Calin | Boston Univ. |
| Julius, Agung | Rensselaer Pol. Inst. |
| 10:20-10:40 | TuA02.2 |
| *Multistability and Robustness of the MAPK Pathway (I)*, pp. 2214-2219. | |
| Blanchini, Franco | Univ. degli Studi di Udine |
| Franco, Elisa | Univ. of California at Riverside |
| 10:40-11:00 | TuA02.3 |
| *Retroactivity Attenuation in Signaling Cascades (I)*, pp. 2220-2226. | |
| Ossareh, Hamid R. | Univ. of Michigan |
| Del Vecchio, Domitilla | Massachusetts Insitute of Tech. |
| 11:00-11:20 | TuA02.4 |
| *Integration of Large-Scale Metabolic, Signaling, and Gene Regulatory Networks with Application to Infection Responses (I)*, pp. 2227-2232. | |
| Richard, Guilhem | Boston Univ. |
| Chang, H.J. | Imperial Coll. London |
| Cizelj, Igor | Boston Univ. |
| Belta, Calin | Boston Univ. |
| Julius, Agung | Rensselaer Pol. Inst. |
| Amar, Salomon | Boston Univ. |
| 11:20-11:40 | TuA02.5 |
| *Input Symmetry Invariance, and Applications to Biological Systems (I)*, pp. 2233-2238. | |
| Shoval, Oren | Weizmann Inst. of Science |
| Alon, Uri | Weizmann Inst. of Science |
| Sontag, Eduardo D. | Rutgers Univ. |
| 11:40-12:00 | TuA02.6 |
| *Efficient Stochastic Simulation of Metastable Markov Chains (I)*, pp. 2239-2244. | |
| Milias-Argeitis, Andreas | ETH Zurich |
| Lygeros, John | ETH Zurich |

| **TuA03** | Columbia |
|---|---|
| **Fault Tolerant Systems** (Regular Session) | |
| Chair: Wang, Junmin | The Ohio State Univ. |
| Co-Chair: Edwards, Christopher | Univ. of Leicester |
| 10:00-10:20 | TuA03.1 |
| *A Lane Control Mechanism with Fault Tolerant Control Capabilities*, pp. 2245-2250. | |
| Stoican, Florin | SUPELEC |
| Minoiu Enache, Nicoleta | RENAULT SAS |
| Olaru, Sorin | Supelec |
| 10:20-10:40 | TuA03.2 |
| *Fault Estimation and Virtual Sensor FTC Approach for LPV Systems*, pp. 2251-2256. | |
| Montes de Oca, Saúl | Univ. Pol. de Catalunya |
| Rotondo, Damiano | UPC |
| Nejjari, Fatiha | Univ. Pol. de Catalunya |
| Puig, Vicenc | Univ. Pol. de Catalunya |
| 10:40-11:00 | TuA03.3 |
| *Online Selection of $H_infty$ Controllers for a Faulty Linear System*, pp. 2257-2262. | |
| Liu, Lijun | Harbin Inst. of Tech. & Duke Univ. |
| Shen, Yi | Harbin Inst. of Tech. |
| Zhu, Chunhui | Harbin Inst. of Tech. |
| Dowell, Earl H. | Duke Univ. |
| 11:00-11:20 | TuA03.4 |
| *Passive Fault Tolerant Control of a Class of Over-Actuated Nonlinear Systems and Applications to Electric Vehicles*, pp. 2263-2268. | |

| | |
|---|---|
| Wang, Rongrong | Ohio State Univ. |
| Wang, Junmin | The Ohio State Univ. |

| 11:20-11:40 | TuA03.5 |
|---|---|

*A Novel Active Fault Tolerant Control Design with Respect to Actuators Reliability*, pp. 2269-2274.

| | |
|---|---|
| Khelassi, Ahmed | Nancy Univ. |
| Theilliol, Didier | Nancy Univ. |
| Weber, Philippe | Nancy Univ. |
| Sauter, Dominique D.J. | Univ. Henri Poincare, Nancy 1 |

| 11:40-12:00 | TuA03.6 |
|---|---|

*An Output Integral Sliding Mode FTC Scheme Using Control Allocation*, pp. 2275-2280.

| | |
|---|---|
| Hamayun, Mirza Tariq | Univ. of Leicester |
| Alwi, Halim | Univ. of Leicester |
| Edwards, Christopher | Univ. of Leicester |

| **TuA04** | Nassau |
|---|---|
| **Emerging Control Applications** (Regular Session) | |
| Chair: Kerrigan, Eric C. | Imperial Coll. London |
| Co-Chair: Sbarbaro, Daniel G. | Univ. de Concepcion |

| 10:00-10:20 | TuA04.1 |
|---|---|

*A New Force Feedback for Steer-By-Wire Vehicles Via Virtual Vehicle Concept*, pp. 2281-2286.

| | |
|---|---|
| Mehdizadeh, Emad | Amirkabir Univ. of Tech. |
| Kabganian, Mansour | Amirkabir Univ. of Tech. |
| Kazemi, Reza | K. N. Toosi Univ. of Tech. |

| 10:20-10:40 | TuA04.2 |
|---|---|

*Pantograph Catenary Control and Observation Using the LMI Approach*, pp. 2287-2292.

| | |
|---|---|
| Rachid, Ahmed | Univ. de Picardie-Jules Verne |

| 10:40-11:00 | TuA04.3 |
|---|---|

*Interactive MRI Segmentation with Controlled Active Vision*, pp. 2293-2298.

| | |
|---|---|
| Karasev, Peter | Georgia Inst. of Tech. |
| Kolesov, Ivan | Georgia Inst. of Tech. |
| Chudy, Karol | Georgia Inst. of Tech. |
| Tannenbaum, Allen | Georgia Tech. |
| Muller, Grant | Emory Univ. |
| Xerogeanes, John | Emory Univ. |

| 11:00-11:20 | TuA04.4 |
|---|---|

*Solving a Positive Definite System of Linear Equations Via the Matrix Exponential*, pp. 2299-2304.

| | |
|---|---|
| Hasan, Ammar | Imperial Coll. London |
| Kerrigan, Eric C. | Imperial Coll. London |
| Constantinides, George A. | Imperial Coll. London |

| 11:20-11:40 | TuA04.5 |
|---|---|

*About Structure Preserving Feedback of Controlled Contact Systems*, pp. 2305-2310.

| | |
|---|---|
| Ramirez Estay, Hector M. | Univ. Claude Bernard Lyon 1 |
| Maschke, Bernhard | Univ. Claude Bernard of Lyon |
| Sbarbaro, Daniel G. | Univ. de Concepcion |

| 11:40-12:00 | TuA04.6 |
|---|---|

*Observer Design for Nonlinear Processes with Wiener Structure*, pp. 2311-2316.

| | |
|---|---|
| Glaría López, Tomás Ángel | Univ. de Concepción |
| Sbarbaro, Daniel G. | Univ. de Concepcion |

| **TuA05** | Taylor |
|---|---|
| **Dynamics Over Complex Networks - I** (Invited Session) | |
| Chair: Yildiz, Mehmet Ercan | MIT |
| Co-Chair: Ozdaglar, Asuman | MIT |

Organizer: Yildiz, Mehmet Ercan — MIT
Organizer: Ozdaglar, Asuman — MIT

10:00-10:20 — TuA05.1

*On Reduction of Graphs and Markov Chain Models (I)*, pp. 2317-2322.
Xu, Yunwen — Univ. of Illinois at Urbana-Champaign
Salapaka, Srinivasa — Univ. of Illinois
Beck, Carolyn L. — Univ. of Illinois, Urbana-Champaign

10:20-10:40 — TuA05.2

*System Theory Over Random Consensus Networks: Controllability and Optimality Properties (I)*, pp. 2323-2328.
Nabi Abdolyousefi, Marzieh — Univ. of Washington - DSSL
Mesbahi, Mehran — Univ. of Washington

10:40-11:00 — TuA05.3

*Diffusion of Innovations in Social Networks (I)*, pp. 2329-2334.
Acemoglu, Daron — MIT
Ozdaglar, Asuman — MIT
Yildiz, Ercan — Accenture Tech. Lab.

11:00-11:20 — TuA05.4

*Aggregate Observational Distinguishability Is Necessary and Sufficient for Social Learning (I)*, pp. 2335-2340.
Molavi, Pooya — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania

11:20-11:40 — TuA05.5

*On Consensus in a Correlated Model of Network Formation Based on a Polya Urn Process (I)*, pp. 2341-2346.
Fazeli, Arastoo — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania

11:40-12:00 — TuA05.6

*Opinion Fluctuations and Persistent Disagreement in Social Networks (I)*, pp. 2347-2352.
Acemoglu, Daron — MIT
Como, Giacomo — Lund Univ.
Fagnani, Fabio — Pol. Di Torino
Ozdaglar, Asuman — MIT

## TuA06 — Jackson

**Networked Control Systems IV** (Regular Session)

Chair: Dixon, Warren E. — Univ. of Florida
Co-Chair: Pappas, George J. — Univ. of Pennsylvania

10:00-10:20 — TuA06.1

*Topological Conditions for Wireless Control Networks*, pp. 2353-2360.
Pajic, Miroslav — Univ. of Pennsylvania
Sundaram, Shreyas — Univ. of Waterloo
Pappas, George J. — Univ. of Pennsylvania
Mangharam, Rahul — Univ. of Pennsylvania

10:20-10:40 — TuA06.2

*Reduced Communication State Estimation for Control of an Unstable Networked Control System*, pp. 2361-2368.
Trimpe, Sebastian — ETH Zurich
D'Andrea, Raffaello — ETH

10:40-11:00 — TuA06.3

*Ensuring Network Connectivity for Nonholonomic Robots During Rendezvous*, pp. 2369-2374.
Kan, Zhen — Univ. of Florida
Dani, Ashwin — Univ. of Illinois at Urbana-Champaign
Shea, John — Univ. of Florida
Dixon, Warren E. — Univ. of Florida

11:00-11:20 — TuA06.4

*Information Flow Based Connectivity Maintenance of a Multi-Agent System During Formation Control*, pp. 2375-2380.

| | |
|---|---|
| Kan, Zhen | Univ. of Florida |
| Dani, Ashwin | Univ. of Illinois at Urbana-Champaign |
| Shea, John | Univ. of Florida |
| Dixon, Warren E. | Univ. of Florida |

11:20-11:40 TuA06.5

*Robust H-Infinity Output Feedback Control of Discrete-Time Networked Systems with Adaptive Quantizers*, pp. 2381-2386.

| | |
|---|---|
| Rasool, Faiz | Univ. of auckland |
| Nguang, Sing Kiong | The Univ. of Auckland |
| Huang, Dan | Shanghai Jiao Tong Univ. |

11:40-12:00 TuA06.6

*A Two-Port Approach to Networked Feedback Stabilization and Control, Part II: H∞ Solution*, pp. 2387-2392.

| | |
|---|---|
| Gu, Guoxiang | Louisiana State Univ. |
| Qiu, Li | Hong Kong Univ. of Sci. & Tech. |

**TuA07** Escambia

**Kalman Filtering I** (Regular Session)

| | |
|---|---|
| Chair: Einicke, Garry A. | CSIRO Australia |
| Co-Chair: Rohr, Eduardo Rath | Univ. of Newcastle |

10:00-10:20 TuA07.1

*New Results on Robust State Estimation in Spacecraft Attitude Control*, pp. 2393-2398.

| | |
|---|---|
| Khan, Naeem | Univ. of Leicester |
| Fekri, Sajjad | Cranfield Univ. |
| Ahmed, Rihan | Univ. of Leicester |
| Gu, Dawei | Univ. of Leicester |

10:20-10:40 TuA07.2

*The Use of Energy Constraints within Filtering and Smoothing*, pp. 2399-2403.

| | |
|---|---|
| Einicke, Garry A. | CSIRO Australia |

10:40-11:00 TuA07.3

*H$_infty$ Kalman Filtering for Rectangular Descriptor Systems with Unknown Inputs*, pp. 2404-2409.

| | |
|---|---|
| Hsieh, Chien-Shu | Ta Hwa Inst. of Tech. |

11:00-11:20 TuA07.4

*Gaussian Mixture PHD Filter for Multiple Maneuvering Extended Targets Tracking*, pp. 2410-2415.

| | |
|---|---|
| Li, Wenling | Beihang Univ. |
| Jia, Yingmin | Beihang Univ. |
| Du, Junping | Beijing Univ. of Posts and Telecommunications |
| Yu, Fashan | Henan Pol. Univ. |

11:20-11:40 TuA07.5

*Kalman Filtering with Intermittent Observations: Bounds on the Error Covariance Distribution*, pp. 2416-2421.

| | |
|---|---|
| Rohr, Eduardo Rath | Univ. of Newcastle |
| Marelli, Damian | Univ. of Newcastle |
| Fu, Minyue | Univ. of Newcastle |

11:40-12:00 TuA07.6

*Kalman Filtering for a Class of Degenerate Systems with Intermittent Observations*, pp. 2422-2427.

| | |
|---|---|
| Rohr, Eduardo Rath | Univ. of Newcastle |
| Marelli, Damian | Univ. of Newcastle |
| Fu, Minyue | Univ. of Newcastle |

**TuA08** Flagler

**Learning, Games, Communications and Autonomy** (Invited Session)

| | |
|---|---|
| Chair: Baras, John S. | Univ. of Maryland |
| Co-Chair: Shamma, Jeff S. | Georgia Inst. of Tech. |
| Organizer: Baras, John S. | Univ. of Maryland |
| Organizer: Shamma, Jeff S. | Georgia Inst. of Tech. |

| 10:00-10:20 | TuA08.1 |
|---|---|
| *Learning in Near-Potential Games (I)*, pp. 2428-2433. | |
| Candogan, Ozan | MIT |
| Ozdaglar, Asuman | MIT |
| Parrilo, Pablo A. | Massachusetts Inst. of Tech. |
| 10:20-10:40 | TuA08.2 |
| *Designing Games for Distributed Optimization (I)*, pp. 2434-2440. | |
| Li, Na | California Inst. of Tech. |
| Marden, Jason | Univ. of Colorado at Boulder |
| 10:40-11:00 | TuA08.3 |
| *Game Couplings: Learning Dynamics and Applications (I)*, pp. 2441-2446. | |
| Balcan, Maria Florina | Georgia Inst. of Tech. |
| Constantin, Florin | Georgia Tech. |
| Piliouras, Georgios | Georgia Inst. of Tech. |
| Shamma, Jeff S. | Georgia Inst. of Tech. |
| 11:00-11:20 | TuA08.4 |
| *Learning Behaviors for Coordination in Networked Systems and a Generalized Consensus Protocol (I)*, pp. 2447-2452. | |
| Hovareshti, Pedram | Univ. of Maryland |
| Baras, John S. | Univ. of Maryland |
| 11:20-11:40 | TuA08.5 |
| *Perturbed Learning Automata in Potential Games (I)*, pp. 2453-2458. | |
| Chasparis, Georgios C. | Lund Univ. |
| Shamma, Jeff S. | Georgia Inst. of Tech. |
| Rantzer, Anders | Lund Univ. |
| 11:40-12:00 | TuA08.6 |
| *Necessary and Sufficient Conditions for Stabilizability Subject to Quadratic Invariance (I)*, pp. 2459-2466. | |
| Sabau, Serban | Univ. of Maryland, Coll. Park |
| Martins, Nuno C. | Univ. of Maryland |

| **TuA09** | Gilchrist |
|---|---|
| **Nonlinear Systems III** (Regular Session) | |
| Chair: Xin, Xin | Okayama Prefectural Univ. |
| Co-Chair: De Persis, Claudio | Sapienza Univ. of Rome |
| 10:00-10:20 | TuA09.1 |
| *Line-Of-Sight Path-Following Along Regularly Parametrized Curves Solved As a Generic Maneuvering Problem*, pp. 2467-2474. | |
| Skjetne, Roger | Norwegian Univ. of Science and Tech. |
| Jørgensen, Ulrik | Norwegian Univ. of Science and Tech. |
| Teel, Andrew R. | Univ. of California at Santa Barbara |
| 10:20-10:40 | TuA09.2 |
| *Minimum Entropy Approach for Robot Manipulator*, pp. 2475-2480. | |
| Skaf, Zakwan | The Univ. of Manchester |
| Al-Bayati, Ahmad | Univ. of Manchester / Electric andElectronicEngineering Sch |
| Wang, Hong | The Univ. of Manchester |
| 10:40-11:00 | TuA09.3 |
| *Swing-Up Control for a Two-Link Underactuated Robot with a Flexible Elbow Joint: New Results Beyond the Passive Elbow Joint*, pp. 2481-2486. | |
| Xin, Xin | Okayama Prefectural Univ. |
| 11:00-11:20 | TuA09.4 |
| *A Note on the Deployment of Kinematic Agents by Binary Information*, pp. 2487-2492. | |
| De Persis, Claudio | Univ. of Groningen |
| Cao, Ming | Univ. of Groningen |
| Ceragioli, Francesca | Pol. Di Torino |
| 11:20-11:40 | TuA09.5 |

*Generalized Incremental Homogeneity, Incremental Observability and Global Observer Design*, pp. 2493-2498.

| | |
|---|---|
| Battilotti, Stefano | Univ. La Sapienza |

11:40-12:00 TuA09.6

*Approximate Trajectory Tracking Control of a Velocity-Senlorless VTOL Aircraft with Measurement Delays*, pp. 2499-2504.

| | |
|---|---|
| Su, Shanwei | Beijing Univ. of Aeronautics and Astronautics |
| Lin, Yan | Beijing Univ. of Aeronautics and Astronautics |

**TuA10** Hamilton

**Integrated Vehicle Dynamics and Control I** (Invited Session)

| | |
|---|---|
| Chair: Lu, Jianbo | Ford Motor Company |
| Co-Chair: Tsiotras, Panagiotis | Georgia Inst. of Tech. |
| Organizer: Lu, Jianbo | Ford Motor Company |
| Organizer: Tsiotras, Panagiotis | Georgia Inst. of Tech. |

10:00-10:20 TuA10.1

*LPV Design of Reconfigurable and Integrated Control for Road Vehicles (I)*, pp. 2505-2510.

| | |
|---|---|
| Gaspar, Peter | Computer & Automation Inst. of HAS |
| Szabo, Zoltan | Hungarian Acad. of Sciences |
| Bokor, Jozsef | MTA SZTAKI Hungarian Acad. of Sciences |

10:20-10:40 TuA10.2

*Stability Control of Electric Vehicles with Four Independently Actuated Wheels (I)*, pp. 2511-2516.

| | |
|---|---|
| Wang, Rongrong | Ohio State Univ. |
| Wang, Junmin | The Ohio State Univ. |

10:40-11:00 TuA10.3

*Integrated Electric Vehicle Control by Differential Parameterization (I)*, pp. 2517-2522.

| | |
|---|---|
| Hoedt, Jens | TU Darmstadt |
| Konigorski, Ulrich | Tech. Univ. Darmstadt |

11:00-11:20 TuA10.4

*Speed and Acceleration Controllers for a Light Electric Two-Wheeled Vehicle (I)*, pp. 2523-2528.

| | |
|---|---|
| Dardanelli, Andrea | Pol. di Milano |
| Tanelli, Mara | Pol. di Milano |
| Picasso, Bruno | Pol. di Milano |
| Savaresi, Sergio M. | Pol. Di Milano |
| Di Tanna, Onorino | Piaggio & C. S.p.A. |
| Mario, Santucci | Piaggio & C. S.p.A. |

11:20-11:40 TuA10.5

*Smart Management of Actuator Saturation in Integrated Vehicle Control (I)*, pp. 2529-2534.

| | |
|---|---|
| Bianchi, Domenico | Univ. of L'Aquila |
| Borri, Alessandro | Univ. of L'Aquila |
| Di Gennaro, Stefano | Univ. of L'Aquila |
| Di Benedetto, M. Domenica | Univ. of L'Aquila |
| Castillo-Toledo, Bernardino | CINVESTAV-GDL, Mexico |

11:40-12:00 TuA10.6

*A Decentralized Control Technique for Vehicle Chassis Control (I)*, pp. 2535-2540.

| | |
|---|---|
| Villegas, Carlos | Wavebob Ltd. |
| Chow, Yin-Lam | Purdue Univ. |
| Corless, Martin J. | Purdue Univ. |
| Shorten, Robert | Nat. Univ. of Ireland |
| Griggs, Wynita M. | National Univ. of Ireland, Maynooth |

**TuA11** Indian River

**Recent Advances in Event-Triggered Control I** (Invited Session)

| | |
|---|---|
| Chair: Heemels, Maurice | Eindhoven Univ. of Tech. |
| Co-Chair: Hirche, Sandra | Tech. Univ. München |

Organizer: Heemels, W.P.M.H. — Eindhoven Univ. of Tech.
Organizer: Hirche, Sandra — Tech. Univ. München
Organizer: Johansson, Karl H. — Royal Inst. of Tech.

10:00-10:20 — TuA11.1

*Event-Based Control of Nonlinear Systems: An Input-Output Linearization Approach (I)*, pp. 2541-2546.
Stoecker, Christian — Univ. of Bochum, Germany
Lunze, Jan — Ruhr-Univ. Bochum

10:20-10:40 — TuA11.2

*Decentralized Event-Triggered Control with Asynchronous Updates (I)*, pp. 2547-2552.
Mazo Jr., Manuel — INCAS3 / Univ. of Groningen
Cao, Ming — Univ. of Groningen

10:40-11:00 — TuA11.3

*Distributed Event-Based Control for Interconnected Linear Systems (I)*, pp. 2553-2558.
Guinaldo, Maria — UNED
Dimarogonas, Dimos V. — Royal Inst. of Tech.
Johansson, Karl H. — Royal Inst. of Tech.
Sánchez Moreno, José — UNED
Dormido, Sebastián — UNED

11:00-11:20 — TuA11.4

*A Unifying Lyapunov-Based Framework for the Event-Triggered Control of Nonlinear Systems (I)*, pp. 2559-2564.
Postoyan, Romain — CNRS-CRAN
Anta, Adolfo — Max Planck Inst.
Nesic, Dragan — Univ. of Melbourne
Tabuada, Paulo — Univ. of California at Los Angeles

11:20-11:40 — TuA11.5

*Event-Triggered and Self-Triggered Stabilization of Distributed Networked Control Systems (I)*, pp. 2565-2570.
Postoyan, Romain — CNRS-CRAN
Tabuada, Paulo — Univ. of California at Los Angeles
Nesic, Dragan — Univ. of Melbourne
Anta, Adolfo — Max Planck Inst.

11:40-12:00 — TuA11.6

*Periodic Event-Triggered Control Based on State Feedback (I)*, pp. 2571-2576.
Heemels, Maurice — Eindhoven Univ. of Tech.
Donkers, Tijs — Eindhoven Univ. of Tech.
Teel, Andrew R. — Univ. of California at Santa Barbara

**TuA12** — Lake
**Linear Systems Estimation** (Regular Session)
Chair: Carnevale, Daniele — Univ. di Roma
Co-Chair: Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

10:00-10:20 — TuA12.1

*A Hybrid Observer for Frequency Estimation of Saturated Multi-Frequency Signals*, pp. 2577-2582.
Carnevale, Daniele — Univ. di Roma
Astolfi, Alessandro — Imperial Coll. & Univ. of Rome

10:20-10:40 — TuA12.2

*Finite Frequency Approaches to H-Infinity Filtering for Continuous-Time State-Delayed Systems*, pp. 2583-2588.
Gao, Huijun — Harbin Inst. of Tech.
Li, Xianwei — Harbin Inst. of Tech.
Yu, Xinghuo — RMIT Univ.

10:40-11:00 — TuA12.3

*Prediction, Filtering and Smoothing Using LSCR: State Estimation Algorithms with Guaranteed Confidence Sets*, pp. 2589-2594.
Weyer, Erik — Univ. of Melbourne

| | |
|---|---|
| Campi, M. C. | Univ. di Brescia |

11:00-11:20 TuA12.4

*Online Least-Squares Estimation of Time Varying Systems with Sparse Temporal Evolution and Application to Traffic Estimation*, pp. 2595-2601.

| | |
|---|---|
| Hofleitner, Aude | UC Berkeley |
| El Ghaoui, Laurent M. | Univ. of California at Berkeley |
| Bayen, Alexandre M. | Univ. of California at Berkeley |

11:20-11:40 TuA12.5

*Design of Experiments for Guaranteed Parameter Estimation in Membership Setting*, pp. 2602-2607.

| | |
|---|---|
| Borchers, Steffen | Otto-von-Guericke Univ. Magdeburg |
| Findeisen, Rolf | OVG Univ. Magdeburg |

11:40-12:00 TuA12.6

*Optimal State Estimation Over Gaussian Channels with Noiseless Feedback*, pp. 2608-2613.

| | |
|---|---|
| Li, Dapeng | UTRC |
| Hovakimyan, Naira | Univ. of Illinois, Urbana-Champaign |

**TuA13** Manatee

**Control of Fusion Plasmas in Tokamaks** (Invited Session)

| | |
|---|---|
| Chair: Schuster, Eugenio | Lehigh Univ. |
| Co-Chair: De Tommasi, Gianmaria | Univ. degli Studi di Napoli "Federico II" |
| Organizer: Schuster, Eugenio | Lehigh Univ. |
| Organizer: Pironti, Alfredo | Univ. degli Studi di Napoli Federico II |

10:00-10:20 TuA13.1

*Cascade and Multibatch Subspace System Identification for Multivariate Vacuum-Plasma Response Characterisation (I)*, pp. 2614-2619.

| | |
|---|---|
| Olofsson, Erik | Royal Inst. of Tech. |
| Rojas, Cristian R. | ACCESS Linnaeus Center, KTH |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Brunsell, Per | Royal Inst. of Tech. |
| Drake, James | Royal Inst. of Tech. |

10:20-10:40 TuA13.2

*Hierarchical Plasma Shape, Position, and Current Control System for ITER (I)*, pp. 2620-2625.

| | |
|---|---|
| Mitrishkin, Yuri | Russian Acad. of Sciences |
| Kartsev, Nikolai | Bauman Moscow State Tech. Univ. |

10:40-11:00 TuA13.3

*Shape Identification for Distributed Parameter Systems and Temperature Profiles in Tokamaks (I)*, pp. 2626-2631.

| | |
|---|---|
| Witrant, Emmanuel | Univ. Joseph Fourier |
| Bremond, Sylvain | CEA Cadarache |

11:00-11:20 TuA13.4

*Multivariable Multi-Model-Based Magnetic Control System for the Current Ramp-Up Phase in the National Spherical Torus Experiment (NSTX) (I)*, pp. 2632-2637.

| | |
|---|---|
| Shi, Wenyu | Lehigh Univ. |
| Barton, Justin | Lehigh Univ. |
| Alsarheed, Majed | Lehigh Univ. |
| Schuster, Eugenio | Lehigh Univ. |

11:20-11:40 TuA13.5

*Sliding Mode Stabilization of the Current Profile in Tokamak Plasmas (I)*, pp. 2638-2643.

| | |
|---|---|
| Gaye, Oumar | CEA - Cadarache |
| Moulay, Emmanuel | Univ. de Poitiers |
| Bremond, Sylvain | CEA Cadarache |
| Autrique, Laurent | ISTIA - Univ. of Angers |
| Nouailletas, Rémy | CEA - IRFM |
| Orlov, Yury | CICESE |

11:40-12:00 TuA13.6

*Exploitation of Modularity in the JET Tokamak Vertical Stabilization System (I)*, pp. 2644-2649.

| | |
|---|---|
| Neto, André | Associação EURATOM/ IST |
| Albanese, R | Univ. Mediterranea di Reggio Calabria |
| Ambrosino, Giuseppe | Univ. degli Studi di Napoli |
| Ariola, Marco | Univ. degli Studi di Napoli Parthenope |
| Artaserse, Giovanni | ENEA/CREATE Fusion Association |
| Brotas Carvalho, Bernardo | Associação EURATOM/ IST Inst. de Plasmas e Fusão Nuclear – L |
| Crisanti, Flavio | ENEA Fusion Association |
| De Tommasi, Gianmaria | Univ. degli Studi di Napoli "Federico II" |
| Fernandes, Horácio | Associação EURATOM/ IST Inst. de Plasmas e Fusão Nuclear – L |
| Lomas, Peter | EURATOM-CCFE Fusion Association, Culham Science Centre |
| Maviglia, Francesco | ENEA/CREATE Fusion Association |
| Pironti, Alfredo | Univ. degli Studi di Napoli Federico II |
| Rimini, Fernanda | EURATOM-CCFE Fusion Association, Culham Science Centre |
| Sartori, Filippo | Euratom/UKAEA Fusion Association |

## TuA14 — Sarasota

**Nonlinear Predictive Control I** (Regular Session)

| | |
|---|---|
| Chair: Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |
| Co-Chair: Falugi, Paola | Imperial Coll. London |

10:00-10:20 — TuA14.1

*Tube MPC Scheme Based on Robust Control Invariant Set with Application to Lipschitz Nonlinear Systems*, pp. 2650-2655.

| | |
|---|---|
| Yu, Shuyou | Univ. of Stuttgart |
| Chen, Hong | Jilin Univ. Campus NanLing |
| Allgower, Frank | Univ. of Stuttgart |

10:20-10:40 — TuA14.2

*Tube-Based Model Predictive Control for Nonlinear Systems with Unstructured Uncertainty*, pp. 2656-2661.

| | |
|---|---|
| Falugi, Paola | Imperial Coll. London |
| Mayne, David Q. | Imperial Coll. London |

10:40-11:00 — TuA14.3

*Robust Pointwise Min-Norm Control of Distributed Systems with Fluid Flow*, pp. 2662-2667.

| | |
|---|---|
| Igreja, José Manuel Cardoso | Inst. Superior de Engenharia de Lisboa |
| Lemos, Joao M. | Inesc-id |
| Costa, Sérgio J. | Inst. Superior de Engenharia de Lisboa - IPL |

11:00-11:20 — TuA14.4

*Optimal Invariance Via Receding Horizon Control*, pp. 2668-2673.

| | |
|---|---|
| Gruene, Lars | Univ. of Bayreuth |

11:20-11:40 — TuA14.5

*Explicit Feasible Initialization for Nonlinear MPC with Guaranteed Stability*, pp. 2674-2679.

| | |
|---|---|
| Schulze Darup, Moritz | Ruhr-Univ. Bochum |
| Monnigmann, Martin | Ruhr-Univ. Bochum |

11:40-12:00 — TuA14.6

*Reference Governors for Linear Systems with Nonlinear Constraints*, pp. 2680-2686.

| | |
|---|---|
| Kalabic, Uros | Univ. of Michigan |
| Kolmanovsky, Ilya V. | The Univ. of Michigan |
| Gilbert, Elmer G. | Univ. of Michigan, Ann Arbor |

## TuA15 — Union

**Formal Methods in Control: Theory II** (Invited Session)

| | |
|---|---|
| Chair: Julius, Agung | Rensselaer Pol. Inst. |
| Co-Chair: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |
| Organizer: Julius, Agung | Rensselaer Pol. Inst. |
| Organizer: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |

Organizer: Ozay, Necmiye — California Inst. of Tech.

10:00-10:20 — TuA15.1

*Stability of Digitally Interconnected Linear Systems (I)*, pp. 2687-2692.

Johnson, Taylor T — Univ. of Illinois at Urbana-Champaign
Mitra, Sayan — Univ. of Illinois
Langbort, Cedric — Univ. of Illinois, Urbana-Champaign

10:20-10:40 — TuA15.2

*Compositionally Analyzing a Proportional-Integral Controller Family (I)*, pp. 2693-2698.

Tiwari, Ashish — SRI International

10:40-11:00 — TuA15.3

*Decentralized Control Using Compositional Analysis Techniques (I)*, pp. 2699-2704.

Kerber, Florian — Univ. of Groningen
van der Schaft, Arjan J. — Univ. of Groningen

11:00-11:20 — TuA15.4

*Using Parameters in Architectural Views to Support Heterogeneous Design and Verification (I)*, pp. 2705-2710.

Rajhans, Akshay — Carnegie Mellon Univ.
Bhave, Ajinkya — Carnegie Mellon Univ.
Loos, Sarah — Carnegie Mellon Univ.
Krogh, Bruce H. — Carnegie Mellon Univ.
Platzer, Andre — Carnegie Mellon Univ.
Garlan, David — Carnegie Mellon Univ.

11:20-11:40 — TuA15.5

*A Framework for Optimization of Sensor Activation Using Most Permissive Observers (I)*, pp. 2711-2717.

Dallal, Eric — Univ. of Michigan
Lafortune, Stephane — Univ. of Michigan

11:40-12:00 — TuA15.6

*Synthesis of Distributed Control and Communication Schemes from Global LTL Specifications (I)*, pp. 2718-2723.

Chen, Yushan — Boston Univ.
Ding, Xu Chu — Boston Univ.
Belta, Calin — Boston Univ.

## TuA16 — Palm Beach

**Cooperative Control I** (Regular Session)

Chair: Beard, Randy — Brigham Young Univ.
Co-Chair: Galloway, Kevin — Univ. of Maryland

10:00-10:20 — TuA16.1

*Portraits of Cyclic Pursuit*, pp. 2724-2731.

Galloway, Kevin — Univ. of Maryland
Justh, Eric — Naval Res. Lab.
Krishnaprasad, P. S. — Univ. of Maryland

10:20-10:40 — TuA16.2

*Column Formation Control of Multi-Robot Systems with Input Constraints*, pp. 2732-2737.

Chen, Xiaohan — Beihang Univ. (BUAA), Beijing, China
Jia, Yingmin — Beihang Univ.
Du, Junping — Beijing Univ. of Posts and Telecommunications
Yu, Fashan — Henan Pol. Univ.

10:40-11:00 — TuA16.3

*Chain-Based Path Planning for Multiple UAVs*, pp. 2738-2743.

Argyle, Matthew — Brigham Young Univ.
Chamberlain, Caleb — Brigham Young Univ.
Beard, Randy — Brigham Young Univ.

11:00-11:20 — TuA16.4

*Asynchronous Dynamic Multi-Group Formation for Swarm Robots*, pp. 2744-2749.

| | |
|---|---|
| Haghighi, Reza | Nanyang Tech. Univ. |
| Cheah, C.C. | Nanyang Tech. Univ. |

11:20-11:40 TuA16.5

*Multi-Robot Distributed Visual Consensus Using Epipoles*, pp. 2750-2755.

| | |
|---|---|
| Montijano, Eduardo | Univ. of Zaragoza |
| Thunberg, Anders, Johan | Royal Inst. of Tech. |
| Hu, Xiaoming | Royal Inst. of Tech. |
| Sagues, Carlos | Univ. de Zaragoza |

**TuA17** Alachua

**Distributed Parameter Systems IV** (Invited Session)

| | |
|---|---|
| Chair: Demetriou, Michael A. | Worcester Pol. Inst. |
| Co-Chair: Winkin, Joseph J. | Univ. of Namur |
| Organizer: Demetriou, Michael A. | Worcester Pol. Inst. |

10:00-10:20 TuA17.1

*Modeling and Control of Aggregate Thin Film Surface Morphology Using Stochastic PDEs and a Patterned Deposition Rate Profile (I)*, pp. 2756-2763.

| | |
|---|---|
| Zhang, Xinyu | Univ. of California, Los Angeles |
| Huang, Jianqiao | UCLA |
| Orkoulas, Gerassimos | UCLA |
| Christofides, Panagiotis D. | Univ. of California at Los Angeles |

10:20-10:40 TuA17.2

*Statistical Parameter Estimation and Uncertainty Quantification for Macro Fiber Composite Actuators Operating in Nonlinear and Hysteretic Regimes (I)*, pp. 2764-2769.

| | |
|---|---|
| Hu, Zhengzheng | NCSU |
| Smith, Ralph C. | North Carolina State Univ. |
| Hays, Michael | Florida State Univ. |
| Oates, William | Florida A&M/Florida State Univ. |

10:40-11:00 TuA17.3

*Distributed Optimal Control of a Dimethyl Ether (DME) Catalytic Distillation Column (I)*, pp. 2770-2775.

| | |
|---|---|
| Alizadeh Moghadam, Amir | Univ. of Alberta |
| Aksikas, Ilyasse | King Abdelaziz Univ. |
| Dubljevic, Stevan | Univ. of Alberta |
| Forbes, J. Fraser | Univ. of Alberta |

11:00-11:20 TuA17.4

*Non-Collocated Feedback Stabilization of a Non-Uniform Euler-Bernoulli Beam with In-Domain Actuation (I)*, pp. 2776-2781.

| | |
|---|---|
| Schröck, Johannes | Univ. of Tech. Vienna |
| Meurer, Thomas | Vienna Univ. of Tech. |
| Kugi, Andreas | Vienna Univ. of Tech. |

11:20-11:40 TuA17.5

*A PDE Approach to the Derivation of the Brayton-Moser Form for Power-Shaping Control (I)*, pp. 2782-2787.

| | |
|---|---|
| Favache, Audrey | Univ. catholique de Louvain |
| Dochain, Denis | Univ. Catholique de Louvain |
| Winkin, Joseph J. | Univ. of Namur |

11:40-12:00 TuA17.6

*Nonlinear Controllers for Wing Morphing Trajectories of a Heave Dynamics Model (I)*, pp. 2788-2793.

| | |
|---|---|
| Chakravarthy, Animesh | Wichita State Univ. |
| Evans, Katie | Louisiana Tech. Univ. |
| Evers, Johnny | US Air Force |
| Kuhn, Lisa | Southeastern Louisiana Univ. |

**TuA18** Baker

**Convex Relaxation Techniques in System Identification** (Invited Session)

| | |
|---|---|
| Chair: Regruto, Diego | Pol. di Torino |
| Co-Chair: Dabbene, Fabrizio | IEIIT-CNR, Pol. di Torino |
| Organizer: Regruto, Diego | Pol. di Torino |
| Organizer: Dabbene, Fabrizio | IEIIT-CNR, Pol. di Torino |
| Organizer: Rivera, Daniel E. | Arizona State Univ. |

10:00-10:20 TuA18.1

*Inverse Polynomial Optimization (I)*, pp. 2794-2799.

| | |
|---|---|
| Lasserre, Jean B. | LAAS-CNRS and Inst. of Mathematics, Univ. of Toulouse |

10:20-10:40 TuA18.2

*Identification of PWA Models Via Data Compression Based on L1 Optimization (I)*, pp. 2800-2805.

| | |
|---|---|
| Maruta, Ichiro | Kyoto Univ. |
| Sugie, Toshiharu | Kyoto Univ. |

10:40-11:00 TuA18.3

*Set-Membership Identification of ARX Models with Quantized Measurements (I)*, pp. 2806-2811.

| | |
|---|---|
| Casini, Marco | Univ. di Siena |
| Garulli, Andrea | Univ. di Siena |
| Vicino, Antonio | Univ. di Siena |

11:00-11:20 TuA18.4

*Convex Relaxations for Robust Identification of Wiener Systems and Applications (I)*, pp. 2812-2818.

| | |
|---|---|
| Yilmaz, Burak | Northeastern Univ. |
| Ayazoglu, Mustafa | Northeastern Univ. |
| Sznaier, Mario | Northeastern Univ. |
| Lagoa, Constantino M. | Pennsylvania State Univ. |

11:20-11:40 TuA18.5

*Set-Membership Identification of Hammerstein-Wiener Systems (I)*, pp. 2819-2824.

| | |
|---|---|
| Cerone, Vito | Pol. di Torino |
| Piga, Dario | Pol. di Torino |
| Regruto, Diego | Pol. di Torino |

11:40-12:00 TuA18.6

*Sparse Estimation Based on a Validation Criterion (I)*, pp. 2825-2830.

| | |
|---|---|
| Rojas, Cristian R. | ACCESS Linnaeus Center, KTH |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |

## TuA19 — Bay

**Robotics III** (Regular Session)

| | |
|---|---|
| Chair: Rodríguez-Cortés, Hugo | CINVESTAV-IPN |
| Co-Chair: Lau, Tak Kit | The Chinese Univ. of Hong Kong |

10:00-10:20 TuA19.1

*Control of Nonholonomic Systems Using Reference Vector Fields*, pp. 2831-2836.

| | |
|---|---|
| Panagou, Dimitra | National Tech. Univ. of Athens |
| Tanner, Herbert | Univ. of Delaware |
| Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |

10:20-10:40 TuA19.2

*Trajectory Planning for Manipulators Based on the Optimal Concatenation of LQ Control Primitives*, pp. 2837-2842.

| | |
|---|---|
| Steinegger, Michael | Tech. Univ. Muenchen |
| Passenberg, Benjamin | Tech. Univ. Muenchen |
| Leibold, Marion | TU Muenchen |
| Buss, Martin | Tech. Univ. Muenchen |

10:40-11:00 TuA19.3

*Output Maneuvering Control Scheme for a Car-Like Mobile Robot*, pp. 2843-2848.

| | |
|---|---|
| Rodríguez-Cortés, Hugo | CINVESTAV-IPN |
| Velasco-Villa, Martin | CINVESTAV-IPN |

11:00-11:20 TuA19.4

*Throwing Motion Control of the Pendubot and Instability Analysis of the Zero Dynamics*, pp. 2849-2855.

| | |
|---|---|
| Shoji, Takuya | Tokyo Inst. of Tech. |
| Sekiguchi, Kazuma | Tokyo Inst. of Tech. |
| Sampei, Mitsuji | Tokyo Inst. of Tech. |

11:20-11:40 TuA19.5

*Prisca: A Policy Search Method for Extreme Trajectory Following*, pp. 2856-2862.

| | |
|---|---|
| Lau, Tak Kit | The Chinese Univ. of Hong Kong |

11:40-12:00 TuA19.6

*A Robust Adaptive Fuzzy Sliding Mode Controller for Trajectory Tracking of ROVs*, pp. 2863-2870.

| | |
|---|---|
| Marzbanrad, Alireza | Shiraz Univ. |
| Eghtesad, Mohammad | Shiraz Univ. |
| Kamali, Reza | Shiraz Univ. |

**TuA20** Broward

**Stochastic Systems IV** (Regular Session)

| | |
|---|---|
| Chair: Barmish, B. Ross | Univ. of Wisconsin |
| Co-Chair: Costa, Eduardo F. | Inst. de Ciencias Matematicas e de Computacao |

10:00-10:20 TuA20.1

*An Upper Riemann-Stieltjes Approach to Stochastic Design Problems*, pp. 2871-2876.

| | |
|---|---|
| Heemels, Maurice | Eindhoven Univ. of Tech. |
| Bemporad, Alberto | IMT Inst. for Advanced Studies Lucca |

10:20-10:40 TuA20.2

*Equivalence between Mean Square, Stochastic and Exponential Stability for Singular Jump Linear Systems*, pp. 2877-2882.

| | |
|---|---|
| Chávez-Fuentes, Jorge R. | Pontificia Univ. Católica del Perú/ Sao Paulo Univ. |
| Costa, Eduardo F. | Inst. de Ciências Matemáticas e de Computação |
| Terra, Marco Henrique | Univ. of São Paulo at São Carlos |

10:40-11:00 TuA20.3

*Tree-Structured Statistical Modeling Via Convex Optimization*, pp. 2883-2888.

| | |
|---|---|
| Saunderson, James | Massachusetts Inst. of Tech. |
| Chandrasekaran, Venkat | MIT |
| Parrilo, Pablo A. | Massachusetts Inst. of Tech. |
| Willsky, Alan S. | MIT |

11:00-11:20 TuA20.4

*On Arbitrage Possibilities Via Linear Feedback in an Idealized Brownian Motion Stock Market*, pp. 2889-2894.

| | |
|---|---|
| Barmish, B. Ross | Univ. of Wisconsin |
| Primbs, James A. | Stanford Univ. |

11:20-11:40 TuA20.5

*Stability and Performance Analysis of Dual-Random-Rate Systems Via Markov Jump Linear System Theory*, pp. 2895-2900.

| | |
|---|---|
| Tejada Ruiz, Arturo | Delft Univ. of Tech. |
| Chávez-Fuentes, Jorge R. | Pontificia Univ. Católica del Perú/ Sao Paulo Univ. |
| Vos, Pauline | Delft Center for Systems and Contro, Delft Univ. of Tech. |

11:40-12:00 TuA20.6

*Systems Theory in an Analytic Setting*, pp. 2901-2906.

| | |
|---|---|
| Bujorianu, Luminita Manuela | Univ. of Manchester |
| Bujorianu, Marius Constantin | Univ. of Manchester |
| Barringer, Howard | Univ. of Manchester |

**TuA21** Brevard

**Agents and Autonomous Systems IV** (Regular Session)

| | |
|---|---|
| Chair: Cassandras, Christos G. | Boston Univ. |
| Co-Chair: Jovanovic, Mihailo | Univ. of Minnesota |

10:00-10:20 TuA21.1

*An Optimal Control Approach for the Persistent Monitoring Problem*, pp. 2907-2912.

| | |
|---|---|
| Cassandras, Christos G. | Boston Univ. |
| Ding, Xu Chu | Boston Univ. |
| Lin, Xuchao | BOSTON Univ. |

10:20-10:40 TuA21.2

*Optimized Graph Topologies for Probabilistic Search*, pp. 2913-2919.

| | |
|---|---|
| Klaus, Christian | Naval Postgraduate School |
| Chung, Timothy H. | Naval Postgraduate School |

10:40-11:00 TuA21.3

*Link Resource Allocation for Maximizing the Rigidity of Multi-Agent Formations*, pp. 2920-2925.

| | |
|---|---|
| Zhu, Guangwei | Purdue Univ. |
| Hu, Jianghai | Purdue Univ. |

11:00-11:20 TuA21.4

*Distributed Convex Optimization with Identical Constraints*, pp. 2926-2931.

| | |
|---|---|
| Nikookhoy, Shahin | Univ. of Oklahoma |
| Lu, Jie | Univ. of Oklahoma |
| Tang, Choon Yik | Univ. of Oklahoma |

11:20-11:40 TuA21.5

*Algorithms for Leader Selection in Large Dynamical Networks: Noise-Corrupted Leaders*, pp. 2932-2937.

| | |
|---|---|
| Lin, Fu | Univ. of Minnesota |
| Fardad, Makan | Syracuse Univ. |
| Jovanovic, Mihailo | Univ. of Minnesota |

11:40-12:00 TuA21.6

*Distributed Mobility and Power Control for Noncooperative Robotic Ad Hoc and Sensor Networks*, pp. 2938-2943.

| | |
|---|---|
| Stankovic, Milos S. | KTH Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |

## TuA22 Bradford

**System Identification IV** (Regular Session)

| | |
|---|---|
| Chair: Stankovic, Milos S. | Royal Inst. of Tech. |
| Co-Chair: Sznaier, Mario | Northeastern Univ. |

10:00-10:20 TuA22.1

*Blind Identification of Sparse Dynamic Networks and Applications*, pp. 2944-2950.

| | |
|---|---|
| Ayazoglu, Mustafa | Northeastern Univ. |
| Sznaier, Mario | Northeastern Univ. |
| Ozay, Necmiye | California Inst. of Tech. |

10:20-10:40 TuA22.2

*Decentralized Identification for Errors-In-Variables Systems Based on a Consensus Algorithm*, pp. 2951-2956.

| | |
|---|---|
| Stankovic, Milos S. | KTH Royal Inst. of Tech. |
| Stankovic, Srdjan S. | Univ. of Belgrade |
| Stipanovic, Dusan M. | Univ. of Illinois, Urbana-Champaign |

10:40-11:00 TuA22.3

*Chance Constrained Input Design*, pp. 2957-2962.

| | |
|---|---|
| Rojas, Cristian R. | ACCESS Linnaeus Center, KTH |
| Katselis, Dimitrios | ACCESS Linnaeus Center, KTH |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Hildebrand, Roland | Univ. Grenoble 1/CNRS |
| Bengtsson, Mats | KTH |

11:00-11:20 TuA22.4

*An Efficient Algorithm for Dempster's Completion of Block-Circulant Covariance Matrices*, pp. 2963-2968.

| | |
|---|---|
| Carli, Francesca, P | Univ. of Padova |
| Ferrante, Augusto | Univ. di Padova |
| Pavon, Michele | Univ. di Padova |

| | |
|---|---|
| Picci, Giorgio | Univ. di Padova |
| 11:20-11:40 | TuA22.5 |
| *Closed-Loop Performance Diagnosis Using Prediction Error Identification*, pp. 2969-2974. | |
| Mesbah, Ali | Delft Univ. of Tech. |
| Bombois, Xavier | Delft Univ. of Tech. |
| Ludlage, Jobert | Delft Univ. of Tech. |
| Van den Hof, Paul M.J. | Delft Univ. of Tech. |

| **TuSP1** | Bonnet Creek Ballroom III & VI |
|---|---|
| **The Smart Grid: Overview, Issues, and Challenges** (Semiplenary Session) | |
| Chair: Camacho, Eduardo F. | Univ. of Sevilla |
| 13:30-14:20 | TuSP1.1 |
| *The Smart Grid: Overview, Issues, and Challenges**. | |
| Amin, Massoud | Univ. of Minnesota |

| **TuSP2** | Bonnet Creek Ballroom IX & XII |
|---|---|
| **Approximate Bisimulation: A Bridge between Computer Science and Control Theory** (Semiplenary Session) | |
| Chair: Farrell, Jay | Univ. of California Riverside |
| 13:30-14:20 | TuSP2.1 |
| *Approximate Bisimulation: A Bridge between Computer Science and Control Theory**. | |
| Pappas, George J. | Univ. of Pennsylvania |

| **TuB01** | Orange |
|---|---|
| **Control of Energy Systems I** (Invited Session) | |
| Chair: Schuster, Eugenio | Lehigh Univ. |
| Co-Chair: Lee, Kwang Y. | Baylor Univ. |
| Organizer: Schuster, Eugenio | Lehigh Univ. |
| Organizer: Lee, Kwang Y. | Baylor Univ. |
| 14:30-14:50 | TuB01.1 |
| *Real-Time Sliding Mode Control for a Doubly Fed Induction Generator (I)*, pp. 2975-2980. | |
| Ruiz, Riemann | CINVESTAV Unidad Guadalajara |
| Sanchez, Edgar N. | CINVESTAV |
| Loukianov, Alexander G. | CINVESTAV IPN GDI |
| 14:50-15:10 | TuB01.2 |
| *Stable Model Predictive Control Based on TS Fuzzy Model with Application to Boiler-Turbine Coordinated System (I)*, pp. 2981-2987. | |
| Wu, Xiao | Southeast Univ. |
| Shen, Jiong | Southeast Univ. |
| Li, Yiguo | Southeast Univ. |
| Lee, Kwang Y. | Baylor Univ. |
| 15:10-15:30 | TuB01.3 |
| *An Integrated Multi-Task Control System for Fuel-Cell Power Plants (I)*, pp. 2988-2993. | |
| Yang, Wenli | Western Digital Corp. |
| Lee, Kwang Y. | Baylor Univ. |
| 15:30-15:50 | TuB01.4 |
| *H∞ Current Control Strategy for the Neutral Point of a Three-Phase Inverter (I)*, pp. 2994-2999. | |
| Hornik, Tomas | The Univ. of Liverpool |
| Zhong, Qing-Chang | Loughborough Univ. |
| 15:50-16:10 | TuB01.5 |
| *Wind Energy Aggregation: A Coalitional Game Approach (I)*, pp. 3000-3007. | |
| Baeyens, Enrique | Univ. of Valladolid |
| Bitar, Eilyan | Univ. of California, Berkeley |
| Khargonekar, Pramod P. | Univ. of Florida |

Poolla, Kameshwar — Univ. of California at Berkeley

**TuB02** — Dixie

**Biological Systems I** (Regular Session)

Chair: Scoglio, Caterina — Kansas State Univ.
Co-Chair: Ghosh, Bijoy — Texas Tech. Univ.

14:30-14:50 — TuB02.1

*Epidemic Spread in Human Networks*, pp. 3008-3013.
Darabi Sahneh, Faryad — Kansas State Univ.
Scoglio, Caterina — Kansas State Univ.

14:50-15:10 — TuB02.2

*Feedback Control Architecture of the R. Sphaeroides Chemotaxis Network*, pp. 3014-3019.
Hamadeh, Abdullah Omar — Univ. of Waterloo
August, Elias — ETH
Roberts, Mark Andrew James — Univ. of Oxford
Maini, Philip — Univ. of Oxford
Armitage, Judith — Univ. of Oxford
Ingalls, Brian P. — Univ. of Waterloo
Papachristodoulou, Antonis — Univ. of Oxford

15:10-15:30 — TuB02.3

*Biological Circuit Models of Immune Regulatory Response: A Decentralized Control System*, pp. 3020-3025.
Peet, Matthew M. — Illinois Inst. of Tech.
Kim, Peter — Univ. of Utah
Lee, Peter P. — Stanford Univ.

15:30-15:50 — TuB02.4

*Predicting the Asymptotic Dynamics of Large Biological Networks by Interconnections of Boolean Modules*, pp. 3026-3031.
Chaves, Madalena — INRIA
Tournier, Laurent — INRA

15:50-16:10 — TuB02.5

*Estimating the Speed and Motion Direction of Targets Using a Model of the Turtle Retina*, pp. 3032-3037.
Ghosh, Bijoy — Texas Tech. Univ.
Ekanayake, Mervyn Parakrama B. — Texas Tech. Univ.

**TuB03** — Columbia

**Fault Detection IV** (Regular Session)

Chair: Yame, Joseph Julien — Univ. Henri Poincaré, Nancy 1
Co-Chair: Seiler, Peter — Univ. of Minnesota

14:30-14:50 — TuB03.1

*Performance Analysis of LTV Fault Detection Schemes with Additive Faults*, pp. 3038-3043.
Wheeler, Timothy J. — Univ. of California, Berkeley
Seiler, Peter — Univ. of Minnesota
Packard, Andrew K. — Univ. of California at Berkeley
Balas, Gary J. — Univ. of Minnesota

14:50-15:10 — TuB03.2

*Monitoring and Fault Detection in a Reverse Osmosis Plant Using Principal Component Analysis*, pp. 3044-3049.
Garcia-Alvarez, Diego — Univ. of Valladolid
De La Fuente, Maria Jesus — Univ. De Valladolid
Palacin, Luis G. — Univ. of Valladolid, Spain

15:10-15:30 — TuB03.3

*Comparison of Various Linear Discriminant Analysis Techniques for Fault Diagnosis of Re-Usable Launch Vehicle*, pp. 3050-3055.
Arthanari, Akilez Krishnamurthy — IIT Bombay
Belur, Madhu N. — Indian Inst. of Tech. Bombay

| | |
|---|---|
| Chakraborty, Debraj | Indian Inst. of Tech. Bombay |
| 15:30-15:50 | TuB03.4 |
| *Identification and Fault Diagnosis for LPV Uncertain Systems*, pp. 3056-3061. | |
| Blesa, Joaquim | Univ. Pol. de Catalunya (UPC) |
| Puig, Vicenc | Univ. Pol. de Catalunya |
| Saludes, Jordi | Tech. Univ. of Catalonia |
| 15:50-16:10 | TuB03.5 |
| *Robust Adaptive Estimation of Arbitrary Time-Varying Actuator Faults*, pp. 3062-3067. | |
| Yame, Joseph Julien | Univ. Henri Poincaré, Nancy 1 |
| Menighed, Kamel | Nancy Univ. |
| Aubrun, Christophe | UHP - Nancy |

| **TuB04** | Nassau |
|---|---|
| **Power Electronics** (Regular Session) | |
| Chair: Scruggs, Jeff | Duke Univ. |
| Co-Chair: Consolini, Luca | Univ. of Parma |
| 14:30-14:50 | TuB04.1 |
| *Modeling and Stability Analysis of an Active Filter for DC Current Compensation*, pp. 3068-3073. | |
| Buticchi, Giampaolo | Univ. of Parma |
| Consolini, Luca | Univ. of Parma |
| Lorenzani, Emilio | Univ. of Modena and Reggio Emilia |
| 14:50-15:10 | TuB04.2 |
| *Multisampled Hybrid Model Predictive Control Schemes for Pulse-Width Modulated Systems*, pp. 3074-3079. | |
| Fischer, Claudia | ETH Zurich |
| Mariethoz, Sebastien | ETH Zurich |
| Morari, Manfred | ETH Zurich |
| 15:10-15:30 | TuB04.3 |
| *Optimal LQR-Based Multi-Loop Linear Control Strategy for UPS Inverter Applications Using Resonant Controller*, pp. 3080-3085. | |
| Hasanzadeh, Amin | Center for Advanced Power Systems (CAPS) |
| Edrington, Chris S. | Center for Advanced Power Systems (CAPS) |
| Maghsoudlou, Benyamin | Sharif Univ. of Tech. |
| Mokhtari, Hossein | Sharif Univ. of Tech. |
| 15:30-15:50 | TuB04.4 |
| *Passive Network Design for Stochastic Vibratory Energy Harvesters*, pp. 3086-3091. | |
| Scruggs, Jeff | Univ. of Michigan |
| Li, Quan | Duke Univ. |
| 15:50-16:10 | TuB04.5 |
| *Decentralized Loading Coordinations for Large-Population Plug-In Electric Vehicles and a Few Controllable Bulk Loads*, pp. 3092-3097. | |
| Yin, Xiaokun | Beijing Inst. of Tech. |
| Ma, Zhongjing | Beijing Inst. of Tech. |
| Dong, Lei | Beijing Inst. of Tech. |

| **TuB05** | Taylor |
|---|---|
| **Communication Networks I** (Regular Session) | |
| Chair: Yang, Bo | Shanghai Jiao Tong Univ. |
| Co-Chair: Paganini, Fernando | Univ. ORT Uruguay |
| 14:30-14:50 | TuB05.1 |
| *Resource Allocation Game for Wireless Networks with Queue Stability Constraints*, pp. 3098-3103. | |
| Sarikaya, Yunus | Sabanci Univ. |
| Alpcan, Tansu | The Univ. of Melbourne |
| Ercetin, Ozgur | Sabanci Univ. |

| 14:50-15:10 | TuB05.2 |
|---|---|
| *Energy-Aware Opportunistic Channel Access with Decentralized Channel State Information*, pp. 3104-3109. | |
| Yang, Bo | Shanghai Jiao Tong Univ. |
| Shen, Yanyan | City Univ. of Hong Kong |
| Guan, Xinping | Shanghai Jiao Tong Univ. |
| Wang, Wei | Dalian Univ. of Tech. |
| 15:10-15:30 | TuB05.3 |
| *Secret Information in Communications Networks*, pp. 3110-3115. | |
| Phan, Tran Khoa | UCLA |
| van der Schaar, Mihaela | Univ. of California Los Angeles |
| Zame, William | UCLA |
| 15:30-15:50 | TuB05.4 |
| *Dynamics of Content Propagation in BitTorrent-Like P2P File Exchange Systems*, pp. 3116-3121. | |
| Ferragut, Andres | Univ. ORT, Uruguay |
| Kozynski, Fabián | Univ. ORT Uruguay |
| Paganini, Fernando | Univ. ORT Uruguay |
| 15:50-16:10 | TuB05.5 |
| *An Axiomatic Fluid-Flow Model for Congestion Control Analysis*, pp. 3122-3129. | |
| Briat, Corentin | KTH |
| Hjalmarsson, Håkan | Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |
| Jonsson, Ulf T. | Royal Inst. of Tech. (KTH) |
| Karlsson, Gunnar | KTH - Royal Inst. of Tech. |
| Sandberg, Henrik | KTH Royal Inst. of Tech. |
| Yavuz, Emre A. | Royal Inst. of Tech. (KTH) |

| **TuB06** | Jackson |
|---|---|
| **Networked Control Systems V** (Regular Session) | |
| Chair: Gupta, Vijay | Univ. of Notre Dame |
| Co-Chair: Johansson, Karl H. | Royal Inst. of Tech. |
| 14:30-14:50 | TuB06.1 |
| *Reducing Packet Loss Bursts in a Wireless Mesh Network for Stochastic Bounds on Estimation Error*, pp. 3130-3135. | |
| Chen, Phoebus | KTH Royal Inst. of Tech. |
| Ramesh, Chithrupa | Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |
| 14:50-15:10 | TuB06.2 |
| *Model-Based Compensation for Multi-Packet Transmission in Networked Control Systems*, pp. 3136-3141. | |
| Zhao, Yun-Bo | Univ. of Glasgow |
| Kim, Jongrae | Univ. of Glasgow |
| Yang, Guang-hong | Northeastern Univ. |
| Liu, Guoping | Univ. of Glamorgan |
| 15:10-15:30 | TuB06.3 |
| *On Stability across a Gaussian Product Channel*, pp. 3142-3147. | |
| Kumar, Utsaw | Univ. of Notre Dame |
| Gupta, Vijay | Univ. of Notre Dame |
| Laneman, Nicholas | Univ. of Notre Dame |
| 15:30-15:50 | TuB06.4 |
| *On LQR Control with Asynchronous Clocks*, pp. 3148-3153. | |
| Singh, Rahul | Univ. of Notre Dame |
| Gupta, Vijay | Univ. of Notre Dame |
| 15:50-16:10 | TuB06.5 |
| *Robust Control and Scheduling Codesign for Networked Embedded Control Systems*, pp. 3154-3159. | |
| Al-Areqi, Sanad | Univ. of Kaiserslautern |

Görges, Daniel — Univ. of Kaiserslautern
Liu, Steven — Univ. of Kaiserslautern

**TuB07** — Escambia
**Kalman Filtering II** (Regular Session)

Chair: Medvedev, Alexander V. — Uppsala Univ.
Co-Chair: Germani, Alfredo — Univ. dell'Aquila

14:30-14:50 — TuB07.1

*A New Approach for Planar Tracking in a Nongaussian Setting*, pp. 3160-3165.
Conte, Francesco — Univ. of L'Aquila
Cusimano, Valerio — Univ. Campus Bio-Medico di Roma
Germani, Alfredo — Univ. dell'Aquila

14:50-15:10 — TuB07.2

*Mixture Random Hypersurface Models for Tracking Multiple Extended Objects*, pp. 3166-3171.
Baum, Marcus — Karlsruhe Inst. of Tech. (KIT)
Noack, Benjamin — Karlsruhe Inst. of Tech.
Hanebeck, Uwe D. — Karlsruhe Inst. of Tech. (KIT)

15:10-15:30 — TuB07.3

*A New Smallest Sigma Set for the Unscented Transform and Its Applications on SLAM*, pp. 3172-3177.
Menegaz, Henrique Marra — Univ. of Brasília
Ishihara, Joao Yoshiyuki — Univ. of Brasília
Borges, Geovany A. — Univ. de Brasilia

15:30-15:50 — TuB07.4

*Efficient Parallel Implementation of a Kalman Filter for Single Output Systems on Multicore Computational Platforms*, pp. 3178-3183.
Rosén, Olov — Uppsala Univ.
Medvedev, Alexander V. — Uppsala Univ.

15:50-16:10 — TuB07.5

*A Near-Real Time Nonlinear State Estimation Approach with Application to Initialization of Navigation Systems*, pp. 3184-3191.
Ramanandan, Arvind — Univ. of California, Riverside
Chen, Anning — Univ. of California, Riverside
Farrell, Jay — Univ. of California Riverside

**TuB08** — Flagler
**Machine Learning I** (Regular Session)

Chair: Wang, Hong — The Univ. of Manchester
Co-Chair: Zheng, Wei Xing — Univ. of Western Sydney

14:30-14:50 — TuB08.1

*Model Structure Learning: A Support Vector Machine Approach for LPV Linear-Regression Models*, pp. 3192-3197.
Tóth, Roland — Delft Univ. of Tech.
Laurain, Vincent — Univ. of Western Sydney
Zheng, Wei Xing — Univ. of Western Sydney
Poolla, Kameshwar — Univ. of California at Berkeley

14:50-15:10 — TuB08.2

*Introducing Instrumental Variables in the LS-SVM Based Identification Framework*, pp. 3198-3203.
Laurain, Vincent — Univ. of Western Sydney
Zheng, Wei Xing — Univ. of Western Sydney
Tóth, Roland — Delft Univ. of Tech.

15:10-15:30 — TuB08.3

*Discrimination of Waist Motions Based on Surface EMG Signals Using Support Vector Machine for Waist Power Assist Suit*, pp. 3204-3209.
Kashiwagi, Kouta — Kogakuin Univ.

| | |
|---|---|
| Nakakuki, Takashi | Kogakuin Univ. |
| Ishii, Chiharu | Hosei Univ. |

15:30-15:50 TuB08.4

*On the Discardability of Data in Support Vector Classification Problems*, pp. 3210-3215.

| | |
|---|---|
| Del Favero, Simone | Univ. of Padova |
| Varagnolo, Damiano | Univ. of Padova |
| Dinuzzo, Francesco | Max Planck Inst. for Intelligent Systems |
| Schenato, Luca | Univ. of Padova |
| Pillonetto, Gianluigi | Univ. of Padova |

15:50-16:10 TuB08.5

*Gabor Filter and Eigen-Flame Image-Based Burning State Recognition for Sintering Process of Rotary Kiln*, pp. 3216-3221.

| | |
|---|---|
| Li, Weitao | Northeastern Univ. |
| Mao, Kezhi | Nanyang Tech. Univ. |
| Chai, Tianyou | Northeastern Univ. |
| Zhang, Hong | Univ. of Alberta |
| Wang, Hong | The Univ. of Manchester |

## TuB09 — Gilchrist

**Nonlinear Systems IV** (Regular Session)

| | |
|---|---|
| Chair: Jayawardhana, Bayu | Univ. of Groningen |
| Co-Chair: Shi, Yang | Univ. of Victoria |

14:30-14:50 TuB09.1

*Robust Integral Control of Port–hamiltonian Systems: The Case of Non–passive Outputs with Unmatched Disturbances*, pp. 3222-3227.

| | |
|---|---|
| Ortega, Romeo | LSS-SUPELEC |
| Romero Velazquez, Jose Guadalupe | Lab. des Signaux et Systèmes, CNRS–SUPELEC |

14:50-15:10 TuB09.2

*Nonlinear Control Design Via Relaxed Input*, pp. 3228-3233.

| | |
|---|---|
| Jayawardhana, Bayu | Univ. of Groningen |

15:10-15:30 TuB09.3

*Dissipativity of General Duhem Hysteresis Models*, pp. 3234-3239.

| | |
|---|---|
| Jayawardhana, Bayu | Univ. of Groningen |
| Ouyang, Ruiyue | Univ. of groningen |
| Andrieu, Vincent | Univ. de Lyon |

15:30-15:50 TuB09.4

*Dissipativity Based H_infty Control for Nonlinear Stochastic Systems with Time-Varying Delays*, pp. 3240-3245.

| | |
|---|---|
| Li, Huiping | Univ. of Victoria |
| Shi, Yang | Univ. of Victoria |

15:50-16:10 TuB09.5

*Asymptotic Tracking Control of Piezoelectric Actuators with Hysteresis*, pp. 3246-3251.

| | |
|---|---|
| Chen, Zhiyong | The Univ. of Newcastle |
| Zhang, Haitao | Huazhong (Central China) Univ. of ScienceandTechnology |
| Ding, Han | Huazhong Univ. of Science and Tech. of China |

## TuB10 — Hamilton

**Integrated Vehicle Dynamics and Control II** (Invited Session)

| | |
|---|---|
| Chair: Lu, Jianbo | Ford Motor Company |
| Co-Chair: Tsiotras, Panagiotis | Georgia Inst. of Tech. |
| Organizer: Lu, Jianbo | Ford Motor Company |
| Organizer: Tsiotras, Panagiotis | Georgia Inst. of Tech. |

14:30-14:50 TuB10.1

*Robust Vehicle Lateral Stabilization Via Set-Based Methods for Uncertain Piecewise Affine Systems: Experimental Results (I)*, pp. 3252-3257.

| | |
|---|---|
| Palmieri, Giovanni | Univ. degli Studi del Sannio |
| Baric, Miroslav | United Tech. Res. Center |
| Glielmo, Luigi | Univ. of Sannio |
| Tseng, Eric | Ford Motor Company |
| Borrelli, Francesco | Unversity of California at Berkeley |

14:50-15:10 TuB10.2

*FWD Vehicle Drifting Control: The Handbrake-Cornering Technique (I)*, pp. 3258-3263.

| | |
|---|---|
| Velenis, Efstathios | Brunel Univ. |

15:10-15:30 TuB10.3

*Vehicle Posture Control through Aggressive Maneuvering for Mitigation of T-Bone Collisions (I)*, pp. 3264-3269.

| | |
|---|---|
| Chakraborty, Imon | Georgia Inst. of Tech. |
| Tsiotras, Panagiotis | Georgia Inst. of Tech. |
| Lu, Jianbo | Ford Motor Company |

15:30-15:50 TuB10.4

*A Simple Nonlinear Filter for Low-Cost Ground Vehicle Localization System (I)*, pp. 3270-3275.

| | |
|---|---|
| Bonnabel, Silvere | Mines ParisTech |
| Deschaud, Jean-Emmanuel | Carnegie Mellon Univ. |
| Salaün, Erwan | Georgia Inst. of Tech. |

15:50-16:10 TuB10.5

*Anytime Computation of Time-Optimal Off-Road Vehicle Maneuvers Using the RRT* (I)*, pp. 3276-3282.

| | |
|---|---|
| Jeon, Jeong hwan | Massachusetts Inst. of Tech. |
| Karaman, Sertac | Massachusetts Inst. of Tech. |
| Frazzoli, Emilio | Massachusetts Inst. of Tech. |

## TuB11 — Indian River

**Hybrid Systems I** (Regular Session)

| | |
|---|---|
| Chair: Bujorianu, Luminita Manuela | Univ. of Manchester |
| Co-Chair: Forni, Fulvio | Univ. di Roma Tor Vergata |

14:30-14:50 TuB11.1

*Tracking Control in Billiards Using Mirrors without Smoke, Part I: Lyapunov-Based Local Tracking in Polyhedral Regions*, pp. 3283-3288.

| | |
|---|---|
| Forni, Fulvio | Univ. di Roma Tor Vergata |
| Teel, Andrew R. | Univ. of California at Santa Barbara |
| Zaccarian, Luca | Univ. di Roma, Tor Vergata |

14:50-15:10 TuB11.2

*Tracking Control in Billiards Using Mirrors without Smoke, Part II: Additional Lyapunov-Based Local and Global Results*, pp. 3289-3294.

| | |
|---|---|
| Forni, Fulvio | Univ. di Roma Tor Vergata |
| Teel, Andrew R. | Univ. of California at Santa Barbara |
| Zaccarian, Luca | Univ. di Roma, Tor Vergata |

15:10-15:30 TuB11.3

*How Good Are the Stochastic Analysis Methods for Stochastic Reachability*, pp. 3295-3300.

| | |
|---|---|
| Bujorianu, Luminita Manuela | Univ. of Manchester |

15:30-15:50 TuB11.4

*On the Extension of the Hybrid Minimum Principle to Riemannian Manifolds*, pp. 3301-3306.

| | |
|---|---|
| Taringoo, Farzin | McGill Univ. |
| Caines, Peter E. | McGill Univ. |

15:50-16:10 TuB11.5

*Optimal Control of a Class of Stochastic Hybrid Systems with Probabilistic Constraints*, pp. 3307-3312.

| | |
|---|---|
| Kobayashi, Koichi | Japan Adv Inst. of Sci & Tech. |
| Matou, Koichiro | Japan Advanced Inst. of Science and Tech. |
| Hiraishi, Kunihiko | JAIST |

| **TuB12** | Lake |
|---|---|
| **Nonlinear Systems Estimation** (Regular Session) | |
| Chair: Grip, Håvard Fjær | Washington State Univ. |
| Co-Chair: Alamir, Mazen | CNRS |
| 14:30-14:50 | TuB12.1 |
| *Improvement of Moving Horizon Estimators Via Direct Virtual Sensor Techniques*, pp. 3313-3318. | |
| Fagiano, Lorenzo | Pol. di Torino/Univ. California at Santa Barbara |
| Novara, Carlo | Pol. di Torino |
| 14:50-15:10 | TuB12.2 |
| *A New Observer for Nonlinear Fractional Order Systems*, pp. 3319-3324. | |
| Martinez Martinez, Rafael | CINVESTAV-IPN |
| Mata, Juan Luis | CINVESTAV-IPN |
| Martinez-Guerra, Rafael | CINVESTAV-IPN |
| Leon Vazquez, Jorge A. | CINVESTAV-IPN |
| Fernandez Anaya, Guillermo | Univ. Iberoamericana |
| 15:10-15:30 | TuB12.3 |
| *Reducing Computational Load in Moving-Horizon Observers Using Partial Explicit Map Inversion*, pp. 3325-3330. | |
| Omar, Oumayma | Univ. de Grenoble (INPG), Gipsa Lab. |
| Alamir, Mazen | CNRS |
| 15:30-15:50 | TuB12.4 |
| *Observers for Cascaded Nonlinear and Linear Systems*, pp. 3331-3337. | |
| Grip, Håvard Fjær | Washington State Univ. |
| Saberi, Ali | Washington State Univ. |
| Johansen, Tor Arne | Norweigian Univ. of Science & Tech. |
| 15:50-16:10 | TuB12.5 |
| *A Novel Online Adaptive Time Delay Identification Technique*, pp. 3338-3343. | |
| Bayrak, Alper | Izmir Inst. of Tech. |
| Tatlicioglu, Enver | Izmir Inst. of Tech. |

| **TuB13** | Manatee |
|---|---|
| **Linear Systems IV** (Regular Session) | |
| Chair: Galeani, Sergio | Univ. Di Roma Tor Vergata |
| Co-Chair: Silvestre, Carlos | Inst. Superior Tecnico |
| 14:30-14:50 | TuB13.1 |
| *Signal Invariance and Trajectory Steering Problem for an Autonomous Wheeled Robot*, pp. 3344-3349. | |
| Yakubovich, Vladimir A. | St. Petersburg Univ. |
| Melnikov, Alexander | Saint Petersburg State Univ. Russia |
| Proskurnikov, Anton | St.-Petersburg State Univ. |
| Luchin, Roman | Saint-Petersburg State Univ. |
| 14:50-15:10 | TuB13.2 |
| *A Robust Regulator Based on a Hybrid Adaptive Observer for Multiple Frequency Estimation*, pp. 3350-3355. | |
| Carnevale, Daniele | Univ. di Roma |
| Galeani, Sergio | Univ. Di Roma Tor Vergata |
| Astolfi, Alessandro | Imperial Coll. & Univ. of Rome |
| 15:10-15:30 | TuB13.3 |
| *On the Distinguishability of Discrete Linear Time-Invariant Dynamic Systems*, pp. 3356-3361. | |
| Rosa, Paulo Andre Nobre | Inst. Superior Tecnico, Lisbon |
| Silvestre, Carlos | Inst. Superior Tecnico |
| 15:30-15:50 | TuB13.4 |
| *Automatic Initialization of the Caputo Fractional Derivative*, pp. 3362-3368. | |
| Trigeassou, Jean-claude | Univ. of Bordeaux France |
| Maamri, Nezha | Ec. supérieure d'ingénieurs de Poitiers |
| Oustaloup, Alain | Bordeaux I Univ. ENSEIRB |

| 15:50-16:10 | TuB13.5 |
|---|---|

*The Roots of Unity and a Direct Method for the Computation of Stable Internal Positive Representations of Linear Systems*, pp. 3369-3374.

| | |
|---|---|
| Cacace, Filippo | Univ. Campus Biomedico di Roma |
| Germani, Alfredo | Univ. dell'Aquila |
| Manes, Costanzo | Univ. dell'Aquila |

| **TuB14** | Sarasota |
|---|---|
| **Nonlinear Predictive Control II** (Regular Session) | |
| Chair: Pannocchia, Gabriele | Univ. of Pisa |
| Co-Chair: Dimarogonas, Dimos V. | Royal Inst. of Tech. |

| 14:30-14:50 | TuB14.1 |
|---|---|

*Fast Implementation of Model Predictive Control with Guaranteed Performance*, pp. 3375-3380.

| | |
|---|---|
| Canale, Massimo | Pol. di Torino |
| Cerone, Vito | Pol. di Torino |
| Piga, Dario | Pol. di Torino |
| Regruto, Diego | Pol. di Torino |

| 14:50-15:10 | TuB14.2 |
|---|---|

*A Predictive Control Approach to Trajectory Tracking Problems Via Time-Varying Level Sets of Lyapunov Functions*, pp. 3381-3386.

| | |
|---|---|
| Faulwasser, Timm | OVG Univ. Magdeburg |
| Findeisen, Rolf | OVG Univ. Magdeburg |

| 15:10-15:30 | TuB14.3 |
|---|---|

*Enforcing Convergence in Nonlinear Economic MPC*, pp. 3387-3391.

| | |
|---|---|
| Angeli, David | Imperial Coll. |
| Amrit, Rishi | Univ. of Wisconsin - Madison |
| Rawlings, James B. | Univ. of Wisconsin-Madison |

| 15:30-15:50 | TuB14.4 |
|---|---|

*Novel Event-Triggered Strategies for Model Predictive Controllers*, pp. 3392-3397.

| | |
|---|---|
| Eqtami, Alina | National Tech. Univ. of Athens |
| Dimarogonas, Dimos V. | Royal Inst. of Tech. |
| Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |

| 15:50-16:10 | TuB14.5 |
|---|---|

*Inherently Robust Suboptimal Nonlinear MPC: Theory and Application*, pp. 3398-3403.

| | |
|---|---|
| Pannocchia, Gabriele | Univ. of Pisa |
| Rawlings, James B. | Univ. of Wisconsin-Madison |
| Wright, Stephen Joseph | Univ. of Wisconsin-Madison |

| **TuB15** | Union |
|---|---|
| **Linear Parameter-Varying Systems** (Regular Session) | |
| Chair: Fromion, Vincent | INRA |
| Co-Chair: Do, Anh Lam | Grenoble INP |

| 14:30-14:50 | TuB15.1 |
|---|---|

*Reduced-Complexity Controllers for LPV Systems: Towards Incremental Synthesis*, pp. 3404-3409.

| | |
|---|---|
| de Hillerin, Safta | SUPELEC |
| Scorletti, Gerard | Ec. Centrale de Lyon |
| Fromion, Vincent | INRA |

| 14:50-15:10 | TuB15.2 |
|---|---|

*Convex Conditions for Model Reduction of Linear Parameter Varying Systems*, pp. 3410-3415.

| | |
|---|---|
| de Hillerin, Safta | SUPELEC |
| Scorletti, Gerard | Ec. Centrale de Lyon |
| Fromion, Vincent | INRA |

| 15:10-15:30 | TuB15.3 |
|---|---|

*Control Design for LPV Systems with Input Saturation and State Constraints: An Application to a Semi-Active Suspension*, pp. 3416-3421.

| | |
|---|---|
| Do, Anh Lam | Grenoble INP |
| Gomes da Silva Jr, Joao Manoel | Univ. Federal do Rio Grande do Sul (UFRGS) |
| Sename, Olivier | Grenoble Inst. of Tech. |
| Dugard, Luc | CNRS-Grenoble INP |

15:30-15:50 TuB15.4

*Output-Feedback Controlled-Invariant Sets for Systems with Linear Parameter-Varying State Transition Matrix*, pp. 3422-3427.

| | |
|---|---|
| Hempel, Andreas Berndt | Swiss Federal Inst. of Tech. Zurich |
| Kominek, Andreas Bernd | Germanischer Lloyd Industrial Services GmbH |
| Werner, Herbert | Hamburg Univ. of Tech. |

15:50-16:10 TuB15.5

*Safe LPV Controller Switching*, pp. 3428-3433.

| | |
|---|---|
| Trangbaek, Klaus | Aalborg Univ. |

**TuB16** Palm Beach

**Cooperative Control II** (Regular Session)

| | |
|---|---|
| Chair: Ren, Wei | Utah State Univ. |
| Co-Chair: Angeli, David | Imperial Coll. |

14:30-14:50 TuB16.1

*Cooperative Distributed Model Predictive Control for Linear Plants Subject to Convex Economic Objectives*, pp. 3434-3439.

| | |
|---|---|
| Lee, Jaehwa | Imperial Coll. |
| Angeli, David | Imperial Coll. |

14:50-15:10 TuB16.2

*Partial-State Synchronization of Linear Heterogeneous Multi-Agent Systems*, pp. 3440-3445.

| | |
|---|---|
| Listmann, Kim Daniel | Tech. Univ. Darmstadt |
| Wahrburg, Arne | Tech. Univ. Darmstadt |
| Strubel, Jan | Tech. Univ. Darmstadt |
| Adamy, Jürgen | Tech. Univ. Darmstadt |
| Konigorski, Ulrich | Tech. Univ. Darmstadt |

15:10-15:30 TuB16.3

*Formation Control of Multi-Agent Systems with Double Integrator Dynamics Using Delayed Static Output Feedback*, pp. 3446-3451.

| | |
|---|---|
| Deshpande, Paresh Ravindra | Univ. of Leicester |
| Menon, Prathyush P | Univ. of Exeter |
| Edwards, Christopher | Univ. of Leicester |
| Postlethwaite, Ian | Northumbria Univ. |

15:30-15:50 TuB16.4

*Finite-Time Consensus for Second-Order Multi-Agent Networks with Inherent Nonlinear Dynamics under an Undirected Fixed Graph*, pp. 3452-3457.

| | |
|---|---|
| Cao, Yongcan | Utah State Univ. |
| Ren, Wei | Univ. of California, Riverside |

15:50-16:10 TuB16.5

*Asymmetric Control Achieves Size-Independent Stability Margin in 1-D Flocks*, pp. 3458-3463.

| | |
|---|---|
| Hao, He | Univ. of Florida |
| Barooah, Prabir | Univ. of Florida |

**TuB17** Alachua

**Delay Systems I** (Regular Session)

| | |
|---|---|
| Chair: Michiels, Wim | K.U. Leuven |
| Co-Chair: Olgac, Nejat | Univ. of Connecticut |

14:30-14:50 TuB17.1

*Decentralized Feedforward Control of Wind Farms: Prospects and Open Problems*, pp. 3464-3469.

| | |
|---|---|
| Kristalny, Maxim | Lund Univ. |
| Madjidian, Daria | Lund Univ. |

14:50-15:10 TuB17.2

*Optimal Second Order Consensus Protocol with Time Delay*, pp. 3470-3475.

| | |
|---|---|
| Yang, Wen | East China Univ. of Science and Tech. |
| Wang, Xiaofan | Shanghai JiaoTong Univ. |
| Shi, Hongbo | East China Univ. of Science and Tech. |

15:10-15:30 TuB17.3

*Second Order Linear Consensus Protocols with Irregular Topologies and Time Delay*, pp. 3476-3481.

| | |
|---|---|
| Cepeda-Gomez, Rudy | The Univ. of Connecticut |
| Olgac, Nejat | Univ. of Connecticut |

15:30-15:50 TuB17.4

*A Projection Approach for Model Reduction of Large-Scale Time-Delay Systems*, pp. 3482-3489.

| | |
|---|---|
| Michiels, Wim | K.U. Leuven |
| Jarlebring, Elias | K.U. Leuven |
| Meerbergen, Karl | K.U.Leuven |

15:50-16:10 TuB17.5

*Constrained Control of Positive Discrete-Time Periodic Systems with Delays*, pp. 3490-3495.

| | |
|---|---|
| Bougatef, Naima | Univ. of Poitiers |
| Mehdi, Driss | ESIP-LAII |
| Bachelier, Olivier | Univ. of Poitiers |
| Chaabane, Mohamed | Univ. of Sfax |
| Mercère, Guillaume | Univ. of Poitiers |

**TuB18** Baker

**Robust Control IV** (Regular Session)

| | |
|---|---|
| Chair: Yaz, Edwin | Marquette Univ. |
| Co-Chair: Shim, Hyungbo | Seoul National Univ. |

14:30-14:50 TuB18.1

*A Disturbance Rejection-Flatness Based Linear Output Feedback Control Approach for Tracking Tasks on a Chua's Circuit*, pp. 3496-3501.

| | |
|---|---|
| Sira-Ramirez, Hebertt | CINVESTAV |
| Luviano-Juárez, Alberto | CINVESTAV - IPN México |
| Cortés-Romero, John | Univ. Nacional de Colombia |

14:50-15:10 TuB18.2

*Nonlinear Robust H∞ Static Output Feedback Controller Design for Parameter Dependent Polynomial Systems: An Iterative Sum of Squares Approach*, pp. 3502-3507.

| | |
|---|---|
| Krug, Matthias | The Univ. of Auckland |
| Saat, Shakir | The Univ. of Auckland |
| Nguang, Sing Kiong | The Univ. of Auckland |

15:10-15:30 TuB18.3

*Robustness in the Face of Polytopic Initial Conditions Uncertainty and Polytopic System Matrices Uncertainty in Finite-Horizon Linear H_{infty}-Analysis*, pp. 3508-3513.

| | |
|---|---|
| Boyarski, Shmuel | IMI |

15:30-15:50 TuB18.4

*Robust Tracking by Reduced-Order Disturbance Observer: Linear Case*, pp. 3514-3519.

| | |
|---|---|
| Back, Juhoon | Kwangwoon Univ. |
| Shim, Hyungbo | Seoul National Univ. |
| Jo, Nam H. | Soongsil Univ. |
| Kim, Jung-Su | Seoul National Univ. of Science and Tech. |

15:50-16:10 TuB18.5

*Mixed Criteria Control Design with Finite-Time Boundedness and H-Infinity Property for a Class of Discrete-Time Nonlinear Systems*, pp. 3520-3525.

| | |
|---|---|
| ElBsat, Mohammad | Marquette Univ. |

Yaz, Edwin — Marquette Univ.

**TuB19** — Bay

**Robotics IV** (Regular Session)

Chair: Ghaffarkhah, Alireza — Univ. of New Mexico
Co-Chair: Trumpf, Jochen — The Australian National Univ.

14:30-14:50 — TuB19.1

*Vision Based Control of Aerial Robotic Vehicles Using the Port Hamiltonian Framework (I)*, pp. 3526-3532.
Mahony, Robert — Australian National Univ.
Stramigioli, Stefano — Univ. of Twente
Trumpf, Jochen — The Australian National Univ.

14:50-15:10 — TuB19.2

*An Initialization Method for Monocular Visual Localization of Miniature Aerial Robots*, pp. 3533-3538.
Lau, Tak Kit — The Chinese Univ. of Hong Kong

15:10-15:30 — TuB19.3

*Analysis of a Tunable Impedance Method for Practical Control of Insect-Inspired Flapping-Wing MAVs*, pp. 3539-3546.
Mahjoubi, Hosein — Univ. of California at Santa Barbara
Byl, Katie — Univ. of California at Santa Barbara

15:30-15:50 — TuB19.4

*A Model Predictive Control Approach to Attitude Stabilization and Trajectory Tracking Control of a 3D Universal Joint Space Robot with an Initial Angular Momentum*, pp. 3547-3552.
Kai, Tatsuya — Kyushu Univ.

15:50-16:10 — TuB19.5

*A Communication-Aware Framework for Robotic Field Estimation*, pp. 3553-3558.
Ghaffarkhah, Alireza — Univ. of New Mexico
Mostofi, Yasamin — Univ. of New Mexico

**TuB20** — Broward

**Unmanned Aerial Vehicles: Navigation and Human Interaction** (Invited Session)

Chair: Marconi, Lorenzo — Univ. di Bologna
Co-Chair: Naldi, Roberto — Univ. di Bologna
Organizer: Marconi, Lorenzo — Univ. di Bologna
Organizer: Naldi, Roberto — Univ. di Bologna

14:30-14:50 — TuB20.1

*Distributed Online Leader Selection in the Bilateral Teleoperation of Multiple UAVs (I)*, pp. 3559-3565.
Franchi, Antonio — Max Planck Inst. for Biological Cybernetics
Buelthoff, Heinrich H. — Max Planck Inst. for Biological Cybernetics
Robuffo Giordano, Paolo — Max Planck Inst. for Biological Cybernetics

14:50-15:10 — TuB20.2

*MAV Indoor Navigation Based on a Closed-Form Solution for Absolute Scale Velocity Estimation Using Optical Flow and Inertial Data (I)*, pp. 3566-3571.
Lippiello, Vincenzo — Univ. di Napoli Federico II
Loianno, Giuseppe — Univ. degli Studi di Napoli Federico II
Siciliano, Bruno — Univ. degli Studi di Napoli Federico II

15:10-15:30 — TuB20.3

*A Compact Exploration Strategy for Indoor Flight Vehicles (I)*, pp. 3572-3577.
Pravitra, Chintasid — Georgia Inst. of Tech.
Chowdhary, Girish — Georgia Inst. of Tech.
Johnson, Eric N. — Georgia Inst. of Tech.

15:30-15:50 — TuB20.4

*On 3D Path Following of a Ducted Fan UAV in SO(3) (I)*, pp. 3578-3583.
Cichella, Venanzio — Univ. of Bologna
Naldi, Roberto — Univ. di Bologna

| | |
|---|---|
| Dobrokhodov, Vladimir | Naval Postgraduate School |
| Kaminer, Isaac | Naval Postgraduate School |
| Marconi, Lorenzo | Univ. di Bologna |
| 15:50-16:10 | TuB20.5 |
| *A Class of Modular Aerial Robots (I)*, pp. 3584-3589. | |
| Naldi, Roberto | Univ. di Bologna |
| Forte, Francesco | Univ. of Bologna |
| Marconi, Lorenzo | Univ. di Bologna |

| **TuB21** | Brevard |
|---|---|
| **Agents and Autonomous Systems V** (Regular Session) | |
| Chair: Sugie, Toshiharu | Kyoto Univ. |
| Co-Chair: Mesbahi, Mehran | Univ. of Washington |
| 14:30-14:50 | TuB21.1 |
| *Broadcast Control of Multi-Agent Systems*, pp. 3590-3595. | |
| Azuma, Shun-ichi | Kyoto Univ. |
| Yoshimura, Ryota | Kyoto Univ. |
| Sugie, Toshiharu | Kyoto Univ. |
| 14:50-15:10 | TuB21.2 |
| *Local Requirements for Optimal Distribution of Heterogeneous Agents*, pp. 3596-3601. | |
| Nogales, Juan M. | Pontificia Univ. Javeriana |
| Finke, Jorge | Pontificia Univ. Javeriana |
| 15:10-15:30 | TuB21.3 |
| *Multi-Agent Rigid Formations: A Study of Robustness to the Loss of Multiple Agents*, pp. 3602-3607. | |
| Motevallian, S. Alireza | The Australian National Univ. |
| Yu, CHANGBIN (Brad) | The Australian National Univ. |
| Anderson, Brian D.O. | Australian National Univ. |
| 15:30-15:50 | TuB21.4 |
| *Constrained Consensus Via Logarithmic Barrier Functions*, pp. 3608-3613. | |
| Lee, Unsik | Univ. of Washington |
| Mesbahi, Mehran | Univ. of Washington |
| 15:50-16:10 | TuB21.5 |
| *A Submodular Optimization Framework for Leader Selection in Linear Multi-Agent Systems*, pp. 3614-3621. | |
| Clark, Andrew | Univ. of Washington |
| Poovendran, Radha | Univ. of Washington, Seattle |

| **TuB22** | Bradford |
|---|---|
| **Identification and Estimation** (Regular Session) | |
| Chair: Weyer, Erik | Univ. of Melbourne |
| Co-Chair: Fagiano, Lorenzo | Pol. di Torino/Univ. California at Santa Barbara |
| 14:30-14:50 | TuB22.1 |
| *A Simple Recursive Algorithm for Learning a Monotone Wiener System*, pp. 3622-3627. | |
| Pelckmans, Kristiaan | Uppsala Univ. |
| Dai, Liang | Uppsala Univ. Information Tech. SysCon |
| 14:50-15:10 | TuB22.2 |
| *Adaptive Parameter Identification and State Estimation with Partial State Information and Bounded Disturbances*, pp. 3628-3633. | |
| Mallikarjunan, Srinath | Unmanned Dynamics |
| Madyastha, Venkatesh | National Aerospace Lab. |
| 15:10-15:30 | TuB22.3 |
| *System Identification with Binary Observations by Stochastic Approximation and Active Learning*, pp. 3634-3639. | |
| Csáji, Balázs Csanád | The Univ. of Melbourne |
| Weyer, Erik | Univ. of Melbourne |

| 15:30-15:50 | TuB22.4 |
|---|---|
| *Sparse Set Membership Identification of Nonlinear Functions and Application to Control of Power Kites for Wind Energy Conversion*, pp. 3640-3645. | |
| Novara, Carlo | Pol. di Torino |
| Fagiano, Lorenzo | Pol. di Torino/Univ. California at Santa Barbara |
| Milanese, Mario | Pol. di Torino |
| 15:50-16:10 | TuB22.5 |
| *Frequency Estimation for Periodical Signal with Noise in Finite Time*, pp. 3646-3651. | |
| Pyrkin, Anton | Saint-Petersburg State Univ. of ITMO |
| Bobtsov, Alexey | Saint-Petersburg State Univ. of ITMO |
| Efimov, Denis | Inst. for Problems of Mechanical Eng. |
| Zolghadri, Ali | Univ. Bordeaux I |

| **TuC01** | Orange |
|---|---|
| **Control of Energy Systems II** (Invited Session) | |
| Chair: Schuster, Eugenio | Lehigh Univ. |
| Co-Chair: Wang, Jihong | Univ. of Warwick |
| Organizer: Schuster, Eugenio | Lehigh Univ. |
| Organizer: Wang, Jihong | Univ. of Warwick |
| 16:30-16:50 | TuC01.1 |
| *Control-Oriented Modeling of the Electron Cyclotron Current Drive Actuated Hybrid Mode in ITER (I)*, pp. 3652-3657. | |
| Djordjevic, Snezana | Eindhoven Univ. of Tech. |
| Steinbuch, Maarten | Eindhoven Univ. of Tech. |
| De Baar, Marco | FOM |
| Hogeweij, Gerrit Maarten Dirk | FOM Inst. for Plasma Physics Rijnhuizen |
| Citrin, Jonathan | FOM Inst. for Plasma Physics Rijnhuizen |
| 16:50-17:10 | TuC01.2 |
| *Modeling and Simulation of a Power Conditioning System for the Hybrid Fuel-Cell/Turbine Power Plant (I)*, pp. 3658-3663. | |
| Guo, Zhitong | Baylor Univ. |
| Lee, Kwang Y. | Baylor Univ. |
| 17:10-17:30 | TuC01.3 |
| *Repetitive Model Predictive Approach to Individual Pitch Control of Wind Turbines (I)*, pp. 3664-3670. | |
| Friis, Johannes | Aalborg Univ. |
| Nielsen, Ebbe | Aalborg Univ. |
| Bønding, Jesper | Aalborg Univ. |
| Adegas, Fabiano Daher | Aalborg Univ. |
| Stoustrup, Jakob | Aalborg Univ. |
| Odgaard, Peter Fogh | KK electronic a/s |
| 17:30-17:50 | TuC01.4 |
| *Management and Control Strategy Study for a New Hybrid Wind Turbine System (I)*, pp. 3671-3676. | |
| Sun, Hao | Univ. of Birmingham |
| Luo, Xing | Univ. of Warwick |
| Wang, Jihong | Univ. of Warwick |
| 17:50-18:10 | TuC01.5 |
| *Contribution of Domestic Heating Systems to Smart Grid Control (I)*, pp. 3677-3681. | |
| Tahersima, Fatemeh | Aalborg Univ. |
| Stoustrup, Jakob | Aalborg Univ. |
| Afkhami Meybodi, Soroush | Aalborg Univ. |
| Rasmussen, Henrik | Aalborg Univ. |

| **TuC02** | Dixie |
|---|---|
| **Biological Systems II** (Regular Session) | |
| Chair: Li, Jr-Shin | Washington Univ. in St. Louis |

Co-Chair: Jiang, Zhong-Ping — Pol. Inst. NYU

16:30-16:50 — TuC02.1

*A Mathematical Study on Immune Activation and Related Dynamics in HIV Infection*, pp. 3682-3687.

Shu, Zhan — National Univ. of Ireland, Maynooth
Hernandez-Vargas, Esteban A. — National Univ. of Ireland
Middleton, Richard H. — National Univ. of Ireland Maynooth

16:50-17:10 — TuC02.2

*Optimal Control Mechanism Involving the Human Kidney*, pp. 3688-3693.

Jiang, Yu — Pol. Inst. of New York Univ.
Jiang, Zhong-Ping — Pol. Inst. NYU
Chemudupati, Srinivasa — Pol. Inst. of New York Univ.
Morup Jorgensen, Jan — New York Univ.
Peskin, Charles — New York Univ.

17:10-17:30 — TuC02.3

*Constrained Minimum-Power Control of Spiking Neuron Oscillators*, pp. 3694-3699.

Dasanayake, Isuru Sammana — Washington Univ. in St.Louis
Li, Jr-Shin — Washington Univ. in St. Louis

17:30-17:50 — TuC02.4

*On Stability and Stabilization for Chemostats with Many Limiting Nutrients*, pp. 3700-3705.

Mazenc, Frederic — Team INRIA DISCO
Malisoff, Michael — Louisiana State Univ.

17:50-18:10 — TuC02.5

*Inference of Temporally Evolving Network Dynamics with Applications in Biological Systems*, pp. 3706-3711.

Chang, Young Hwan — Univ. of California, Berkeley
Tomlin, Claire J. — UC Berkeley

**TuC03** — Columbia

**Fault Detection V** (Regular Session)

Chair: El-Farra, Nael H. — Univ. of California, Davis
Co-Chair: Hsiao, Tesheng — National Chiao Tung Univ.

16:30-16:50 — TuC03.1

*An Optimization Approach to Resolve the Competing Aims of Active Fault Detection and Control*, pp. 3712-3717.

Siroky, Jan — Univ. of West Bohemia in Pilsen, Czech Republic
Simandl, Miroslav — Univ. of West Bohemia in Pilsen
Axehill, Daniel — ETH Zürich
Puncochar, Ivo — Univ. of West Bohemia

16:50-17:10 — TuC03.2

*A Dual-Model Fault Detection Approach with Application to Actuators of Robot Manipulators*, pp. 3718-3723.

Hsiao, Tesheng — National Chiao Tung Univ.
Weng, Mao-Chiao — National Chiao Tung Univ.

17:10-17:30 — TuC03.3

*Input Design for Subspace-Based Fault Detection*, pp. 3724-3729.

Esna Ashari, Alireza — INRIA, France
Mevel, Laurent — INRIA

17:30-17:50 — TuC03.4

*A Lyapunov-Based Diagnosis Signal for Fault Detection Robust Tracking Problem of a Class of Sampled-Data Systems*, pp. 3730-3735.

Corradini, Maria Letizia — Univ. di Camerino
Cristofaro, Andrea — Univ. of Camerino
Giambo, Roberto — Univ. di Camerino
Pettinari, Silvia — Univ. di Camerino

17:50-18:10 — TuC03.5

*Control, Monitoring and Reconfiguration of Sampled-Data Hybrid Process Systems with Actuator Faults*, pp. 3736-3741.

| | |
|---|---|
| Hu, Ye | Univ. of California, Davis |
| El-Farra, Nael H. | Univ. of California, Davis |

| **TuC04** | Nassau |
|---|---|
| **Flexible Structures** (Regular Session) | |
| Chair: Ge, Shuzhi Sam | National Univ. of Singapore |
| Co-Chair: Scherpen, Jacquelien M.A. | Univ. of Groningen |

16:30-16:50 TuC04.1

*Vibration Control of a Coupled Nonlinear String System in Transverse and Longitudinal Directions*, pp. 3742-3747.

| | |
|---|---|
| Ge, Shuzhi Sam | National Univ. of Singapore |
| Zhang, Shuang | National Univ. of Singapore |
| He, Wei | National Univ. of Singapore |

16:50-17:10 TuC04.2

*Enforcing a System Model to Be Negative Imaginary Via Perturbation of Hamiltonian Matrices*, pp. 3748-3752.

| | |
|---|---|
| Mabrok, Mohamed | Univ. if New south wales at Australian Defence ForceAcademy |
| Petersen, Ian | Univ. of New South Wales at the Australian Defence Force Ac |
| Kallapur, Abhijit | Univ. of New South Wales at the Australian Defence Force Ac |
| Lanzon, Alexander | Univ. of Manchester |

17:10-17:30 TuC04.3

*A New Stability Result for the Feedback Interconnection of Negative Imaginary Systems with a Pole at the Origin*, pp. 3753-3757.

| | |
|---|---|
| Mabrok, Mohamed | Univ. if New south wales at Australian Defence ForceAcademy |
| Kallapur, Abhijit | Univ. of New South Wales at the Australian Defence Force Ac |
| Petersen, Ian | Univ. of New South Wales at the Australian Defence Force Ac |
| Lanzon, Alexander | Univ. of Manchester |

17:30-17:50 TuC04.4

*Stability Analysis of Piezoelectric Beams*, pp. 3758-3763.

| | |
|---|---|
| Voss, Thomas | Eindhoven Univ. of Tech. |
| Scherpen, Jacquelien M.A. | Univ. of Groningen |

17:50-18:10 TuC04.5

*A Polynomial LPV Approach for Flexible Robot End-Effector Position Controller Analysis*, pp. 3764-3769.

| | |
|---|---|
| Halalchi, Houssem | Univ. of Strasbourg, France |
| Laroche, Edouard | Strasbourg Univ. |
| Bara, G. Iuliana | Univ. of Strasbourg |

| **TuC05** | Taylor |
|---|---|
| **Communication Networks II** (Regular Session) | |
| Chair: Srikant, R | Univ. of Illinois, Urbana-Champaign |
| Co-Chair: Kulkarni, Vishwesh V. | Indian Inst. of Tech. Bombay |

16:30-16:50 TuC05.1

*The Stability of Longest-Queue-First Scheduling with Variable Packet Sizes*, pp. 3770-3775.

| | |
|---|---|
| Maguluri, Siva Theja | Univ. of Illinois Urbana Champaign |
| Hajek, Bruce | UIUC |
| Srikant, R | Univ. of Illinois, Urbana-Champaign |

16:50-17:10 TuC05.2

*Stabilization Over Markov Feedback Channels*, pp. 3776-3782.

| | |
|---|---|
| Coviello, Lorenzo | Univ. of California San Diego |
| Minero, Paolo | Univ. of Notre Dame |
| Franceschetti, Massimo | UCSD |

17:10-17:30 TuC05.3

*Feasibility of SINR Guarantees for Downlink Transmissions in Reay-Enabled OFDMA Networks*, pp. 3783-3788.

| | |
|---|---|
| Kulkarni, Vishwesh V. | Univ. of Minnesota |
| Lim, Joo Ghee | Singapore Pol. |

| | |
|---|---|
| Jha, Sanjay | Univ. of New South Wales |

17:30-17:50 TuC05.4

*Extended Gossip Protocol for Diffusion of Multiple Messages and Its Percolation Probability*, pp. 3789-3793.

| | |
|---|---|
| Ishikawa, Tetsuya | Tokyo Inst. of Tech. |
| Hayakawa, Tomohisa | Tokyo Inst. of Tech. |

17:50-18:10 TuC05.5

*First-Principles Modeling of Wireless Networks for Rate Control*, pp. 3794-3799.

| | |
|---|---|
| Ripplinger, David | Brigham Young Univ. |
| Warnick, Sean | Brigham Young Univ. |
| Zappala, Daniel | Brigham Young Univ. |

## TuC06 — Jackson

**Networked Control Systems VI** (Regular Session)

| | |
|---|---|
| Chair: Nedich, Angelia | Univ. of Illinois, Urbana-Champaign |
| Co-Chair: Kim, Jong-Han | Stanford Univ. |

16:30-16:50 TuC06.1

*A Control Perspective for Centralized and Distributed Convex Optimization*, pp. 3800-3805.

| | |
|---|---|
| Wang, Jing | iowa state Univ. |
| Elia, Nicola | Iowa State Univ. |

16:50-17:10 TuC06.2

*On Existence of a Quadratic Comparison Function for Random Weighted Averaging Dynamics and Its Implications*, pp. 3806-3811.

| | |
|---|---|
| Touri, Behrouz | Univ. of Illinois, Urbana-Champaign |
| Nedich, Angelia | Univ. of Illinois, Urbana-Champaign |

17:10-17:30 TuC06.3

*Synchronization of Networked Piecewise Smooth Systems*, pp. 3812-3817.

| | |
|---|---|
| De Lellis, Pietro | Univ. of Naples Federico II |
| di Bernardo, Mario | Univ. of Naples Federico II |
| Liuzza, Davide | Univ. of Naples Federico II |

17:30-17:50 TuC06.4

*A Unifying Condition for Separable Two Player Optimal Control Problems*, pp. 3818-3823.

| | |
|---|---|
| Kim, Jong-Han | Stanford Univ. |
| Lall, Sanjay | Stanford Univ. |

17:50-18:10 TuC06.5

*Synthesis for Optimal Two-Player Decentralized Control Over TCP Erasure Channels with State Feedback*, pp. 3824-3829.

| | |
|---|---|
| Chang, Chung-Ching | Stanford Univ. |
| Lall, Sanjay | Stanford Univ. |

## TuC07 — Escambia

**Noncommutative Formal Power Series in Control Theory** (Invited Session)

| | |
|---|---|
| Chair: Petreczky, Mihaly | Maastricht Univ. |
| Co-Chair: Gray, W. Steven | Old Dominion Univ. |
| Organizer: Petreczky, Mihaly | Maastricht Univ. |
| Organizer: Gray, W. Steven | Old Dominion Univ. |

16:30-16:50 TuC07.1

*On the Radius of Convergence of Cascaded Analytic Nonlinear Systems (I)*, pp. 3830-3835.

| | |
|---|---|
| Thitsa, Makhin | Old Dominion Univ. |
| Gray, W. Steven | Old Dominion Univ. |

16:50-17:10 TuC07.2

*Series Method in Nonlinear Time Optimality (I)*, pp. 3836-3841.

| | |
|---|---|
| Sklyar, Grigory | Szczecin Univ. |
| Ignatovich, Svetlana | Kharkov National Univ. |

| 17:10-17:30 | TuC07.3 |
|---|---|
| *Noncommutative Formal Power Series and Noncommutative Functions (I)*, pp. 3842-3847. | |
| Kaliuzhnyi-Verbovetskyi, Dmitry | Drexel Univ. |
| 17:30-17:50 | TuC07.4 |
| *A Faa Di Bruno Hopf Algebra for a Group of Fliess Operators with Applications to Feedback (I)*, pp. 3848-3854. | |
| Gray, W. Steven | Old Dominion Univ. |
| Duffaut Espinosa, Luis Augusto | no affiliation |
| 17:50-18:10 | TuC07.5 |
| *Residuation of Tropical Series: Rationality Issues (I)*, pp. 3855-3861. | |
| Badouel, Eric | INRIA / IRISA |
| Bouillard, Anne | ENS |
| Darondeau, Philippe | INRIA |
| Komenda, Jan | Czech Acad. of Sciences |

| **TuC08** | Flagler |
|---|---|
| **Machine Learning II** (Regular Session) | |
| Chair: Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |
| Co-Chair: Fujimoto, Kenji | Nagoya Univ. |
| 16:30-16:50 | TuC08.1 |
| *Stochastic Bandits with Pathwise Constraints*, pp. 3862-3869. | |
| Avner, Orly | Tech. |
| Mannor, Shie | Tech. |
| 16:50-17:10 | TuC08.2 |
| *Intelligent Flight for UAV Via Integration of Dynamic MOEA, Bayesian Network and Fuzzy Logic*, pp. 3870-3875. | |
| Peng, Xingguang | Northwestern Pol. Univ. |
| Xu, Demin | Northwestern Pol. Univ. |
| Yan, Wei-Sheng | Northwestern Pol. Univ. |
| 17:10-17:30 | TuC08.3 |
| *Neural Network-Based Optimal Control for Trajectory Tracking of a Helicopter UAV*, pp. 3876-3881. | |
| Nodland, David | Missouri Univ. of Science & Tech. |
| Zargarzadeh, Hassan | Missouri Univ. of Science and Tech. (MST) |
| Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |
| 17:30-17:50 | TuC08.4 |
| *System Identification Based on Variational Bayes Method and the Invariance under Coordinate Transformations*, pp. 3882-3888. | |
| Fujimoto, Kenji | Nagoya Univ. |
| Satoh, Akinori | Nagoya Univ. |
| Fukunaga, Shuichi | Tokyo Metropolitan Coll. of Industrial Tech. |
| 17:50-18:10 | TuC08.5 |
| *Convergence Analysis for an Online Recommendation System*, pp. 3889-3894. | |
| Truong, Anh | Univ. of Illinois at Urbana-Champaign |
| Kiyavash, Negar | Univ. of Illinois, Urbana-Champaign |
| Borkar, Vivek S. | Tata Inst. of Fundamental Res. |

| **TuC09** | Gilchrist |
|---|---|
| **Nonlinear Systems V** (Regular Session) | |
| Chair: Sepulchre, Rodolphe J. | Univ. de Liege |
| Co-Chair: Mehta, Prashant G. | Univ. of Illinois, Urbana-Champaign |
| 16:30-16:50 | TuC09.1 |
| *Bifurcation Analysis of a Heterogeneous Mean-Field Oscillator Game*, pp. 3895-3900. | |
| Yin, Huibing | Univ. of Illinois, Urbana-Champaign |
| Mehta, Prashant G. | Univ. of Illinois, Urbana-Champaign |
| Meyn, Sean | Univ. of Illinois |

Shanbhag, Uday V. — Univ. of Illinois, Urbana-Champaign

16:50-17:10 — TuC09.2

*Multistability, Bifurcations, and Biological Neural Networks: A Synaptic Drive Firing Model for Cerebral Cortex Transition in the Induction of General Anesthesia*, pp. 3901-3908.

Haddad, Wassim M. — Georgia Inst. of Tech.
Hui, Qing — Texas Tech. Univ.
Bailey, James M. — Northeast Georgia Medical Center

17:10-17:30 — TuC09.3

*Matching an Oscillator Model to a Phase Response Curve*, pp. 3909-3914.

Sacré, Pierre — Univ. of Liège
Sepulchre, Rodolphe J. — Univ. de Liege

17:30-17:50 — TuC09.4

*Stable Manifolds of Saddle Equilibria for Pendulum Dynamics on S^2 and SO(3)*, pp. 3915-3921.

Lee, Taeyoung — George Washington Univ.
Leok, Melvin — Univ. of California, San Diego
McClamroch, N. Harris — Univ. of Michigan

17:50-18:10 — TuC09.5

*Limit Cycles in Replicator-Mutator Network Dynamics*, pp. 3922-3927.

Pais, Darren — Princeton Univ.
Leonard, Naomi Ehrich — Princeton Univ.

**TuC10** — Hamilton

**Maritime Control** (Regular Session)

Chair: Corradini, Maria Letizia — Univ. di Camerino
Co-Chair: Katayama, Hitoshi — Shizuoka Univ.

16:30-16:50 — TuC10.1

*Seabed Tracking of an Autonomous Underwater Vehicle with Nonlinear Output Regulation*, pp. 3928-3933.

Adhami-Mirhosseini, Aras — Univ. of Tehran
Aguiar, A. Pedro — Inst. Superior Tecnico, Tech. Univ. of Lisbon
Yazdanpanah, Mohammad Javad — Univ. of Tehran

16:50-17:10 — TuC10.2

*An Actuator Failure Tolerant Robust Control Approach for an Underwater Remotely Operated Vehicle*, pp. 3934-3939.

Corradini, Maria Letizia — Univ. di Camerino
Monteriù, Andrea — Univ. Pol. delle Marche
Orlando, Giuseppe — Univ. Pol. delle Marche
Pettinari, Silvia — Univ. di Camerino

17:10-17:30 — TuC10.3

*A Lagrangian Framework to Incorporate Positional and Velocity Constraints to Achieve Path-Following Control*, pp. 3940-3945.

Peymani Foroushani, Ehsan — Norwegian Univ. of Science and Tech.
Fossen, Thor I. — Norwegain Univ. of Science and Tech.

17:30-17:50 — TuC10.4

*Sampled-Data Straight-Line Path Following Control for Underactuated Ships*, pp. 3946-3951.

Katayama, Hitoshi — Shizuoka Univ.
Aoki, Hirotaka — Yamaha Motor Co.,Ltd.

17:50-18:10 — TuC10.5

*Time Delayed Non-Minimum Phase Slave Tele-Robotics*, pp. 3952-3957.

Atashzar, Seyed Farokh — AmirKabir Univ. of Tech.
Talebi, H.A. — Amirkabir Univ.
Shahbazi, Mahya — AmirKabir Univ. of Tech.
Towhidkhah, Farzaad — Amirkabir Univ.
Patel, Rajni — Univ. of Western Ontario

**TuC11** — Indian River

**Hybrid Systems II** (Regular Session)

Chair: Silvestre, Carlos — Inst. Superior Tecnico
Co-Chair: Olaru, Sorin — Supelec

16:30-16:50 — TuC11.1

*Numerical Integration of Hybrid Dynamical Systems Via Domain Relaxation*, pp. 3958-3965.

Burden, Samuel — Univ. of California at Berkeley
Gonzalez, Humberto — Univ. of California, Berkeley
Vasudevan, Ramanarayan — Univ. of California Berkeley
Bajcsy, Ruzena — Univ. of Pennsylvania
Sastry, Shankar — Univ. of California at Berkeley

16:50-17:10 — TuC11.2

*On Finite Memory Approximations Constructed from Input/Output Snapshots*, pp. 3966-3973.

Tarraf, Danielle C. — The Johns Hopkins Univ.
Duffaut Espinosa, Luis Augusto — Univ. of New South Wales

17:10-17:30 — TuC11.3

*Autonomous Transition Flight for a Vertical Take-Off and Landing Aircraft (I)*, pp. 3974-3979.

Casau, Pedro — Inst. Superior Tecnico
Cabecinhas, David — Inst. Superior Tecnico
Silvestre, Carlos — Inst. Superior Tecnico

17:30-17:50 — TuC11.4

*Adaptive Control Design for Piecewise-Linear Differential Inclusion with Parameter Uncertainty*, pp. 3980-3985.

Liu, Kai — Harbin Insititute of Tech.
Yao, Yu — Harbin Inst. of Tech.
Sun, Dengfeng — Purdue Univ.
Balakrishnan, Venkataramanan — Purdue Univ.
Wei, Peng — Purdue Univ.

17:50-18:10 — TuC11.5

*Enhancements on the Hyperplane Arrangements in Mixed Integer Techniques*, pp. 3986-3991.

Stoican, Florin — SUPELEC
Prodan, Ionela — SUPELEC Systems Sciences (E3S)
Olaru, Sorin — Supelec

**TuC12** — Lake

**Linear System Observers** (Regular Session)

Chair: Willems, Jan C. — K.U. Leuven
Co-Chair: Campbell, Stephen L — North Carolina State Univ.

16:30-16:50 — TuC12.1

*An Internal Model Principle for Observers*, pp. 3992-3999.

Trumpf, Jochen — The Australian National Univ.
Trentelman, Harry L. — Univ. of Groningen
Willems, Jan C. — K.U. Leuven

16:50-17:10 — TuC12.2

*Generality of Functional Observer Structures*, pp. 4000-4004.

Fernando, Tyrone Lucius — Univ. of Western Australia
Jennings, Les — Univ. of Western Australia
Trinh, Hieu Minh — Deakin Univ.

17:10-17:30 — TuC12.3

*Observability and Detectability Analysis of Singular Linear Systems with Unknown Inputs*, pp. 4005-4010.

Bejarano, Francisco Javier — INRIA Lille-Nord Europe
Floquet, Thierry — CNRS
Perruquetti, Wilfrid — Ec. Centrale de Lille
Zheng, Gang — INRIA

17:30-17:50 — TuC12.4

*Full Order Observers for Linear DAEs*, pp. 4011-4016.

| | |
|---|---|
| Bobinyec, Karen | North Carolina State Univ. |
| Campbell, Stephen L | North Carolina State Univ. |
| Kunkel, Peter | Leipzig Univ. |

17:50-18:10 TuC12.5

*Observers Design for Singular Fractional-Order Systems*, pp. 4017-4022.

| | |
|---|---|
| N'Doye, Ibrahima | CRAN |
| Darouach, Mohamed | Univ. Henri Poincare-Nancy |
| Zasadzinski, Michel | CRAN |
| Radhy, Nour-Eddine | Lab. Physique et Matériaux Microélectonique,Automatique e |

**TuC13** Manatee

**Linear Systems V** (Regular Session)

| | |
|---|---|
| Chair: Ebihara, Yoshio | Kyoto Univ. |
| Co-Chair: Paszke, Wojciech | Univ. of Zielona Gora |

16:30-16:50 TuC13.1

*Control of Discrete Linear Repetitive Processes Using Non-Local Previous Pass Information*, pp. 4023-4028.

| | |
|---|---|
| Cichy, Blazej | Univ. of Zielona Gora |
| Galkowski, Krzysztof | Univ. of Zielona Gora |
| Rogers, Eric | Univ. of Southampton |
| Kummert, Anton | Univ. of Wuppertal |

16:50-17:10 TuC13.2

*L1 Gain Analysis of Linear Positive Systems and Its Application*, pp. 4029-4034.

| | |
|---|---|
| Ebihara, Yoshio | Kyoto Univ. |
| Peaucelle, Dimitri | LAAS-CNRS, Univ. de Toulouse |
| Arzelier, Denis | LAAS-CNRS |

17:10-17:30 TuC13.3

*Two Alternative Approaches to Stochastic Discrete-Time Iterative Learning Control Systems*, pp. 4035-4040.

| | |
|---|---|
| Meng, Deyuan | Beihang Univ. (BUAA) |
| Jia, Yingmin | Beihang Univ. |
| Du, Junping | Beijing Univ. of Posts and Telecommunications |
| Yu, Fashan | Henan Pol. Univ. |

17:30-17:50 TuC13.4

*Stability of Distributed 3-D Systems Implemented on Grid Sensor Networks Using Floating Point Arithmetic*, pp. 4041-4047.

| | |
|---|---|
| Sumanasena, Buddika | Univ. of Notre Dame |
| Bauer, Peter H. | Notre Dame Univ. |

17:50-18:10 TuC13.5

*A Delay-Fractioning Approach to Stability Analysis of Networked Control Systems with Time-Varying Delay*, pp. 4048-4053.

| | |
|---|---|
| Figueredo, Luis Felipe da Cruz | Univ. of Brasília |
| Ishihara, João Yoshiyuki | Univ. of Brasília |
| Borges, Geovany A. | Univ. de Brasilia |
| Bauchspiess, Adolfo | Univ. of Brasília |

**TuC14** Sarasota

**Cyber Security of Control Systems** (Invited Session)

| | |
|---|---|
| Chair: Langbort, Cedric | Univ. of Illinois, Urbana-Champaign |
| Co-Chair: Sandberg, Henrik | KTH Royal Inst. of Tech. |
| Organizer: Langbort, Cedric | Univ. of Illinois, Urbana-Champaign |
| Organizer: Sandberg, Henrik | KTH Royal Inst. of Tech. |

16:30-16:50 TuC14.1

*Electric Power Network Security Analysis Via Minimum Cut Relaxation (I)*, pp. 4054-4059.

| | |
|---|---|
| Sou, Kin Cheong | Royal Inst. of Tech. |
| Sandberg, Henrik | KTH Royal Inst. of Tech. |

Johansson, Karl H. — Royal Inst. of Tech.

16:50-17:10 — TuC14.2

*Multi-Scale Analysis of Long Range Dependent Traffic for Anomaly Detection in Wireless Sensor Networks (I)*, pp. 4060-4065.

Zheng, Shanshan — Univ. of Maryland Coll. Park
Baras, John S. — Univ. of Maryland

17:10-17:30 — TuC14.3

*Robust and Resilient Control Design for Cyber-Physical Systems with an Application to Power Systems (I)*, pp. 4066-4071.

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

17:30-17:50 — TuC14.4

*One-Stage Control Over an Adversarial Channel with Finite Codewords (I)*, pp. 4072-4077.

Gupta, Abhishek — Univ. of Illinois at Urbana Champaign
Langbort, Cedric — Univ. of Illinois, Urbana-Champaign
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

17:50-18:10 — TuC14.5

*On the Interdependence of Reliability and Security in Networked Control Systems (I)*, pp. 4078-4083.

Amin, Saurabh — Univ. of California, Berkeley
Schwartz, Galina — UC Berkeley
Sastry, Shankar — Univ. of California at Berkeley

**TuC15** — Union

**Stability of Linear Systems** (Regular Session)

Chair: Zanasi, Roberto — Univ. of Modena and Reggio Emilia
Co-Chair: Hencey, Brandon — Cornell Univ.

16:30-16:50 — TuC15.1

*A Scaling and Squaring Method for the Discretisation of Positive Switched Systems*, pp. 4084-4089.

Zappavigna, Annalisa — Pol. di Milano
Colaneri, Patrizio — Pol. di Milano
Kirkland, Stephen — National Univ. of Ireland, Maynooth
Shorten, Robert — Nat. Univ. of Ireland

16:50-17:10 — TuC15.2

*Non-Exponential Stabilization of Linear Time-Invariant Systems by Linear Time-Varying Controllers*, pp. 4090-4095.

Inoue, Masaki — Osaka Univ.
Wada, Teruyo — Osaka Univ.
Asai, Toru — Osaka Univ.
Ikeda, Masao — Osaka Univ.

17:10-17:30 — TuC15.3

*Lead-Lag Compensators: Analytical and Graphical Design on the Nyquist Plane*, pp. 4096-4101.

Zanasi, Roberto — Univ. of Modena and Reggio Emilia
Cuoghi, Stefania — Univ. of Modena and Reggio Emilia
Ntogramatzidis, Lorenzo — Curtin Univ.

17:30-17:50 — TuC15.4

*A State Space Approach to the Parameterization of Output Regulating Controllers*, pp. 4102-4107.

Wong, Daniel — Cornell Univ.
Hencey, Brandon — Cornell Univ.

17:50-18:10 — TuC15.5

*Preservation of Piecewise-Linear Lyapunov Function under Padé Discretization*, pp. 4108-4113.

Rossi, Francesco — Univ. Paul Cézanne
Colaneri, Patrizio — Pol. di Milano
Shorten, Robert — Nat. Univ. of Ireland

**TuC16** — Palm Beach

**Cooperative Control III** (Regular Session)

Chair: Edwards, Christopher — Univ. of Leicester
Co-Chair: Skjetne, Roger — Norwegian Univ. of Science and Tech.

16:30-16:50 — TuC16.1

*Cooperative Tracking for a Swarm of Unmanned Aerial Vehicles: A Distributed Tagaki-Sugeno Fuzzy Framework Design*, pp. 4114-4119.

Kladis, Georgios P. — Univ. of Leicester
Menon, Prathyush P — Univ. of Exeter
Edwards, Christopher — Univ. of Leicester

16:50-17:10 — TuC16.2

*Simultaneous Stabilization and Synchronization for Multi-Agent Systems Via a Low Gain Method*, pp. 4120-4125.

Hu, Guoqiang — Kansas State Univ.
Darabi Sahneh, Faryad — Kansas State Univ.

17:10-17:30 — TuC16.3

*Finite Time Estimation and Containment Control of Second Order Perturbed Directed Networks*, pp. 4126-4131.

Yu, Di — Beijing Inst. of Tech.
Wu, Qinghe — Beijing Inst. of Tech.
Song, Li — Beijing Inst. of Tech.

17:30-17:50 — TuC16.4

*Formation Control of Fully-Actuated Marine Vessels Using Group Agreement Protocols*, pp. 4132-4139.

L. Thorvaldsen, Christoffer F. — Norwegian Univ. of Science and Tech. (NTNU)
Skjetne, Roger — Norwegian Univ. of Science and Tech.

17:50-18:10 — TuC16.5

*Cooperative Multi-Vehicle Search and Coverage Problem in Uncertain Environments*, pp. 4140-4145.

Mirzaei, Mostafa — Concordia Univ.
Sharifi, Farid — Concordia Univ.
Gordon, Brandon W. — Concordia Univ.
Rabbath, Camille Alain — Defence R&D Canada
Zhang, Youmin — Concordia Univ.

**TuC17** — Alachua

**Delay Systems II** (Regular Session)

Chair: Califano, Claudia — Univ. di Roma
Co-Chair: Mondie, Sabine — CINVESTAV-IPN

16:30-16:50 — TuC17.1

*A Truncated Prediction Approach to Stabilization of Linear Systems with Long Time-Varying Input Delay*, pp. 4146-4151.

Zhou, Bin — Harbin Inst. of Tech.
Lin, Zongli — Univ. of Virginia
Duan, Guang-Ren — Harbin Inst. of Tech.

16:50-17:10 — TuC17.2

*Reset Observers for Linear Time-Delay Systems. a Delay-Independent Approach*, pp. 4152-4157.

Paesa, David — Zaragoza Univ.
BaÑos, Alfonso — Univ. OF MURCIA
Sagues, Carlos — Univ. de Zaragoza

17:10-17:30 — TuC17.3

*Feedback Linear Equivalence for Nonlinear Time-Delay Systems*, pp. 4158-4163.

Califano, Claudia — Univ. di Roma
Moog, Claude — CNRS

17:30-17:50 — TuC17.4

*Exponential Stability Analysis of the Drilling System Described by a Switched Neutral Type Delay Equation with Nonlinear Perturbations*, pp. 4164-4169.

Saldivar, Martha Belem — CINVESTAV
Mondié, Sabine — CINVESTAV-IPN

Loiseau, Jean Jacques — CNRS
Rasvan, Vladimir — Univ. of Craiova

17:50-18:10 — TuC17.5

*Matrix Norm Approach for Control of Linear Time-Delay Systems*, pp. 4170-4175.
Fioravanti, Andre R. — UNICAMP
Bonnet, Catherine — INRIA Saclay-Ile-de-France
Niculescu, Silviu-Iulian — CNRS-Supelec
Geromel, Jose C. — UNICAMP

**TuC18** — Baker
**Robust Control V** (Regular Session)
Chair: Karimi, Alireza — EPFL
Co-Chair: Van De Wouw, Nathan — Eindhoven Univ. of Tech.

16:30-16:50 — TuC18.1

*Impulsive Control of Mechanical Motion Systems with Uncertain Friction*, pp. 4176-4182.
Van De Wouw, Nathan — Eindhoven Univ. of Tech.
Leine, Remco. I. — ETH Zentrum

16:50-17:10 — TuC18.2

*Drop-On-Demand Inkjet Printhead Performance Improvement Using Robust Feedforward Control*, pp. 4183-4188.
Khalate, Amol Ashok — Delft Univ. of Tech.
Bayon, Benoit — Ec. Centrale de Lyon
Bombois, Xavier — Delft Univ. of Tech.
Scorletti, Gerard — Ec. Centrale de Lyon
Babuska, R. — Delft Univ. of Tech.

17:10-17:30 — TuC18.3

*Robust Gain-Scheduled Blending Control of Raw-Mix Quality in Cement Industries*, pp. 4189-4194.
de Oliveira, Vinicius — Ec. Pol. Federale de Lausanne (EPFL)
Amrhein, Michael — Online Control Ltd.
Karimi, Alireza — EPFL

17:30-17:50 — TuC18.4

*Flutter Control of Long-Span Suspension Bridges*, pp. 4195-4200.
Zhao, Xiaowei — Univ. of Oxford
Limebeer, David J.N. — Imperial Coll.
Graham, J Michael R — Imperial Coll. London

17:50-18:10 — TuC18.5

*Robustness Analysis and Controller Synthesis with Non-Normalized Coprime Factor Uncertainty Characterisation*, pp. 4201-4206.
Engelken, Sönke — Univ. of Manchester
Lanzon, Alexander — Univ. of Manchester
Patra, Sourav — Univ. of Manchester

**TuC19** — Bay
**Autonomous Robots I** (Regular Session)
Chair: Spong, Mark W. — Univ. of Texas at Dallas
Co-Chair: Keviczky, Tamas — Delft Univ. of Tech.

16:30-16:50 — TuC19.1

*Lyapunov-Based Cooperative Avoidance Control for Multiple Lagrangian Systems with Bounded Sensing Uncertainties*, pp. 4207-4213.
Rodríguez-Seda, Erick J. — Univ. of Texas at Dallas
Stipanovic, Dusan M. — Univ. of Illinois, Urbana-Champaign
Spong, Mark W. — Univ. of Texas at Dallas

16:50-17:10 — TuC19.2

*A Strategy for Multi-Robot Navigation*, pp. 4214-4219.

Beji, Lotfi — Univ. of Evry
Mohamed Anouar, El Kamel — Univ. of Evry
Abichou, Azgal — Ec. Pol. De Tunis

17:10-17:30 — TuC19.3

*Formation Control of Weak Robots*, pp. 4220-4225.
Zhang, Huan — The Univ. of Melbourne
Pathirana, Pubudu N. — Deakin Univ.

17:30-17:50 — TuC19.4

*Distributed Multi-Target Tracking Via Mobile Robotic Networks: A Localized Non-Iterative SDP Approach*, pp. 4226-4231.
Simonetto, Andrea — Delft Univ. of Tech.
Keviczky, Tamas — Delft Univ. of Tech.

17:50-18:10 — TuC19.5

*Robot Deployment with End-To-End Communication Constraints*, pp. 4232-4238.
Le Ny, Jerome — Univ. of Pennsylvania
Ribeiro, Alejandro — Univ. of Pennsylvania
Pappas, George J. — Univ. of Pennsylvania

## TuC20 — Broward

**Large-Scale Systems** (Regular Session)

Chair: Ugrinovskii, Valery — Univ. of New South Wales
Co-Chair: Lestas, Ioannis — Univ. of Cambridge,

16:30-16:50 — TuC20.1

*Small-Gain Results for Discrete-Time Networks of Systems with Delay*, pp. 4239-4244.
Gielen, Rob — Eindhoven Univ. of Tech.
Lazar, Mircea — Eindhoven Univ. of Tech.
Teel, Andrew R. — Univ. of California at Santa Barbara

16:50-17:10 — TuC20.2

*Stabilization of Large-Scale Distributed Control Systems Using I/O Event-Driven Control and Passivity*, pp. 4245-4250.
Yu, Han — Univ. of Notre Dame
Zhu, Feng — Univ. of Notre Dame
Antsaklis, Panos J. — Univ. of Notre Dame

17:10-17:30 — TuC20.3

*Gain-Scheduled Synchronization of Uncertain Parameter Varying Systems Via Relative H-Infinity Consensus*, pp. 4251-4256.
Ugrinovskii, Valery — Univ. of New South Wales

17:30-17:50 — TuC20.4

*On Network Stability, Graph Separation, Interconnection Structure and Convex Shells*, pp. 4257-4263.
Lestas, Ioannis — Univ. of Cambridge,

17:50-18:10 — TuC20.5

*Risk-Sensitive Mean Field Stochastic Games*, pp. 4264-4269.
Tembine, Hamidou — SUPELEC

## TuC21 — Brevard

**Agents and Autonomous Systems VII** (Regular Session)

Chair: Kyriakopoulos, Kostas J. — National Tech. Univ. of Athens
Co-Chair: Tang, Choon Yik — Univ. of Oklahoma

16:30-16:50 — TuC21.1

*Relay Pursuit of a Maneuvering Target by a Group of Pursuers*, pp. 4270-4275.
Bakolas, Efstathios — Georgia Inst. of Tech.
Tsiotras, Panagiotis — Georgia Inst. of Tech.

16:50-17:10 — TuC21.2

*Adjustable Navigation Functions for Unknown Sphere Worlds*, pp. 4276-4281.
Filippidis, Ioannis — National Tech. Univ. of Athens

| | |
|---|---|
| Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |

17:10-17:30 TuC21.3

*Decentralised Minimal-Time Consensus: Formulation, Characterisation, Design, Algorithm and Application*, pp. 4282-4289.

| | |
|---|---|
| Yuan, Ye | Univ. of Cambridge |
| Stan, Guy-Bart Vincent | Imperial Coll. London |
| Barahona, Mauricio | Imperial Coll. London |
| Shi, Ling | Hong Kong Univ. of Science and Tech. |
| Goncalves, Jorge M. | Univ. of Cambridge |

17:30-17:50 TuC21.4

*Convergence Rate of Controlled Hopwise Averaging on Various Graphs*, pp. 4290-4295.

| | |
|---|---|
| Lu, Jie | Univ. of Oklahoma |
| Tang, Choon Yik | Univ. of Oklahoma |

17:50-18:10 TuC21.5

*Adaptive Consensus and Algebraic Connectivity Estimation in Sensor Networks with Chebyshev Polynomials*, pp. 4296-4301.

| | |
|---|---|
| Montijano, Eduardo | Univ. of Zaragoza |
| Montijano, Juan Ignacio | Univ. of Zaragoza |
| Sagues, Carlos | Univ. de Zaragoza |

## TuC22 Bradford

**New Developments in System Identification and Estimation** (Invited Session)

| | |
|---|---|
| Chair: Pasik-Duncan, Bozenna | Univ. of Kansas |
| Co-Chair: Ljung, Lennart | Linkoping Univ. |
| Organizer: Pasik-Duncan, Bozenna | Univ. of Kansas |
| Organizer: Ljung, Lennart | Linkoping Univ. |

16:30-16:50 TuC22.1

*The Local Polynomial Method for Nonparametric System Identification: Improvements and Experimentation (I)*, pp. 4302-4307.

| | |
|---|---|
| Gevers, Michel | Univ. Catholique de Louvain, and Vrije Univ. Brussel |
| Pintelon, Rik M. | Vrije Univ. Brussels |
| Schoukens, Johan | Vrije Univ. Brussels |

16:50-17:10 TuC22.2

*On the Accuracy of Parameter Estimation for Continuous Time Nonlinear Systems from Sampled Data (I)*, pp. 4308-4311.

| | |
|---|---|
| Carrasco, Diego S. | Univ. of Newcastle |
| Ljung, Lennart | Linkoping Univ. |
| Goodwin, Graham C. | Univ. of Newcastle |
| Agüero, Juan C. | Univ. of Newcastle |

17:10-17:30 TuC22.3

*On the Blocked Systems of Linear Systems with Mixed Frequency Data (I)*, pp. 4312-4317.

| | |
|---|---|
| Zamani, Mohsen | Australian National Univ. |
| Chen, Wei-tian | Australian National Univ. |
| Anderson, Brian D.O. | Australian National Univ. |
| Deistler, Manfred | Tech. Univ. of Vienna |
| Filler, Alexander | Wagner, Elbling and Company |

17:30-17:50 TuC22.4

*Kernel Selection in Linear System Identification Part I: A Gaussian Process Perspective (I)*, pp. 4318-4325.

| | |
|---|---|
| Pillonetto, Gianluigi | Univ. of Padova |
| De Nicolao, Giuseppe | Univ. Pavia |

17:50-18:10 TuC22.5

*Kernel Selection in Linear System Identification -- Part II: A Classical Perspective (I)*, pp. 4326-4331.

| | |
|---|---|
| Chen, Tianshi | Linköping Univ. Sweden |
| Ohlsson, Henrik | Linköping Univ. |
| Goodwin, Graham C. | Univ. of Newcastle |
| Ljung, Lennart | Linkoping Univ. |

| **WePL** | Bonnet Creek Ballroom VI & IX |
|---|---|
| **Statistical Methods in Cancer Biology** (Plenary Session) | |
| Chair: Morari, Manfred | ETH Zurich |
| 08:30-09:30 | WePL.1 |
| *Statistical Methods in Cancer Biology**. | |
| Vidyasagar, Mathukumalli | The Univ. of Texas at Dallas |

| **WeA01** | Orange |
|---|---|
| **Distribution/Retail Level Cyber Enabled Demand Management** (Invited Session) | |
| Chair: Caramanis, Michael C. | Boston Univ. |
| Co-Chair: Baillieul, John | Boston Univ. |
| Organizer: Caramanis, Michael C. | Boston Univ. |
| Organizer: Baillieul, John | Boston Univ. |
| Organizer: Stoustrup, Jakob | Aalborg Univ. |
| Organizer: Annaswamy, Anuradha | Massachusetts Inst. of Tech. |
| 10:00-10:20 | WeA01.1 |
| *Examining Uncertainty in Demand Response Baseline Models and Variability in Automated Responses to Dynamic Pricing (I)*, pp. 4332-4339. | |
| Mathieu, Johanna L | Univ. of California, Berkeley |
| Callaway, Duncan | Univ. of California, Berkeley |
| Kiliccote, Sila | Lawrence Berkeley National Lab. |
| 10:20-10:40 | WeA01.2 |
| *Uniform and Complex Bids for Demand Response and Wind Generation Scheduling in Multi-Period Linked Transmission and Distribution Markets (I)*, pp. 4340-4347. | |
| Caramanis, Michael C. | Boston Univ. |
| Foster, Justin M. | Boston Univ. |
| 10:40-11:00 | WeA01.3 |
| *Multi-Period Optimal Energy Procurement and Demand Response in Smart Grid with Uncertain Supply (I)*, pp. 4348-4353. | |
| Jiang, Libin | Caltech |
| Low, Steven | California Inst. of Tech. |
| 11:00-11:20 | WeA01.4 |
| *Utilizing Automated Demand Response in Commercial Buildings As Non-Spinning Reserve Product for Ancillary Services Markets (I)*, pp. 4354-4360. | |
| Kiliccote, Sila | Lawrence Berkeley National Lab. |
| Piette, Mary Ann | Lawrence Berkeley National Lab. |
| Koch, Edward | Honeywell |
| Hennage, Dan | Akuacom |
| 11:20-11:40 | WeA01.5 |
| *Assessing the Contribution of Demand Side Management to Power System Flexibility (I)*, pp. 4361-4365. | |
| Rosso, Angel | Univ. of Manchester |
| Ma, Juan | Univ. of Manchester |
| Kirschen, Daniel | Univ. of Washington |
| Ochoa, Luis F. | The Univ. of Manchester |

| **WeA02** | Dixie |
|---|---|
| **Genetic Regulatory Systems** (Regular Session) | |
| Chair: Singh, Abhyudai | Univ. of California at San Diego |
| Co-Chair: Montefusco, Francesco | Univ. of Exeter |
| 10:00-10:20 | WeA02.1 |
| *Genetic Negative Feedback Circuits for Filtering Stochasticity in Gene Expression*, pp. 4366-4370. | |
| Singh, Abhyudai | Univ. of Delaware |

10:20-10:40 WeA02.2

*Probabilistic Control of Boolean Networks with Multiple Dynamics: Towards Control of Gene Regulatory Networks*, pp. 4371-4376.

Kobayashi, Koichi — Japan Adv Inst. of Sci & Tech.
Hiraishi, Kunihiko — JAIST

10:40-11:00 WeA02.3

*Combination Therapy Design for Cancer: A Digital Systems Approach*, pp. 4377-4382.

Layek, Ritwik — Texas A&M Univ.
Datta, Aniruddha — Texas A&M Univ.
Bittner, Michael — NHGRI
Dougherty, Edward — Texas A&M Univ.

11:00-11:20 WeA02.4

*Flow Cytometry Based State Aggregation of a Stochastic Model of Protein Expression*, pp. 4383-4388.

Mirtabatabaei, Anahita — Univ. of California, Santa Barbara
Khammash, Mustafa H. — Univ. of California at Santa Barbara
Bullo, Francesco — Univ. California at Santa Barbara

11:20-11:40 WeA02.5

*An Observer for a Piecewise Affine Genetic Network Model with Boolean Observations*, pp. 4389-4394.

Li, Xiao-Dong — INRIA Sophia Antipolis Mediterranee
Gouze, Jean-Luc — INRIA
Chaves, Madalena — INRIA

11:40-12:00 WeA02.6

*Reverse-Engineering Biological Interaction Networks from Noisy Data Using Regularized Least Squares and Instrumental Variables*, pp. 4395-4400.

Montefusco, Francesco — Univ. of Exeter
Cosentino, Carlo — Univ. degli Studi Magna Graecia
Amato, Francesco — Univ. Magna Graecia di Catanzaro
Bates, Declan G. — Univ. of Exeter

## WeA03 — Columbia

**Modeling I** (Regular Session)

Chair: Zanasi, Roberto — Univ. of Modena and Reggio Emilia
Co-Chair: Datta, Aniruddha — Texas A&M Univ.

10:00-10:20 WeA03.1

*Complex Dynamic Model of a Multi-Phase Asynchronous Motor with Harmonic Injection*, pp. 4401-4406.

Zanasi, Roberto — Univ. of Modena and Reggio Emilia
Azzone, Giovanni — Univ. of Modena and Reggio Emilia

10:20-10:40 WeA03.2

*Eliminating Oscillations in TRV Controlled Hydronic Radiators*, pp. 4407-4412.

Tahersima, Fatemeh — Aalborg Univ.
Stoustrup, Jakob — Aalborg Univ.
Rasmussen, Henrik — Aalborg Univ.

10:40-11:00 WeA03.3

*About Friction Modeling for Observer-Based Leak Estimation in Pipelines*, pp. 4413-4418.

Dulhoste, Jean-francois — Escuela De Ingenieria Mecanica Ula
Besancon, Gildas — GIPSA-Lab. Grenoble INP
Torres Ortiz, Flor Lizeth — INPG
Begovich, Ofelia — CINVESTAV-Guadalajara
Navarro, Adrian — CINVESTAV

11:00-11:20 WeA03.4

*Modeling Cell-Fractone Dynamics Using Mathematical Control Theory*, pp. 4419-4423.

Chyba, Monique — Univ. of Hawaii
Marriott, John — Univ. of Hawaii

| | |
|---|---|
| Mercier, Frederic | Univ. of Hawaii at Manoa |
| Rader, John | Univ. of Hawaii at Manoa |
| Telleschi, Giulio | Univ. of Pisa |

11:20-11:40 WeA03.5

*Parameter Estimation of Biological Phenomena Modeled by S-Systems: An Extended Kalman Filter Approach*, pp. 4424-4429.

| | |
|---|---|
| Meskin, Nader | Qatar Univ. |
| Nounou, Hazem | Texas A&M Univ. at Qatar |
| Nounou, Mohamed | Texas A&M Univ. at Qatar |
| Datta, Aniruddha | Texas A&M Univ. |
| Dougherty, Edward | Texas A&M Univ. |

11:40-12:00 WeA03.6

*Assimilation of Ozone Measurements in the Air Quality Model AURORA by Using the Ensemble Kalman Filter*, pp. 4430-4435.

| | |
|---|---|
| Agudelo, Oscar Mauricio | Katholieke Univ. Leuven |
| Barrero Mendoza, Oscar | Univ. de Ibagué |
| Viaene, Peter | VITO - Flemish Inst. for Tech. Res. |
| De Moor, Bart L.R. | Katholieke Univ. Leuven |

## WeA04 — Nassau

**Optimization Algorithms I** (Regular Session)

| | |
|---|---|
| Chair: Spall, James C. | Johns Hopkins Univ. |
| Co-Chair: Sepulchre, Rodolphe J. | Univ. de Liege |

10:00-10:20 WeA04.1

*Multivariable Newton-Based Extremum Seeking*, pp. 4436-4441.

| | |
|---|---|
| Ghaffari, Azad | Joint Doctoral Programs between San Diego State Univ. Un |
| Krstic, Miroslav | Univ. of California, San Diego |
| Nesic, Dragan | Univ. of Melbourne |

10:20-10:40 WeA04.2

*Cyclic Seesaw Optimization and Identification*, pp. 4442-4447.

| | |
|---|---|
| Spall, James C. | Johns Hopkins Univ. |

10:40-11:00 WeA04.3

*Interconnection Conditions for the Stability of Nonlinear Sampled-Data Extremum Seeking Schemes*, pp. 4448-4454.

| | |
|---|---|
| Kvaternik, Karla | Univ. of Alberta |
| Pavel, Lacra | Univ. of Toronto |

11:00-11:20 WeA04.4

*Low-Rank Optimization for Distance Matrix Completion*, pp. 4455-4460.

| | |
|---|---|
| Mishra, Bamdev | Univ. of Liège |
| Meyer, Gilles | Univ. of Liège |
| Sepulchre, Rodolphe J. | Univ. de Liege |

11:20-11:40 WeA04.5

*Modeling the Transient Behavior of a Stochastic Gradient Algorithm*, pp. 4461-4466.

| | |
|---|---|
| Brockett, Roger | Harvard Univ. |

11:40-12:00 WeA04.6

*Asynchronous Auction for Distributed Nonlinear Resource Allocation*, pp. 4467-4472.

| | |
|---|---|
| Bangla, Ajay Kumar | Boston Univ. |
| Castanon, David A. | Boston Univ. |

## WeA05 — Taylor

**Dynamics Over Complex Networks - II** (Invited Session)

| | |
|---|---|
| Chair: Yildiz, Mehmet Ercan | MIT |
| Co-Chair: Ozdaglar, Asuman | MIT |
| Organizer: Yildiz, Mehmet Ercan | MIT |
| Organizer: Ozdaglar, Asuman | MIT |

| 10:00-10:20 | WeA05.1 |
|---|---|
| *Language Evolution in Finite Populations (I)*, pp. 4473-4478. | |
| Fox, Michael J. | Georgia Inst. of Tech. |
| Shamma, Jeff S. | Georgia Inst. of Tech. |
| 10:20-10:40 | WeA05.2 |
| *Uncoupled Potentials for Proportional Allocation Markets (I)*, pp. 4479-4484. | |
| Nadav, Uri | Stanford Univ. |
| Johari, Ramesh | Stanford Univ. |
| Roughgarden, Tim | Stanford |
| 10:40-11:00 | WeA05.3 |
| *Emergent Behavior in Large Scale Networks (I)*, pp. 4485-4490. | |
| Almeida Santos, Augusto | Carnegie Mellon Univ. and Inst. for Systems andRobotics |
| Moura, Jose' M. F. | Carnegie Mellon Univ. |
| 11:00-11:20 | WeA05.4 |
| *Hybrid Risk-Sensitive Mean-Field Stochastic Differential Games with Application to Molecular Biology (I)*, pp. 4491-4497. | |
| Zhu, Quanyan | Univ. of Illinois, Urbana-Champaign |
| Tembine, Hamidou | SUPELEC |
| Basar, Tamer | Univ. of Illinois, Urbana-Champaign |
| 11:20-11:40 | WeA05.5 |
| *Analysis of Equilibria and Strategic Interaction in Complex Networks (I)*, pp. 4498-4503. | |
| Preciado, Victor M. | Univ. of Pennsylvania |
| Oh, Jaelynn | OPIM Department, Wharton School, Univ. of Pennsylvania |
| Jadbabaie, Ali | Univ. of Pennsylvania |
| 11:40-12:00 | WeA05.6 |
| *Online Advertisement, Optimization and Stochastic Networks (I)*, pp. 4504-4509. | |
| Tan, Bo | Univ. of Illinois at Urbana-Champaign |
| Srikant, R | Univ. of Illinois, Urbana-Champaign |

| **WeA06** | Jackson |
|---|---|
| **Control of Communications Systems** (Regular Session) | |
| Chair: Qu, Zhihua | Univ. of Central Florida |
| Co-Chair: Li, Chaoyong | Univ. of Central Florida |
| 10:00-10:20 | WeA06.1 |
| *Distributed Extremum Seeking and Cooperative Control for Mobile Communication*, pp. 4510-4515. | |
| Li, Chaoyong | Univ. of Central Florida |
| Qu, Zhihua | Univ. of Central Florida |
| Ingram, Mary Ann | Gatech |
| 10:20-10:40 | WeA06.2 |
| *Dynamic Routing Games: An Evolutionary Game Theoretic Approach*, pp. 4516-4521. | |
| Tembine, Hamidou | SUPELEC |
| Azad, Amar Prakash | SOE, UCSC |
| 10:40-11:00 | WeA06.3 |
| *Optimal Encoders and Controllers in Stochastic Control Design Subject to Rate Constraints for Channels with Memory and Feedback*, pp. 4522-4527. | |
| Charalambous, Charalambos D. | Univ. of Cyprus |
| Kourtellaris, Christos | Univ. of Cyprus |
| Hadjicostis, Christoforos | Univ. of Cyprus |
| 11:00-11:20 | WeA06.4 |
| *Local Stability of High Order Power Control in Cellular Networks*, pp. 4528-4534. | |
| Heinrich, Benjamin | Univ. of Stuttgart |
| Moller, Anders | Royal Inst. of Tech. |
| Jonsson, Ulf T. | Royal Inst. of Tech. (KTH) |
| 11:20-11:40 | WeA06.5 |

*Stability of Rate and Power Control Algorithms in Wireless Cellular Networks*, pp. 4535-4541.

| | |
|---|---|
| Moller, Anders | Royal Inst. of Tech. |
| Jonsson, Ulf T. | Royal Inst. of Tech. (KTH) |
| Blomgren, Mats | Ericsson Res. |
| Gunnarsson, Fredrik | Linkoping Univ. |

11:40-12:00 WeA06.6

*Lyapunov Functions for L2 and Input-To-State Stability in a Class of Quantized Control Systems*, pp. 4542-4547.

| | |
|---|---|
| Teel, Andrew R. | Univ. of California at Santa Barbara |
| Nesic, Dragan | Univ. of Melbourne |

**WeA07** Escambia

**Estimation I** (Regular Session)

| | |
|---|---|
| Chair: Dumur, Didier | Ec. Superieure d'Electricite |
| Co-Chair: Groff, Richard | Clemson Univ. |

10:00-10:20 WeA07.1

*A LEGO-Based Mobile Robotic Platform for Evaluation of Parallel Control and Estimation Algorithms*, pp. 4548-4553.

| | |
|---|---|
| Wahlberg, Fredrik | Uppsala Univ. |
| Medvedev, Alexander V. | Uppsala Univ. |
| Rosén, Olov | Uppsala Univ. |

10:20-10:40 WeA07.2

*Optimization of the Interval Approach for Chlorella Vulgaris Biomass Estimation*, pp. 4554-4559.

| | |
|---|---|
| Filali, Rayen | Supélec |
| Badea, Cristian Andrei | Supélec |
| Tebbani, Sihem | Supelec |
| Dumur, Didier | Ec. Superieure d'Electricite |
| Diop, Sette | CNRS |
| Pareau, Dominique | Ec. Centrale Paris |
| Lopes, Filipa | Ec. Centrale Paris |

10:40-11:00 WeA07.3

*Toward Estimating Concentration Fields in Biological Hydrogels Using Point Sensors*, pp. 4560-4565.

| | |
|---|---|
| Mattimore, Justin P. | Clemson Univ. |
| Groff, Richard E. | Clemson Univ. |
| Kolodzey, William | Clemson Univ. |

11:00-11:20 WeA07.4

*A Minimum Energy Solution to Monocular Simultaneous Localization and Mapping*, pp. 4566-4571.

| | |
|---|---|
| Alessandretti, Andrea | Inst. for Systems and Robotics / Inst. Superior Técnico, |
| Aguiar, A. Pedro | Inst. Superior Tecnico, Tech. Univ. of Lisbon |
| Hespanha, Joao P. | Univ. of California, Santa Barbara |
| Valigi, Paolo | Univ. di Perugia |

11:20-11:40 WeA07.5

*Consensus-Based Estimation Protocol for Decentralized Dynamic Load Balancing Over Partially Connected Networks*, pp. 4572-4579.

| | |
|---|---|
| Wang, Zhuoyao | Univ. of New Mexico |
| Hayat, Majeed | Univ. of New Mexico |
| Rahnamay-Naeini, Mahshid | Univ. of New Mexico |
| Mostofi, Yasamin | Univ. of New Mexico |
| Pezoa, Jorge E. | Univ. of New Mexico |

11:40-12:00 WeA07.6

*Robust Tube-Based Constrained Predictive Control Via Zonotopic Set-Membership Estimation*, pp. 4580-4585.

| | |
|---|---|
| Le, Vu Tuan Hieu | Supélec |
| Stoica, Cristina Nicoleta | SUPELEC Systems Sciences (E3S) |
| Dumur, Didier | Ec. Superieure d'Electricite |
| Alamo, Teodoro | Univ. de Sevilla |
| Camacho, Eduardo F. | Univ. of Sevilla |

| **WeA08** | Flagler |
|---|---|
| **Lyapunov Methods for Second Order Sliding Modes** (Invited Session) | |
| Chair: Fridman, Leonid M. | National Autonomous Univ. of Mexico |
| Co-Chair: Moreno, Jaime A. | Univ. Nacional Autonoma de Mexico-UNAM |
| Organizer: Fridman, Leonid M. | National Autonomous Univ. of Mexico |
| Organizer: Moreno, Jaime A. | Univ. Nacional Autonoma de Mexico-UNAM |
| 10:00-10:20 | WeA08.1 |
| *Lyapunov Stability Analysis of a Twisting Based Control Algorithm for Systems with Unmatched Perturbations (I)*, pp. 4586-4591. | |
| Estrada, Antonio | National Autonomous Univ. |
| Loria, Antonio | CNRS |
| Santiesteban, Raul | Inst. Tecnológico de Culiacán |
| Fridman, Leonid M. | National Autonomous Univ. of Mexico |
| 10:20-10:40 | WeA08.2 |
| *Lyapunov-Based Second-Order Sliding Mode Control for a Class of Uncertain Reaction-Diffusion Processes (I)*, pp. 4592-4597. | |
| Orlov, Yury | CICESE |
| Pisano, Alessandro | Univ. of Cagliari |
| Scodina, Stefano | Univ. of Cagliari |
| Usai, Elio | Univ. degli Studi di Cagliari |
| 10:40-11:00 | WeA08.3 |
| *Backstepping Fault Tolerant Control Based on Second Order Sliding Mode Observer : Application to Induction Motors (I)*, pp. 4598-4603. | |
| Djeghali, Nadia | Univ. Mouloud Mammeri of Tizi-Ouzou |
| Ghanes, Malek | ENSEA |
| Djennoune, Saïd | Univ. of Mouloud Mammeri, Tizi-Ouzou |
| Barbot, Jean Pierre | ENSEA |
| 11:00-11:20 | WeA08.4 |
| *Stability Margins in Traditional and Second Order Sliding Mode Control (I)*, pp. 4604-4609. | |
| Shtessel, Yuri B. | Univ. of Alabama at Huntsville |
| Foreman, David C. | davidson Tech. inc |
| Tournes, Christian H. | Univ. of Alabama at Huntsville |
| 11:20-11:40 | WeA08.5 |
| *Finite Time Stabilization of Perturbed Double Integrator with Jumps in Velocity (I)*, pp. 4610-4615. | |
| Oza, Harshal | Univ. of Kent |
| Orlov, Yury | CICESE |
| Spurgeon, Sarah K. | Univ. of Kent |
| 11:40-12:00 | WeA08.6 |
| *Second-Order Uniform Exact Sliding Mode Control with Uniform Sliding Surface (I)*, pp. 4616-4621. | |
| Cruz-Zavala, Emmanuel | Univ. Nacional Autonoma de Mexico |
| Moreno, Jaime A. | Univ. Nacional Autonoma de Mexico-UNAM |
| Fridman, Leonid M. | National Autonomous Univ. of Mexico |

| **WeA09** | Gilchrist |
|---|---|
| **Nonlinear Systems VI** (Regular Session) | |
| Chair: Christofides, Panagiotis D. | Univ. of California at Los Angeles |
| Co-Chair: Bitsoris, Georges | Univ. of Patras |
| 10:00-10:20 | WeA09.1 |
| *Ultimate Boundedness and Robust Stabilization of Bilinear Discrete-Time Systems*, pp. 4622-4627. | |
| Athanasopoulos, Nikolaos | Univ. of Patras, Greece |
| Bitsoris, Georges | Univ. of Patras |
| Vassilaki, Marina | Univ. of Patras |
| 10:20-10:40 | WeA09.2 |

*Compositional Properties of Passivity*, pp. 4628-4633.

Kerber, Florian — Univ. of Groningen
van der Schaft, Arjan J. — Univ. of Groningen

10:40-11:00 — WeA09.3

*Proportional Integral Observer Design for Time Delay Nonlinear Triangular Systems*, pp. 4634-4639.

Targui, Boubekeur — ENSICAEN, UMR 6072 CNRS
Magarotto, Eric — Lap-ismra
Pouliquen, Mathieu — Univ. de Caen

11:00-11:20 — WeA09.4

*Iterative Methods to Compute Center and Center-Stable Manifolds with Application to the Optimal Output Regulation Problem*, pp. 4640-4645.

Sakamoto, Noboru — Nagoya Univ.
Rehak, Branislav — Inst. of Information Theory and Automation

11:20-11:40 — WeA09.5

*Economic Model Predictive Control Using Lyapunov Techniques: Handling Asynchronous, Delayed Measurements and Distributed Implementation*, pp. 4646-4653.

Heidarinejad, Mohsen — UCLA
Liu, Jinfeng — Univ. of California, Los Angeles
Christofides, Panagiotis D. — Univ. of California at Los Angeles

11:40-12:00 — WeA09.6

*A Smooth Vector Field for Saddle Point Problems*, pp. 4654-4660.

Dürr, Hans-Bernd — Univ. of Stuttgart
Ebenbauer, Christian — Univ. of Stuttgart

## WeA10 — Hamilton

**Markov Processes** (Regular Session)

Chair: Aberkane, Samir — UHP, NANCY 1
Co-Chair: Meyn, Sean — Univ. of Illinois

10:00-10:20 — WeA10.1

*Measurement of a Markov Jump Process: When Is It Too Costly?*, pp. 4661-4667.

O'Connor, Alan Christopher — Harvard Univ.

10:20-10:40 — WeA10.2

*Stochastic Stability of Semi-Markov Jump Linear Systems: An LMI Approach*, pp. 4668-4673.

Huang, Ji — Univ. of Victoria
Shi, Yang — Univ. of Victoria

10:40-11:00 — WeA10.3

*A Recursive Learning Algorithm for Model Reduction of Hidden Markov Models*, pp. 4674-4679.

Deng, Kun — Univ. of Illinois, Urbana-Champaign
Mehta, Prashant G. — Univ. of Illinois, Urbana-Champaign
Meyn, Sean — Univ. of Illinois
Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

11:00-11:20 — WeA10.4

*Stochastic Stability and Ergodicity of Linear Gaussian Systems Controlled Over Discrete Channels*, pp. 4680-4685.

Yuksel, Serdar — Queen's Univ.

11:20-11:40 — WeA10.5

*A Fault Detection Scheme for Discrete-Time Markov Jump Linear Systems*, pp. 4686-4691.

Saijai, Jedsada — Univ. of Duisburg - Essen
Abdo, Ali — Univ. of Duisburg - Essen
Damlakhi, Waseem — Duisburg-Essen Univ.
Ding, Steven X. — Univ. of Duisburg-Essen

11:40-12:00 — WeA10.6

*Bounded Real Lemma for Nonhomogeneous Markovian Jump Linear Systems*, pp. 4692-4697.

Aberkane, Samir — UHP, NANCY 1

| **WeA11** | Indian River |
|---|---|
| **Recent Advances in Event-Triggered Control II** (Invited Session) | |
| Chair: Hirche, Sandra | Tech. Univ. München |
| Co-Chair: Johansson, Karl H. | Royal Inst. of Tech. |
| Organizer: Hirche, Sandra | Tech. Univ. München |
| Organizer: Johansson, Karl H. | Royal Inst. of Tech. |
| Organizer: Heemels, W.P.M.H. | Eindhoven Univ. of Tech. |
| 10:00-10:20 | WeA11.1 |
| *Attentively Efficient Controllers for Event-Triggered Feedback Systems (I)*, pp. 4698-4703. | |
| Wang, Xiaofeng | Univ. of Illinois at Urbana-Champaign |
| Lemmon, Michael | Univ. of Notre Dame |
| 10:20-10:40 | WeA11.2 |
| *On the Optimal Sending Rate for Networked Control Systems with a Shared Communication Medium (I)*, pp. 4704-4709. | |
| Blind, Rainer | Univ. of Stuttgart |
| Allgower, Frank | Univ. of Stuttgart |
| 10:40-11:00 | WeA11.3 |
| *Optimal Design of Decentralized Event-Triggered Controllers for Large-Scale Systems with Contention-Based Communication (I)*, pp. 4710-4716. | |
| Molin, Adam | Tech. Univ. München |
| Hirche, Sandra | Tech. Univ. München |
| 11:00-11:20 | WeA11.4 |
| *On the Minimum Attention Control Problem for Linear Systems: A Linear Programming Approach (I)*, pp. 4717-4722. | |
| Donkers, Tijs | Eindhoven Univ. of Tech. |
| Tabuada, Paulo | Univ. of California at Los Angeles |
| Heemels, Maurice | Eindhoven Univ. of Tech. |
| 11:20-11:40 | WeA11.5 |
| *Sporadic Event-Based Control Using Path Constraints and Moments (I)*, pp. 4723-4728. | |
| Henningsson, Toivo | Lund Univ. |
| 11:40-12:00 | WeA11.6 |
| *Steady State Performance Analysis of Multiple State-Based Schedulers with CSMA (I)*, pp. 4729-4734. | |
| Ramesh, Chithrupa | Royal Inst. of Tech. |
| Sandberg, Henrik | KTH Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |

| **WeA12** | Lake |
|---|---|
| **Hybrid and Switched Systems** (Regular Session) | |
| Chair: Dormido, Sebastián | UNED |
| Co-Chair: Broucke, Mireille E. | Univ. of Toronto |
| 10:00-10:20 | WeA12.1 |
| *Robust Control of Switched Linear Systems*, pp. 4735-4740. | |
| Kouhi Anbaran, Yashar | Max Planck Inst. for Dynamics of Complex Tech. Systems |
| Bajcinca, Naim | Max-Planck Inst. for Dynamics of Complex Tech. Systems |
| 10:20-10:40 | WeA12.2 |
| *Monotonic Reach Control on Polytopes*, pp. 4741-4746. | |
| Helwa, Mohamed Khairy | Univ. of Toronto |
| Broucke, Mireille E. | Univ. of Toronto |
| 10:40-11:00 | WeA12.3 |
| *Reach Controllability of Single Input Affine Systems*, pp. 4747-4752. | |
| semsar Kazerooni, Elham | Concordia Univ. |
| Broucke, Mireille E. | Univ. of Toronto |
| 11:00-11:20 | WeA12.4 |

*Revisiting Synthesis of Switching Controllers for Linear Hybrid Systems*, pp. 4753-4758.

| | |
|---|---|
| Benerecetti, Massimo | Univ. di Napoli "Federico II" |
| Faella, Marco | Univ. di Napoli |
| Minopoli, Stefano | Univ. of Naples (Italy) "Federico II" |

11:20-11:40 WeA12.5

*A Limit Cycle Synthesis Method of Multi-Modal and 2-Dimensional Piecewise Affine Systems*, pp. 4759-4764.

| | |
|---|---|
| Kai, Tatsuya | Kyushu Univ. |
| Masuda, Ryo | Kubota Corp. |

11:40-12:00 WeA12.6

*Interactive Tool for Analysis of Reset Control Systems*, pp. 4765-4770.

| | |
|---|---|
| Dormido, Sebastián | UNED |
| BaÑos, Alfonso | Univ. OF MURCIA |
| Barreiro, Antonio | Univ. of Vigo (spain) |

## WeA13 Manatee

**Constrained Control I** (Regular Session)

| | |
|---|---|
| Chair: Galeani, Sergio | Univ. Di Roma Tor Vergata |
| Co-Chair: How, Jonathan P. | MIT |

10:00-10:20 WeA13.1

*On Linear Over-Actuated Regulation Using Input Allocation*, pp. 4771-4776.

| | |
|---|---|
| Galeani, Sergio | Univ. Di Roma Tor Vergata |
| Serrani, Andrea | The Ohio State Univ. |
| Varano, Gianluca | Univ. di Roma Tor Vergata |
| Zaccarian, Luca | Univ. di Roma, Tor Vergata |

10:20-10:40 WeA13.2

*Population Dynamics Applied to Building Energy Efficiency*, pp. 4777-4782.

| | |
|---|---|
| Obando Bravo, Germán Darío | Univ. de los Andes |
| Quijano, Nicanor | Univ. de los Andes |
| Pantoja Bucheli, Andrés Darío | Univ. de los Andes |

10:40-11:00 WeA13.3

*An Anti-Windup Scheme with Embedded Internal Model Control Anti-Windup for Improved Performance*, pp. 4783-4788.

| | |
|---|---|
| Wu, Wei | Rockwell Coll. |

11:00-11:20 WeA13.4

*Periodic Constraint-Based Control Using Dynamic Wireless Sensor Scheduling*, pp. 4789-4796.

| | |
|---|---|
| Weimer, James | Royal Inst. of Tech. (KTH) |
| Araujo, Jose | Royal Inst. of Tech. |
| Hernandez, Aitor | Royal Inst. of Tech. (KTH) |
| Johansson, Karl H. | Royal Inst. of Tech. |

11:20-11:40 WeA13.5

*Anti-Windup Design for a Class of Multivariable Nonlinear Control Systems: An LMI-Based Approach*, pp. 4797-4802.

| | |
|---|---|
| Zardo Oliveira, Maurício | UFRGS |
| Gomes da Silva Jr, Joao Manoel | Univ. Federal do Rio Grande do Sul (UFRGS) |
| Coutinho, Daniel | Univ. Federal de Santa Catarina |
| Tarbouriech, Sophie | LAAS-CNRS |

11:40-12:00 WeA13.6

*Energy Stabilization with Virtual Holonomic Constrains: The Pendubot Example*, pp. 4803-4808.

| | |
|---|---|
| Consolini, Luca | Univ. of Parma |
| Maggiore, Manfredi | Univ. of Toronto |

## WeA14 Sarasota

**Decentralized Control I** (Regular Session)

| | |
|---|---|
| Chair: Shim, Hyungbo | Seoul National Univ. |
| Co-Chair: Huang, Haomiao | Stanford Univ. |

| 10:00-10:20 | WeA14.1 |
|---|---|
| *Coding Strategies for a Class of Decentralized Control Problems with Limited Communication*, pp. 4809-4816. | |
| Mirghaderi, Reza | Stanford Univ. |
| Lall, Sanjay | Stanford Univ. |
| Goldsmith, Andrea | Stanford Univ. |
| 10:20-10:40 | WeA14.2 |
| *Network Coding Meets Decentralized Control: Capacity-Stabilizabililty Equivalence*, pp. 4817-4822. | |
| Park, Se Yong | Univ. of California at Berkeley |
| Sahai, Anant | UC Berkeley |
| 10:40-11:00 | WeA14.3 |
| *Droop Control Design for Multi-Terminal VSC-HVDC Grids Based on LMI Optimization*, pp. 4823-4828. | |
| Bianchi, Fernando | Catalonia Inst. for Energy Res. |
| Gomis-Bellmunt, Oriol | CITCEA-UPC and IREC |
| 11:00-11:20 | WeA14.4 |
| *Stabilizability of a Group of Single Integrators and Its Application to Decentralized Formation Problem*, pp. 4829-4834. | |
| Kim, Hongkeun | Seoul National Univ. |
| Shim, Hyungbo | Seoul National Univ. |
| Back, Juhoon | Kwangwoon Univ. |
| Seo, Jin H. | Seoul National Univ. |
| 11:20-11:40 | WeA14.5 |
| *Guaranteed Decentralized Pursuit-Evasion in the Plane with Multiple Pursuers*, pp. 4835-4840. | |
| Huang, Haomiao | Stanford Univ. |
| Zhang, Wei | Univ. of California at Berkeley |
| Ding, Jerry | Univ. of California - Berkeley |
| Stipanovic, Dusan M. | Univ. of Illinois, Urbana-Champaign |
| Tomlin, Claire J. | UC Berkeley |

| **WeA15** | Union |
|---|---|
| **Formal Methods in Control: Applications** (Invited Session) | |
| Chair: Ozay, Necmiye | California Inst. of Tech. |
| Co-Chair: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |
| Organizer: Ozay, Necmiye | California Inst. of Tech. |
| Organizer: Mazo Jr., Manuel | INCAS3 / Univ. of Groningen |
| Organizer: Julius, Agung | Rensselaer Pol. Inst. |
| 10:00-10:20 | WeA15.1 |
| *Distributed Power Allocation for Vehicle Management Systems (I)*, pp. 4841-4848. | |
| Ozay, Necmiye | California Inst. of Tech. |
| Topcu, Ufuk | California Inst. of Tech. |
| Murray, Richard M. | California Inst. of Tech. |
| 10:20-10:40 | WeA15.2 |
| *Development and Experimental Validation of a Semi-Autonomous Cooperative Active Safety System (I)*, pp. 4849-4854. | |
| Verma, Rajeev | Eaton Corp. |
| Del Vecchio, Domitilla | Massachusetts Insitute of Tech. |
| 10:40-11:00 | WeA15.3 |
| *Formal Analysis for Logical Models of Pancreatic Cancer (I)*, pp. 4855-4860. | |
| Gong, Haijun | Carnegie Mellon Univ. |
| Zuliani, Paolo | Carnegie Mellon Univ. |
| Wang, Qinsi | Carnegie Mellon Univ. |
| Clarke, Edmund M. | Carnegie Mellon Univ. |
| 11:00-11:20 | WeA15.4 |
| *Approximate Abstractions of Stochastic Systems: A Randomized Method (I)*, pp. 4861-4866. | |
| Abate, Alessandro | TU Delft |
| Prandini, Maria | Pol. di Milano |

11:20-11:40 WeA15.5

*Multi-Robot Deployment from LTL Specifications with Reduced Communication (I)*, pp. 4867-4872.

Kloetzer, Marius — Tech. Univ. "Gheorghe Asachi" of Iasi
Ding, Xu Chu — Boston Univ.
Belta, Calin — Boston Univ.

11:40-12:00 WeA15.6

*A Formal Verification Approach to the Design of Synthetic Gene Networks (I)*, pp. 4873-4878.

Yordanov, Boyan — Boston Univ.
Belta, Calin — Boston Univ.

**WeA16** Palm Beach

**Cooperative Control IV** (Regular Session)

Chair: Sarlette, Alain — Univ. of Liege (Belgium)
Co-Chair: Paley, Derek A. — Univ. of Maryland

10:00-10:20 WeA16.1

*Consensus on Nonlinear Spaces and Graph Coloring*, pp. 4885-4890.

Sarlette, Alain — Ghent Univ.

10:00-10:20 WeA16.1

*Cooperative Control Based on Force-Reflection with Four-Channel Teleoperation System*, pp. 4879-4884.

Do Duc, Nam — Hanoi Univ. of Science and Tech.
Namerikawa, Toru — Keio Univ.

10:40-11:00 WeA16.3

*Cooperative Control Design for Circular Flocking of Underactuated Hovercrafts*, pp. 4891-4896.

Han, Thanh-Trung — Univ. of Electronic Science and Tech. of China
Ge, Shuzhi Sam — National Univ. of Singapore

11:00-11:20 WeA16.4

*Motion Coordination of Planar Rigid Bodies*, pp. 4897-4902.

Mellish, Rochelle — Univ. of Maryland
Paley, Derek A. — Univ. of Maryland

11:20-11:40 WeA16.5

*A Unified Approach to the Velocity-Free Consensus Algorithms Design for Double Integrator Dynamics with Input Saturations*, pp. 4903-4908.

Abdessameud, Abdelkader — Univ. of Western Ontarion
Tayebi, Abdelhamid — Lakehead Univ.

**WeA17** Alachua

**Distributed Parameter Systems V** (Invited Session)

Chair: Demetriou, Michael A. — Worcester Pol. Inst.
Co-Chair: Krstic, Miroslav — Univ. of California, San Diego
Organizer: Demetriou, Michael A. — Worcester Pol. Inst.

10:00-10:20 WeA17.1

*Dwell Time Optimization in Switching Control of Parameter Varying Time Delay Systems (I)*, pp. 4909-4914.

Ozbay, Hitay — Bilkent Univ.
Yan, Peng — United Tech. Res. Center
Sansal, Murat — Hacettepe Univ.

10:20-10:40 WeA17.2

*ISS Lyapunov Functions for Time-Varying Hyperbolic Partial Differential Equations (I)*, pp. 4915-4920.

Prieur, Christophe — Gipsa-Lab.
Mazenc, Frederic — Team INRIA DISCO

10:40-11:00 WeA17.3

*Linking Hyperbolic and Parabolic P.d.e.'s (I)*, pp. 4921-4924.

Zwart, Hans — Univ. of Twente

| | |
|---|---|
| Le Gorrec, Yann | ENSMM, FEMTO-ST / AS2M |
| Maschke, Bernhard | Univ. Claude Bernard of Lyon |

11:00-11:20 WeA17.4

*Robust Fault Detection and Reconfigurable Control of Uncertain Sampled-Data Distributed Processes (I)*, pp. 4925-4930.

| | |
|---|---|
| Yao, Zhiyuan | Univ. of California, Davis |
| El-Farra, Nael H. | Univ. of California, Davis |

11:20-11:40 WeA17.5

*Rejection of Sinusoids from Nonlinearly Perturbed Uncertain Regular Linear Systems (I)*, pp. 4931-4936.

| | |
|---|---|
| Natarajan, Vivek | Univ. of Illinois, Urbana-Champaign |
| Bentsman, Joseph | Univ. of Illinois at Urbana-Chyampaign |

11:40-12:00 WeA17.6

*Backstepping Boundary Stabilization and State Estimation of a 2 X 2 Linear Hyperbolic System (I)*, pp. 4937-4942.

| | |
|---|---|
| Vazquez, Rafael | Univ. de Sevilla |
| Krstic, Miroslav | Univ. of California, San Diego |
| Coron, Jean-michel | Univ. Pierre et Marie Curie |

## WeA18 — Baker

**Uncertain Systems I** (Regular Session)

| | |
|---|---|
| Chair: Gutman, Per-Olof | Tech. |
| Co-Chair: Scorletti, Gerard | Ec. Centrale de Lyon |

10:00-10:20 WeA18.1

*Robust Optimization of Operations in Energy Hub*, pp. 4943-4948.

| | |
|---|---|
| Parisio, Alessandra | Univ. del Sannio |
| Del Vecchio, Carmen | Univ. Del Sannio |
| Velotto, Giovanni | Univ. degli Studi del Sannio |

10:20-10:40 WeA18.2

*Robust L2-Gain Observation for Structured Uncertainties: An LMI Approach*, pp. 4949-4954.

| | |
|---|---|
| Bayon, Benoit | Ec. Centrale de Lyon |
| Scorletti, Gerard | Ec. Centrale de Lyon |
| Blanco, Eric | Ec. Centrale de Lyon |

10:40-11:00 WeA18.3

*Robust Stability of Time-Delay Systems with Structured Uncertainties: A μ -Analysis Based Algorithm*, pp. 4955-4960.

| | |
|---|---|
| Lescher, Fabien | ONERA |
| Roos, Clément | ONERA |

11:00-11:20 WeA18.4

*Constrained Interpolation-Based Control for Polytopic Uncertain Systems*, pp. 4961-4966.

| | |
|---|---|
| Nguyen, Hoai Nam | SUPELEC Systems Sciences (E3S) - Automatic Control Department, G |
| Olaru, Sorin | Supelec |
| Gutman, Per-Olof | Tech. |
| Hovd, Morten | Norwegian Univ. of Sci & Tech. |

11:20-11:40 WeA18.5

*Moving Pattern-Based Forecasting Model of a Class of Complex Dynamical Systems*, pp. 4967-4972.

| | |
|---|---|
| Xu, Zhengguang | Univ. of Science and Tech. Beijing |
| Sun, Changping | Univ. of Science and Tech. Beijing |

11:40-12:00 WeA18.6

*Fault-Tolerant Control of Dynamic Systems with Unknown Control Direction-Input Nonlinearities-Actuator Failures*, pp. 4973-4978.

| | |
|---|---|
| Liu, Xiaoyan | Beijing Jiaotong Univ. |
| Song, Yong Duan | Beijing Jiaotong Univ. |
| Song, Qi | Beijing Jiaotong Univ. |

## WeA19 — Bay

**Crossroad of Control Theory and Vision** (Invited Session)

| | |
|---|---|
| Chair: Hatanaka, Takeshi | Tokyo Inst. of Tech. |
| Co-Chair: Sznaier, Mario | Northeastern Univ. |
| Organizer: Hatanaka, Takeshi | Tokyo Inst. of Tech. |
| Organizer: Sznaier, Mario | Northeastern Univ. |

10:00-10:20 WeA19.1

*Cooperative Estimation of 3D Target Object Motion Via Networked Visual Motion Observers (I)*, pp. 4979-4984.

| | |
|---|---|
| Hatanaka, Takeshi | Tokyo Inst. of Tech. |
| Hirata, Kenji | Nagaoka Univ. of Tech. |
| Fujita, Masayuki | Tokyo Inst. of Tech. |

10:20-10:40 WeA19.2

*Sensors Searching for Interesting Things: Extremum Seeking Control on Entropy Maps (I)*, pp. 4985-4991.

| | |
|---|---|
| Zhang, Yinghua | The Univ. of Texas at Dallas |
| Rotea, Mario | The Univ. of Texas at Dallas |
| Gans, Nicholas | Univ. of Texas at Dallas |

10:40-11:00 WeA19.3

*Depth Invariant Visual Servoing (I)*, pp. 4992-4998.

| | |
|---|---|
| Karasev, Peter | Georgia Inst. of Tech. |
| Serrano, Miguel | Georgia Inst. of Tech. |
| Vela, Patricio | Georgia Inst. of Tech. |
| Tannenbaum, Allen | Georgia Tech. |

11:00-11:20 WeA19.4

*Visual Feedback Pose Synchronization with a Generalized Camera Model (I)*, pp. 4999-5004.

| | |
|---|---|
| Ibuki, Tatsuya | Tokyo Inst. of Tech. |
| Hatanaka, Takeshi | Tokyo Inst. of Tech. |
| Fujita, Masayuki | Tokyo Inst. of Tech. |
| Spong, Mark W. | Univ. of Texas at Dallas |

11:20-11:40 WeA19.5

*Structure Estimation of a Moving Object Using a Moving Camera: An Unknown Input Observer Approach (I)*, pp. 5005-5010.

| | |
|---|---|
| Dani, Ashwin | Univ. of Illinois at Urbana-Champaign |
| Kan, Zhen | Univ. of Florida |
| Fischer, Nicholas | Univ. of Florida |
| Dixon, Warren E. | Univ. of Florida |

11:40-12:00 WeA19.6

*Hybrid System Identification with Faulty Measurements and Its Application to Activity Analysis (I)*, pp. 5011-5016.

| | |
|---|---|
| Ozay, Necmiye | California Inst. of Tech. |
| Sznaier, Mario | Northeastern Univ. |

**WeA20** Broward

**New Developments in Stochastic Systems and Control** (Invited Session)

| | |
|---|---|
| Chair: Pasik-Duncan, Bozenna | Univ. of Kansas |
| Co-Chair: Duncan, Tyrone E. | Univ. of Kansas |
| Organizer: Pasik-Duncan, Bozenna | Univ. of Kansas |
| Organizer: Duncan, Tyrone E. | Univ. of Kansas |

10:00-10:20 WeA20.1

*Hybrid Switching Diffusions: Continuity and Differentiability (I)*, pp. 5017-5022.

| | |
|---|---|
| Yin, George | Wayne State Univ. |
| Zhu, Chao | Univ. of Wisconsin-Milwaukee |

10:20-10:40 WeA20.2

*An Optimization Approach to the Witsenhausen Counterexample (I)*, pp. 5023-5028.

| | |
|---|---|
| McEneaney, William | Univ. of California, San Diego |
| Han, Seung Hak | Univ. of California San Diego |
| Liu, Andrew R. | Univ. of California, San Diego |

| 10:40-11:00 | WeA20.3 |
|---|---|
| *An Evolution Mean Field Equation System of Initial Mean Consensus Behaviour: A Stability Analysis (I)*, pp. 5029-5034. | |
| Nourian, Mojtaba | McGill Univ. |
| Caines, Peter E. | McGill Univ. |
| Malhame, Roland P. | Ec. Pol. de Montreal |
| 11:00-11:20 | WeA20.4 |
| *Control of Some Partially Observed Linear Stochastic Systems with Fractional Brownian Motions (I)*, pp. 5035-5040. | |
| Duncan, Tyrone E. | Univ. of Kansas |
| Pasik-Duncan, Bozenna | Univ. of Kansas |
| 11:20-11:40 | WeA20.5 |
| *Towards a Theory of Stochastic Adaptive Differential Games (I)*, pp. 5041-5046. | |
| Li, Yan | AMSS,CAS |
| Guo, Lei | Chinese Aacdemy of Sciences |
| 11:40-12:00 | WeA20.6 |
| *Optimality of Periodwise Static Priority Policies in Real-Time Communications (I)*, pp. 5047-5051. | |
| Hou, I-Hong | Univ. of Illinois, Urbana-Champaign |
| Truong, Anh | Univ. of Illinois at Urbana-Champaign |
| Chakraborty, Santanu | Univ. of Illinois, Urbana Champaign |
| Kumar, P. R. | Texas A&M Univ. |

| **WeA21** | Brevard |
|---|---|
| **Agents and Autonomous Systems VI** (Regular Session) | |
| Chair: Valcher, Maria Elena | Univ. di Padova |
| Co-Chair: Maggiore, Manfredi | Univ. of Toronto |
| 10:00-10:20 | WeA21.1 |
| *Distributed Circular Formation Stabilization of Unicycles; Part I: Undirected Information Flow*, pp. 5052-5057. | |
| El-Hawwary, Mohamed, I. | Univ. of Toronto |
| Maggiore, Manfredi | Univ. of Toronto |
| 10:20-10:40 | WeA21.2 |
| *Distributed Circular Formation Stabilization of Unicycles; Part II: Arbitrary Information Flow Graph*, pp. 5058-5063. | |
| El-Hawwary, Mohamed, I. | Univ. of Toronto |
| Maggiore, Manfredi | Univ. of Toronto |
| 10:40-11:00 | WeA21.3 |
| *Preliminary Results on the Controllability and Stabilizability of Non-Homogeneous Multi-Agent Dynamical Systems*, pp. 5064-5069. | |
| Valcher, Maria Elena | Univ. di Padova |
| Misra, Pradeep | Wright State Univ. |
| 11:00-11:20 | WeA21.4 |
| *A New Condition for Convergence in Continuous-Time Consensus Seeking Systems*, pp. 5070-5075. | |
| Hendrickx, Julien M. | Univ. catholique de Louvain |
| Tsitsiklis, John | Massachusetts Inst. of Tech. |
| 11:20-11:40 | WeA21.5 |
| *Tracking Control of Multiple Nonlinear Systems Via Information Interchange*, pp. 5076-5081. | |
| Dong, Wenjie | The Univ. of Texas - Pan American |
| Ben Ghalia, Mounir | The Univ. of Texas - Pan American |
| Farrell, Jay | Univ. of California Riverside |
| 11:40-12:00 | WeA21.6 |
| *Freshwater-Saltwater Boundary Detection Using Mobile Sensors - Part II: Drifter Movement*, pp. 5082-5087. | |
| Ru, Yu | Univ. of California, San Diego |
| Martinez, Sonia | Univ. of California at San Diego |

| **WeA22** | Bradford |
|---|---|

**Identification for Control** (Regular Session)

Chair: Rojas, Cristian R. — ACCESS Linnaeus Center, KTH
Co-Chair: Wahlberg, Bo — KTH Royal Inst. of Tech.

10:00-10:20 — WeA22.1

*Joint Stiffness Identification from Only Motor Force/Torque Data*, pp. 5088-5093.
Gautier, Maxime — Univ. of Nantes
Janot, Alexandre — ONERA
Jubien, Anthony — Univ. de nantes
Vandanjon, Pierre-Olivier — French Inst. of sciences and Tech. for transport, devel

10:20-10:40 — WeA22.2

*On Consistent Estimation of Farthest NMP Zeros of Stable LTI Systems*, pp. 5094-5099.
Huang, Lirong — KTH Royal Inst. of Tech.
Hjalmarsson, Håkan — Royal Inst. of Tech.
Rojas, Cristian R. — ACCESS Linnaeus Center, KTH

10:40-11:00 — WeA22.3

*Parametric MIMO Parallel Wiener Identification*, pp. 5100-5105.
Schoukens, Maarten — Vrije Univ. Brussel
Rolain, Yves J. — Vrije Univ. Brussels

11:00-11:20 — WeA22.4

*Noniterative Data-Driven Design of Multivariable Controllers (I)*, pp. 5106-5111.
Formentin, Simone — Pol. di Milano
Savaresi, Sergio M. — Pol. Di Milano

11:20-11:40 — WeA22.5

*Experimental Joint Stiffness Identification Depending on Measurements Availability*, pp. 5112-5117.
Janot, Alexandre — ONERA
Gautier, Maxime — Univ. of Nantes
Jubien, Anthony — Univ. de nantes
Vandanjon, Pierre-Olivier — French Inst. of sciences and Tech. for transport, devel

11:40-12:00 — WeA22.6

*On Optimal Input Signal Design for Identification of Output Error Models*, pp. 5118-5124.
Wahlberg, Bo — KTH Royal Inst. of Tech.
Annergren, Mariette Jenny Erika — The Royal Inst. of Tech. Stockholm
Rojas, Cristian R. — ACCESS Linnaeus Center, KTH

**WeSP1** — Bonnet Creek Ballroom III & VI
**Are Stochastic Dynamics the Foundation of Intelligence?** (Semiplenary Session)

Chair: Panayiotou, Christos — Univ. of Cyprus

13:30-14:20 — WeSP1.1

*Are Stochastic Dynamics the Foundation of Intelligence?**.
Gong, Weibo — Univ. of Massachusetts at Amherst

**WeSP2** — Bonnet Creek Ballroom IX & XII
**Control of Distributed Systems** (Semiplenary Session)

Chair: Dixon, Warren E. — Univ. of Florida

13:30-14:20 — WeSP2.1

*Control of Distributed Systems**.
van Schuppen, Jan H. — CWI

**WeB01** — Orange
**Green Buildings: Challenges for Control** (Invited Session)

Chair: Pappas, George J. — Univ. of Pennsylvania
Co-Chair: Borrelli, Francesco — Unversity of California at Berkeley

Organizer: Pappas, George J. — Univ. of Pennsylvania
Organizer: Borrelli, Francesco — Unversity of California at Berkeley

14:30-14:50 — WeB01.1

*Analysis of Local Optima in Predictive Control for Energy Efficient Buildings (I)*, pp. 5125-5130.

Kelman, Anthony — Univ. of California, Berkeley
Ma, Yudong — UC berkeley CA USA
Borrelli, Francesco — Unversity of California at Berkeley

14:50-15:10 — WeB01.2

*Green Scheduling of Control Systems for Peak Demand Reduction (I)*, pp. 5131-5136.

Nghiem, Truong X. — Univ. of Pennsylvania
Behl, Madhur — Univ. of Pennsylvania
Mangharam, Rahul — Univ. of Pennsylvania
Pappas, George J. — Univ. of Pennsylvania

15:10-15:30 — WeB01.3

*Parameter Estimation of a Building System Model and Impact of Estimation Error on Closed-Loop Performance (I)*, pp. 5137-5143.

Bengea, Sorin C. — United Tech. Res. Center
Adetola, Veronica — United Tech. Res. Center
Kang, Keunmo — United Tech. Res. Center
Liba, Michael — Hatch
Vrabie, Draguna — United Tech. Res. Center
Bitmead, Robert — Univ. of California San Diego
Narayanan, Satish — United Tech. Res. Center

15:30-15:50 — WeB01.4

*Scheduling Smart Home Appliances Using Mixed Integer Linear Programming (I)*, pp. 5144-5149.

Sou, Kin Cheong — Royal Inst. of Tech.
Weimer, James — ACCESS Linnaeus Center and Automatic Control Lab.
Sandberg, Henrik — KTH Royal Inst. of Tech.
Johansson, Karl H. — Royal Inst. of Tech.

15:50-16:10 — WeB01.5

*Energy Management for Buildings and Microgrids (I)*, pp. 5150-5157.

Stluka, Petr — Honeywell
Godbole, Dattaprabodh N. — Honeywell Lab.
Samad, Tariq — Honeywell Lab.

## WeB02 — Dixie

**Metabolic Systems** (Regular Session)

Chair: Del Re, Luigi — Johannes Kepler Univ. Linz
Co-Chair: Fromion, Vincent — INRA

14:30-14:50 — WeB02.1

*Reading Blood Glucose from Subcutaneous Electric Current by Means of a Regularization in Variable Reproducing Kernel Hilbert Spaces (I)*, pp. 5158-5163.

Naumova, Valeriya — Johann Radon Inst. for Computational and Applied Mathematics
Pereverzev, Sergei — Johann Radon Inst. for Computational and Applied Mathematics
Sampath, Sivananthan — Johann Radon Inst. for Computational and AppliedMathematics

14:50-15:10 — WeB02.2

*Adaptive Subspace-Based Prediction of T1DM Glycemia (I)*, pp. 5164-5169.

Cescon, Marzia — Lund Univ.
Renard, Eric — Centre Hospitalier Univ. de Montpellier

15:10-15:30 — WeB02.3

*Patient-Specific Performance Evaluation for Insulin Control Systems (I)*, pp. 5170-5175.

Winkler, Anastasia — Johannes Kepler Univ. Linz
Kirchsteiger, Harald — Johannes Kepler Univ. Linz
Del Re, Luigi — Johannes Kepler Univ. Linz

| | |
|---|---|
| Renard, Eric | Centre Hospitalier Univ. de Montpellier |

15:30-15:50 WeB02.4

*Direct Continuous Time System Identification of MISO Transfer Function Models Applied to Type 1 Diabetes (I)*, pp. 5176-5181.

| | |
|---|---|
| Kirchsteiger, Harald | Johannes Kepler Univ. Linz |
| Pölzer, Stephan | JKU Linz |
| Johansson, Rolf | Lund Univ. |
| Renard, Eric | Centre Hospitalier Univ. de Montpellier |
| Del Re, Luigi | Johannes Kepler Univ. Linz |

15:50-16:10 WeB02.5

*Lyapunov Function for Irreversible Linear Metabolic Pathways with Allosteric and Genetic Regulation*, pp. 5182-5187.

| | |
|---|---|
| Meslem, Nacim | Ec. des Mines de Douai |
| Fromion, Vincent | INRA |

## WeB03 Columbia

**Modeling II** (Regular Session)

| | |
|---|---|
| Chair: Georgiou, Tryphon T. | Univ. of Minnesota |
| Co-Chair: Finke, Jorge | Univ. Javeriana |

14:30-14:50 WeB03.1

*Sparse Factor Analysis Via Likelihood and $ell_1$-Regularization*, pp. 5188-5192.

| | |
|---|---|
| Ning, Lipeng | Univ. of Minnesota |
| Georgiou, Tryphon T. | Univ. of Minnesota |

14:50-15:10 WeB03.2

*KPCA Based Multi-Spectral Segments Feature Extraction and GA Based Compound Optimization for Frequency Spectrum Data Modeling*, pp. 5193-5198.

| | |
|---|---|
| Tang, Jian | Northeast Univ. |
| Chai, Tianyou | Northeastern Univ. |
| Yu, Wen | CINVESTAV-IPN |
| Zhao, Lijie | Shenyang Univ. of Chemical Tech. |
| Qin, S. Joe | Univ. of Southern California |

15:10-15:30 WeB03.3

*Representation of a General Composition of Dirac Structures*, pp. 5199-5204.

| | |
|---|---|
| Batlle, Carles | Univ. Pol. de Catalunya |
| Massana, Imma | Univ. Pol. de Catalunya |
| Simó, Ester | Univ. Pol. de Catalunya |

15:30-15:50 WeB03.4

*Linearization Modeling for Non-Smooth Dynamical Systems with Approximated Scalar Sign Function*, pp. 5205-5210.

| | |
|---|---|
| Zhang, Jian | Prairie View A&M Univ. |
| Zhang, Yongpeng | Prairie View A & M Univ. |
| Ali, Warsame | Prairie View A&M Univ. |
| Shieh, Leang-San | Univ. of Houston |

15:50-16:10 WeB03.5

*Heavy-Tailed Weighted Networks from Local Attachment Strategies*, pp. 5211-5216.

| | |
|---|---|
| Moriano, Pablo | Pontificia Univ. Javeriana |
| Finke, Jorge | Pontificia Univ. Javeriana |

## WeB04 Nassau

**Optimization Algorithms II** (Regular Session)

| | |
|---|---|
| Chair: Balakrishnan, Venkataramanan | Purdue Univ. |
| Co-Chair: Doan, Minh Dang | Delft Univ. of Tech. |

14:30-14:50 WeB04.1

*A Condensed and Sparse QP Formulation for Predictive Control*, pp. 5217-5222.

| | |
|---|---|
| Jerez, Juan Luis | Imperial Coll. |

| | |
|---|---|
| Kerrigan, Eric C. | Imperial Coll. London |
| Constantinides, George A. | Imperial Coll. London |

14:50-15:10 WeB04.2

*Towards Computational Complexity Certification for Constrained MPC Based on Lagrange Relaxation and the Fast Gradient Method*, pp. 5223-5229.

| | |
|---|---|
| Richter, Stefan | ETH Zurich |
| Morari, Manfred | ETH Zurich |
| Jones, Colin Neil | EPFL, Switzerland |

15:10-15:30 WeB04.3

*Rigorous Solution vs. Fast Update: Acceptable Computational Delay in NMPC*, pp. 5230-5235.

| | |
|---|---|
| Wolf, Inga Janina | RWTH Aachen Univ. |
| Wuerth, Lynn | RWTH Aachen Univ. |
| Marquardt, Wolfgang | RWTH Aachen Univ. |

15:30-15:50 WeB04.4

*A Distributed Optimization-Based Approach for Hierarchical MPC of Large-Scale Systems with Coupled Dynamics and Constraints*, pp. 5236-5241.

| | |
|---|---|
| Doan, Minh Dang | Delft Univ. of Tech. |
| Keviczky, Tamas | Delft Univ. of Tech. |
| De Schutter, Bart | Delft Univ. of Tech. |

15:50-16:10 WeB04.5

*Comparison of Two Nonlinear Model Predictive Control Methods and Implementation on a Laboratory Three Tank System*, pp. 5242-5247.

| | |
|---|---|
| Bamimore, Ayorinde | Obafemi Awolowo Univ. Ile-Ife, Nigeria |
| Taiwo, Oluwafemi | Obafemi Awolowo Univ. |
| King, Rudibert | Tech. Univ. of Berlin |

## WeB05 Taylor

**Networked Control Systems VII** (Regular Session)

| | |
|---|---|
| Chair: Franze', Giuseppe | Univ. Degli Studi della Calabria |
| Co-Chair: Hassibi, Babak | Caltech |

14:30-14:50 WeB05.1

*Link Failure Detection in Multi-Hop Control Networks*, pp. 5248-5253.

| | |
|---|---|
| D'Innocenzo, Alessandro | Univ. of L'Aquila |
| Di Benedetto, M. Domenica | Univ. of L'Aquila |
| Serra, Emmanuele | Univ. of L'Aquila |

14:50-15:10 WeB05.2

*Anytime Reliable Codes for Stabilizing Plants Over Erasure Channels*, pp. 5254-5259.

| | |
|---|---|
| Sukhavasi, Ravi Teja | California Inst. of Tech. |
| Hassibi, Babak | Caltech |

15:10-15:30 WeB05.3

*Receding Horizon Control for Constrained Networked Systems Subject to Data-Losses*, pp. 5260-5265.

| | |
|---|---|
| Franze', Giuseppe | Univ. Degli Studi della Calabria |
| Famularo, Domenico | Univ. degli Studi della Calabria |
| Tedesco, Francesco | Univ. della Calabria |

15:30-15:50 WeB05.4

*Co-Design of Wireless Sensor-Actuator Networks for Building Controls*, pp. 5266-5273.

| | |
|---|---|
| Mady, Alie El-Din | Cork Complex Systems Lab. (CCSL), Department of Computer S |
| Provan, Gregory | Univ. Coll. Cork |

15:50-16:10 WeB05.5

*Stabilization of Multirate Networked Control Systems*, pp. 5274-5280.

| | |
|---|---|
| Chen, Wei | The Hong Kong Univ. of Science and Tech. |
| Qiu, Li | Hong Kong Univ. of Sci. & Tech. |

| **WeB06** | Jackson |
|---|---|
| **Transportation Networks** (Regular Session) | |
| Chair: Farrell, Jay | Univ. of California Riverside |
| Co-Chair: Bloem, Michael | NASA Ames Res. Center |
| 14:30-14:50 | WeB06.1 |
| *Distributed-Infrastructure Multi-Robot Routing Using a Helmholtz-Hodge Decomposition*, pp. 5281-5286. | |
| Kingston, Peter | Georgia Inst. of Tech. |
| Egerstedt, Magnus | Georgia Inst. of Tech. |
| 14:50-15:10 | WeB06.2 |
| *Coordinated Tactical Air Traffic and Airspace Management*, pp. 5287-5292. | |
| Bloem, Michael | NASA Ames Res. Center |
| Bambos, Nicholas | Univ. of California at Los Angeles |
| 15:10-15:30 | WeB06.3 |
| *Optimization-Based Road Curve Fitting*, pp. 5293-5298. | |
| Zhao, Sheng | Univ. of California, Riverside |
| Farrell, Jay | Univ. of California Riverside |
| 15:30-15:50 | WeB06.4 |
| *Partitioning Graphs to Speed up Point-To-Point Shortest Path Computations*, pp. 5299-5304. | |
| Song, Qing | Shanghai Jiao Tong Univ. |
| Wang, Xiaofan | Shanghai JiaoTong Univ. |
| 15:50-16:10 | WeB06.5 |
| *Novel Estimation Method of Community AADT and VMT Via Circuit Network Models and Simulation*, pp. 5305-5310. | |
| Wang, Sheng-Guo | Univ. of North Carolina at Charlotte |
| Bai, Libin | Univ. of North Carolina at Charlotte |
| Bao, Xun | Univ. of Science and Tech. of China |
| Liu, Yue | Univ. of North Carolina at Charlotte |
| Cao, Guangyi | Univ. of North Carolina at Charlotte |

| **WeB07** | Escambia |
|---|---|
| **Estimation II** (Regular Session) | |
| Chair: Iwase, Masami | Tokyo Denki Univ. |
| Co-Chair: Oliveira, Paulo Jorge | Inst. Superior Técnico |
| 14:30-14:50 | WeB07.1 |
| *Motion-Logger: An Attitude and Motion Sensing System*, pp. 5311-5316. | |
| Marquez, Andres | Univ. of South Florida |
| Fitzgerald, Shirley | James A. Haley VA Hospital |
| Castillo, Mauricio | GE Global Res. |
| Moreno, Wilfrido | Univ. of South Florida |
| 14:50-15:10 | WeB07.2 |
| *Subexponential Convergence for Information Aggregation on Regular Trees*, pp. 5317-5322. | |
| Kanoria, Yashodhan | Stanford Univ. |
| Montanari, Andrea | Stanford Univ. |
| 15:10-15:30 | WeB07.3 |
| *Yo-Yo Motion Control Based on Impulsive Luenberger Observer*, pp. 5323-5328. | |
| Kojima, Shingo | Tokyo Denki Univ. |
| Iwase, Masami | Tokyo Denki Univ. |
| 15:30-15:50 | WeB07.4 |
| *A New State Observer for Switched Linear Systems Using a Non-Smooth Optimization Approach*, pp. 5329-5336. | |
| Bako, Laurent | Ec. des Mines de Douai |
| Lecoeuche, Stéphane | Ec. des Mines de Douai |
| 15:50-16:10 | WeB07.5 |
| *Semidefinite Relaxation of a Robust Static Attitude Determination Problem*, pp. 5337-5342. | |
| Ahmed, Shakil | Imperial Coll. London |

| | |
|---|---|
| Kerrigan, Eric C. | Imperial Coll. London |
| Jaimoukha, Imad M. | Imperial Coll. London |

| **WeB08** | Flagler |
|---|---|
| **Iterative Learning Control I** (Regular Session) | |
| Chair: Fraanje, Rufus | Delft Univ. of Tech. |
| Co-Chair: Saif, Mehrdad | Simon Fraser Univ. |
| 14:30-14:50 | WeB08.1 |
| *Linear Computational Complexity Design of Constrained Optimal ILC*, pp. 5343-5348. | |
| Haber, Aleksandar | Delft Univ. of Tech. |
| Fraanje, Rufus | Delft Univ. of Tech. |
| Verhaegen, Michel | Delft Univ. of Tech. |
| 14:50-15:10 | WeB08.2 |
| *Learning User Preferences in Mechanism Design*, pp. 5349-5355. | |
| Chorppath, Anil Kumar | TU Berlin |
| Alpcan, Tansu | Tech. Univ. of Berlin |
| 15:10-15:30 | WeB08.3 |
| *A Generalized Fractional-Order Iterative Learning Control*, pp. 5356-5361. | |
| Li, Yan | Shandong Univ. |
| Chen, YangQuan | Utah State Univ. |
| Ahn, Hyo-Sung | Gwangju Inst. of Science and Tech. (GIST) |
| 15:30-15:50 | WeB08.4 |
| *Robust Iterative Learning Control Synthesized with Sliding-Mode Control for Output Tracking*, pp. 5362-5364. | |
| Chen, Wen | Wayne State Univ. |
| Yeh, Chih-Ping | Wayne State Univ. |
| Chen, YangQuan | Utah State Univ. |
| 15:50-16:10 | WeB08.5 |
| *Approach Control of an Electromechanical Valve Actuator Using Closed-Loop Iterative Learning Control*, pp. 5365-5370. | |
| Samadi, Mohammad Foad | Simon Fraser Univ. |
| Saif, Mehrdad | Simon Fraser Univ. |

| **WeB09** | Gilchrist |
|---|---|
| **Nonlinear Systems VII** (Regular Session) | |
| Chair: Huang, Jie | The Chinese Univ. of Hong Kong |
| Co-Chair: Vaidya, Umesh | Iowa State Univ. |
| 14:30-14:50 | WeB09.1 |
| *Alternative Characterization of Ergodicity for Doubly Stochastic Chains*, pp. 5371-5376. | |
| Touri, Behrouz | Univ. of Illinois, Urbana-Champaign |
| Nedich, Angelia | Univ. of Illinois, Urbana-Champaign |
| 14:50-15:10 | WeB09.2 |
| *On Event Triggered Trajectory Tracking for Control Affine Nonlinear Systems*, pp. 5377-5382. | |
| Tallapragada, Pavankumar | Univ. of Maryland, Coll. Park |
| Chopra, Nikhil | Univ. of Maryland, Coll. Park |
| 15:10-15:30 | WeB09.3 |
| *A Control Problem of PM Synchronous Motor by Internal Model Design*, pp. 5383-5388. | |
| Ping, Zhaowu | The Chinese Univ. of Hong Kong |
| Huang, Jie | The Chinese Univ. of Hong Kong |
| 15:30-15:50 | WeB09.4 |
| *Invariant Extended Kalman Filter Design for a Magnetometer-Plus-GPS Aided Inertial Navigation System*, pp. 5389-5394. | |
| Barczyk, Martin | Univ. of Alberta |
| Lynch, Alan Francis | Univ. of Alberta |
| 15:50-16:10 | WeB09.5 |

*Actuator and Sensor Placement in Linear Advection PDE*, pp. 5395-5400.

Vaidya, Umesh — Iowa State Univ.
Rajaram, Rajeev — Kent State Univ.
Dasgupta, Sambarta — Iowa State Univ.

| **WeB10** | Hamilton |
|---|---|
| **Nonlinear Adaptive Control** (Regular Session) | |
| Chair: Kosmatopoulos, Elias | Democritus Univ. Thrace & ITI/CERTH |
| Co-Chair: Stepanyan, Vahram | NASA Ames Res. Center |

14:30-14:50 — WeB10.1

*Self-Organized Locally Linear Optimal Tracking Control for Unknown Nonlinear Systems*, pp. 5401-5406.

Chen, Yiming — Univ. of California, Riverside
Dong, Wenjie — The Univ. of Texas - Pan American
Farrell, Jay — Univ. of California Riverside

14:50-15:10 — WeB10.2

*Nonlinear Control of Large Scale Complex Systems Using Convex Optimization Tools and Self-Adaptation*, pp. 5407-5412.

Kosmatopoulos, Elias — Democritus Univ. Thrace & ITI/CERTH
Aboudolas, Konstantinos — Centre for Res. and Tech. Hellas
Rovas, Dimitrios — Tech. Univ. of Crete, Greece
Papachristodoulou, Antonis — Univ. of Oxford
Ioannou, Petros A. — Univ. of Southern California
Baldi, Simone — Univ. di Firenze

15:10-15:30 — WeB10.3

*Adaptive Backstepping Control for a Miniature Autonomous Helicopter*, pp. 5413-5418.

Zhu, Bing — Beijing Univ. of Aeronautics and Astronautics
Huo, Wei — Beijing Univ. of Aero. & Astro.

15:30-15:50 — WeB10.4

*M-MRAC for Nonlinear Systems with Bounded Disturbances*, pp. 5419-5424.

Stepanyan, Vahram — NASA Ames Res. Center
Krishnakumar, Kalmanje — NASA Ames Res. Center

15:50-16:10 — WeB10.5

*L1 Adaptive Output Feedback Controller for a Class of Nonlinear Systems*, pp. 5425-5430.

Luo, Jie — Univ. of Connecticut
Cao, Chengyu — Univ. of Connecticut

| **WeB11** | Indian River |
|---|---|
| **Hybrid Systems III** (Regular Session) | |
| Chair: Kebarighotbi, Ali | Boston Univ. |
| Co-Chair: Dormido, Sebastián | UNED |

14:30-14:50 — WeB11.1

*Design of an Event-Based Feedforward Strategy for SOPTD Processes*, pp. 5431-5436.

Chacón Sombría, Jesús — UNED
Sánchez Moreno, José — UNED
Dormido, Sebastián — UNED
Visioli, Antonio — Univ. of Brescia

14:50-15:10 — WeB11.2

*Timeout Control in Distributed Systems Using Perturbation Analysis*, pp. 5437-5442.

Kebarighotbi, Ali — Boston Univ.
Cassandras, Christos G. — Boston Univ.

15:10-15:30 — WeB11.3

*Further Results on a State Observer for Continuous Oscillating Systems under Intrinsic Pulsatile Feedback*, pp. 5443-5448.

Churilov, Alexander — St.Petersburg State Marine Tech. Univ.
Medvedev, Alexander V. — Uppsala Univ.

| | |
|---|---|
| Shepeljavyi, Alexander | St Petersburg State Univ. |

15:30-15:50 WeB11.4

*Energy Efficient Microgrid Management Using Model Predictive Control*, pp. 5449-5454.

| | |
|---|---|
| Parisio, Alessandra | Univ. del Sannio |
| Glielmo, Luigi | Univ. of Sannio |

15:50-16:10 WeB11.5

*State Estimation for MIMO Hybrid Dynamical Model*, pp. 5455-5460.

| | |
|---|---|
| Lala, Rajaoarisoa | IRSEEM |
| Jean François, Balmat | LSIS |
| M'sirdi, Nacer K | Lab. des Sciences de l4information et des systèmes |

## WeB12 Lake

**Switched Systems IV** (Regular Session)

| | |
|---|---|
| Chair: Colaneri, Patrizio | Pol. di Milano |
| Co-Chair: Quijano, Nicanor | Univ. de los Andes |

14:30-14:50 WeB12.1

*Almost Sure Stability of Markov Jump Linear Systems with Dwell-Time Constrained Switching Dynamics*, pp. 5461-5466.

| | |
|---|---|
| Bolzern, Paolo | Pol. di Milano |
| Colaneri, Patrizio | Pol. di Milano |
| De Nicolao, Giuseppe | Univ. Pavia |

14:50-15:10 WeB12.2

*Robust Fault Detection Filter Design for Uncertain Switched Systems with Adaptive Threshold Setting*, pp. 5467-5472.

| | |
|---|---|
| Abdo, Ali | Univ. of Duisburg - Essen |
| Ding, Steven X. | Univ. of Duisburg-Essen |
| Damlakhi, Waseem | Duisburg-Essen Univ. |
| Saijai, Jedsada | Univ. of Duisburg - Essen |

15:10-15:30 WeB12.3

*Discrete-Time Switched Linear System with Constraints: Characterization and Computation of Invariant Sets under Dwell-Time Consideration*, pp. 5473-5478.

| | |
|---|---|
| Dehghan, Masood | National Univ. of Singapore |
| Ong, Chong-Jin | National Univ. of Singapore |
| Chen, Peter C. Y. | National Univ. of Singapore |

15:30-15:50 WeB12.4

*Hybrid Attitude Tracking of Output Feedback Controlled Rigid Bodies*, pp. 5479-5484.

| | |
|---|---|
| Schlanbusch, Rune | Narvik Univ. Coll. |
| Grøtli, Esten Ingar | Norwegian Univ. of Science & Tech. |
| Loria, Antonio | CNRS |
| Nicklasson, Per Johan | Narvik Univ. Coll. |

15:50-16:10 WeB12.5

*Nonlinear Control of Wind Turbines: An Approach Based on Switched Linear Systems and Feedback Linearization*, pp. 5485-5490.

| | |
|---|---|
| Burkart, Ralph Mario | Automatic Control Lab. ETH Zurich |
| Margellos, Kostas | ETH Zurich |
| Lygeros, John | ETH Zurich |

## WeB13 Manatee

**Constrained Control II** (Regular Session)

| | |
|---|---|
| Chair: Di Cairano, Stefano | Ford Motor Company |
| Co-Chair: Heath, William Paul | Univ. of Manchester |

14:30-14:50 WeB13.1

*Constrained Actuator Coordination by Virtual State Governing*, pp. 5491-5496.

| | |
|---|---|
| Di Cairano, Stefano | Ford Motor Company |
| Kolmanovsky, Ilya V. | The Univ. of Michigan |

| 14:50-15:10 | WeB13.2 |
|---|---|
| *Control of Underactuated Systems with Viability Constraints*, pp. 5497-5502. | |
| Panagou, Dimitra | National Tech. Univ. of Athens |
| Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |
| 15:10-15:30 | WeB13.3 |
| *Anti-Windup Synthesis for Optimizing Internal Model Control*, pp. 5503-5508. | |
| Adegbege, Ambrose Adebayo | The Univ. of Manchester, UK |
| Heath, William Paul | Univ. of Manchester |
| 15:30-15:50 | WeB13.4 |
| *Region of Attraction Comparison for Gradient Projection Anti-Windup Compensated Systems*, pp. 5509-5515. | |
| Teo, Justin | DSO National Lab. |
| How, Jonathan P. | MIT |
| 15:50-16:10 | WeB13.5 |
| *An Interpolation Approach for Robust Constrained Output Feedback*, pp. 5516-5521. | |
| Nguyen, Hoai Nam | SUPELEC Systems Sciences (E3S) - Automatic Control Department, G |
| Gutman, Per-Olof | Tech. |
| Olaru, Sorin | Supelec |
| Hovd, Morten | Norwegian Univ. of Sci & Tech. |

| **WeB14** | Sarasota |
|---|---|
| **Decentralized Control II** (Regular Session) | |
| Chair: Gattami, Ather | KTH |
| Co-Chair: Parrilo, Pablo A. | Massachusetts Inst. of Tech. |
| 14:30-14:50 | WeB14.1 |
| *An Optimal Controller Architecture for Poset-Causal Systems*, pp. 5522-5528. | |
| Shah, Parikshit | Massachusetts Inst. of Tech. |
| Parrilo, Pablo A. | Massachusetts Inst. of Tech. |
| 14:50-15:10 | WeB14.2 |
| *Deterministic Team Problems with Signaling*, pp. 5529-5534. | |
| Gattami, Ather | KTH |
| 15:10-15:30 | WeB14.3 |
| *The Role of Common "context" in Signaling*, pp. 5535-5540. | |
| Grover, Pulkit | UC Berkeley |
| Langbort, Cedric | Univ. of Illinois, Urbana-Champaign |
| 15:30-15:50 | WeB14.4 |
| *Graph Weight Design for Laplacian Eigenvalue Constraints with Multi-Agent Systems Applications*, pp. 5541-5546. | |
| Shafi, S. Yusef | UC Berkeley |
| Arcak, Murat | Univ. of California, Berkeley |
| El Ghaoui, Laurent M. | Univ. of California at Berkeley |
| 15:50-16:10 | WeB14.5 |
| *Mean Field (NCE) Stochastic Control: Populations of Major and Egoist-Altruist Agents*, pp. 5547-5552. | |
| Kizilkale, Arman C. | McGill Univ. |
| Caines, Peter E. | McGill Univ. |

| **WeB15** | Union |
|---|---|
| **Quantum Information and Control I** (Regular Session) | |
| Chair: Li, Jr-Shin | Washington Univ. in St. Louis |
| Co-Chair: Yuan, Haidong | Harvard |
| 14:30-14:50 | WeB15.1 |
| *Convergence of a Pseudospectral Method for Optimal Control of Complex Dynamical Systems (I)*, pp. 5553-5558. | |
| Ruths, Justin | Singapore Univ. of Tech. & Design |

| | |
|---|---|
| Zlotnik, Anatoly | Washington Univ. |
| Li, Jr-Shin | Washington Univ. in St. Louis |

14:50-15:10 WeB15.2

*Nuclear Magnetic Resonance: The Contrast Imaging Problem (I)*, pp. 5559-5564.

| | |
|---|---|
| Bonnard, Bernard | Inst. de Mathématiques de Bourgogne |
| Chyba, Monique | Univ. of Hawaii |
| Glaser, Steffen J. | Tech. Univ. Muenchen (TUM) |
| Marriott, John | Univ. of Hawaii |
| Sugny, Dominique | Lab. Interdisciplinaire Carnot de Bourgogne |

15:10-15:30 WeB15.3

*Simulation of Open Quantum Dynamics in Markovian Environment (I)*, pp. 5565-5569.

| | |
|---|---|
| Yuan, Haidong | Harvard |

15:30-15:50 WeB15.4

*Quantum Master Equation and Filter for Systems Driven by Fields in a Single Photon State*, pp. 5570-5576.

| | |
|---|---|
| Gough, John Edward | Aberystwyth Univ. |
| James, Matthew R. | Australian National Univ. |
| Nurdin, Hendra Ishwara | Australian National Univ. |

15:50-16:10 WeB15.5

*Design and Implementation of an Atomic Force Microscope with Adaptive Sliding Mode Controller for Large Image Scanning*, pp. 5577-5582.

| | |
|---|---|
| Peng, Yuan-Zhi | National Taiwan Univ. |
| Wu, Jim Wei | National Taiwan Univ. |
| Huang, Kuan-Chia | National Taiwan Univ. |
| Chen, Jyun-Jhih | National Taiwan Univ. |
| Chen, Mei-Yung | National Taiwan Normal Univ. |
| Fu, Li-Chen | National Taiwan Univ. |

## WeB16 — Palm Beach

**Consensus Algorithms, Cooperative Control, and Distributed Optimization** (Invited Session)

| | |
|---|---|
| Chair: Briñon Arranz, Lara | INRIA Rhône-Alpes |
| Co-Chair: Schenato, Luca | Univ. of Padova |
| Organizer: Briñon Arranz, Lara | INRIA Rhône-Alpes |
| Organizer: Schenato, Luca | Univ. of Padova |

14:30-14:50 WeB16.1

*Collaborative Estimation of Gradient Direction by a Formation of AUVs under Communication Constraints (I)*, pp. 5583-5588.

| | |
|---|---|
| Briñon Arranz, Lara | INRIA Rhône-Alpes |
| Seuret, Alexandre | CNRS |
| Canudas de Wit, Carlos | CNRS, GIPSA-Lab. |

14:50-15:10 WeB16.2

*Dynamic Partitioning and Coverage Control with Asynchronous One-To-Base-Station Communication (I)*, pp. 5589-5594.

| | |
|---|---|
| Durham, Joseph W. | Uni of California at Santa Barbara |
| Carli, Ruggero | Univ. of Padova |
| Frasca, Paolo | Pol. di Torino |
| Bullo, Francesco | Univ. California at Santa Barbara |

15:10-15:30 WeB16.3

*Finite-Time Average Consensus Based Protocol for Distributed Estimation Over AWGN Channels (I)*, pp. 5595-5600.

| | |
|---|---|
| Kibangou, Alain | Univ. Joseph Fourier-CNRS |

15:30-15:50 WeB16.4

*Quantized Cooperative Control Using Relative State Measurements (I)*, pp. 5601-5606.

| | |
|---|---|
| Guo, Meng | Royal Inst. of Tech. (KTH) |
| Dimarogonas, Dimos V. | Royal Inst. of Tech. |

15:50-16:10 WeB16.5

*Multi-Vehicle Control and Optimization for Spatiotemporal Sampling (I)*, pp. 5607-5612.

Sydney, Nitin — Univ. of Maryland
Paley, Derek A. — Univ. of Maryland

**WeB17** — Alachua
**Delay Systems III** (Regular Session)

Chair: Leite, Valter J. S. — CEFET/MG - Campus Div.
Co-Chair: Gundes, A. N. — Univ. of California, Davis

14:30-14:50 — WeB17.1

*Admissible Controls, Modeling, and Optimization for a New Class of Nonlinear Stochastic Delay Systems*, pp. 5613-5620.
Kushner, Harold J. — Brown Univ.

14:50-15:10 — WeB17.2

*Robust Non-Fragile H-Infinity Control with Regional Pole Location of Discrete-Time Systems with Multiple Delays in the State*, pp. 5621-5626.
Leite, Valter J. S. — CEFET/MG - Campus Div.
Miranda, Marcio Fantini — Federal Univ. of Minas Gerais
Silva, Luís F. P. — PPGEL / CEFET-MG
Castelan, Eugenio B. — Univ. Federal de Santa Catarina

15:10-15:30 — WeB17.3

*Stability Conditions for Linear Continuous Time Difference Systems with Discrete and Distributed Delay*, pp. 5627-5632.
Melchor-Aguilar, Daniel Alejandro — IPICyT

15:30-15:50 — WeB17.4

*Low Order Controller Design for Systems with Time Delays*, pp. 5633-5638.
Gundes, A. N. — Univ. of California, Davis
Ozbay, Hitay — Bilkent Univ.

15:50-16:10 — WeB17.5

*Robust $L_2-L_{infty}$ Consensus Control of the Second-Order Multi-Agent Systems with Time-Delay*, pp. 5639-5644.
Cui, Yan — Beihang Univ. (BUAA)
Jia, Yingmin — Beihang Univ.
Du, Junping — Beijing Univ. of Posts and Telecommunications
Yu, Fashan — Henan Pol. Univ.

**WeB18** — Baker
**Uncertain Systems II** (Regular Session)

Chair: Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign
Co-Chair: Zhong, Qing-Chang — Loughborough Univ.

14:30-14:50 — WeB18.1

*Symmetric Formulation of the Kalman-Yakubovich-Popov Lemma and Exact Losslessness Condition*, pp. 5645-5652.
Tanaka, Takashi — Univ. of Illinois, Urbana-Champaign
Langbort, Cedric — Univ. of Illinois, Urbana-Champaign

14:50-15:10 — WeB18.2

*Filter Design for L1 Adaptive Output-Feedback Controller*, pp. 5653-5658.
Kim, Kwang-Ki — UIUC/MIT
Kharisov, Evgeny — Univ. of Illinois at Urbana-Champaign (UIUC)
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

15:10-15:30 — WeB18.3

*Robust Control of Wing Rock Motion*, pp. 5659-5664.
Kuperman, Alon — Ariel Univ. Centre of Samaria
Zhong, Qing-Chang — Loughborough Univ.
Stobart, Richard — Loughborough Univ.

15:30-15:50 — WeB18.4

*Robust Homogeneous Higher Order Sliding Mode Control*, pp. 5665-5670.
Harmouche, Mohamed — UTBM
Laghrouche, Salah — UTBM

| | |
|---|---|
| El Bagdouri, Mohammed | Univ. de Tech. de Belfort Montbéliard |

15:50-16:10 WeB18.5

*Ellipsoid Bounds on State Trajectories for Discrete-Time Systems with Time-Invariant and Time-Varying Linear Fractional Uncertainties*, pp. 5671-5676.

| | |
|---|---|
| Kishida, Masako | UIUC/MIT |
| Braatz, Richard D. | Massachusetts Inst. of Tech. |

**WeB19** Bay

**Visual Servo Control** (Regular Session)

| | |
|---|---|
| Chair: Bertuccelli, Luca F. | Massachusetts Inst. of Tech. |
| Co-Chair: Kim, H. Jin | Seoul National Univ. |

14:30-14:50 WeB19.1

*2D Visual Servoing for a Long Range Navigation in a Cluttered Environment*, pp. 5677-5682.

| | |
|---|---|
| Durand Petiteville, Adrien | LAAS/CNRS |
| Hutchinson, Seth | Univ. of Illinois |
| Cadenat, Viviane | Laas/cnrs |
| Courdesses, Michel | Laas/cnrs |

14:50-15:10 WeB19.2

*Mutation Analysis Models for Visual Servoing in Nanomanipulations*, pp. 5683-5688.

| | |
|---|---|
| Zhao, Jianguo | Michigan State Univ. |
| Song, Bo | Michigan State Univ. |
| Xi, Ning | Michigan State Univ. |
| Lai, King Wai Chiu | Michigan State Univ. |

15:10-15:30 WeB19.3

*Obstacle Avoidance Using Image-Based Visual Servoing Integrated with Nonlinear Model Predictive Control*, pp. 5689-5694.

| | |
|---|---|
| Lee, Daewon | Seoul National Univ. |
| Lim, Hyon | Seoul National Univ. |
| Kim, H. Jin | Seoul National Univ. |

15:30-15:50 WeB19.4

*Visual Servoing for the Robotenis System: A Strategy for a 3 DOF Parallel Robot to Hit a Ping-Pong Ball*, pp. 5695-5701.

| | |
|---|---|
| Traslosheros-Michel, Alberto | Univ. autonoma de Queretaro |
| Sebastián, José María | Univ. Pol. de Madrid |
| Angel, Luis | Univ. Pol. de Madrid |
| Flavio, Roberti | Univ. Nacional de San Juan |
| Carelli, Ricardo | Univ. Nacional De San Juan |

15:50-16:10 WeB19.5

*Scenario-Based Robust Scheduling for Collaborative Human-UAV Visual Search Tasks*, pp. 5702-5707.

| | |
|---|---|
| Bertuccelli, Luca F. | Massachusetts Inst. of Tech. |
| Cummings, Mary (Missy) | MIT |

**WeB20** Broward

**Stochastic Optimal Control I** (Regular Session)

| | |
|---|---|
| Chair: Befekadu, Getachew | Univ. of Notre Dame |
| Co-Chair: Caines, Peter E. | McGill Univ. |

14:30-14:50 WeB20.1

*A Solution to the Initial Mean Consensus Problem Via a Continuum Based Mean Field Control Approach*, pp. 5708-5713.

| | |
|---|---|
| Nourian, Mojtaba | McGill Univ. |
| Caines, Peter E. | McGill Univ. |
| Malhame, Roland P. | Ec. Pol. de Montreal |

14:50-15:10 WeB20.2

*Risk-Sensitive Control under a Markov Modulated Denial-Of-Service Attack Model*, pp. 5714-5719.

| | |
|---|---|
| Befekadu, Getachew | Univ. of Notre Dame |
| Gupta, Vijay | Univ. of Notre Dame |

| | |
|---|---|
| Antsaklis, Panos J. | Univ. of Notre Dame |

15:10-15:30 WeB20.3

*On Optimal Policies for Control and Estimation Over a Gaussian Relay Channel*, pp. 5720-5725.

| | |
|---|---|
| Zaidi, Syed Ali Abbas | Royal Inst. of Tech. (KTH), Sweden |
| Yuksel, Serdar | Queen's Univ. |
| Oechtering, Tobias J. | Royal Inst. of Tech. (KTH) |
| Skoglund, Mikael | Royal Inst. of Tech. |

15:30-15:50 WeB20.4

*Optimal Decentralized Control of Coupled Subsystems with Control Sharing*, pp. 5726-5731.

| | |
|---|---|
| Mahajan, Aditya | McGIll Univ. |

15:50-16:10 WeB20.5

*Witsenhausen's Counterexample: A View from Optimal Transport Theory*, pp. 5732-5737.

| | |
|---|---|
| Yihong, Wu | Princeton Univ. |
| Verdu, Sergio | Princeton Univ. |

**WeB21** Brevard

**Agents and Autonomous Systems VIII** (Regular Session)

| | |
|---|---|
| Chair: Cortes, Jorge | Univ. of California, San Diego |
| Co-Chair: Martinez, Sonia | Univ. of California at San Diego |

14:30-14:50 WeB21.1

*Multi-Agent Robust Consensus-Part II: Application to Distributed Event-Triggered Coordination*, pp. 5738-5743.

| | |
|---|---|
| Shi, Guodong | Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |

14:50-15:10 WeB21.2

*Multi-Agent Robust Consensus-Part I: Convergence Analysis*, pp. 5744-5749.

| | |
|---|---|
| Shi, Guodong | Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |

15:10-15:30 WeB21.3

*On Global Feedback Stabilization of Decentralized Formation Control*, pp. 5750-5755.

| | |
|---|---|
| Belabbas, Mohamed Ali | Harvard |

15:30-15:50 WeB21.4

*Freshwater-Saltwater Boundary Detection Using Mobile Sensors - Part I: Drifter Deployment*, pp. 5756-5761.

| | |
|---|---|
| Ru, Yu | Univ. of California, San Diego |
| Martinez, Sonia | Univ. of California at San Diego |

15:50-16:10 WeB21.5

*Stealthy Strategies for Deception in Hypergames with Asymmetric Information*, pp. 5762-5767.

| | |
|---|---|
| Gharesifard, Bahman | Univ. of California San Diego |
| Cortes, Jorge | Univ. of California, San Diego |

**WeB22** Bradford

**Nonlinear System Identification** (Regular Session)

| | |
|---|---|
| Chair: Schoukens, Johan | Vrije Univ. Brussels |
| Co-Chair: Mitsis, Georgios D. | Univ. of Cyprus |

14:30-14:50 WeB22.1

*Nonstationary Analysis of Cerebral Hemodynamics Using Recursively Estimated Multiple-Input Nonlinear Models*, pp. 5768-5773.

| | |
|---|---|
| Markou, Marios M. | Univ. of Cyprus |
| Poulin, Marc J. | Univ. of Calgary |
| Mitsis, Georgios D. | Univ. of Cyprus |

14:50-15:10 WeB22.2

*Output Error Identification of Closed-Loop Hammerstein Systems*, pp. 5774-5779.

| | |
|---|---|
| Han, Younghee | Univ. of California, San Diego |

de Callafon, Raymond A. — Univ. of California, San Diego

15:10-15:30 — WeB22.3

*Identifying a Wiener System Using a Variant of the Wiener G-Functionals*, pp. 5780-5785.

Tiels, Koen — Vrije Univ. Brussel
Schoukens, Johan — Vrije Univ. Brussels

15:30-15:50 — WeB22.4

*High-Order Sliding-Mode Control of Blood Glucose Concentration Via Practical Relative Degree Identification (I)*, pp. 5786-5791.

Gallardo-Hernández, Ana Gabriela — Univ. Nacional Autónoma de México
Fridman, Leonid M. — National Autonomous Univ. of Mexico
Levant, Arie — Tel - Aviv Univ.
Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Leder, Ronald — Univ. Nacional Autónoma de México
Revilla-Monsalve, Cristina — Centro Médico Nacional Siglo XXI
Islas-Andrade, Sergio — Centro Medico Nacional Siglo XXI

15:50-16:10 — WeB22.5

*Identification of Nonlinear Systems with Stable Oscillations*, pp. 5792-5797.

Manchester, Ian R. — Massachusetts Inst. of Tech.
Tobenkin, Mark M. — Massachusetts Inst. of Tech.
Wang, Jennifer — Massachusetts Inst. of Tech.

## WeC01 — Orange

**Energy Systems** (Regular Session)

Chair: Yu, Hai — Res. and Advanced Engineering, Ford Motor Company
Co-Chair: Hayakawa, Tomohisa — Tokyo Inst. of Tech.

16:30-16:50 — WeC01.1

*Optimal Decentralized Protocol for Electric Vehicle Charging*, pp. 5798-5804.

Gan, Lingwen — California Inst. of Tech.
Topcu, Ufuk — California Inst. of Tech.
Low, Steven — California Inst. of Tech.

16:50-17:10 — WeC01.2

*Trip-Oriented Energy Management Control Strategy for Plug-In Hybrid Electric Vehicles*, pp. 5805-5812.

Yu, Hai — Res. and Advanced Engineering, Ford Motor Company
Kuang, Ming L. — Ford Motor Co.
McGee, Ryan — Ford Motor Company

17:10-17:30 — WeC01.3

*Optimal Sizing of Energy Storage for Efficient Integration of Renewable Energy*, pp. 5813-5819.

Harsha, Pavithra — IBM
Dahleh, Munther A. — Massachusetts Inst. of Tech.

17:30-17:50 — WeC01.4

*Distributed Cyber Attack Detection for Power Network Systems*, pp. 5820-5824.

Hashimoto, Hideaki — Tokyo Inst. of Tech.
Hayakawa, Tomohisa — Tokyo Inst. of Tech.

17:50-18:10 — WeC01.5

*Constraint Handling within a Multi-Blade Coordinate Framework of a Wind Turbine*, pp. 5825-5830.

Henriksen, Lars Christian — Tech. Univ. of Denmark
Poulsen, Niels Kjølstad — Tech. Univ. of Denmark
Niemann, Henrik — Tech. Univ. of Denmark

## WeC02 — Dixie

**Biomolecular Systems and Cellular Dynamics** (Regular Session)

Chair: Andersson, Sean — Boston Univ.
Co-Chair: Del Vecchio, Domitilla — Massachusetts Insitute of Tech.

| 16:30-16:50 | WeC02.1 |
|---|---|
| *A Contraction Theory Approach to Singularly Perturbed Systems with Application to Retroactivity Attenuation*, pp. 5831-5836. | |
| Del Vecchio, Domitilla | Massachusetts Insitute of Tech. |
| Slotine, Jean-Jacques E. | Massachusetts Inst. of Tech. |
| 16:50-17:10 | WeC02.2 |
| *Recursive Bayesian Estimation of Stochastic Rate Constants from Heterogeneous Cell Populations*, pp. 5837-5843. | |
| Zechner, Christoph | ETH Zuerich |
| Pelet, Serge | ETH Zuerich |
| Peter, Matthias | ETH Zuerich |
| Koeppl, Heinz | ETH Zuerich |
| 17:10-17:30 | WeC02.3 |
| *Kalman Filter Tracking of Intracellular Neuronal Voltage and Current*, pp. 5844-5849. | |
| Wei, Yina | Penn State Univ. |
| Ullah, Ghanim | Los Alamos National Lab. |
| Parekh, Ruchi | George Mason Univ. |
| Ziburkus, Jokubas | Univ. of Houston |
| Schiff, Steven | Penn State Univ. |
| 17:30-17:50 | WeC02.4 |
| *Kernel Mechanism of the Cyanobacterial Circadian Clock Is a Relaxation Oscillator*, pp. 5850-5855. | |
| Ma, Lan | The Univ. of Texas at Dallas |
| Ranganathan, Rama | The Univ. of Texas Southwestern Medical Center |
| 17:50-18:10 | WeC02.5 |
| *3-D Tracking of Fluorescent Nanoparticles in a Confocal Microscope*, pp. 5856-5861. | |
| Shen, Zhaolong | Univ. of Maryland at Coll. Park |
| Andersson, Sean | Boston Univ. |

| **WeC03** | Columbia |
|---|---|
| **Modeling and Manufacturing** (Regular Session) | |
| Chair: Lefebvre, Dimitri | Univ. Le Havre |
| Co-Chair: Giglio, Davide | Univ. of Genova |
| 16:30-16:50 | WeC03.1 |
| *Finite Time Control Design for Contpns According to Piecewise Constant Control Actions*, pp. 5862-5867. | |
| Lefebvre, Dimitri | Univ. Le Havre |
| 16:50-17:10 | WeC03.2 |
| *Soft Sensor Development Using Non-Gaussian Just-In-Time Modeling*, pp. 5868-5873. | |
| Zeng, Jiu-sun | Zhejiang Univ. |
| Xie, Lei | National Key Lab. of Industrial Control Tech. |
| Gao, Chuanhou | Zhejiang Univ. |
| Sha, Jingjing | Inst. of cyber systems and control, zhejiang Univ. |
| 17:10-17:30 | WeC03.3 |
| *Asynchronous Regulation of Service Speed in Inventory-Production Systems with Time-Varying Positive Demand*, pp. 5874-5880. | |
| Giglio, Davide | Univ. of Genova |
| Sacone, Simona | Univ. of Genova |
| Siri, Silvia | Univ. of Genova |
| 17:30-17:50 | WeC03.4 |
| *Colored Hybrid Petri-Nets for Modeling Material Handling Systems*, pp. 5881-5886. | |
| Basile, Francesco | Univ. Degli Studi Di Salerno |
| Chiacchio, Pasquale | Univ. di Salerno |
| Coppola, Jolanda | Univ. di Salerno |
| 17:50-18:10 | WeC03.5 |
| *Optimality of a Hedging-Point Control Policy for a Failure-Prone Manufacturing System under a Probabilistic Cost Criterion*, pp. 5887-5892. | |

Ahmadi-Javid, Amir — Department of Industrial Engineering, AmirkabirUniversityof Tech.
Malhame, Roland P. — Ec. Pol. de Montreal

**WeC04** — Nassau
**Optimization Algorithms III** (Regular Session)

Chair: Innocenti, Giacomo — Univ. di Siena
Co-Chair: Pattipati, Krishna R. — Univ. of Connecticut

16:30-16:50 — WeC04.1

*Distributed Algorithms for Biobjective Assignment Problems*, pp. 5893-5898.
Li, Chendong — Univ. of Connecticut
Park, Chulwoo — Univ. of Connecticut
Pattipati, Krishna R. — Univ. of Connecticut
Kleinman, David L. — Naval Postgraduate School

16:50-17:10 — WeC04.2

*Appliance Operation Scheduling for Electricity Consumption Optimization*, pp. 5899-5904.
Agnetis, Alessandro — Univ. degli Studi di Siena
Dellino, Gabriella — Univ. DI SIENA
Detti, Paolo — Univ. of siena
Innocenti, Giacomo — Univ. di Siena
de Pascale, Gianluca — Univ. di Siena
Vicino, Antonio — Univ. di Siena

17:10-17:30 — WeC04.3

*Real-Time Sequential Convex Programming for Nonlinear Model Predictive Control and Application to a Hydro-Power Plant*, pp. 5905-5910.
Tran, Dinh Quoc — Katholieke Univ. Leuven, Belgium
Savorgnan, Carlo — Katholieke Univ. Leuven
Diehl, Moritz — Katholieke Univ. Leuve

17:30-17:50 — WeC04.4

*Locally Constrained Decision Making Via Two-Stage Distributed Simplex*, pp. 5911-5916.
Bürger, Mathias — Univ. of Stuttgart
Notarstefano, Giuseppe — Univ. of Lecce
Allgower, Frank — Univ. of Stuttgart

17:50-18:10 — WeC04.5

*Newton-Raphson Consensus for Distributed Convex Optimization*, pp. 5917-5922.
Zanella, Filippo — Univ. of Padova
Varagnolo, Damiano — Univ. of Padova
Cenedese, Angelo — Univ. of Padova
Pillonetto, Gianluigi — Univ. of Padova
Schenato, Luca — Univ. of Padova

**WeC05** — Taylor
**Network Analysis and Control I** (Regular Session)

Chair: Johansson, Mikael — Royal Inst. of Tech.
Co-Chair: Parlangeli, Gianfranco — Univ. degli studi di Lecce

16:30-16:50 — WeC05.1

*Observability and Reachability of Grid Graphs Via Reduction and Symmetries*, pp. 5923-5928.
Notarstefano, Giuseppe — Univ. of Lecce
Parlangeli, Gianfranco — Univ. degli studi di Lecce

16:50-17:10 — WeC05.2

*A Markovian Jump Guaranteed Cost Congestion Control Strategy for Mobile Networks Subject to Differentiated Services Traffic*, pp. 5929-5936.
Chen, Ruiru — concordia Univ.
Khorasani, Khashayar — Concordia Univ.

| 17:10-17:30 | WeC05.3 |
|---|---|
| *A Distributed Guaranteed Cost Congestion Control Strategy for Mobile Networks with Differentiated Services Traffic*, pp. 5937-5944. | |
| Chen, Ruiru | concordia Univ. |
| Khorasani, Khashayar | Concordia Univ. |
| 17:30-17:50 | WeC05.4 |
| *Performance Bounds for CSMA-Based Medium Access Control*, pp. 5945-5950. | |
| Freris, Nikolaos | IBM Res. - Zurich |
| 17:50-18:10 | WeC05.5 |
| *Modular Co-Design of Controllers and Transmission Schedules in WirelessHART*, pp. 5951-5958. | |
| Demirel, Burak | KTH Royal Inst. of Tech. |
| Zou, Zhenhua | Royal Inst. of Tech. Sweden |
| Soldati, Pablo | KTH |
| Johansson, Mikael | Royal Inst. of Tech. |

| **WeC06** | Jackson |
|---|---|
| **Traffic Control** (Regular Session) | |
| Chair: Castanon, David A. | Boston Univ. |
| Co-Chair: Canudas de Wit, Carlos | CNRS, GIPSA-Lab. |
| 16:30-16:50 | WeC06.1 |
| *Best-Effort Highway Traffic Congestion Control Via Variable Speed Limits*, pp. 5959-5964. | |
| Canudas de Wit, Carlos | CNRS, GIPSA-Lab. |
| 16:50-17:10 | WeC06.2 |
| *Feasible Cooperation Based Model Predictive Control for Freeway Traffic Systems*, pp. 5965-5970. | |
| Domínguez Frejo, José Ramón | Univ. de Sevilla |
| Camacho, Eduardo F. | Univ. of Sevilla |
| 17:10-17:30 | WeC06.3 |
| *Position Stabilization of a Stewart Platform: High-Order Sliding Mode Observers Based Approach*, pp. 5971-5976. | |
| Fraguela Cuesta, Liset | Univ. Nacional Autónoma de México |
| Fridman, Leonid M. | National Autonomous Univ. of Mexico |
| Alexandrov, Vladimir V. | Benémerita Univ. Autónoma de Puebla |
| 17:30-17:50 | WeC06.4 |
| *Pull Protocols for Communication Constrained Advanced Traveler Information Systems*, pp. 5977-5982. | |
| Castanon, David A. | Boston Univ. |
| Kumar, Rohit | Georgia Inst. of Tech. |
| 17:50-18:10 | WeC06.5 |
| *Learning the Dependency Structure of Highway Networks for Traffic Forecast*, pp. 5983-5988. | |
| Samaranayake, Samitha | Univ. of California, Berkeley |
| Blandin, Sebastien | Univ. of California at Berkeley |
| Bayen, Alexandre M. | Univ. of California at Berkeley |

| **WeC07** | Escambia |
|---|---|
| **Estimation III** (Regular Session) | |
| Chair: Tang, Ao | Cornell Univ. |
| Co-Chair: de Callafon, Raymond A. | Univ. of California, San Diego |
| 16:30-16:50 | WeC07.1 |
| *On State Estimation with Bad Data Detection*, pp. 5989-5994. | |
| Xu, Weiyu | Cornell Univ. |
| Wang, Meng | Cornell Univ. |
| Tang, Kevin | Cornell Univ. |
| 16:50-17:10 | WeC07.2 |
| *Extracting Dynamics from Blur*, pp. 5995-6000. | |

| | |
|---|---|
| Mishra, Sandipan | Rensselaer Pol. Inst. |
| Wen, John T. | Rensselaer Pol. Inst. |
| 17:10-17:30 | WeC07.3 |
| *Aspects of MMOSPA Estimation*, pp. 6001-6006. | |
| Crouse, David | Univ. of Conneticut |
| Willett, Peter K. | Univ. of Connecticut |
| Bar-Shalom, Yaakov | Univ. of Connecticut |
| Svensson, Lennart | Chalmers Univ. |
| 17:30-17:50 | WeC07.4 |
| *Optimal Attitude Estimation Using Set-Valued Observers*, pp. 6007-6012. | |
| Brás, Sérgio | Inst. Superior Técnico |
| Rosa, Paulo Andre Nobre | Inst. Superior Tecnico, Lisbon |
| Silvestre, Carlos | Inst. Superior Tecnico |
| Oliveira, Paulo Jorge | Inst. Superior Técnico |
| 17:50-18:10 | WeC07.5 |
| *Nonlinear Simultaneous Input and State Estimation with Application to Flow Field Estimation*, pp. 6013-6018. | |
| Fang, Huazhen | Univ. of California, San Diego |
| de Callafon, Raymond A. | Univ. of California, San Diego |

| **WeC08** | Flagler |
|---|---|
| **Iterative Learning Control II** (Regular Session) | |
| Chair: Rogers, Eric | Univ. of Southampton |
| Co-Chair: Ramos, Germán Andrés | Univ. Nacional de Colombia |
| 16:30-16:50 | WeC08.1 |
| *Reinforcement Learning with Reference Tracking in Continuous State Spaces*, pp. 6019-6024. | |
| Hall, Joseph Alexander | Cambridge Univ. |
| Rasmussen, Carl Edward | Univ. of Cambridge |
| Maciejowski, Jan M. | Univ. of Cambridge |
| 16:50-17:10 | WeC08.2 |
| *Iterative Learning Control for Optimal Multiple-Point Tracking*, pp. 6025-6030. | |
| Son, Tong Duy | Gwangju Inst. of Science and Tech. (GIST) |
| Nguyen, Dinh Hoa | Chulalongkorn Univ. |
| Ahn, Hyo-Sung | Gwangju Inst. of Science and Tech. (GIST) |
| 17:10-17:30 | WeC08.3 |
| *Model-Free Iterative Learning of Time-Optimal Point-To-Point Motions for LTI Systems*, pp. 6031-6036. | |
| Janssens, Pieter | Katholieke Univ. Leuven |
| Pipeleers, Goele | Katholieke Univ. Leuven |
| Swevers, Jan | K. U. Leuven |
| 17:30-17:50 | WeC08.4 |
| *Finite Frequency Range Control Law Synthesis for Differential Linear Repetitive Processes*, pp. 6037-6042. | |
| Paszke, Wojciech | Univ. of Zielona Gora |
| Rogers, Eric | Univ. of Southampton |
| Galkowski, Krzysztof | Univ. of Zielona Gora |
| 17:50-18:10 | WeC08.5 |
| *An Optimal Anti-Windup Strategy for Repetitive Control Systems*, pp. 6043-6048. | |
| Ramos, Germán Andrés | Univ. Nacional de Colombia |
| Costa-Castelló, Ramon | Univ. Pol. de Catalunya |

| **WeC09** | Gilchrist |
|---|---|
| **Stability of Nonlinear Systems II** (Regular Session) | |
| Chair: Angeli, David | Imperial Coll. |
| Co-Chair: Ito, Hiroshi | Kyushu Inst. of Tech. |

16:30-16:50 WeC09.1

*A Small-Gain Result for Orthant-Monotone Systems in Feedback: The Non Sign-Definite Case*, pp. 6049-6053.

Angeli, David — Imperial Coll.
Sontag, Eduardo D. — Rutgers Univ.

16:50-17:10 WeC09.2

*Factorization of Multipliers in Passivity and IQC Analysis*, pp. 6054-6059.

Carrasco, Joaquin — Univ. of Manchester
Heath, William Paul — Univ. of Manchester
Lanzon, Alexander — Univ. of Manchester

17:10-17:30 WeC09.3

*A State-Space View on Locally-Stable, Globally-Unstable Nonlinear Models Driven by Gaussian Burst Inputs*, pp. 6060-6065.

Vanbeylen, Laurent — Vrije Univ. Brussels
Van Mulders, Anne — Vrije Univ. Brussel
Schoukens, Johan — Vrije Univ. Brussels

17:30-17:50 WeC09.4

*A Sensitivity Trade-Off Arising in Small-Gain Design for Nonlinear Systems: An Iiss Framework*, pp. 6066-6071.

Chaillet, Antoine — Univ. Paris Sud 11
Ito, Hiroshi — Kyushu Inst. of Tech.

17:50-18:10 WeC09.5

*Connecting Several Stability Criteria for Iiss Networks and Their Application to a Network Computing Model*, pp. 6072-6078.

Ito, Hiroshi — Kyushu Inst. of Tech.

**WeC10** — Hamilton

**Adaptive Control and Estimation** (Regular Session)

Chair: Safonov, Michael G. — Univ. of Southern California
Co-Chair: Carnevale, Daniele — Univ. di Roma

16:30-16:50 WeC10.1

*A Globally Convergent Wind Speed Estimator for Windmill Systems*, pp. 6079-6084.

Ortega, Romeo — LSS-SUPELEC
Mancilla-David, Fernando — Univ. of Colorado Denver
Jaramillo, Fernando — Lab. des Signaux et Systemes, Supelec.

16:50-17:10 WeC10.2

*Robustness of Retrospective Cost Adaptive Control to Markov-Parameter Uncertainty*, pp. 6085-6090.

Sumer, Dogan — Univ. of Michigan - Ann Arbor
D'Amato, Anthony — Univ. of Michigan
Morozov, Alexey — Univ. of Michigan
Hoagg, Jesse B. — Univ. of Kentucky
Bernstein, Dennis S. — Univ. of Michigan

17:10-17:30 WeC10.3

*On the Tuning of a Hybrid Observer for Multiple Frequency Estimation*, pp. 6091-6096.

Carnevale, Daniele — Univ. di Roma
Galeani, Sergio — Univ. Di Roma Tor Vergata

17:30-17:50 WeC10.4

*A Fading Memory Data-Driven Algorithm for Controller Switching (I)*, pp. 6097-6103.

Huiyu, Jin — Univ. of Science and Tech. of China
Chang, Michael — Univ. of Southern California
Safonov, Michael G. — Univ. of Southern California

17:50-18:10 WeC10.5

*Robust Parametric Identification of Sinusoidal Signals: An Input-To-State Stability Approach*, pp. 6104-6109.

Pin, Gilberto — Danieli Automation S.p.A. (Italy)
Parisini, Thomas — Imperial Coll. & Univ. of Trieste
Bodson, Marc — Univ. of Utah

| **WeC11** | Indian River |
|---|---|
| **Hybrid Systems IV** (Regular Session) | |
| Chair: Prieur, Christophe | Gipsa-Lab. |
| Co-Chair: Summers, Sean | ETH Zurich |
| 16:30-16:50 | WeC11.1 |
| *The Continual Reachability Set and Its Computation Using Maximal Reachability Techniques*, pp. 6110-6115. | |
| Kaynama, Shahab | Univ. of British Columbia |
| Oishi, Meeko | Univ. of British Columbia |
| Mitchell, Ian M. | Univ. of British Columbia |
| Dumont, Guy A. | Univ. of British Columbia |
| 16:50-17:10 | WeC11.2 |
| *Dimension Reduction Near Periodic Orbits of Hybrid Systems*, pp. 6116-6121. | |
| Burden, Samuel | Univ. of California at Berkeley |
| Revzen, Shai | Univ. of Pennsylvania |
| Sastry, Shankar | Univ. of California at Berkeley |
| 17:10-17:30 | WeC11.3 |
| *Discrete Time Stochastic Hybrid Dynamical Games: Verification & Controller Synthesis*, pp. 6122-6127. | |
| Kamgarpour, Maryam | Univ. of California, Berkeley |
| Ding, Jerry | Univ. of California - Berkeley |
| Summers, Sean | ETH Zurich |
| Abate, Alessandro | TU Delft |
| Lygeros, John | ETH Zurich |
| Tomlin, Claire J. | UC Berkeley |
| 17:30-17:50 | WeC11.4 |
| *Event-Based Sampling Algorithms Based on a Lyapunov Function*, pp. 6128-6133. | |
| Seuret, Alexandre | CNRS |
| Prieur, Christophe | CNRS |
| 17:50-18:10 | WeC11.5 |
| *Supervisory Control of Differentially Flat Systems Based on Abstraction*, pp. 6134-6139. | |
| Colombo, Alessandro | MIT |
| Del Vecchio, Domitilla | Massachusetts Insitute of Tech. |

| **WeC12** | Lake |
|---|---|
| **Switched Systems V** (Regular Session) | |
| Chair: Nesic, Dragan | Univ. of Melbourne |
| Co-Chair: Wisniewski, Rafal | Aalborg Univ. |
| 16:30-16:50 | WeC12.1 |
| *Convenient Model for Systems with Hystereses-Control*, pp. 6140-6145. | |
| Wisniewski, Rafal | Aalborg Univ. |
| Leth, John | Aalborg Univ. |
| 16:50-17:10 | WeC12.2 |
| *New Stability Criteria for Switched Time-Varying Systems: Output-Persistently Exciting Conditions*, pp. 6146-6152. | |
| Lee, Ti-Chung | Univ. of Science and Tech. |
| Tan, Ying | The Univ. of Melbourne |
| Nesic, Dragan | Univ. of Melbourne |
| 17:10-17:30 | WeC12.3 |
| *Multiple-Model Adaptive Switching Control for Uncertain Multivariable Systems*, pp. 6153-6158. | |
| Baldi, Simone | Univ. di Firenze |
| Battistelli, Giorgio | Univ. of Florence |
| Mari, Daniele | Univ. of Florence |
| Mosca, Edoardo | Univ. of Florence |
| Tesi, Pietro | Univ. of Genoa |

| 17:30-17:50 | WeC12.4 |
|---|---|
| *Stability Analysis and Hinf Controller Design of a Class of Switched Discrete-Time Fuzzy Systems*, pp. 6159-6164. | |
| Chen, Yong | Harbin Inst. of Tech. |
| Zhang, Lixian | Harbin Inst. of Tech. |
| Karimi, Hamid Reza | Univ. of Agder |
| Zhao, Xudong | Coll. of Information and Control Engineering, China Univ. |
| 17:50-18:10 | WeC12.5 |
| *Collision Avoidance Maneuver Design Based on Equidistance Interpolation*, pp. 6165-6170. | |
| Qi, Yongqiang | Beihang Univ. |
| Jia, Yingmin | Beihang Univ. |
| Du, Junping | Beijing Univ. of Posts and Telecommunications |
| Yu, Fashan | Henan Pol. Univ. |

| **WeC13** | Manatee |
|---|---|
| **Aerospace I** (Regular Session) | |
| Chair: Reyhanoglu, Mahmut | Embry Riddle Aeronautical Univ. |
| Co-Chair: Morin, Pascal | INRIA |
| 16:30-16:50 | WeC13.1 |
| *Flatness-Based Control of a Quadrotor Helicopter Via Feedforward Linearization*, pp. 6171-6176. | |
| Formentin, Simone | Pol. di Milano |
| Lovera, Marco | Pol. di Milano |
| 16:50-17:10 | WeC13.2 |
| *Nonlinear Control of PVTOL Vehicles Subjected to Drag and Lift*, pp. 6177-6183. | |
| Pucci, Daniele | INRIA |
| Hamel, Tarek | Univ. de Nice Sophia Antipolis |
| Morin, Pascal | INRIA |
| Samson, Claude | INRIA Sophia-Antipolis |
| 17:10-17:30 | WeC13.3 |
| *Nonlinear Tracking Control of Rigid Spacecraft under Disturbance Using PD and PID Type $mathcal{H}_infty$ State Feedback*, pp. 6184-6191. | |
| Ikeda, Yuichi | Shinshu Univ. |
| Kida, Takashi | Univ. of Electro-Communications |
| Nagashio, Tomoyuki | Osaka Prefecture Univ. |
| 17:30-17:50 | WeC13.4 |
| *Nonlinear Control of a Spacecraft with Multiple Fuel Slosh Modes*, pp. 6192-6197. | |
| Reyhanoglu, Mahmut | Embry Riddle Aeronautical Univ. |
| Rubio Hervas, Jaime | Embry-Riddle Aeronautical Univ. |
| 17:50-18:10 | WeC13.5 |
| *Finite-Gain L_inf Stabilization of Satellite Formation Flying with Input Saturation*, pp. 6198-6203. | |
| Lim, Young-Hun | GIST |
| Ahn, Hyo-Sung | Gwangju Inst. of Science and Tech. (GIST) |
| Kim, Byeong-Yeon | Gwangju Inst. of Science and Tech. (GIST) |

| **WeC14** | Sarasota |
|---|---|
| **Decentralized and Optimal Control** (Regular Session) | |
| Chair: Miller, Daniel | Univ. of Waterloo |
| Co-Chair: Michelin, Andre | UCLA |
| 16:30-16:50 | WeC14.1 |
| *Near Optimal LQR Control in the Decentralized Setting*, pp. 6204-6209. | |
| Miller, Daniel | Univ. of Waterloo |
| Davison, Edward J. | Univ. of Toronto |
| 16:50-17:10 | WeC14.2 |
| *Empirical Approach to Robust Gramian-Based Analysis of Process Interactions in Control Structure Selection*, pp. 6210-6215. | |

| | |
|---|---|
| Castaño Arranz, Miguel | Luleå Univ. of Tech. |
| Birk, Wolfgang | Luleå Univ. of Tech. |
| Halvarsson, Björn | Uppsala Univ. |

17:10-17:30 WeC14.3

*Relative Value of Measurements in a Discrete Decentralized LQG Framework*, pp. 6216-6223.

| | |
|---|---|
| Michelin, Andre | UCLA |
| Speyer, Jason L. | Univ. of California at Los Angeles |

17:30-17:50 WeC14.4

*String Instability in Coupled Harmonic Oscillator Systems*, pp. 6224-6229.

| | |
|---|---|
| Yu, Bo | Univ. of Mechigan, Ann Arbor |
| Freudenberg, James S. | Univ. of Michigan |
| Gillespie, Brent | Univ. of Michigan |
| Middleton, Richard H. | National Univ. of Ireland Maynooth |

17:50-18:10 WeC14.5

*Poisson Reduction of Optimal Control Systems*, pp. 6230-6235.

| | |
|---|---|
| Ohsawa, Tomoki | Univ. of California, San Diego |

**WeC15** Union

**Quantum Information and Control II** (Regular Session)

| | |
|---|---|
| Chair: Hara, Shinji | The Univ. of Tokyo |
| Co-Chair: Rouchon, Pierre | Mines ParisTech |

16:30-16:50 WeC15.1

*Sampled-Data Control of Two-Level Quantum Systems Based on Sliding Mode Design*, pp. 6236-6241.

| | |
|---|---|
| Dong, Daoyi | Univ. of New South Wales |
| Petersen, Ian | Univ. of New South Wales at the Australian Defence Force Ac |

16:50-17:10 WeC15.2

*On Stability of Continuous-Time Quantum-Filters*, pp. 6242-6247.

| | |
|---|---|
| Amini, Hadis | Mines-ParisTech |
| Mirrahimi, Mazyar | INRIA Paris-Rocquencourt |
| Rouchon, Pierre | Mines ParisTech |

17:10-17:30 WeC15.3

*Approximate Stabilization of an Infinite Dimensional Quantum Stochastic System*, pp. 6248-6253.

| | |
|---|---|
| Somaraju, Ram Abhinav | INRIA Rocquencourt |
| Mirrahimi, Mazyar | INRIA Paris-Rocquencourt |
| Rouchon, Pierre | Mines ParisTech |

17:30-17:50 WeC15.4

*Identification and Control of a Two-Level Open Quantum System*, pp. 6254-6259.

| | |
|---|---|
| Xue, Zhengui | National Univ. of Singapore |
| Lin, Hai | National Univ. of Singapore |
| Lee, Tong Heng | National Univ. of Singapore |

17:50-18:10 WeC15.5

*On Quantum-Classical Equivalence for Linear Systems Control Problems and Its Application to Quantum Entanglement Assignment*, pp. 6260-6265.

| | |
|---|---|
| Ohki, Kentaro | The Univ. of Tokyo |
| Hara, Shinji | The Univ. of Tokyo |
| Yamamoto, Naoki | Keio Univ. |

**WeC16** Palm Beach

**Control for Information Acquisition and Optimal Data Fusion** (Invited Session)

| | |
|---|---|
| Chair: Zhang, Fumin | Georgia Inst. of Tech. |
| Co-Chair: Savla, Ketan | Massachusetts Inst. of Tech. |
| Organizer: Baronov, Dimitar | Boston Univ. |
| Organizer: Baillieul, John | Boston Univ. |

| 16:30-16:50 | WeC16.1 |
|---|---|
| *Intruder Capturing Game on a Topological Map Assisted by Information Networks (I)*, pp. 6266-6271. | |
| Kim, Jonghoek | Georgia Inst. of Tech. |
| Maxon, Sean | georgia Inst. of Tech. |
| Egerstedt, Magnus | Georgia Inst. of Tech. |
| Zhang, Fumin | Georgia Inst. of Tech. |
| 16:50-17:10 | WeC16.2 |
| *Sensor Control for Search and Identification of Markov Objects (I)*, pp. 6272-6277. | |
| Castanon, David A. | Boston Univ. |
| Hitchings, Darin | Boston Univ. |
| 17:10-17:30 | WeC16.3 |
| *Probabilistic Bounds for Complete Scanning in Non-Raster Atomic Force Microscopy (I)*, pp. 6278-6283. | |
| Chang, Peter | Boston Univ. |
| Andersson, Sean | Boston Univ. |
| 17:30-17:50 | WeC16.4 |
| *Adaptive Sensor Selection in Sequential Hypothesis Testing (I)*, pp. 6284-6289. | |
| Srivastava, Vaibhav | Univ. of California Santa Barbara |
| Plarre, Kurt | Univ. of California, Santa Barbara |
| Bullo, Francesco | Univ. California at Santa Barbara |
| 17:50-18:10 | WeC16.5 |
| *Robust Distributed Routing in Dynamical Flow Networks (I)*, pp. 6290-6295. | |
| Como, Giacomo | Massachusetts Inst. of Tech. |
| Savla, Ketan | Massachusetts Inst. of Tech. |
| Acemoglu, Daron | MIT |
| Dahleh, Munther A. | Massachusetts Inst. of Tech. |
| Frazzoli, Emilio | Massachusetts Inst. of Tech. |

| **WeC17** | Alachua |
|---|---|
| **Delay Systems IV** (Regular Session) | |
| Chair: Barbot, Jean Pierre | ENSEA |
| Co-Chair: Verriest, Erik I. | Georgia Inst. of Tech. |
| 16:30-16:50 | WeC17.1 |
| *On Feedback Stabilization of Stochastic Nonlinear Systems with Discrete and Distributed Delays*, pp. 6296-6301. | |
| Aggoune, Woihida | ENSEA |
| 16:50-17:10 | WeC17.2 |
| *Delay Identification for Nonlinear Time-Delay Systems*, pp. 6302-6307. | |
| Zheng, Gang | INRIA |
| Barbot, Jean Pierre | ENSEA |
| Boutat, Driss | Ensi de Bourges |
| 17:10-17:30 | WeC17.3 |
| *An Efficient Solution of the Perspective Problem Via a Suitable Delay Riccati Equation*, pp. 6308-6312. | |
| Conte, Francesco | Univ. of L'Aquila |
| Cusimano, Valerio | Univ. Campus Bio-Medico di Roma |
| Germani, Alfredo | Univ. dell'Aquila |
| 17:30-17:50 | WeC17.4 |
| *A Systems Theoretic Analysis of Fast Varying and State Dependent Delays*, pp. 6313-6318. | |
| Michiels, Wim | K.U. Leuven |
| Verriest, Erik I. | Georgia Inst. of Tech. |
| 17:50-18:10 | WeC17.5 |
| *Robust Stability Analysis in the *-Norm and Lyapunov-Razumikhin Functions for the Stability Analysis of Time-Delay Systems*, pp. 6319-6324. | |
| Briat, Corentin | KTH |

| **WeC18** | Baker |
|---|---|
| **Uncertain Systems III** (Regular Session) | |
| Chair: Leonessa, Alexander | Virginia Tech. |
| Co-Chair: Vaidya, Umesh | Iowa State Univ. |
| 16:30-16:50 | WeC18.1 |
| *Robust Synchronization in Nonlinear Network with Link Failure Uncertainty*, pp. 6325-6330. | |
| Diwadkar, Amit | Iowa State Univ. |
| Vaidya, Umesh | Iowa State Univ. |
| 16:50-17:10 | WeC18.2 |
| *Nonlinear Motion Control of CPG-Based Movement with Applications to a Class of Swimming Robots*, pp. 6331-6336. | |
| Morel, Yannick | Swiss Federal Inst. of Tech. |
| Porez, Mathieu | IRCCyN |
| Leonessa, Alexander | Virginia Tech. |
| Ijspeert, Auke Jan | School of Computer and Communication Sciences, EPFL |
| 17:10-17:30 | WeC18.3 |
| *Robust Stability Analysis of Uncertain Linear Positive Systems Via Integral Linear Constraints: L<sub>1</sub> and L<sub>∞ </sub>-Gain Characterizations*, pp. 6337-6342. | |
| Briat, Corentin | KTH |
| 17:30-17:50 | WeC18.4 |
| *A High Order Sliding Mode Control Scheme Based on Adaptive Radial Basis Function Neural Network*, pp. 6343-6348. | |
| Tang, Wei-qiang | Xi'an Jiaotong Univ. |
| Cai, Yuan-Li | Xi'an Jiaotong Univ. |
| 17:50-18:10 | WeC18.5 |
| *Worst-Case Analysis Based Adaptive Control Design for SISO Linear Systems with Plant and Actuation Uncertainties*, pp. 6349-6354. | |
| Zeng, Sheng | CareFusion Corp. |

| **WeC19** | Bay |
|---|---|
| **Autonomous Robots II** (Regular Session) | |
| Chair: Loizou, Savvas | Cyprus Univ. of Tech. |
| Co-Chair: Khorasani, Khashayar | Concordia Univ. |
| 16:30-16:50 | WeC19.1 |
| *Path Tracking Control of Four Wheel Independently Steered Ground Robotic Vehicles*, pp. 6355-6360. | |
| Selekwa, Majura F. | North Dakota State Univ. |
| Nistler, Jonathan | North Dakota State Univ. |
| 16:50-17:10 | WeC19.2 |
| *Closed Form Navigation Functions Based on Harmonic Potentials*, pp. 6361-6366. | |
| Loizou, Savvas | Cyprus Univ. of Tech. |
| 17:10-17:30 | WeC19.3 |
| *Multi-Optimization of Eta3-Splines for Autonomous Parking*, pp. 6367-6372. | |
| Lini, Gabriele | Univ. of Parma |
| Piazzi, Aurelio | Univ. of Parma |
| Consolini, Luca | Univ. of Parma |
| 17:30-17:50 | WeC19.4 |
| *Planning Stable Trajectory on Uneven Terrain Based on Feasible Acceleration Count*, pp. 6373-6379. | |
| Singh, Arun Kumar | IIIT-Hyderabad |
| Krishna, K. Madhava | IIIT-Hyderabad |
| Eathakota, Vijay Prakash | International Inst. of Information Tech. Hyderabad, In |
| 17:50-18:10 | WeC19.5 |
| *Reconfigurable Control of Networked Nonlinear Euler-Lagrange Systems Subject to Fault Diagnostic Imperfections*, pp. 6380-6387. | |
| Mehrabian, Ali Reza | Concordia Univ. |
| Tafazoli, Siamak | Concordia Univ. |

Khorasani, Khashayar — Concordia Univ.

**WeC20** — Broward

**Stochastic Optimal Control II** (Regular Session)

Chair: Charalambous, Charalambos D. — Univ. of Cyprus
Co-Chair: Lim, Andrew E.B. — Univ. of California-Berkeley

16:30-16:50 — WeC20.1

*Multi-Objective Decision-Making Problems for Discrete-Time Stochastic Systems with State and Disturbance-Dependent Noise*, pp. 6388-6393.

Mukaidani, Hiroaki — Hiroshima Univ.
Xu, Hua — Univ. of Tsukuba
Dragan, Vasile — Romanian Acad.

16:50-17:10 — WeC20.2

*Soft-Constrained Stochastic Nash Games for Weakly Coupled Large-Scale Discrete-Time Systems*, pp. 6394-6399.

Mukaidani, Hiroaki — Hiroshima Univ.
Xu, Hua — Univ. of Tsukuba
Dragan, Vasile — Romanian Acad.

17:10-17:30 — WeC20.3

*Decentralized Control of a Multi-Agent Stochastic Dynamic Resource Allocation Problem*, pp. 6400-6406.

Cai, Huaning — IEOR Department, Univ. of California (Berkeley)
Lim, Andrew E.B. — Univ. of California-Berkeley

17:30-17:50 — WeC20.4

*Stochastic Optimal Control of Discrete-Time Systems Subject to Conditional Distribution Uncertainty*, pp. 6407-6412.

Charalambous, Charalambos D. — Univ. of Cyprus
Tzortzis, Ioannis — Univ. of Cyprus
Rezaei, Farzad — Unemployed

17:50-18:10 — WeC20.5

*Dynamic Portfolio Choice with Market Impact Costs*, pp. 6413-6420.

Lim, Andrew E.B. — Univ. of California-Berkeley
Wimonkittiwat, Poomyos — Univ. of California (Berkeley)

**WeC21** — Brevard

**Agents and Autonomous Systems IX** (Regular Session)

Chair: Bamieh, Bassam — Univ. of California at Santa Barbara
Co-Chair: Ishii, Hideaki — Tokyo Inst. of Tech.

16:30-16:50 — WeC21.1

*A New Approach for Aggregated PageRank Computation Via Distributed Randomized Algorithms*, pp. 6421-6426.

Ishii, Hideaki — Tokyo Inst. of Tech.
Tempo, Roberto — Pol. di Torino
Bai, Er-Wei — Univ. of Iowa

16:50-17:10 — WeC21.2

*Quantized Consensus with Finite Data Rate under Directed Topologies*, pp. 6427-6432.

Wang, Yao — Beijing Inst. of Tech.
Wu, Qinghe — Beijing Inst. of Tech.
Wang, Yinqiu — Beijing Inst. of Tech.

17:10-17:30 — WeC21.3

*Sufficient Conditions for Decentralized Navigation Functions Based Controllers Using Canonical Vector Fields*, pp. 6433-6438.

Dimarogonas, Dimos V. — Royal Inst. of Tech.

17:30-17:50 — WeC21.4

*Explorability of Noisy Scalar Fields*, pp. 6439-6444.

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

| 17:50-18:10 | WeC21.5 |
|---|---|
| *Network Coherence in Fractal Graphs*, pp. 6445-6450. | |
| Patterson, Stacy | Univ. of California at Santa Barbara |
| Bamieh, Bassam | Univ. of California at Santa Barbara |

| **WeC22** | Bradford |
|---|---|
| **Subspace Methods** (Regular Session) | |
| Chair: Lovera, Marco | Pol. di Milano |
| Co-Chair: Qin, S. Joe | Univ. of Southern California |
| 16:30-16:50 | WeC22.1 |
| *Uncertainty Quantification for Stochastic Subspace Identification on Multi-Setup Measurements*, pp. 6451-6456. | |
| Döhler, Michael | INRIA Centre Rennes - Bretagne Atlantique |
| Lam, Xuan-Binh | INRIA Rennes - Bretagne Atlantique |
| Mevel, Laurent | INRIA |
| 16:50-17:10 | WeC22.2 |
| *A Subspace Algorithm for Identifying 2-D CRSD Systems with Deterministic Inputs*, pp. 6457-6462. | |
| Ramos, Jose A. | Nova Southeastern Univ. |
| Alenany, Ahmed | Laurentian Univ. |
| Shang, Huilan | Univ. of Alberta |
| Lopes dos Santos, P. | Univ. do Porto |
| 17:10-17:30 | WeC22.3 |
| *Indirect Continuous-Time System Identification---A Subspace Downsampling Approach*, pp. 6463-6468. | |
| Lopes dos Santos, P. | Univ. do Porto |
| Azevedo Perdicoulis, T-P | ISR-Coimbra & UTAD |
| Ramos, Jose A. | Nova Southeastern Univ. |
| Jank, Gerhard | RWTH Aachen |
| Martins de Carvalho, J.L. | Faculdade de Engenharia da Univ. do Porto |
| 17:30-17:50 | WeC22.4 |
| *Recursive Continuous-Time Subspace Identification Using Laguerre Filters*, pp. 6469-6474. | |
| Bergamasco, Marco | Pol. di Milano |
| Lovera, Marco | Pol. di Milano |
| Ohta, Yoshito | Kyoto Univ. |
| 17:50-18:10 | WeC22.5 |
| *Modeling CO<sub>2</sub> Recovery for Optimal Dynamic Operations*, pp. 6475-6480. | |
| Dunia, Ricardo | The Univ. of Texas at Austin |
| Rochelle, Gary | Univ. of Texas at Austin |
| Qin, S. Joe | Univ. of Southern California |

| **ThPL** | Bonnet Creek Ballroom VI & IX |
|---|---|
| **Fifty Years of Information Based Control Theory (Bode Lecture)** (Plenary Session) | |
| Chair: Tempo, Roberto | Pol. di Torino |
| Co-Chair: Middleton, Richard H. | National Univ. of Ireland Maynooth |
| 08:30-09:30 | ThPL.1 |
| *Fifty Years of Information Based Control Theory**. | |
| Baillieul, John | Boston Univ. |

| **ThA01** | Orange |
|---|---|
| **Control Applications to the Electrical Treatment of Pathological Tremor** (Invited Session) | |
| Chair: Chaillet, Antoine | Univ. Paris Sud |
| Co-Chair: Poignet, Philippe | Univ. Montpellier 2 |
| Organizer: Chaillet, Antoine | Univ. Paris Sud |
| Organizer: Poignet, Philippe | Univ. Montpellier 2 |
| 10:00-10:20 | ThA01.1 |
| *Deep Brain Stimulation May Reduce Tremor by Preferential Blockade of Slower Axons Via Antidromic Activation (I)*, pp. 6481-6486. | |
| Rodríguez García, Míriam | NUIM |
| Verwoerd, Mark | National Univ. of Ireland, Maynooth |
| Pearlmutter, Barak | Hamilton Inst. NUI Maynooth, Co. Kildare, Ireland |
| Wellstead, Peter E. | Hamilton Inst. |
| Middleton, Richard H. | National Univ. of Ireland Maynooth |
| 10:20-10:40 | ThA01.2 |
| *Towards Model-Based Control of Parkinson's Disease: A Perspective (I)*, pp. 6487-6491. | |
| Schiff, Steven | Penn State Univ. |
| 10:40-11:00 | ThA01.3 |
| *Bifurcation Analysis Points towards the Source of Beta Neuronal Oscillations in Parkinson's Disease (I)*, pp. 6492-6497. | |
| Nevado-Holgado, Alejo Jesus | Univ. of Cambridge |
| Terry, John R. | Univ. of Sheffield |
| Rafal, Bogacz | Univ. of Bristol |
| 11:00-11:20 | ThA01.4 |
| *On the Use of FES to Attenuate Tremor by Modulating Joint Impedance (I)*, pp. 6498-6503. | |
| Padilha Lanari Bó, Antônio | Univ. de Brasília |
| Azevedo-Coste, Christine | LIRMM |
| Poignet, Philippe | Univ. Montpellier 2 |
| Geny, Christian | CHU Montpellier |
| Fattal, Charles | Centre Propara |
| 11:40-12:00 | ThA01.6 |
| *An Input-Output Approach to the Robust Synchronization of Dynamical Systems with an Application to the Hindmarsh-Rose Neuronal Model (I)*, pp. 6504-6509. | |
| Franci, Alessio | Univ. Paris XI - Supélec |
| Scardovi, Luca | Tech. Univ. München |
| Chaillet, Antoine | Univ. Paris Sud 11 |

| **ThA02** | Dixie |
|---|---|
| **Algebraic/Geometric Methods I** (Regular Session) | |
| Chair: Ohtsuka, Toshiyuki | Osaka Univ. |
| Co-Chair: Barbero-Linan, Maria | ICMAT (CSIC-UAM-UC3M-UCM) |
| 10:00-10:20 | ThA02.1 |
| *Positive Feedback Interconnection of Hamiltonian Systems*, pp. 6510-6515. | |
| van der Schaft, Arjan J. | Univ. of Groningen |

| 10:20-10:40 | ThA02.2 |
|---|---|
| *Converse Results on Existence of Sum of Squares Lyapunov Functions*, pp. 6516-6521. | |
| Ahmadi, Amir Ali | MIT |
| Parrilo, Pablo A. | Massachusetts Inst. of Tech. |
| 10:40-11:00 | ThA02.3 |
| *Kinematics for Rolling a Lorentzian Sphere*, pp. 6522-6527. | |
| Korolko, Anna | Univ. of Bergen |
| Silva Leite, Fátima | Univ. of Coimbra |
| 11:00-11:20 | ThA02.4 |
| *Characterization of Accessibility for Affine Connection Control Systems at Some Points with Nonzero Velocity*, pp. 6528-6533. | |
| Barbero-Linan, Maria | ICMAT (CSIC-UAM-UC3M-UCM) |
| 11:20-11:40 | ThA02.5 |
| *Local Linear Dynamics Assignment in IDA-PBC for Underactuated Mechanical Systems*, pp. 6534-6539. | |
| Kotyczka, Paul | Tech. Univ. Muenchen |

| **ThA03** | Columbia |
|---|---|
| **Reduced-Order Modeling** (Regular Session) | |
| Chair: Kotsalis, Georgios | Georgia Tech. |
| Co-Chair: Wen, John T. | Rensselaer Pol. Inst. |
| 10:00-10:20 | ThA03.1 |
| *Hybrid Model Reduction for Compressible Flow Controller Design*, pp. 6540-6545. | |
| Ge, Xiaoqing | Rensselaer Pol. Inst. |
| Wen, John T. | Rensselaer Pol. Inst. |
| 10:20-10:40 | ThA03.2 |
| *Dynamical Modeling of the Unsteady Flow Over a Flapping Wing by Applying Proper Orthogonal Decomposition and System Identification to Particle Image Velocimetry Data*, pp. 6546-6551. | |
| Durmaz, Oguz | METU |
| Karaca, H. Deniz | TOBB ETU |
| Ozen, G. Deniz | METU |
| Kasnakoglu, Cosku | TOBB Ekonomi ve Teknoloji Univ. |
| Kurtulus, D. Funda | METU |
| 10:40-11:00 | ThA03.3 |
| *Simultaneous Balancing and Model Reduction of Switched Linear Systems*, pp. 6552-6557. | |
| Monshizadeh Naini, Nima | Univ. of Groningen |
| Trentelman, Harry L. | Univ. of Groningen |
| Camlibel, Kanat | Univ. of Groningen |
| 11:00-11:20 | ThA03.4 |
| *A Counterexample to Aggregation Based Model Reduction of Hidden Markov Models*, pp. 6558-6563. | |
| Kotsalis, Georgios | Georgia Tech. |
| Shamma, Jeff S. | Georgia Inst. of Tech. |
| 11:20-11:40 | ThA03.5 |
| *Structure-Preserving Model Reduction for Nonlinear Port-Hamiltonian Systems*, pp. 6564-6569. | |
| Beattie, Christopher A. | Virginia Tech. |
| Gugercin, Serkan | Virginia Tech. |

| **ThA04** | Nassau |
|---|---|
| **Optimization Algorithms IV** (Regular Session) | |
| Chair: Stursberg, Olaf | Univ. of Kassel |
| Co-Chair: Dhal, Rahul | Washington State Univ. |
| 10:00-10:20 | ThA04.1 |
| *A Continuous-State Version of Discrete Randomized Shortest-Paths, with Application to Path Planning*, pp. 6570-6577. | |
| García-Díez, Silvia | Univ. catholique de Louvain |

| | |
|---|---|
| Vandenbussche, Eric | Univ. libre de Bruxelles |
| Saerens, Marco | Univ. catholique de Louvain |

10:20-10:40 ThA04.2

*Performance Analysis of an Influence-Model-Based Graph Partitioning Algorithm*, pp. 6578-6583.

| | |
|---|---|
| Dhal, Rahul | Washington State Univ. |
| Roy, Sandip | Washington State Univ. |

10:40-11:00 ThA04.3

*Optimal Disturbance Rejection Control Design for Electric Power Steering Systems*, pp. 6584-6589.

| | |
|---|---|
| Mehrabi, Naser | Univ. of Waterloo |
| L.Azad, Nasser | Univ. of Waterloo |
| McPhee, John | Univ. of Waterloo |

11:00-11:20 ThA04.4

*Cost Function Design for Economically Optimal Grade Changes for a Polyethylene Gas Phase Reactor*, pp. 6590-6595.

| | |
|---|---|
| Larsson, Per-Ola | Lund Univ. |
| Andersson, Niklas | Departmant of Chemical Engineering, Lund Univ. |
| Akesson, Johan | Lund Univ. |

11:20-11:40 ThA04.5

*Layout Algorithm of Searching Point for a CFD Optimization Problem*, pp. 6596-6601.

| | |
|---|---|
| Kuriyama, Yoshifumi | Gifu National Coll. of Tech. |
| Yano, Ken'ichi | Mie Univ. |
| Watanabe, Mamoru | Terrabyte Co.,Ltd. |

## ThA05 Taylor

**Dynamics Over Complex Networks - III** (Invited Session)

| | |
|---|---|
| Chair: Yildiz, Mehmet Ercan | MIT |
| Co-Chair: Ozdaglar, Asuman | MIT |
| Organizer: Yildiz, Mehmet Ercan | MIT |
| Organizer: Ozdaglar, Asuman | MIT |

10:00-10:20 ThA05.1

*Degree Fluctuations and the Convergence Time of Consensus Algorithms (I)*, pp. 6602-6607.

| | |
|---|---|
| Olshevsky, Alexander | Princeton Univ. |
| Tsitsiklis, John | Massachusetts Inst. of Tech. |

10:20-10:40 ThA05.2

*Distributed Control of Positive Systems (I)*, pp. 6608-6611.

| | |
|---|---|
| Rantzer, Anders | Lund Univ. |

10:40-11:00 ThA05.3

*On Dual Convergence of the Distributed Newton Method for Network Utility Maximization (I)*, pp. 6612-6617.

| | |
|---|---|
| Wei, Ermin | MIT |
| Zargham, Michael | Univ. of Pennsylvania |
| Ozdaglar, Asuman | MIT |
| Jadbabaie, Ali | Univ. of Pennsylvania |

11:00-11:20 ThA05.4

*Approximate Manipulability of Leader-Follower Networks (I)*, pp. 6618-6623.

| | |
|---|---|
| Kawashima, Hiroaki | Kyoto Univ. / Georgia Inst. of Tech. |
| Egerstedt, Magnus | Georgia Inst. of Tech. |

11:20-11:40 ThA05.5

*Attack-Resilient Distributed Formation Control Via Online Adaptation (I)*, pp. 6624-6629.

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

11:40-12:00 ThA05.6

*Distributed Control for Optimal Reactive Power Compensation in Smart Microgrids (I)*, pp. 6630-6635.

| | |
|---|---|
| Bolognani, Saverio | Univ. of Padova |
| Zampieri, Sandro | Univ. di Padova |

| **ThA06** | Jackson |
|---|---|
| **Sensor Networks I** (Regular Session) | |
| Chair: Fanti, Maria Pia | Pol. of Bari |
| Co-Chair: Rizzo, Alessandro | Pol. di Bari |
| 10:00-10:20 | ThA06.1 |
| *New Consensus Algorithms Based on a Positive Splitting Approach*, pp. 6636-6641. | |
| Boschian, Valentina | Univ. of Trieste |
| Fanti, Maria Pia | Pol. of Bari |
| Mangini, Agostino Marcello | Pol. di Bari |
| Ukovich, Walter | Univ. of Trieste |
| 10:20-10:40 | ThA06.2 |
| *Towards Power-Aware Rendezvous*, pp. 6642-6647. | |
| Jaleel, Hassan | Georgia Inst. of Tech. |
| Bopardikar, Shaunak D. | United Tech. Res. Center, Inc. |
| Egerstedt, Magnus | Georgia Inst. of Tech. |
| 10:40-11:00 | ThA06.3 |
| *Consensus-Based Distributed Estimation for Target Tracking in Heterogeneous Sensor Networks*, pp. 6648-6653. | |
| Petitti, Antonio | National Council of Res. |
| Di Paola, Donato | National Res. Council (CNR) |
| Rizzo, Alessandro | Pol. di Bari |
| Cicirelli, Grazia | National Res. Council - CNR - Italy |
| 11:00-11:20 | ThA06.4 |
| *Input Driven Consensus Algorithm for Distributed Estimation and Classification in Sensor Networks*, pp. 6654-6659. | |
| Fagnani, Fabio | Pol. Di Torino |
| Fosson, Sophie | Pol. di Torino |
| Ravazzi, Chiara | Pol. di Torino |
| 11:20-11:40 | ThA06.5 |
| *Corrective Consensus with Asymmetric Wireless Links*, pp. 6660-6665. | |
| Chen, Yin | Johns Hopkins Univ. |
| Tron, Roberto | Johns Hopkins Univ. |
| Terzis, Andreas | Johns Hopkins Univ. |
| Vidal, Rene | Johns Hopkins Univ. |

| **ThA07** | Escambia |
|---|---|
| **Estimation IV** (Regular Session) | |
| Chair: Rajamani, Rajesh | Univ. of Minnesota |
| Co-Chair: Sengupta, Raja | Univ. of California at Berkeley |
| 10:00-10:20 | ThA07.1 |
| *Framework for Estimating System Reliability from Full System and Subsystem Tests with Dependence on Dynamic Inputs*, pp. 6666-6671. | |
| Maranzano, Coire Joseph | Johns Hopkins Univ. Applied Physics Lab. |
| Spall, James C. | Johns Hopkins Univ. |
| 10:20-10:40 | ThA07.2 |
| *Belt-Pulley Friction Estimation for the Continuously Variable Transmission*, pp. 6672-6677. | |
| van Berkel, Koos | Eindhoven Univ. of Tech. |
| Fujii, Toru | Department of Mechanical Engineering, Doshisha Univ. Kyoto |
| Hofman, Theo | Tech. Univ. Eindhoven |
| Steinbuch, Maarten | Eindhoven Univ. of Tech. |
| 10:40-11:00 | ThA07.3 |
| *Moving Horizon Estimator for Measurement Delay Compensation in Model Predictive Control Schemes*, pp. 6678-6683. | |
| Valencia, Felipe | Colombia National Univ. |
| Lopez, Jose David | Univ. Nacional de Colombia |

| | |
|---|---|
| Marquez, Alejandro | Univ. Nacional de Colombia |
| Espinosa, Jairo | Univ. Nacional de Colombia |

11:00-11:20 ThA07.4

*Control of an Electric Power Assisted Steering System Using Reference Model*, pp. 6684-6690.

| | |
|---|---|
| Marouf, Alaa | Univ. de Valenciennes et du Hainaut-Cambrésis (UVHC) |
| Sentouh, Chouki | Univ. of Valenciennes |
| Djemai, Mohamed | Univ. de Valenciennes et du Hainaut-Cambrésis (UVHC) |
| Pudlo, Philippe | UVHC |

11:20-11:40 ThA07.5

*Real-Time Tracking of Linear Processes Over an AWGN Channel without Feedback: The MMSE Optimality of the Innovation Encoder*, pp. 6691-6696.

| | |
|---|---|
| Huang, Ching-Ling | Univ. of California, Berkeley |
| Sengupta, Raja | Univ. of California at Berkeley |
| Huang, Jiangchuan | UC Berkeley |

## ThA08 Flagler

**Optimal Control IV** (Regular Session)

| | |
|---|---|
| Chair: Passenberg, Benjamin | Tech. Univ. Muenchen |
| Co-Chair: Skogestad, Sigurd | Norwegian Univ. of Science & Tech. |

10:00-10:20 ThA08.1

*Design of Penalty Functions for Optimal Control of Linear Dynamical Systems under State and Input Constraints*, pp. 6697-6704.

| | |
|---|---|
| Malisani, Paul | MINES ParisTech |
| Chaplais, Francois | MINES ParisTech |
| Petit, Nicolas | MINES ParisTech |

10:20-10:40 ThA08.2

*On Decomposition of Linear-Quadratic Optimal Control Problems for Two-Steps Descriptor Systems*, pp. 6705-6710.

| | |
|---|---|
| Kurina, Galina | Voronezh State Acad. of Forestry Engineering |

10:40-11:00 ThA08.3

*Singular LQR Control, Impulse-Free Interconnection and Optimal PD Controller Design*, pp. 6711-6716.

| | |
|---|---|
| Kalaimani, Rachel Kalpana | INDIAN Inst. OF Tech. BOMBAY |
| Belur, Madhu N. | Indian Inst. of Tech. Bombay |

11:00-11:20 ThA08.4

*Necessary Conditions of Optimality for State Constrained Infinite Horizon Differential Inclusions*, pp. 6717-6722.

| | |
|---|---|
| Pereira / FEUP, Fernando Lobo | Porto Univ. |
| Silva, Geraldo Nunes | Univ. Estadual Paulista |

11:20-11:40 ThA08.5

*The Minimum Principle for Time-Varying Hybrid Systems with State Switching and Jumps*, pp. 6723-6729.

| | |
|---|---|
| Passenberg, Benjamin | Tech. Univ. Muenchen |
| Leibold, Marion | TU Muenchen |
| Stursberg, Olaf | Univ. of Kassel |
| Buss, Martin | Tech. Univ. Muenchen |

## ThA09 Gilchrist

**Stability of Nonlinear Systems III** (Regular Session)

| | |
|---|---|
| Chair: Rogers, Eric | Univ. of Southampton |
| Co-Chair: Sepulchre, Rodolphe J. | Univ. de Liege |

10:00-10:20 ThA09.1

*Stability of Interconnected Thermodynamic Systems*, pp. 6730-6735

| | |
|---|---|
| Gromov, Dmitry | McGill Univ. |
| Caines, Peter E. | McGill Univ. |

10:20-10:40 ThA09.2

*Absolute Stability and Stabilization of $2$D Roesser Systems with Nonlinear Output Feedback*, pp. 6736-6741.

| | |
|---|---|
| Pakshin, Pavel | Nizhny Novgorod State Tech. Univ. |
| Galkowski, Krzysztof | Univ. of Zielona Gora |
| Rogers, Eric | Univ. of Southampton |

10:40-11:00 ThA09.3

*Distributed Clock Synchronization: Joint Frequency and Phase Consensus*, pp. 6742-6747.

| | |
|---|---|
| Mallada, Enrique | Cornell Univ. |
| Tang, Kevin | Cornell Univ. |

11:00-11:20 ThA09.4

*Desynchronization of Coupled Phase Oscillators, with Application to the Kuramoto System under Mean-Field Feedback*, pp. 6748-6753.

| | |
|---|---|
| Franci, Alessio | Univ. Paris XI - Supélec |
| Panteley, Elena V. | CNRS |
| Chaillet, Antoine | Univ. Paris Sud 11 |
| Lamnabhi-Lagarrigue, Francoise | CNRS and EECI |

11:20-11:40 ThA09.5

*Local Stability Results for the Collective Behaviors of Infinite Populations of Pulse-Coupled Oscillators*, pp. 6754-6759.

| | |
|---|---|
| Mauroy, Alexandre | Univ. of Liege |
| Sepulchre, Rodolphe J. | Univ. de Liege |

## ThA10 Hamilton

**Robust Adaptive Control I** (Regular Session)

| | |
|---|---|
| Chair: Landau, Ioan Dore | GIPSA-Lab. Control Dept. |
| Co-Chair: Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |

10:00-10:20 ThA10.1

*Adaptive Systems with Guaranteed Delay Margins*, pp. 6760-6764.

| | |
|---|---|
| Matsutani, Megumi | Massachusetts Inst. of Tech. |
| Annaswamy, Anuradha | Massachusetts Inst. of Tech. |
| Gibson, Travis | Massachusetts Inst. of Tech. |
| Lavretsky, Eugene | The Boeing Co. |

10:20-10:40 ThA10.2

*Robust Integral of Neural Network and Sign of Tracking Error Control of Uncertain Nonlinear Affine Systems Using State and Output Feedback*, pp. 6765-6770.

| | |
|---|---|
| Yang, Qinmin | Zhejiang Univ. |
| Jagannathan, Sarangapani | Missouri Univ. of Science & Tech. |
| Sun, Youxian | Zhejiang Univ. |

10:40-11:00 ThA10.3

*Hybrid Adaptive Feedforward-Feedback Compensation Algorithms for Active Vibration Control Systems*, pp. 6771-6776.

| | |
|---|---|
| Alma, Marouane | Gipsa-Lab. |
| Landau, Ioan Dore | GIPSA-Lab. Control Dept. |
| Martinez Molina, John Jairo | GIPSA-Lab. GRENOBLE-INP |
| Airimitoaie, Tudor-Bogdan | Gipsa-Lab. Univ. de Grenoble |

11:00-11:20 ThA10.4

*An IIR Youla-Kucera Parametrized Adaptive Feedforward Compensator for Active Vibration Control with Mechanical Coupling*, pp. 6777-6782.

| | |
|---|---|
| Landau, Ioan Dore | GIPSA-Lab. Control Dept. |
| Airimitoaie, Tudor-Bogdan | Gipsa-Lab. Univ. de Grenoble |
| Alma, Marouane | Gipsa-Lab. |

11:40-12:00 ThA10.6

*Robust Self-Tuning PID-Like Control with a Filter for a Class of Discrete Time Systems*, pp. 6783-6787.

| | |
|---|---|
| Fu, Yue | Northeastern Univ. |
| Chai, Tianyou | Northeastern Univ. |

## ThA11 Indian River

**Hybrid Systems V** (Regular Session)

Chair: Althoff, Matthias — Carnegie Mellon Univ.
Co-Chair: Bauso, Dario — Univ. di Palermo

10:00-10:20 — ThA11.1

*A Stochastic Dynamic Principle for Hybrid Systems with Execution Delay and Decision Lags*, pp. 6788-6793.
Granato, Giovanni — ENSTA ParisTech - INRIA
Zidani, Hasnaa — ENSTA ParisTech
Bonnans, Frederic — Mocoa INRIA-Rocquencourt

10:20-10:40 — ThA11.2

*Binary Signals Design to Control a Power Converter*, pp. 6794-6799.
Van Gorp, Jeremy — UVHC
Defoort, Michael — UVHC
Djemai, Mohamed — Univ. de Valenciennes et du Hainaut-Cambrésis (UVHC)

10:40-11:00 — ThA11.3

*Linear Optimal State Estimation in Systems with Independent Mode Transitions*, pp. 6800-6807.
Sigalov, Daniel — Tech. - Israel Inst. of Tech.
Michaeli, Tomer — Tech. - Israel Inst. of Tech.
Oshman, Yaakov — Tech. - Israel Inst. of Tech.

11:00-11:20 — ThA11.4

*Control of Production-Distribution Systems under Discrete Disturbances and Control Actions*, pp. 6808-6813.
Bauso, Dario — Univ. di Palermo
Tarraf, Danielle C. — The Johns Hopkins Univ.

11:20-11:40 — ThA11.5

*Zonotope Bundles for the Efficient Computation of Reachable Sets*, pp. 6814-6821.
Althoff, Matthias — Carnegie Mellon Univ.
Krogh, Bruce H. — Carnegie Mellon Univ.

**ThA12** — Lake

**Automotive Control I** (Regular Session)

Chair: Djemai, Mohamed — Univ. de Valenciennes et du Hainaut-Cambrésis (UVHC)
Co-Chair: Dong, Ke — General Motors

10:00-10:20 — ThA12.1

*Model-Based Threat Assessment in Semi-Autonomous Vehicles with Model Parameter Uncertainties*, pp. 6822-6827.
Ali, Mohammad — Volvo Car Corp.
Falcone, Paolo — Chalmers Univ. of Tech.
Sjoberg, Jonas E. — Chalmers Univ. of Tech.

10:20-10:40 — ThA12.2

*LTV-MPC Approach for Lateral Vehicle Guidance by Front Steering at the Limits of Vehicle Dynamics*, pp. 6828-6833.
Katriniok, Alexander — RWTH Aachen Univ. Germany
Abel, Dirk — RWTH Aachen Univ.

10:40-11:00 — ThA12.3

*Modeling Cyclic Dispersion in Autoignition Combustion*, pp. 6834-6839.
Hellström, Erik — Univ. of Michigan
Stefanopoulou, Anna G. — Univ. of Michigan

11:00-11:20 — ThA12.4

*H∞ Robust Control of a Seat Belt Load-Limiting Device*, pp. 6840-6845.
Dong, Ke — General Motors

11:20-11:40 — ThA12.5

*A Hybrid Control Approach for Low Temperature Combustion Engine Control*, pp. 6846-6851.
Albin, Thivaharan — RWTH Aachen Univ. Inst. of Automatic Control
Drews, Peter — RWTH Aachen Univ. Inst. of Automatic Control
Heßeler, Frank — RWTH Aachen Univ.
Ivanescu, Anca Maria — RWTH Aachen Univ.

| | |
|---|---|
| Seidl, Thomas | RWTH Aachen Univ. |
| Abel, Dirk | RWTH Aachen Univ. |

| **ThA13** | Manatee |
|---|---|
| **Aerospace II** (Regular Session) | |
| Chair: Simani, Silvio | Univ. of Ferrara |
| Co-Chair: Ebihara, Yoshio | Kyoto Univ. |
| 10:00-10:20 | ThA13.1 |
| *A New Longitudinal Flight Path Control with Adaptive Wind Shear Estimation and Compensation*, pp. 6852-6857. | |
| Baldi, Pietro | Dipartimento di Elettronica, Informatica e Sistemistica,Facoltà |
| Castaldi, Paolo | Univ. di Bologna, II Facoltà di Ingegneria |
| Mimmo, Nicola | Dipartimento di Elettronica, Informatica e Sistemistica, Facoltà |
| Torre, Alessio | Dipartimento di Elettronica, Informatica e Sistemistica, facoltà |
| Simani, Silvio | Univ. of Ferrara |
| 10:20-10:40 | ThA13.2 |
| *Output-Feedback Control of the Longitudinal Flight Dynamics Using Adaptative Backstepping*, pp. 6858-6863. | |
| Gavilan, Francisco | Univ. of Seville |
| Vazquez, Rafael | Univ. de Sevilla |
| Acosta, Jose Angel | Univ. de Sevilla |
| 10:40-11:00 | ThA13.3 |
| *3D Path Planning in a Threat Environment*, pp. 6864-6869. | |
| Miller, Boris | Monash Univ. |
| Stepanyan, Karen | Inst. for Information Transmission Problems (KharkevichInsti |
| Miller, Alexander | Inst. for Infromation Transmission Problems |
| Andreev, Mikhail | Inst. for Information Transmission Problems(KharkevichInstit |
| 11:00-11:20 | ThA13.4 |
| *PD+ Based Spacecraft Attitude Tracking with Magnetometer Rate Feedback*, pp. 6870-6875. | |
| Kristiansen, Raymond | Narvik Univ. Coll. |
| Schlanbusch, Rune | Narvik Univ. Coll. |
| Oland, Espen | Narvik Univ. Coll. |
| 11:20-11:40 | ThA13.5 |
| *Periodic H2 Synthesis for Spacecraft Attitude Control with Magnetorquers and Reaction Wheels*, pp. 6876-6881. | |
| Tregouet, Jean-Francois | LAAS-CNRS |
| Arzelier, Denis | LAAS-CNRS |
| Peaucelle, Dimitri | LAAS-CNRS, Univ. de Toulouse |
| Ebihara, Yoshio | Kyoto Univ. |
| Pittet, Christelle | CNES |
| Falcoz, Alexandre | IMS |

| **ThA14** | Sarasota |
|---|---|
| **Distributed Control I** (Regular Session) | |
| Chair: Cortes, Jorge | Univ. of California, San Diego |
| Co-Chair: Doyle, John C. | California Inst. of Tech. |
| 10:00-10:20 | ThA14.1 |
| *Coalition Formation and Motion Coordination for Optimal Deployment*, pp. 6882-6887. | |
| Ouimet, Michael | Univ. of California, San Diego |
| Cortes, Jorge | Univ. of California, San Diego |
| 10:20-10:40 | ThA14.2 |
| *Distributed Coordination-By-Constraint Strategies for Multi-Agent Networked Systems*, pp. 6888-6893. | |
| Casavola, Alessandro | Univ. Della Calabria |
| Garone, Emanuele | Univ. Libre de Bruxelles |
| Tedesco, Francesco | Univ. della Calabria |
| 10:40-11:00 | ThA14.3 |

*Suboptimal Decentralized Controller Design for Chain Structures: Applications to Vehicle Formations*, pp. 6894-6900.

| | |
|---|---|
| Alam, Assad Al | Royal Inst. of Tech. |
| Gattami, Ather | KTH - Royal Inst. of Tech. |
| Johansson, Karl H. | Royal Inst. of Tech. |

11:00-11:20 ThA14.4

*On the Structure of State-Feedback LQG Controllers for Distributed Systems with Communication Delays*, pp. 6901-6906.

| | |
|---|---|
| Lamperski, Andrew | California Inst. of Tech. |
| Doyle, John C. | California Inst. of Tech. |

11:20-11:40 ThA14.5

*Exact Power Constraints in Smart Grid Control (I)*, pp. 6907-6912.

| | |
|---|---|
| Trangbaek, Klaus | Aalborg Univ. |
| Petersen, Mette | Aalborg Univ. and DONG Energy |
| Bendtsen, Jan Dimon | Aalborg Univ. |
| Stoustrup, Jakob | Aalborg Univ. |

## ThA15 Union

**Output Feedback and Observers I** (Regular Session)

| | |
|---|---|
| Chair: Cao, Chengyu | Univ. of Connecticut |
| Co-Chair: Reyhanoglu, Mahmut | Embry Riddle Aeronautical Univ. |

10:00-10:20 ThA15.1

*State Estimators for a Class of Nonlinear Systems*, pp. 6913-6918.

| | |
|---|---|
| Stadlmayr, Richard | Linz Center of Mechatronics |
| Siuka, Andreas | Johannes Kepler Univ. |
| Daxberger, Harald | Johannes Kepler Univ. Linz |

10:20-10:40 ThA15.2

*Convergent Series Observer Design for a Class of Nonlinear Systems*, pp. 6919-6924.

| | |
|---|---|
| Ding, Zhengtao | The Univ. of Manchester |

10:40-11:00 ThA15.3

*Fractional Sliding Mode Observer Design for a Class of Uncertain Fractional Order Nonlinear Systems*, pp. 6925-6930.

| | |
|---|---|
| Dadras, Sara | Tarbiat Modares Univ. |
| Momeni, Hamidreza | Tarbiat Modares Univ. of Tehran |

11:00-11:20 ThA15.4

*Nonlinear Estimation of Fluid Flow Velocity Fields*, pp. 6931-6935.

| | |
|---|---|
| MacKunis, William | Embry-Riddle Aeronautical Univ. |
| Drakunov, Sergey | Embry-Riddle Aeronautical Univ. |
| Reyhanoglu, Mahmut | Embry Riddle Aeronautical Univ. |
| Ukeiley, Lawrence | Univ. of Mississippi |

11:20-11:40 ThA15.5

*Tests on a Virtual Patient for an Observer-Based, Closed-Loop Control of Plasma Glycemia*, pp. 6936-6941.

| | |
|---|---|
| Palumbo, Pasquale | IASI-CNR |
| Pizzichelli, Giulia | IASI-CNR, BioMatLab |
| Panunzi, Simona | Consiglio Nazionale delle Ricerche |
| Pepe, Pierdomenico | Univ. of L' Aquila |
| De Gaetano, Andrea | CNR |

## ThA16 Palm Beach

**Computational Methods** (Regular Session)

| | |
|---|---|
| Chair: Pekarek, David | Northwestern Univ. |
| Co-Chair: Saccon, Alessandro | Inst. Superior Técnico |

10:00-10:20 ThA16.1

*A Backwards Error Analysis Approach for Simulation and Control of Nonsmooth Mechanical Systems*, pp. 6942-6949.

| | |
|---|---|
| Pekarek, David | Northwestern Univ. |
| Murphey, Todd | Northwestern Univ. |

| 10:20-10:40 | ThA16.2 |
|---|---|
| *Matrix Approach to Boolean Calculus*, pp. 6950-6955. | |
| Cheng, Daizhan | Chinese Acad. of Sciences |
| Zhao, Yin | Acad. of Mathematics and Systems Science, CAS |
| Xu, Xiangru | Acad. of Mathematics and System Science, CAS |
| 10:40-11:00 | ThA16.3 |
| *Computation of the Frequency Responses for Distributed Systems with One Spatial Variable*, pp. 6956-6961. | |
| Lieu, Binh K. | Univ. of Minnesota |
| Jovanovic, Mihailo | Univ. of Minnesota |
| 11:00-11:20 | ThA16.4 |
| *SVD-Based Computation of Zeros of Polynomial Matrices*, pp. 6962-6966. | |
| Holzel, Matthew | Univ. of Michigan |
| Bernstein, Dennis S. | Univ. of Michigan |
| 11:20-11:40 | ThA16.5 |
| *Numerical Construction of LISS Lyapunov Functions under a Small Gain Condition*, pp. 6967-6972. | |
| Geiselhart, Roman | Univ. of Wuerzburg |
| Wirth, Fabian R. | Univ. Würzburg |
| 11:40-12:00 | ThA16.6 |
| *Lie Group Projection Operator Approach: Optimal Control on T SO(3)*, pp. 6973-6978. | |
| Saccon, Alessandro | Inst. Superior Técnico |
| Aguiar, A. Pedro | Inst. Superior Tecnico, Tech. Univ. of Lisbon |
| Hauser, John | Univ. of Colorado at Boulder |

| **ThA17** | Alachua |
|---|---|
| **Distributed Parameter Systems VI** (Regular Session) | |
| Chair: van der Schaft, Arjan J. | Univ. of Groningen |
| Co-Chair: Pisano, Alessandro | Univ. of Cagliari |
| 10:00-10:20 | ThA17.1 |
| *Structure Preserving Spatial Discretization of 1D Convection-Diffusion Port-Hamiltonian Systems*, pp. 6979-6984. | |
| Voss, Thomas | Eindhoven Univ. of Tech. |
| Weiland, Siep | Eindhoven Univ. of Tech. |
| 10:20-10:40 | ThA17.2 |
| *Designing Observer-Based Controllers for PDE Systems: A Heat-Conducting Rod with Point Observation and Boundary Control*, pp. 6985-6990. | |
| Gahlawat, Aditya | Illinois Inst. of Tech. |
| Peet, Matthew M. | Illinois Inst. of Tech. |
| 10:40-11:00 | ThA17.3 |
| *Generalized Kalman-Yakubovich-Popov Lemma for 2-D FM LSS Model and Its Application to Finite Frequency Positive Real Control*, pp. 6991-6996. | |
| Li, Xianwei | Harbin Inst. of Tech. |
| Gao, Huijun | Harbin Inst. of Tech. |
| 11:00-11:20 | ThA17.4 |
| *Optimal Control of a Class of Linear Nonautonomous Parabolic PDE Via Two-Parameter Semigroup Representation*, pp. 6997-7002. | |
| Ng, James | Univ. of Alberta |
| Dubljevic, Stevan | Univ. of Alberta |
| Aksikas, Ilyasse | King Abdelaziz Univ. |
| 11:20-11:40 | ThA17.5 |
| *A Discrete Exterior Approach to Structure-Preserving Discretization of Distributed-Parameter Port-Hamiltonian Systems*, pp. 7003-7008. | |
| Seslija, Marko | Faculty of Mathematics and Natural Sciences, Univ. of Groni |
| Scherpen, Jacquelien M.A. | Univ. of Groningen |
| van der Schaft, Arjan J. | Univ. of Groningen |

| **ThA18** | Baker |
|---|---|
| **Sliding Mode Control I** (Regular Session) | |
| Chair: Ferrara, Antonella | Univ. of Pavia |
| Co-Chair: Utkin, Vadim I. | Ohio State Univ. |
| 10:00-10:20 | ThA18.1 |
| *Adaptive Super-Twist Control with Minimal Chattering Effect*, pp. 7009-7014. | |
| Utkin, Vadim I. | Ohio State Univ. |
| Poznyak, Alexander S. | CINVESTAV-IPN |
| Ordaz, Patricio | CINVESTAV |
| 10:20-10:40 | ThA18.2 |
| *Twisting-Controller Gain Adaptation*, pp. 7015-7020. | |
| Levant, Arie | Tel - Aviv Univ. |
| Taleb, Mohammed | IRCCyN-Ec. Centrale de Nantes |
| Plestan, Franck | Ec. Centrale de Nantes-IRCCyN |
| 10:40-11:00 | ThA18.3 |
| *Output-Feedback Sliding Mode Control for Global Tracking of Uncertain Nonlinear Time-Delay Systems*, pp. 7021-7026. | |
| Lobo Coutinho, Camila | Petrobras Transporte |
| Oliveira, Tiago Roux | State Univ. of Rio de Janeiro |
| Cunha, José Paulo V. S. | State Univ. of Rio de Janeiro |
| 11:00-11:20 | ThA18.4 |
| *A New Finite-Time Convergent and Robust Direct Model Reference Adaptive Control for SISO Linear Time Invariant Systems*, pp. 7027-7032. | |
| Guzman, Eder | Univ. Nacional Autonoma de México |
| Moreno, Jaime A. | Univ. Nacional Autonoma de Mexico-UNAM |
| 11:20-11:40 | ThA18.5 |
| *Switched Second Order Sliding Mode Control with Partial Information*, pp. 7033-7038. | |
| Tanelli, Mara | Pol. di Milano |
| Ferrara, Antonella | Univ. of Pavia |

| **ThA19** | Bay |
|---|---|
| **Process Control** (Regular Session) | |
| Chair: Balestrino, Aldo | Univ. di Pisa |
| Co-Chair: Gambier, Adrian | Heidelberg Univ. |
| 10:00-10:20 | ThA19.1 |
| *Constrained Stabilization of a Continuous Stirred Tank Reactor Via Smooth Control Lyapunov R-Functions*, pp. 7039-7044. | |
| Balestrino, Aldo | Univ. di Pisa |
| Caiti, Andrea | Univ. of Pisa |
| Grammatico, Sergio | Univ. of Pisa |
| 10:20-10:40 | ThA19.2 |
| *Control of a Reverse Osmosis Plant by Using a Robust PID Design Based on Multi-Objective Optimization*, pp. 7045-7050. | |
| Gambier, Adrian | Fraunhofer IWES |
| 10:40-11:00 | ThA19.3 |
| *Optimal Continuous Approximation of Basic Fractional Elements: Theory and Applications*, pp. 7051-7056. | |
| Cech, Martin | Univ. of West Bohemia in Pilsen |
| Schlegel, Miloš | Department of Cybernetics, Univ. of West Bohemia in Pilsen |
| 11:00-11:20 | ThA19.4 |
| *Model Predictive Control of BSM1 Benchmark of Wastewater Treatment Process: A Tuning Procedure*, pp. 7057-7062. | |
| Francisco, Mario | Univ. of Salamanca |
| Vega, Pastora | Univ. of Salamanca |
| Revollar, Silvana | Univ. Simón Bolívar |
| 11:20-11:40 | ThA19.5 |
| *Optimal PI Tuning Rules for Flow Loop, Based on Modified Relay Feedback Test*, pp. 7063-7068. | |

Sayedain, Sepehr — Univ. of Calgary
Boiko, Igor — Univ. of Calgary

**ThA20** — Broward
**Stochastic Optimal Control III** (Regular Session)
Chair: Costa, Oswaldo Luiz V. — Univ. of Sao Paulo
Co-Chair: Malikopoulos, Andreas — Oak Ridge National Lab.

10:00-10:20 — ThA20.1
*On a Problem of Stochastic Reach-Avoid Set Characterization*, pp. 7069-7074.
Mohajerin Esfahani, Peyman — Swiss Federal Inst. of Tech. Zurich (ETHZ)
Chatterjee, Debasish — Indian Inst. of Tech. Bombay
Lygeros, John — ETH Zurich

10:20-10:40 — ThA20.2
*Reachability Probabilities in Markovian Timed Automata*, pp. 7075-7080.
Chen, Taolue — Oxford Univ.
Han, Tingting — Univ. of Oxford
Katoen, Joost-Pieter — Univ. of Twente/RWTH Aachen
Mereacre, Alexandru — Univ. of Oxford

10:40-11:00 — ThA20.3
*Optimality Conditions for a Trend-Following Strategy*, pp. 7081-7086.
Kong, Hoi Tin — MetLife, Inc
Zhang, Qing — Univ. of Georgia
Yin, George — Wayne State Univ.

11:00-11:20 — ThA20.4
*Singular Control for Discounted Markov Decision Processes in a General State Space*, pp. 7087-7092.
Costa, Oswaldo Luiz V. — Univ. of Sao Paulo
Dufour, Francois — Univ. Bordeaux 1

11:20-11:40 — ThA20.5
*Equilibrium Control Policies for Markov Chains*, pp. 7093-7098.
Malikopoulos, Andreas — Oak Ridge National Lab.

**ThSP1** — Bonnet Creek Ballroom III & VI
**Convex Relaxation of Quadratic and Quartic Optimization Problems** (Semiplenary Session)
Chair: Cassandras, Christos G. — Boston Univ.

13:30-14:20 — ThSP1.1
*Convex Relaxation of Quadratic and Quartic Optimization Problems**.
Luo, Zhi-Quan — Univ. of Minnesota

**ThSP2** — Bonnet Creek Ballroom IX & XII
**Monitoring of Large-Scale Nonlinear Systems by Approximation-Based Methods: Theory and Industrial Perspectives** (Semiplenary Session)
Chair: Polycarpou, Marios M. — Univ. of Cyprus

13:30-14:20 — ThSP2.1
*Monitoring of Large-Scale Nonlinear Systems by Approximation-Based Methods: Theory and Industrial Perspectives**.
Parisini, Thomas — Imperial Coll. & Univ. of Trieste

**ThB01** — Orange
**Electrical Power Systems I** (Regular Session)
Chair: Hiskens, Ian A. — Univ. of Michigan
Co-Chair: Dörfler, Florian — Univ. of California at Santa Barbara

14:30-14:50 — ThB01.1
*Topological Equivalence of a Structure-Preserving Power Network Model and a Non-Uniform Kuramoto Model of Coupled*

*Oscillators*, pp. 7099-7104.

Dörfler, Florian — Univ. of California at Santa Barbara
Bullo, Francesco — Univ. California at Santa Barbara

14:50-15:10 — ThB01.2

*A Stable Finite Horizon Model Predictive Control for Power System Voltage Collapse Prevention*, pp. 7105-7110.

Gong, Bo — Siemens Energy USA, PTI
Hiskens, Ian A. — Univ. of Michigan

15:10-15:30 — ThB01.3

*Stochastic MPC for Real-Time Market-Based Optimal Power Dispatch*, pp. 7111-7116.

Patrinos, Panagiotis — IMT Inst. for Advanced Studies Lucca
Trimboli, Sergio — Univ. of Trento
Bemporad, Alberto — IMT Inst. for Advanced Studies Lucca

15:30-15:50 — ThB01.4

*An Iterative SVD-Tangential Interpolation Method for Medium-Scale MIMO Systems Approximation with Application on Flexible Aircraft*, pp. 7117-7122.

Poussot-Vassal, Charles — ONERA

15:50-16:10 — ThB01.5

*Distributed Control for Optimal Economic Dispatch of Power Generators: The Heterogenous Case*, pp. 7123-7128.

Mudumbai, Raghuraman — Univ. of Iowa
Dasgupta, Soura — Univ. of Iowa
Cho, Brian — Univ. of California, Davis

## ThB02 — Dixie

**Algebraic/Geometric Methods II** (Regular Session)

Chair: Respondek, Witold — INSA de Rouen
Co-Chair: Bonnabel, Silvere — Mines ParisTech

14:30-14:50 — ThB02.1

*Equivalence and Equivariants of Mechanical Control Systems*, pp. 7129-7134.

Respondek, Witold — INSA de Rouen
Ricardo, Sandra — UTAD

14:50-15:10 — ThB02.2

*A Modified Design for the NonLinear Benchmark Problem with a Stability Proof*, pp. 7135-7140.

Hexner, Gyorgy — RAFAEL, Haifa ISRAEL

15:10-15:30 — ThB02.3

*A Gradient Method for Geodesic Data Fitting on Some Symmetric Riemannian Manifolds*, pp. 7141-7146.

Rentmeesters, Quentin — Univ. catholique de Louvain

15:30-15:50 — ThB02.4

*Contraction and Observer Design on Cones*, pp. 7147-7151.

Bonnabel, Silvere — Mines ParisTech
Astolfi, Alessandro — Imperial Coll. & Univ. of Rome
Sepulchre, Rodolphe J. — Univ. de Liege

15:50-16:10 — ThB02.5

*An SOS-QE Approach to Nonlinear Gain Analysis*, pp. 7152-7157.

Ichihara, Hiroyuki — Meiji Univ.
Anai, Hirokazu — Fujitsu Lab. Ltd / Kyushu Univ.

## ThB03 — Columbia

**Model/Controller Reduction I** (Regular Session)

Chair: Mutsaers, Mark — Eindhoven Univ. of Tech.
Co-Chair: Nijmeijer, Hendrik — Eindhoven Univ. of Tech.

14:30-14:50 — ThB03.1

*Steady State Stability Preserving Nonlinear Model Reduction Using Sequential Convex Optimization*, pp. 7158-7163.

| | |
|---|---|
| Loehning, Martin | Univ. of Stuttgart |
| Hasenauer, Jan | Univ. Stuttgart |
| Allgower, Frank | Univ. of Stuttgart |

14:50-15:10 ThB03.2

*Moment Matching for Linear Port Hamiltonian Systems*, pp. 7164-7169.

| | |
|---|---|
| Ionescu, Tudor C. | Imperial Coll. London |
| Astolfi, Alessandro | Imperial Coll. & Univ. of Rome |

15:10-15:30 ThB03.3

*Model Reduction of Nonlinear Systems with Bounded Incremental L2 Gain*, pp. 7170-7175.

| | |
|---|---|
| Besselink, Bart | Eindhoven Univ. of Tech. |
| Van De Wouw, Nathan | Eindhoven Univ. of Tech. |
| Nijmeijer, Hendrik | Eindhoven Univ. of Tech. |

15:30-15:50 ThB03.4

*A Model Reduction Scheme with Preserved Optimal Performance*, pp. 7176-7181.

| | |
|---|---|
| Mutsaers, Mark | Eindhoven Univ. of Tech. |
| Weiland, Siep | Eindhoven Univ. of Tech. |

15:50-16:10 ThB03.5

*An Improved Algorithm for Frequency Weighted Balanced Truncation*, pp. 7182-7187.

| | |
|---|---|
| Wan Muda, Wan Mariam | Univ. of Western Australia |
| Sreeram, Victor | Univ. of Western Australia |
| Iu, Herbert Ho-Ching | The Univ. of Western Australia |

**ThB04** Nassau

**Optimization I** (Regular Session)

| | |
|---|---|
| Chair: Bullo, Francesco | Univ. California at Santa Barbara |
| Co-Chair: Lasserre, Jean B. | LAAS-CNRS and Inst. of Mathematics, Univ. ofToulouse |

14:30-14:50 ThB04.1

*Algorithms for Leader Selection in Large Dynamical Networks: Noise-Free Leaders*, pp. 7188-7193.

| | |
|---|---|
| Fardad, Makan | Syracuse Univ. |
| Lin, Fu | Univ. of Minnesota |
| Jovanovic, Mihailo | Univ. of Minnesota |

14:50-15:10 ThB04.2

*Convex Underestimators of Polynomials*, pp. 7194-7199.

| | |
|---|---|
| Lasserre, Jean B. | LAAS-CNRS and Inst. of Mathematics, Univ. of Toulouse |
| Phan, Thanh Tung | LAAS-CNRS, Univ. of Toulouse |

15:10-15:30 ThB04.3

*Output Error Identification for Multi-Input Multi-Output Systems with Bounded Disturbances*, pp. 7200-7205.

| | |
|---|---|
| Pouliquen, Mathieu | Univ. de Caen |
| Pigeon, Eric | ISMRA |
| Gehan, Olivier | ISMRA |

15:30-15:50 ThB04.4

*Optimum Generation Units Dispatch for Fuel Consumption Minimization*, pp. 7206-7211.

| | |
|---|---|
| Han, Yi | Colorado State Univ. |
| Young, Peter M. | Colorado State Univ. |
| Zimmerle, Daniel | Colorado State Univ. |

15:50-16:10 ThB04.5

*Hybrid Combinatorial Optimization: Sample Problems and Algorithms*, pp. 7212-7217.

| | |
|---|---|
| Srivastava, Vaibhav | Univ. of California Santa Barbara |
| Bullo, Francesco | Univ. California at Santa Barbara |

**ThB05** Taylor

**Network Analysis and Control II** (Regular Session)

Chair: Hui, Qing — Texas Tech. Univ.
Co-Chair: Hancock, Edward J. — Univ. of Oxford

14:30-14:50 — ThB05.1

*Convergence and Stability Analysis for Iterative Dynamics with Application in Balanced Resource Allocation: A Trajectory Distance Based Lyapunov Approach*, pp. 7218-7223.

Hui, Qing — Texas Tech. Univ.

14:50-15:10 — ThB05.2

*Online Distributed Interdependency Estimation for Critical Infrastructures*, pp. 7224-7229.

Oliva, Gabriele — Univ. Roma Tre of Rome, Italy
Panzieri, Stefano — Univ. "Roma Tre"
Setola, Roberto — Univ. Campus Biomedico

15:10-15:30 — ThB05.3

*Converging an Overlay Network to a Gradient Topology*, pp. 7230-7235.

Terelius, Håkan — Royal Inst. of Tech.
Shi, Guodong — Royal Inst. of Tech.
Dowling, Jim — Swedish Inst. of Computer Science
Payberah, Amir H. — Swedish Inst. of Computer Science
Gattami, Ather — KTH - Royal Inst. of Tech.
Johansson, Karl H. — Royal Inst. of Tech.

15:30-15:50 — ThB05.4

*Structured Sum of Squares for Networked Systems Analysis*, pp. 7236-7241.

Hancock, Edward J. — Univ. of Oxford
Papachristodoulou, Antonis — Univ. of Oxford

15:50-16:10 — ThB05.5

*Control of Connected Markov Chains. Application to Congestion Avoidance in the Internet*, pp. 7242-7248.

Miller, Boris — Monash Univ.
Miller, Alexander — Inst. for Infromation Transmission Problems

## ThB06 — Jackson

**Sensor Networks II** (Regular Session)

Chair: Selmic, Rastko R. — Louisiana Tech. Univ.
Co-Chair: Panayiotou, Christos — Univ. of Cyprus

14:30-14:50 — ThB06.1

*On the Optimal Search Neighborhood in Mixed Wireless Sensor Networks*, pp. 7249-7254.

Lambrou, Theofanis — Univ. of Cyprus
Panayiotou, Christos — Univ. of Cyprus

14:50-15:10 — ThB06.2

*A Nonlinear Optimization Approach to Coverage Problem in Mobile Sensor Networks*, pp. 7255-7261.

Habibi, Jalal — Concordia Univ.
Mahboubi, Hamid — Concordia Univ.
Aghdam, Amir G. — Concordia Univ.

15:10-15:30 — ThB06.3

*Distributed Unmanned Ground Vehicle Navigation in Coordinate-Free and Localization-Free Wireless Sensor and Actuator Networks*, pp. 7262-7267.

Zhang, Guyu — Louisiana Tech. Univ.
Duncan, Christian — Louisiana Tech. Univ.
Kanno, Jinko — Louisiana Tech. Univ.
Selmic, Rastko R. — Louisiana Tech. Univ.

15:30-15:50 — ThB06.4

*A Framework for Robust Synchronization in Heterogeneous Multi--Agent Networks*, pp. 7268-7274.

Lovisari, Enrico — Univ. of Padova
Jonsson, Ulf T. — Royal Inst. of Tech. (KTH)

15:50-16:10 — ThB06.5

*Power Allocation Policy for Distributed Estimation in Wireless Networks*, pp. 7275-7280.

Matei, Ion — Univ. of Maryland

Baras, John S. — Univ. of Maryland

| **ThB07** | Escambia |
|---|---|
| **Estimation V** (Regular Session) | |
| Chair: Mirkin, Leonid | Tech. |
| Co-Chair: Hwang, Inseok | Purdue Univ. |
| 14:30-14:50 | ThB07.1 |
| *Near-Real-Time GPS Integer Ambiguity Resolution*, pp. 7281-7286. | |
| Chen, Anning | Univ. of California, Riverside |
| Zheng, Dongfang | Univ. of California, Riverside |
| Ramanandan, Arvind | Univ. of California, Riverside |
| Farrell, Jay | Univ. of California Riverside |
| 14:50-15:10 | ThB07.2 |
| *L2 Signal Reconstruction with FIR and Steady-State Behavior Constraints*, pp. 7287-7292. | |
| Levinson, Yaron | Tech. – IIT |
| Mirkin, Leonid | Tech. |
| 15:10-15:30 | ThB07.3 |
| *Stochastic Approximation Algorithm with Application to Event-Triggered Filtering*, pp. 7293-7298. | |
| Liu, Weiyi | Purdue Univ. |
| Hwang, Inseok | Purdue Univ. |
| 15:30-15:50 | ThB07.4 |
| *Channel Estimation for Free-Space Optical Communication*, pp. 7299-7304. | |
| Komaee, Arash | Univ. of Maryland Coll. Park |
| 15:50-16:10 | ThB07.5 |
| *Design of Distributed Estimators Over Arbitrary Causal Networks*, pp. 7305-7310. | |
| Andalam, Satya Mohan Vamsi | Iowa State Univ. |
| Elia, Nicola | Iowa State Univ. |

| **ThB08** | Flagler |
|---|---|
| **Optimal Control V** (Regular Session) | |
| Chair: Holzinger, Marcus | Texas A&M Univ. |
| Co-Chair: Techy, Laszlo | Univ. of Washington |
| 14:30-14:50 | ThB08.1 |
| *Embedded Optimal Control Problems*, pp. 7311-7316. | |
| Nordkvist, Nikolaj | Leeward Community Coll. |
| Crouch, Peter | Univ. of Hawaii |
| Bloch, Anthony M. | Univ. of Michigan |
| Sanyal, Amit | New Mexico State Univ. |
| 14:50-15:10 | ThB08.2 |
| *Reachability Set Subspace Computation for Nonlinear Systems Using Sampling Methods*, pp. 7317-7324. | |
| Holzinger, Marcus | Texas A&M Univ. |
| Scheeres, Daniel | The Univ. of Colorado |
| 15:10-15:30 | ThB08.3 |
| *Optimal Navigation in a Planar Time-Varying Point-Symmetric Flow-Field*, pp. 7325-7330. | |
| Techy, Laszlo | Univ. of Washington |
| 15:30-15:50 | ThB08.4 |
| *Nonsmooth Approximate Maximum Principle in Optimal Control*, pp. 7331-7333. | |
| Shvartsman, Ilya | Penn State Harrisburg |
| Mordukhovich, Boris | Wayne State Univ. |
| 15:50-16:10 | ThB08.5 |

*Necessary Optimality Conditions in Discrete Nonsmooth Optimal Control*, pp. 7334-7336.
Shvartsman, Ilya — Penn State Harrisburg

| **ThB09** | Gilchrist |
|---|---|
| **Stability of Nonlinear Systems IV** (Regular Session) | |
| Chair: Morin, Pascal | INRIA |
| Co-Chair: Söffker, Dirk | Univ. of Duisburg-Essen |

14:30-14:50 — ThB09.1

*Global Stability of Uncertain Rational Nonlinear Systems with Some Positive States*, pp. 7337-7342.
Trofino, Alexandre — Federal Univ. of Santa Catarina
Dezuo, Tiago J.M. — UFSC/CTC/DAS 88040-900 Florianopolis, Brazil

14:50-15:10 — ThB09.2

*Invariance of Symmetric Convex Sets for Discrete-Time Saturated Systems*, pp. 7343-7348.
Fiacchini, Mirko — LAAS-CNRS Toulouse
Tarbouriech, Sophie — LAAS-CNRS
Prieur, Christophe — Gipsa-Lab.

15:10-15:30 — ThB09.3

*Control of Two-Steering-Wheels Vehicles with the Transverse Function Approach*, pp. 7349-7355.
Morin, Pascal — INRIA
Samson, Claude — INRIA Sophia-Antipolis

15:30-15:50 — ThB09.4

*A Data-Driven Online Stability Monitoring Method for Unknown Discrete-Time Nonlinear Systems*, pp. 7356-7361.
Zhang, Fan — Univ. of Duisburg-Essen
Söffker, Dirk — Univ. of Duisburg-Essen

15:50-16:10 — ThB09.5

*Implicit Lyapunov Control for Schrödinger Equations with Dipole and Polarizability Term*, pp. 7362-7367.
Grigoriu, Andreea — Princeton Univ.

| **ThB10** | Hamilton |
|---|---|
| **Robust Adaptive Control II** (Regular Session) | |
| Chair: De Keyser, Robin M.C. | Univ. of Gent |
| Co-Chair: Lee, Taeyoung | George Washington Univ. |

14:30-14:50 — ThB10.1

*Decision Rules for Information Discovery in Multi-Stage Stochastic Programming*, pp. 7368-7373.
Vayanos, Phebe — Imperial Coll. London
Kuhn, Daniel — Imperial Coll. London
Rustem, Berc — Imperial Coll. London

14:50-15:10 — ThB10.2

*Evaluation of a Propofol and Remifentanil Interaction Model for Predictive Control of Anesthesia Induction*, pp. 7374-7379.
Ionescu, Clara — Ghent Univ.
De Keyser, Robin M.C. — Univ. of Gent
Struys, Michel MRF — Univ. Medical Centre of Groningen, Department of Anesthesio

15:10-15:30 — ThB10.3

*Robust Adaptive Geometric Tracking Controls on SO(3) with an Application to the Attitude Dynamics of a Quadrotor UAV*, pp. 7380-7385.
Fernando, Thilina — Florida Inst. of Tech.
Jiten Chandiramani, Jiten Chandiramani — Florida Inst. of Tech.
Lee, Taeyoung — George Washington Univ.
Gutierrez, H. M. — Florida Inst. of Tech.

15:30-15:50 — ThB10.4

*A Scenario Approach for Estimating the Suboptimality of Linear Decision Rules in Two-Stage Robust Optimization*, pp. 7386-7391.
Hadjiyiannis, Michael J. — Imperial Coll. London

| | |
|---|---|
| Goulart, Paul J. | ETH Zurich |
| Kuhn, Daniel | Imperial Coll. London |
| 15:50-16:10 | ThB10.5 |
| *Output Control for Nonlinear System with Time-Varying Delay and Stability Analysis*, pp. 7392-7397. | |
| Pyrkin, Anton | Saint-Petersburg State Univ. of ITMO |
| Bobtsov, Alexey | Saint-Petersburg State Univ. of ITMO |

| **ThB11** | Indian River |
|---|---|
| **Stability of Hybrid Systems I** (Regular Session) | |
| Chair: Marconi, Lorenzo | Univ. di Bologna |
| Co-Chair: Ames, Aaron | Texas A&M Univ. |
| 14:30-14:50 | ThB11.1 |
| *Stability and Invariance Analysis of Uncertain PWA Systems Based on Linear Programming*, pp. 7398-7403. | |
| Trimboli, Sergio | Univ. of Trento |
| Rubagotti, Matteo | Univ. of Trento |
| Bemporad, Alberto | IMT Inst. for Advanced Studies Lucca |
| 14:50-15:10 | ThB11.2 |
| *Control Lyapunov Functions and Stabilizability of Compact Sets for Hybrid Systems*, pp. 7404-7409. | |
| Sanfelice, Ricardo G. | Univ. of Arizona |
| 15:10-15:30 | ThB11.3 |
| *Hybrid Output Regulation with Unmeasured Clock*, pp. 7410-7415. | |
| Cox, Nicholas | Univ. of California, Santa Barbara |
| Marconi, Lorenzo | Univ. di Bologna |
| Teel, Andrew R. | Univ. of California at Santa Barbara |
| 15:30-15:50 | ThB11.4 |
| *Passivity-Based Controllers for a Class of Hybrid Systems with Applications to Mechanical Systems Interacting with Their Environment*, pp. 7416-7421. | |
| Naldi, Roberto | Univ. di Bologna |
| Sanfelice, Ricardo G. | Univ. of Arizona |
| 15:50-16:10 | ThB11.5 |
| *Rank Deficiency and Superstability of Hybrid Systems with Application to Bipedal Robots*, pp. 7422-7427. | |
| Wendel, Eric DB | Texas A&M Univ. |
| Ames, Aaron | Texas A&M Univ. |
| 15:50-16:10 | ThB11.6 |
| *Further Results on Synergistic Lyapunov Functions and Hybrid Feedback Design through Backstepping*, pp. 7428-7433. | |
| Mayhew, Christopher G. | Robert Bosch LLC |
| Sanfelice, Ricardo G. | Univ. of Arizona |
| Teel, Andrew R. | Univ. of California at Santa Barbara |

| **ThB12** | Lake |
|---|---|
| **Automotive Control II** (Regular Session) | |
| Chair: Rajamani, Rajesh | Univ. of Minnesota |
| Co-Chair: Gaspar, Peter | Computer & Automation Inst. of HAS |
| 14:30-14:50 | ThB12.1 |
| *Design of Actuator Interventions in the Trajectory Tracking for Road Vehicles*, pp. 7434-7439. | |
| Nemeth, Balazs | Computer and Automation Res. Inst. |
| Gaspar, Peter | Computer & Automation Inst. of HAS |
| 14:50-15:10 | ThB12.2 |
| *New Rollover Index for Detection of Tripped and Un-Tripped Rollovers*, pp. 7440-7445. | |
| Phanomchoeng, Gridsada | Univ. of Minnesota |
| Rajamani, Rajesh | Univ. of Minnesota |
| 15:10-15:30 | ThB12.3 |

*Bias Reduction in DAE Estimators by Model Augmentation: Observability Analysis and Experimental Evaluation*, pp. 7446-7451.

| | |
|---|---|
| Höckerdal, Erik | Linköping Univ. |
| Frisk, Erik | Linkoping Univ. |
| Eriksson, Lars | Linkoping Univ. |

15:30-15:50 ThB12.4

*Integration of Control Design and Variable Geometry Suspension Construction for Vehicle Stability Enhancement*, pp. 7452-7457.

| | |
|---|---|
| Nemeth, Balazs | Computer and Automation Res. Inst. |
| Gaspar, Peter | Computer & Automation Inst. of HAS |

15:50-16:10 ThB12.5

*Nonlinear Model Predictive Control for Improving Energy Recovery for Electric Vehicles During Regenerative Braking*, pp. 7458-7463.

| | |
|---|---|
| Huang, Xiaoyu | Ohio State Univ. |
| Wang, Junmin | The Ohio State Univ. |

**ThB13** Manatee

**Aerospace III** (Regular Session)

| | |
|---|---|
| Chair: Serrani, Andrea | The Ohio State Univ. |
| Co-Chair: Shim, David Hyunchul | KAIST |

14:30-14:50 ThB13.1

*Robust Nonlinear Control Design for a Minimally-Actuated Flapping-Wing MAV in the Longitudinal Plane (I)*, pp. 7464-7469.

| | |
|---|---|
| Serrani, Andrea | The Ohio State Univ. |

14:50-15:10 ThB13.2

*Completely Decentralised Navigation Functions for Agents with Finite Sensing Regions with Application in Aircraft Conflict Resolution*, pp. 7470-7475.

| | |
|---|---|
| Roussos, Giannis | National Tech. Univ. of Athens |
| Kyriakopoulos, Kostas J. | National Tech. Univ. of Athens |

15:10-15:30 ThB13.3

*Noise Analysis in Satellite Attitude Estimation Using Angular Rate and a Single Vector Measurement*, pp. 7476-7481.

| | |
|---|---|
| Namvar, Mehrzad | Sharif Univ. of Tech. |
| Firoozi, Dena | Sharif Unuiversity of Tech. |

15:30-15:50 ThB13.4

*An Image Processing Algorithm for Detection and Tracking of Aerial Vehicles in Short-Range*, pp. 7482-7487.

| | |
|---|---|
| Cho, Sungwook | KAIST |
| Huh, Sungsik | KAIST |
| Hyong-Sik, Choi | Korea Aerospace Res. Inst. |
| Shim, David Hyunchul | KAIST |

15:50-16:10 ThB13.5

*Decentralized Linear Time-Varying Model Predictive Control of a Formation of Unmanned Aerial Vehicles*, pp. 7488-7493.

| | |
|---|---|
| Bemporad, Alberto | IMT Inst. for Advanced Studies Lucca |
| Rocchi, Claudio | Univ. of trento |

**ThB14** Sarasota

**Distributed Control II** (Regular Session)

| | |
|---|---|
| Chair: Quijano, Nicanor | Univ. de los Andes |
| Co-Chair: Fraanje, Rufus | Delft Univ. of Tech. |

14:30-14:50 ThB14.1

*Dispatch of Distributed Generators Using a Local Replicator Equation*, pp. 7494-7499.

| | |
|---|---|
| Pantoja Bucheli, Andrés Darío | Univ. de los Andes |
| Quijano, Nicanor | Univ. de los Andes |
| Passino, Kevin | Ohio State Univ. |

14:50-15:10 ThB14.2

*Distributed Robust Control of Spatially Interconnected Systems with Parameter Uncertainty*, pp. 7500-7505.

| | |
|---|---|
| Huang, Huang | Beijing Inst. of Control Engineering |
| Wu, Qinghe | Beijing Inst. of Tech. |

15:10-15:30 ThB14.3

*On an Operator-Pencil Approach to Distributed Control of Heterogeneous Systems*, pp. 7506-7511.

| | |
|---|---|
| Mishra, Anshuman | Univ. of Illinois at Urbana-Champaign |
| Dullerud, Geir E. | Univ. of Illinois, Urbana-Champaign |

15:30-15:50 ThB14.4

*A PI Controller Based on Asymmetric Gossip Communications for Clocks Synchronization in Wireless Sensors Networks*, pp. 7512-7517.

| | |
|---|---|
| Carli, Ruggero | Univ. of Padova |
| D'Elia, Edorado | Univ. of Padova |
| Zampieri, Sandro | Univ. di Padova |

15:50-16:10 ThB14.5

*Square-Root H2 and H∞ Synthesis Algorithms for Sequentially Semi-Separable Systems*, pp. 7518-7523.

| | |
|---|---|
| Mustata, Ruxandra Ioana | Delft Univ. of Tech. |
| Fraanje, Rufus | Delft Univ. of Tech. |
| Verhaegen, Michel | Delft Univ. of Tech. |

**ThB15** Union

**Output Feedback and Observers II** (Regular Session)

| | |
|---|---|
| Chair: Goulart, Paul J. | ETH Zurich |
| Co-Chair: Sala, Antonio | Univ. Pol. de Valencia |

14:30-14:50 ThB15.1

*Observer Design for Systems with an Energy Preserving Nonlinearity, with Application to Fluid Flow*, pp. 7524-7529.

| | |
|---|---|
| Wynn, Andrew | Imperial Coll. London |
| Goulart, Paul J. | ETH Zurich |

14:50-15:10 ThB15.2

*Application of Takagi-Sugeno Observers for State Estimation in a Quadrotor*, pp. 7530-7535.

| | |
|---|---|
| Lendek, Zsofia | Delft Univ. of Tech. |
| Berna, Andreu | Univ. Pol. de Valencia |
| Guzman, Jose | Univ. Pol. de Valencia |
| Sala, Antonio | Univ. Pol. de Valencia |
| Garcia Gil, Pedro José | Univ. Pol. de Valencia |

15:10-15:30 ThB15.3

*Observer-Based Real-Time Control for the Poloidal Beta of the Plasma Using Diamagnetic Measurements in Tokamak Fusion Reactors*, pp. 7536-7542.

| | |
|---|---|
| Sevillano, Goretti | Univ. of the Basque Country |
| Garrido, Izaskun | Univ. of the Basque Country |
| Garrido, Aitor J. | Univ. of the Basque Country |
| Romero, Jesús Antonio | Asociacion Euratom Ciemat |
| Paley, James I. | EPFL |
| Moret, Jean-Marc | EPFL, Ec. Pol. Fédérale de Lausanne |
| Coda, Stefano | EPFL |
| Felici, Federico | EPFL |
| Curchod, Loïc | Centre de Recherches en Physique des Plasmas (CRPP), Ec. Pol. |

15:30-15:50 ThB15.4

*Dynamic Neural Network-Based Robust Observers for Second-Order Uncertain Nonlinear Systems*, pp. 7543-7548.

| | |
|---|---|
| Dinh, Huyen T. | Univ. of Florida |
| Kamalapurkar, Rushikesh | Univ. of Florida |
| Bhasin, Shubhendu | Univ. of Florida |
| Dixon, Warren E. | Univ. of Florida |

15:50-16:10 ThB15.5

*An Efficient Approach to the Design of Observers for Continuous-Time Systems with Discrete-Time Measurements*, pp.

7549-7554.

Cacace, Filippo — Univ. Campus Biomedico di Roma
Cusimano, Valerio — Univ. Campus Bio-Medico di Roma
Germani, Alfredo — Univ. dell'Aquila

**ThB16** — Palm Beach
**Lyapunov Methods I** (Regular Session)

Chair: Praly, Laurent — MINES ParisTech
Co-Chair: Krstic, Miroslav — Univ. of California, San Diego

14:30-14:50 — ThB16.1

*Adding an Integration with Prescribed Local Behavior*, pp. 7555-7560.
Benachour, M. Sofiane — Univ. de Lyon
Andrieu, Vincent — Univ. de Lyon
Praly, Laurent — MINES ParisTech
Hammouri, Hassan — Univ. Claude Bernard

14:50-15:10 — ThB16.2

*Continuous Robust Control for a Class of Uncertain MIMO Nonlinear Systems*, pp. 7561-7566.
Wang, Zhao — Univ. of Central Florida
Behal, A. — Univ. of Central Florida

15:10-15:30 — ThB16.3

*On Infinity Norms As Lyapunov Functions for Continuous-Time Dynamical Systems*, pp. 7567-7572.
Lazar, Mircea — Eindhoven Univ. of Tech.
Doban, Alina Ionela — Tech. Univ. of Eindhoven

15:30-15:50 — ThB16.4

*Static Nonsmooth Control Lyapunov Function Design Via Dynamic Extension*, pp. 7573-7578.
Yamazaki, Takahiro — Hokkaido Univ.
Yamashita, Yuh — Hokkaido Univ.
Nakamura, Hisakazu — Tokyo Univ. of Science

15:50-16:10 — ThB16.5

*A Globally Asymptotically Stable Polynomial Vector Field with No Polynomial Lyapunov Function*, pp. 7579-7580.
Ahmadi, Amir Ali — MIT
Krstic, Miroslav — Univ. of California, San Diego
Parrilo, Pablo A. — Massachusetts Inst. of Tech.

**ThB17** — Alachua
**Nonlinear Delay Systems** (Regular Session)

Chair: Niculescu, Silviu-Iulian — CNRS-Supelec
Co-Chair: Allgower, Frank — Univ. of Stuttgart

14:30-14:50 — ThB17.1

*Nonlinear Stabilization under Sampled and Delayed Measurements, and with Inputs Subject to Delay and Zero-Order Hold*, pp. 7581-7586.
Karafyllis, Iasson — Tech. Univ. of Crete
Krstic, Miroslav — Univ. of California, San Diego

14:50-15:10 — ThB17.2

*Saturated Control of an Uncertain Euler-Lagrange System with Input Delay*, pp. 7587-7592.
Fischer, Nicholas — Univ. of Florida
Dani, Ashwin — Univ. of Florida
Sharma, Nitin — Univ. of Alberta
Dixon, Warren E. — Univ. of Florida

15:10-15:30 — ThB17.3

*Compensation of State-Dependent Input Delay for Nonlinear Systems*, pp. 7593-7598.
Bekiaris-Liberis, Nikolaos — Univ. of California, San Diego
Krstic, Miroslav — Univ. of California, San Diego

15:30-15:50 ThB17.4

*Unconstrained Model Predictive Control and Suboptimality Estimates for Nonlinear Time-Delay Systems*, pp. 7599-7604.

Reble, Marcus — Univ. of Stuttgart
Muller, Matthias Albrecht — Univ. of Stuttgart
Allgower, Frank — Univ. of Stuttgart

15:50-16:10 ThB17.5

*Stabilization of Nonlinear Systems with Delay in the Input through Backstepping*, pp. 7605-7610.

Mazenc, Frederic — Projet INRIA DISCO
Niculescu, Silviu-Iulian — CNRS-Supelec
Bekaik, Mounir — INRIA

**ThB18** Baker

**Sliding Mode Control II** (Regular Session)

Chair: Moreno, Jaime A. — Univ. Nacional Autonoma de Mexico-UNAM
Co-Chair: Spurgeon, Sarah K. — Univ. of Kent

14:30-14:50 ThB18.1

*Sliding Mode Observer Based Control for a Class of Nonlinear Time Delay Systems with Delayed Uncertainties*, pp. 7611-7616.

Yan, Xing-Gang — Univ. of Kent
Spurgeon, Sarah K. — Univ. of Kent
Orlov, Yury — CICESE

14:50-15:10 ThB18.2

*Sliding Mode Exponential H_infinity Synchronization of Markovian Jumping Master-Slave Systems with Time-Delays and Nonlinear Uncertainties*, pp. 7617-7622.

Karimi, Hamid Reza — Univ. of Agder

15:10-15:30 ThB18.3

*Adaptive Twist Sliding Mode Control: A Lyapunov Design*, pp. 7623-7628.

Kochalummoottil, Jose — Univ. of Alabama, Huntsville
Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Moreno, Jaime A. — Univ. Nacional Autonoma de Mexico-UNAM
Fridman, Leonid M. — National Autonomous Univ. of Mexico

15:30-15:50 ThB18.4

*An Exact and Uniformly Convergent Arbitrary Order Differentiator*, pp. 7629-7634.

Angulo Ballesteros, Marco Tulio — National Autonomous Univ. of Mexico
Moreno, Jaime A. — Univ. Nacional Autonoma de Mexico-UNAM
Fridman, Leonid M. — National Autonomous Univ. of Mexico

15:50-16:10 ThB18.5

*State Feedback Control against Sensor Faults for Lipschitz Nonlinear Systems Via New Sliding Mode Observer Techniques*, pp. 7635-7640.

Liu, Ming — Harbin Inst. of Tech.
Zhang, Lixian — Harbin Inst. of Tech.
Shi, Peng — Univ. of Glamorgan
Karimi, Hamid Reza — Univ. of Agder

**ThB19** Bay

**Intelligent Systems** (Regular Session)

Chair: Yazdanpanah, M. J. — Tehran Univ.
Co-Chair: Masoud, Ahamd A. — KFUPM

14:30-14:50 ThB19.1

*Three-Robot Minimax Travel-Distance Optimal Formation*, pp. 7641-7646.

Zhenchao, Jia — Beijing Inst. of Tech.
Ma, Hongbin — Beijing Inst. of Tech.
Yang, Chenguang — Univ. of Plymouth

| | |
|---|---|
| Meiling, Wang | Beijing Inst. of Tech. |
| 14:50-15:10 | ThB19.2 |
| *Structured Wavelet-Based Neural Network for Control of Nonlinear Systems*, pp. 7647-7652. | |
| Karami, Ali | Univ. of Tehran |
| Yazdanpanah, Mohammad Javad | Univ. of Tehran |
| 15:10-15:30 | ThB19.3 |
| *Mixed-Initiative Nested Classification by Optimal Thresholding*, pp. 7653-7658. | |
| Hyun, Baro | Univ. of Michigan |
| Faied, Mariam | Fayoum Univ. |
| Kabamba, Pierre T. | Univ. of Michigan |
| Girard, Anouck | Univ. of Michigan, Ann Arbor |
| 15:30-15:50 | ThB19.4 |
| *Intelligent Setting Control of Raw Meal Calcination Process*, pp. 7659-7664. | |
| Qiao, Jinghui | Northeastern Univ. |
| Chai, Tianyou | Northeastern Univ. |
| Wang, Hong | The Univ. of Manchester |
| 15:50-16:10 | ThB19.5 |
| *A Harmonic Potential Field Approach for Planning Motion of a UAV in a Cluttered Environment with a Drift Field*, pp. 7665-7671. | |
| Masoud, Ahamd A. | KFUPM |

| **ThB20** | Broward |
|---|---|
| **Stochastic Optimal Control IV** (Regular Session) | |
| Chair: Feinberg, Eugene A. | SUNY at Stony Brook |
| Co-Chair: Hanebeck, Uwe D. | Karlsruhe Inst. of Tech. (KIT) |
| 14:30-14:50 | ThB20.1 |
| *On-Line Inventory Control in Single-Echelon Systems with Time-Dependent Environment Over Multiple Periods*, pp. 7672-7677. | |
| Mao, Jianfeng | Nanyang Tech. Univ. |
| 14:50-15:10 | ThB20.2 |
| *Switching on and Off the Full Capacity of an M/M/$infty$ Queue*, pp. 7678-7683. | |
| Feinberg, Eugene A. | SUNY at Stony Brook |
| Zhang, Xiaoxuan | IBM Watson Res. Center |
| 15:10-15:30 | ThB20.3 |
| *Delay Optimal Server Assignment to Symmetric Parallel Queues with Random Connectivities*, pp. 7684-7689. | |
| Halabian, Hassan | Carleton Univ. |
| Lambadaris, Ioannis | Carleton Univ. |
| Lung, Chung-Horng | Carleton Univ. |
| 15:30-15:50 | ThB20.4 |
| *Indexability and Whittle Index for Restless Bandit Problems Involving Reset Processes*, pp. 7690-7696. | |
| Liu, Keqin | Univ. of California at Davis |
| Weber, Richard | Univ. of Cambridge |
| Zhao, Qing | Univ. of California at Davis |
| 15:50-16:10 | ThB20.5 |
| *Stochastic Nonlinear Open-Loop Feedback Control with Guaranteed Error Bounds Using Compactly Supported Wavelets*, pp. 7697-7702. | |
| Hekler, Achim | Karlsruhe Inst. of Tech. |
| Kiefel, Martin | Karlsruhe Inst. of Tech. |
| Hanebeck, Uwe D. | Karlsruhe Inst. of Tech. (KIT) |

| **ThC01** | Orange |
|---|---|
| **Electrical Power Systems II** (Regular Session) | |
| Chair: Susuki, Yoshihiko | Kyoto Univ. |

Co-Chair: Tang, Ao — Cornell Univ.

16:30-16:50 — ThC01.1

*Physical Architectures and Mathematical Models for Electric-Power Management of Multiple Homes*, pp. 7703-7710.

Susuki, Yoshihiko — Kyoto Univ.
Kazaoka, Ryoya — Kyoto Univ.
Hikihara, Takashi — Kyoto Univ.

16:50-17:10 — ThC01.2

*A Novel LQR Based Optimal Tuning Method for IMP-Based Linear Controllers of Power Electronics/Power Systems*, pp. 7711-7716.

Hasanzadeh, Amin — Center for Advanced Power Systems (CAPS)
Edrington, Chris S. — Center for Advanced Power Systems (CAPS)
Mokhtari, Hossein — Sharif Univ. of Tech.

17:10-17:30 — ThC01.3

*Power Maximization of a Closed-Orbit Kite Generator System*, pp. 7717-7722.

Ahmed, Mariam — Grenoble Inst. of Tech. "Grenoble INP"
Hably, Ahmad — GÏPSA-Lab.
Bacha, Seddik — G2ELab

17:30-17:50 — ThC01.4

*Distributed Load Frequency Control of Electrical Power Networks Via Iterative Gradient Methods*, pp. 7723-7728.

Namerikawa, Toru — Keio Univ.
Kato, Taichiro — Keio Univ.

17:50-18:10 — ThC01.5

*Improving Damping of Power Networks: Power Scheduling and Impedance Adaptation*, pp. 7729-7734.

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

**ThC02** — Dixie

**Algebraic/Geometric Methods III** (Regular Session)

Chair: Kotta, Ülle — Inst. of Cybernetics at TUT
Co-Chair: Skogestad, Sigurd — Norwegian Univ. of Science & Tech.

16:30-16:50 — ThC02.1

*Minimal Realization of Nonlinear MIMO Equations in State-Space Form: Polynomial Approach*, pp. 7735-7740.

Belikov, Juri — Inst. of Cybernetics at Tallinn Univ. of Tech.
Kotta, Ülle — Inst. of Cybernetics at TUT
Tonso, Maris — Inst. of Cybernetics at Tallinn Univ. of

16:50-17:10 — ThC02.2

*An Algebraic Solution Method for the Unsteady Hamilton-Jacobi Equation*, pp. 7741-7746.

Kawano, Yu — Osaka Univ.
Ohtsuka, Toshiyuki — Osaka Univ.

17:10-17:30 — ThC02.3

*Attractive Invariant Submanifold-Based Coupling Controller Design*, pp. 7747-7752.

Labisch, Daniel — Tech. Univ. Darmstadt
Konigorski, Ulrich — Tech. Univ. Darmstadt

17:30-17:50 — ThC02.4

*Self-Optimizing Invariants in Dynamic Optimization*, pp. 7753-7758.

Jäschke, Johannes — Norwegian Univ. of Science and Tech.
Fikar, Miroslav — Slovak Univ. of Tech. in Bratislava
Skogestad, Sigurd — Norwegian Univ. of Science & Tech.

17:50-18:10 — ThC02.5

*On Casimir Functionals for Field Theories in Port-Hamiltonian Description for Control Purposes*, pp. 7759-7764.

Schöberl, Markus — Johannes Kepler Univ. Linz
Siuka, Andreas — Johannes Kepler Univ.

| **ThC03** | Columbia |
|---|---|
| **Model/Controller Reduction II** (Regular Session) | |
| Chair: Zhou, Kemin | Lousiana State Univ. |
| Co-Chair: Chu, Bing | Univ. of Oxford |
| 16:30-16:50 | ThC03.1 |
| *Air Supply System of a PEM Fuel Cell Model: Passivity and Robust PI Control*, pp. 7765-7770. | |
| Talj, Reine | Heudiasyc, UTC |
| Ortega, Romeo | LSS-SUPELEC |
| Astolfi, Alessandro | Imperial Coll. & Univ. of Rome |
| 16:50-17:10 | ThC03.2 |
| *New Approaches for H-Infinity Performance Preserving Controller Reduction*, pp. 7771-7776. | |
| Zhou, Kemin | Lousiana State Univ. |
| Kong, Lili | Louisiana State Univ. |
| 17:10-17:30 | ThC03.3 |
| *Time-Weighted Balanced Stochastic Model Reduction*, pp. 7777-7781. | |
| Shaker, Hamidreza | Inst. FOR ENERGY Tech. AALBORG Univ. |
| Tahavori, Maryamsadat | Aalborg Univ. |
| 17:30-17:50 | ThC03.4 |
| *A Structured Model Reduction Method for Large Scale Networks*, pp. 7782-7787. | |
| Chu, Bing | Univ. of Oxford |
| Duncan, Stephen | Univ. of Oxford |
| Papachristodoulou, Antonis | Univ. of Oxford |
| 17:50-18:10 | ThC03.5 |
| *Improving Parameter Estimation Using Minimal Analytically Redundant Subsystems*, pp. 7788-7793. | |
| Garcia-Alvarez, Diego | Univ. of Valladolid |
| Bregon, Anibal | Univ. of Valladolid |
| De La Fuente, Maria Jesus | Univ. De Valladolid |
| Pulido, Belarmino | Univ. de Valladolid |

| **ThC04** | Nassau |
|---|---|
| **Optimization II** (Regular Session) | |
| Chair: Pao, Lucy Y. | Univ. of Colorado at Boulder |
| Co-Chair: Campi, M. C. | Univ. di Brescia |
| 16:30-16:50 | ThC04.1 |
| *Randomized Min-Max Optimization: The Exact Risk of Multiple Cost Levels*, pp. 7794-7799. | |
| Carè, Algo | Univ. di Brescia |
| Garatti, Simone | Pol. Di Milano |
| Campi, M. C. | Univ. di Brescia |
| 16:50-17:10 | ThC04.2 |
| *Simultaneous Numerical Optimization for Data Association and Parameter Estimation*, pp. 7800-7805. | |
| Damle, Anil | Univ. of Colorado at Boulder |
| Pao, Lucy Y. | Univ. of Colorado at Boulder |
| 17:10-17:30 | ThC04.3 |
| *Scenario-Free Stochastic Programming with Polynomial Decision Rules*, pp. 7806-7812. | |
| Bampou, Dimitra | Imperial Coll. London |
| Kuhn, Daniel | Imperial Coll. London |
| 17:30-17:50 | ThC04.4 |
| *Frequency Response Based the Derivative Component Tuning Approach*, pp. 7813-7818. | |
| Vrána, Stanislav | Czech Tech. Univ. in Prague |
| 17:50-18:10 | ThC04.5 |
| *Optimal Smoothing Spline Surfaces with Constraints on Derivatives*, pp. 7819-7824. | |
| Fujioka, Hiroyuki | Fukuoka Inst. of Tech. |

Kano, Hiroyuki — Tokyo Denki Univ.

**ThC05** — Taylor

**Network Analysis and Control III** (Regular Session)

Chair: Pogromsky, A. Yu. — Eindhoven Univ. of Tech.
Co-Chair: Imura, Jun-ichi — Tokyo Inst. of Tech.

16:30-16:50 — ThC05.1

*Network Clustering: A Dynamical Systems and Saddle-Point Perspective*, pp. 7825-7830.

Bürger, Mathias — Univ. of Stuttgart
Zelazo, Daniel — Univ. Stuttgart
Allgower, Frank — Univ. of Stuttgart

16:50-17:10 — ThC05.2

*Hierarchical Decentralized Observer Design for Linearly Coupled Network Systems*, pp. 7831-7836.

Ishizaki, Takayuki — Tokyo Inst. of Tech.
Sakai, Yukihiro — Tokyo Inst. of Tech.
Kashima, Kenji — Tokyo Inst. of Tech.
Imura, Jun-ichi — Tokyo Inst. of Tech.

17:10-17:30 — ThC05.3

*Reaction-Diffusion Clustering of Single-Input Dynamical Networks*, pp. 7837-7842.

Ishizaki, Takayuki — Tokyo Inst. of Tech.
Kashima, Kenji — Tokyo Inst. of Tech.
Imura, Jun-ichi — Tokyo Inst. of Tech.
Aihara, Kazuyuki — Univ. of Tokyo

17:30-17:50 — ThC05.4

*On the Presence of Equilibrium Points in PI Control Systems with Send-On-Delta Sampling*, pp. 7843-7848.

Beschi, Manuel — Univ. of Brescia
Visioli, Antonio — Univ. of Brescia
Dormido, Sebastián — UNED
Sánchez Moreno, José — UNED

17:50-18:10 — ThC05.5

*Pattern Generation in Diffusive Networks: How Do Those Brainless Centipedes Walk?*, pp. 7849-7854.

Pogromsky, A. Yu. — Eindhoven Univ. of Tech.
Kuznetsov, Nikolay — Saint-Petersburg State Univ.
Leonov, Gennady — Saint Peterburg satate Univ.

**ThC06** — Jackson

**Sensor Networks III** (Regular Session)

Chair: Farrell, Jay — Univ. of California Riverside
Co-Chair: Vidal, Rene — Johns Hopkins Univ.

16:30-16:50 — ThC06.1

*Average Consensus on Riemannian Manifolds with Bounded Curvature*, pp. 7855-7862.

Tron, Roberto — Johns Hopkins Univ.
Afsari, Bijan — Center for Imaging Science, Johns Hopkins Univ.
Vidal, Rene — Johns Hopkins Univ.

16:50-17:10 — ThC06.2

*A Generalized Kalman Consensus Filter for Wide-Area Video Networks*, pp. 7863-7869.

Kamal, Ahmed — Univ. of California, Riverside
Ding, Chong — Univ. of California, Riverside
Song, Bi — Univ. of California, Riverside
Farrell, Jay — Univ. of California Riverside
Roy-Chowdhury, Amit K. — Univ. of California, Riverside

17:10-17:30 — ThC06.3

*On the Performance Limit of Sensor Localization*, pp. 7870-7875.

| | |
|---|---|
| Huang, Baoqi | Austrailian National Univ. |
| Li, Tao | Acad. of Mathematics and Systems Science, ChineseAcademyof Sci |
| Anderson, Brian D.O. | Australian National Univ. |
| Yu, CHANGBIN (Brad) | The Australian National Univ. |

17:30-17:50 ThC06.4

*Error Probability Bounds for Balanced Binary Relay Trees*, pp. 7876-7881.

| | |
|---|---|
| Zhang, Zhenliang | Colorado State Univ. |
| Pezeshki, Ali | Colorado State Univ. |
| Moran, Bill | The Univ. of Melbourne |
| Howard, Stephen David | Defence Science & Tech. Organisation |
| Chong, Edwin K. P. | Colorado State Univ. |

17:50-18:10 ThC06.5

*Time Synchronization in WSNs: A Maximum Value Based Consensus Approach*, pp. 7882-7887.

| | |
|---|---|
| He, Jianping | Zhejiang Univ. |
| Cheng, Peng | Zhengjiang Univ. |
| Shi, Ling | Hong Kong Univ. of Science and Tech. |
| Chen, Jiming | Zhejiang Univ. |

## ThC07 Escambia

**Filtering** (Regular Session)

| | |
|---|---|
| Chair: Mehta, Prashant G. | Univ. of Illinois, Urbana-Champaign |
| Co-Chair: Blom, Henk A.P. | National Aerospace Lab. NLR |

16:30-16:50 ThC07.1

*Practical Stability of Approximating Discrete-Time Filters with Respect to Model Mismatch Using Relative Entropy Concepts*, pp. 7888-7894.

| | |
|---|---|
| Techakesari, Onvaree | Queensland Univ. of Tech. |
| Ford, Jason | Queensland Univ. of Tech. |
| Nesic, Dragan | Univ. of Melbourne |

16:50-17:10 ThC07.2

*Optimal Decomposed Particle Filtering of Two Closely Spaced Gaussian Targets*, pp. 7895-7901.

| | |
|---|---|
| Blom, Henk A.P. | National Aerospace Lab. NLR & Delft Univ. of Tech. |
| Bloem, Edwin A. | National Aerospace Lab. NLR |

17:10-17:30 ThC07.3

*Homography Estimation on the Special Linear Group Based on Direct Point Correspondence*, pp. 7902-7908.

| | |
|---|---|
| Hamel, Tarek | Univ. de Nice Sophia Antipolis |
| Mahony, Robert | Australian National Univ. |
| Trumpf, Jochen | The Australian National Univ. |
| Morin, Pascal | INRIA |
| Hua, Minh-Duc | I3S UNS-CNRS |

17:30-17:50 ThC07.4

*Feedback Particle Filter with Mean-Field Coupling*, pp. 7909-7916.

| | |
|---|---|
| Yang, Tao | Univ. of Illinois at Urbana-Champaign |
| Mehta, Prashant G. | Univ. of Illinois, Urbana-Champaign |
| Meyn, Sean | Univ. of Illinois |

17:50-18:10 ThC07.5

*A State Observer Approach to Filter Stochastic Nonlinear Differential Systems*, pp. 7917-7922.

| | |
|---|---|
| Cacace, Filippo | Univ. Campus Biomedico di Roma |
| Germani, Alfredo | Univ. dell'Aquila |
| Palumbo, Pasquale | IASI-CNR |

## ThC08 Flagler

**Optimal Control VI** (Regular Session)

| | |
|---|---|
| Chair: Nikovski, Daniel | Mitsubishi Electric Res. Lab. |

Co-Chair: Komaee, Arash — Univ. of Maryland Coll. Park

16:30-16:50 — ThC08.1

*Multiclass Job Scheduling on a Single Machine: Updating Optimal Control Strategies When Due-Dates Change in Real-Time*, pp. 7923-7930.

Giglio, Davide — Univ. of Genova
Minciardi, Riccardo — Univ. of Genova

16:50-17:10 — ThC08.2

*An Active Set Solver for Input-Constrained Robust Receding Horizon Control*, pp. 7931-7936.

Buerger, Johannes — Univ. of Oxford
Cannon, Mark — Univ. of Oxford
Kouvaritakis, Basil — Oxford Univ.

17:10-17:30 — ThC08.3

*Oil Reservoir Production Optimization Using Optimal Control*, pp. 7937-7943.

Völcker, Carsten — Tech. Univ. of Denmark
Jørgensen, John Bagterp — Tech. Univ. of Denmark

17:30-17:50 — ThC08.4

*Construction of Embedded Markov Decision Processes for Optimal Control of Non-Linear Systems with Continuous State Spaces*, pp. 7944-7949.

Nikovski, Daniel — Mitsubishi Electric Res. Lab.
Esenther, Alan — Mitsubishi Electric Res. Lab.

17:50-18:10 — ThC08.5

*Magnetic Steering of a Distributed Ferrofluid Spot towards a Deep Target with Minimal Spreading*, pp. 7950-7955.

Komaee, Arash — Univ. of Maryland Coll. Park
Shapiro, Benjamin — Univ. of Maryland

**ThC09** — Gilchrist

**Feedback Linearization** (Regular Session)

Chair: Muellhaupt, Philippe — Ec. Pol. Fed. de Lausanne
Co-Chair: Edwards, Christopher — Univ. of Leicester

16:30-16:50 — ThC09.1

*Energy-Efficient Tracking Control of Pneumatic Cylinders*, pp. 7956-7961.

Wang, Jihong — Univ. of Warwick
Gordon, Tim — Univ. of Michigan

16:50-17:10 — ThC09.2

*Flatness Based Velocity Tracking Control of a Vehicle on a Roller Dynamometer Using a Robotic Driver*, pp. 7962-7967.

Sailer, Stefan — Univ. Ulm
Buchholz, Michael — Univ. Ulm
Dietmayer, Klaus Christian Jürgen — Univ. of Ulm

17:10-17:30 — ThC09.3

*Robust Feedback Linearization Using Higher Order Sliding Mode Observer*, pp. 7968-7973.

Iqbal, Sohail — Univ. of Leicester
Edwards, Christopher — Univ. of Leicester
Bhatti, Aamer Iqbal — Muhammad Ali Jinnah Univ.

17:30-17:50 — ThC09.4

*Path Following for a Car-Like Robot Using Transverse Feedback Linearization and Tangential Dynamic Extension*, pp. 7974-7979.

Akhktar, Adeel — Univ. of Waterloo
Nielsen, Christopher — Univ. of Waterloo

17:50-18:10 — ThC09.5

*A Quotient Method for Designing Nonlinear Controllers*, pp. 7980-7987.

Sudarsandhari Shibani, Willson — Ec. Pol. Federale de Lausanne
Muellhaupt, Philippe — Ec. Pol. Fed. de Lausanne
Bonvin, Dominique — EPFL

| **ThC10** | Hamilton |
|---|---|
| **Adaptive Control of Mechatronics Systems** (Regular Session) | |
| Chair: Montazeri, Allahyar | Fraunhofer Inst. for Digital Media Tech. |
| Co-Chair: Hackl, Christoph M. | Tech. Univ. of Munich |
| 16:30-16:50 | ThC10.1 |
| *Robust Adaptive Failure Compensation of Hysteretic Actuators for Parametric Strict Feedback Systems*, pp. 7988-7993. | |
| Cai, Jianping | State Key Lab. of Industrial ControlTechnology,Inst. o |
| Wen, Changyun | Nanyang Tech. Univ. |
| Su, Hongye | Zhejiang Univ. |
| Liu, Zhitao | Zhejiang Univ. |
| Liu, Xiangbin | Zhejiang Univ. |
| 16:50-17:10 | ThC10.2 |
| *Developing an IIR Robust Adaptive Algorithm in the Modified Filtered-X RLS Form for Active Noise and Vibration Control Systems*, pp. 7994-7999. | |
| Montazeri, Allahyar | Fraunhofer Inst. for Digital Media Tech. |
| Reger, Johann | TU Ilmenau |
| 17:10-17:30 | ThC10.3 |
| *Funnel Control in Mechatronics: An Overview*, pp. 8000-8007. | |
| Hackl, Christoph M. | Tech. Univ. of Munich |
| Hofmann, Andreas G. | Inst. for Power Electronics and Electrical Drives (ISEA) of |
| Kennel, Ralph | Tech. Univ. München |
| 17:30-17:50 | ThC10.4 |
| *A Numerical Study on Controlling a Nonlinear Multilink Arm Using a Retrospective Cost Model Reference Adaptive Controller*, pp. 8008-8013. | |
| Isaacs, Matthew | Univ. of Kentucky |
| Hoagg, Jesse B. | Univ. of Kentucky |
| Morozov, Alexey | Univ. of Michigan |
| Bernstein, Dennis S. | Univ. of Michigan |
| 17:50-18:10 | ThC10.5 |
| *A Nonlinear Active Noise Control Scheme with On-Line Model Structure Selection*, pp. 8014-8019. | |
| Delvecchio, Diego | Pol. di Milano |
| Piroddi, Luigi | Pol. di Milano |

| **ThC11** | Indian River |
|---|---|
| **Stability of Hybrid Systems II** (Regular Session) | |
| Chair: Teel, Andrew R. | Univ. of California at Santa Barbara |
| Co-Chair: Lee, Ji-Woong | Pennsylvania State Univ. |
| 16:30-16:50 | ThC11.1 |
| *Finite-State Simulations and Bisimulations for Discrete-Time Piecewise Affine Systems*, pp. 8020-8025. | |
| Mirzazad Barijough, Sanam | Pennsylvania State Univ. |
| Lee, Ji-Woong | Pennsylvania State Univ. |
| 16:50-17:10 | ThC11.2 |
| *Input-Output Finite-Time Stability and Stabilization of Stochastic Markovian Jump Systems*, pp. 8026-8031. | |
| Ma, Hongji | Beijing Univ. of Aeronautics and Astronautics |
| Jia, Yingmin | Beihang Univ. |
| 17:10-17:30 | ThC11.3 |
| *Stabilization of Switched Linear Stochastic Dynamical Systems under Limited Mode Information*, pp. 8032-8037. | |
| Cetinkaya, Ahmet | Tokyo Inst. of Tech. |
| Hayakawa, Tomohisa | Tokyo Inst. of Tech. |
| 17:30-17:50 | ThC11.4 |
| *Novel Results in Averaging Analysis of Singularly Perturbed Hybrid Systems*, pp. 8038-8043. | |
| Wang, Wei | The Univ. of Melbourne |
| Teel, Andrew R. | Univ. of California at Santa Barbara |

Nesic, Dragan — Univ. of Melbourne

17:50-18:10 — ThC11.5

*Semistability of Switched Linear Systems with Applications to Distributed Sensor Networks: A Generating Function Approach*, pp. 8044-8049.

Shen, Jinglai — Univ. of Maryland Baltimore County
Hu, Jianghai — Purdue Univ.
Hui, Qing — Texas Tech. Univ.

**ThC12** — Lake

**Automotive Control III** (Regular Session)

Chair: Del Re, Luigi — Johannes Kepler Univ. Linz
Co-Chair: Wang, Junmin — The Ohio State Univ.

16:30-16:50 — ThC12.1

*Approximate Optimal Control of Internal Combustion Engine Test Benches*, pp. 8050-8055.

Passenbrunner, Thomas Ernst — Johannes Kepler Univ.
Sassano, Mario — Imperial Coll. London
Del Re, Luigi — Johannes Kepler Univ. Linz

16:50-17:10 — ThC12.2

*ISS-Based Vehicle Yaw Stability Controller Design in Backstepping Framework*, pp. 8056-8061.

Zhou, Hongliang — Harbin Inst. of Tech.
Liu, Zhiyuan — Harbin Inst. of Tech.
Chen, Hong — Jilin Univ. Campus NanLing

17:10-17:30 — ThC12.3

*An Adaptive Energy-Efficient Control Allocation on Planar Motion Control of Electric Ground Vehicles*, pp. 8062-8067.

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

17:30-17:50 — ThC12.4

*Design and Analysis of an Image-Based ACC Controller*, pp. 8068-8075.

Seyffarth, Torsten — BMW Group

17:50-18:10 — ThC12.5

*ABS + Active Suspension Control Via Sliding Mode and Linear Geometric Methods for Disturbance Attenuation*, pp. 8076-8081.

Sánchez-Torres, Juan Diego — CINVESTAV-IPN GDL
Loukianov, Alexander G. — CINVESTAV IPN GDI
Ruiz-Leon, Javier — CINVESTAV-Guadalajara
Rivera, Jorge — Univ. de Guadalajara

**ThC13** — Manatee

**Aerospace IV** (Regular Session)

Chair: Notarstefano, Giuseppe — Univ. of Lecce
Co-Chair: Sun, Dengfeng — Purdue Univ.

16:30-16:50 — ThC13.1

*Position Control of VTOL UAVs Using IMU and GPS Measurements*, pp. 8082-8087.

Roberts, Andrew — Univ. of Western Ontario
Tayebi, Abdelhamid — Lakehead Univ.

16:50-17:10 — ThC13.2

*On the Attitude Estimation of Accelerating Rigid-Bodies Using GPS and IMU Measurements*, pp. 8088-8093.

Roberts, Andrew — Univ. of Western Ontario
Tayebi, Abdelhamid — Lakehead Univ.

17:10-17:30 — ThC13.3

*Total Unimodularity and Degeneracy-Aware Dantzig-Wolfe Decomposition for Large Capacity Cell Transmission Model*, pp. 8094-8099.

Wei, Peng — Purdue Univ.

| | |
|---|---|
| Sun, Dengfeng | Purdue Univ. |
| 17:30-17:50 | ThC13.4 |
| *Analysis of a Retro-PN Guidance Law*, pp. 8100-8105. | |
| Ghosh, Satadal | Indian Inst. of Science |
| Ghose, Debasish | Indian Inst. of Science |
| Raha, Soumyendu | Indian Inst. of Science |
| 17:50-18:10 | ThC13.5 |
| *Dynamics Exploration and Aggressive Maneuvering of a Longitudinal Vectored Thrust VTOL Aircraft*, pp. 8106-8111. | |
| Russo, Enrico | UNILE |
| Notarstefano, Giuseppe | Univ. of Lecce |
| Hauser, John | Univ. of Colorado at Boulder |

| **ThC14** | Sarasota |
|---|---|
| **Distributed Control III** (Regular Session) | |
| Chair: Stursberg, Olaf | Univ. of Kassel |
| Co-Chair: Alamir, Mazen | CNRS |
| 16:30-16:50 | ThC14.1 |
| *Optimized Distributed Control and Network Topology Design for Interconnected Systems*, pp. 8112-8117. | |
| Gross, Dominic | Univ. of Kassel |
| Stursberg, Olaf | Univ. of Kassel |
| 16:50-17:10 | ThC14.2 |
| *Distributed Constrained Model Predictive Control Based on Bundle Method for Building Energy Management*, pp. 8118-8124. | |
| Lamoudi, Mohamed Yacine | Schneider-Electric Industries, GIPSA-Lab. |
| Alamir, Mazen | CNRS |
| Béguery, Patrick | Schneider-Electric Industries |
| 17:10-17:30 | ThC14.3 |
| *Model Predictive Control of Nonlinear Singularly Perturbed Systems: Application to a Large-Scale Process Network*, pp. 8125-8132. | |
| Chen, Xianzhong | Univ. of California, Los Angeles |
| Heidarinejad, Mohsen | UCLA |
| Liu, Jinfeng | Univ. of California, Los Angeles |
| Muñoz de la Peña, David | Univ. de Sevilla |
| Christofides, Panagiotis D. | Univ. of California at Los Angeles |
| 17:30-17:50 | ThC14.4 |
| *A Liveliness Analysis of a Distributed Constrained Coordination Strategy for Multi-Agent Linear Systems*, pp. 8133-8138. | |
| Casavola, Alessandro | Univ. Della Calabria |
| Garone, Emanuele | Univ. Libre de Bruxelles |
| Tedesco, Francesco | Univ. della Calabria |
| 17:50-18:10 | ThC14.5 |
| *An Output Feedback Distributed Predictive Control Algorithm*, pp. 8139-8144. | |
| Farina, Marcello | Pol. di Milano |
| Scattolini, Riccardo | Pol. di Milano |

| **ThC15** | Union |
|---|---|
| **Output Feedback and Observers III** (Regular Session) | |
| Chair: Batista, Pedro | Inst. Superior Técnico |
| Co-Chair: Lamnabhi-Lagarrigue, Francoise | CNRS and EECI |
| 16:30-16:50 | ThC15.1 |
| *Updating the Gain of Global Finite-Time High Gain Observers*, pp. 8145-8150. | |
| Burlion, Laurent | Onera |
| Ahmed-Ali, Tarek | GREYC CNRS |
| Lamnabhi-Lagarrigue, Francoise | CNRS and EECI |
| 16:50-17:10 | ThC15.2 |

*Globally Asymptotically Stable Filters for Source Localization and Navigation Aided by Direction Measurements*, pp. 8151-8156.

| | |
|---|---|
| Batista, Pedro | Inst. Superior Técnico |
| Silvestre, Carlos | Inst. Superior Tecnico |
| Oliveira, Paulo Jorge | Inst. Superior Técnico |

17:10-17:30 ThC15.3

*Stabilization of Nonlinear Uncertain Systems Based on Interval Observers*, pp. 8157-8162.

| | |
|---|---|
| Efimov, Denis | Inst. for Problems of Mechanical Eng. |
| Raïssi, Tarek | Univ. Bordeaux 1 |
| Zolghadri, Ali | Univ. Bordeaux I |

17:30-17:50 ThC15.4

*Sampled-Data Output Feedback Control of a Class of Nonlinear Systems*, pp. 8163-8168.

| | |
|---|---|
| Zhang, Jian | Univ. of Electronic Science and Tech. of China |
| Xu, Hongbing | Univ. of Electronic Science and Tech. of China |
| Peng, Chao | Univ. of Electronic Science and Tech. of China |

17:50-18:10 ThC15.5

*Observer Design on the Special Euclidean Group SE(3)*, pp. 8169-8175.

| | |
|---|---|
| Hua, Minh-Duc | I3S UNS-CNRS |
| Zamani, Mohammad | The Australian National Univ. |
| Trumpf, Jochen | The Australian National Univ. |
| Mahony, Robert | Australian National Univ. |
| Hamel, Tarek | Univ. de Nice Sophia Antipolis |

## ThC16 — Palm Beach

**Lyapunov Methods II** (Regular Session)

| | |
|---|---|
| Chair: Fradkov, Alexander | Inst. for Problems of Mech. Eng. |
| Co-Chair: Marchand, Nicolas | Gispa-Lab. |

16:30-16:50 ThC16.1

*Local Performance Analysis of Uncertain Polynomial Systems with Applications to Actuator Saturation*, pp. 8176-8181.

| | |
|---|---|
| Chakraborty, Abhijit | Univ. of Minnesota |
| Seiler, Peter | Univ. of Minnesota |
| Balas, Gary J. | Univ. of Minnesota |

16:50-17:10 ThC16.2

*Stabilizability of Constrained Uncertain Linear Systems Via Smooth Control Lyapunov R-Functions*, pp. 8182-8187.

| | |
|---|---|
| Balestrino, Aldo | Univ. di Pisa |
| Caiti, Andrea | Univ. of Pisa |
| Grammatico, Sergio | Univ. of Pisa |

17:10-17:30 ThC16.3

*Synchronization of Networks of Linear Systems by Static Output Feedback*, pp. 8188-8192.

| | |
|---|---|
| Fradkov, Alexander | Inst. for Problems of Mech. Eng. |
| Junussov, Ibragim | Saint-Petersburg State Univ. |

17:30-17:50 ThC16.4

*Design of Strict Control-Lyapunov Functions for Quantum Systems with QND Measurements*, pp. 8193-8198.

| | |
|---|---|
| Amini, Hadis | Mines-ParisTech |
| Rouchon, Pierre | Mines ParisTech |
| Mirrahimi, Mazyar | INRIA Paris-Rocquencourt |

17:50-18:10 ThC16.5

*A General Formula for the Stabilization of Event-Based Controlled Systems*, pp. 8199-8204.

| | |
|---|---|
| Marchand, Nicolas | Gispa-Lab. |
| Durand, Sylvain | INRIA, GIPSA-Lab. Univ. of Grenoble |
| Guerrero Castellanos, Jose Fermi | Faculty of Electronics, Autonomous Univ. of Puebla, BUAP, |

## ThC17 — Alachua

**H Infinity Control** (Regular Session)

Chair: Gahinet, Pascal M. — The MathWorks, Inc.
Co-Chair: Kojima, Akira — Tokyo Metropolitan Univ.

16:30-16:50 — ThC17.1

*Decentralized and Fixed-Structure H-Infinity Control in MATLAB*, pp. 8205-8210.

Gahinet, Pascal M. — The MathWorks, Inc.
Apkarian, Pierre — ONERA & Mathematics Inst. Univ. Paul Sabatier

16:50-17:10 — ThC17.2

*A Generalized Solution of H-Infinity Control Problems for Preview and Delayed Systems*, pp. 8211-8218.

Kojima, Akira — Tokyo Metropolitan Univ.

17:10-17:30 — ThC17.3

*A Partially Augmented Lagrangian Method for Low Order H-Infinity Controller Synthesis Using Rational Constraints*, pp. 8219-8224.

Ankelhed, Daniel — Linköping Univ.
Helmersson, Anders — Linköpings Univ.
Hansson, Anders — Linkoping Univ.

17:30-17:50 — ThC17.4

*Robust H-Infinity Filter Design for Polytopic Linear Discrete-Time Delay Systems Via LMIs and Polynomial Matrices*, pp. 8225-8230.

Lacerda, Márcio J. — Univ. of Campinas, Brazil
Leite, Valter J. S. — CEFET/MG - Campus Div.
Oliveira, Ricardo C. L. F. — Univ. of Campinas - UNICAMP
Peres, Pedro L. D. — Univ. of Campinas

17:50-18:10 — ThC17.5

*On Computation of H-Infinity Norm for Commensurate Fractional Order Systems*, pp. 8231-8236.

Fadiga, Lamine — Univ. of Bordeaux 1
Farges, Christophe — Univ. of Bordeaux
Sabatier, Jocelyn — LAPS - Bordeaux 1 Univ.
Moze, Mathieu — Univ. Bordeaux 1

**ThC18** — Baker

**Sliding Mode Control III** (Regular Session)

Chair: Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Co-Chair: Loukianov, Alexander G. — CINVESTAV IPN GDI

16:30-16:50 — ThC18.1

*Stabilization of Discrete-Time Linear Systems with Saturating Actuators Using Sliding Modes: Application to a Twin-Rotor System*, pp. 8237-8242.

Corradini, Maria Letizia — Univ. di Camerino
Cristofaro, Andrea — Univ. of Camerino
Orlando, Giuseppe — Univ. Pol. delle Marche

16:50-17:10 — ThC18.2

*Force Feedback Control Based on VGSTA for Single Track Riding Simulator*, pp. 8243-8248.

Nehaoua, Lamri — Evry Univ.
Arioui, Hichem — Evry Val d'Essonne Univ.
Fridman, Leonid M. — National Autonomous Univ. of Mexico

17:10-17:30 — ThC18.3

*Sliding Mode Block Control Regulation of the Pendubot*, pp. 8249-8254.

Serrano-Heredia, Jorge — CINVESTAV IPN Unidad Guadalajara
Loukianov, Alexander G. — CINVESTAV IPN GDI
Bayro-Corrochano, Eduardo Jose — Centro de Investigacion y de Estudios Avanzados del I.P.N. C

17:30-17:50 — ThC18.4

*Hybrid Vehicle Stability System Using a HOSM Control*, pp. 8255-8260.

Ferreira de Loza, Alejandra — LAMIH, UVHC
Delprat, Sebastien — Univ. of Valenciennes

| 17:50-18:10 | ThC18.5 |
|---|---|

*PEM Fuel Cell/ DC-DC Boost Power Converter System Control Via Traditional and Higher Order Sliding Modes*, pp. 8261-8266.


| | |
|---|---|
| Shtessel, Yuri B. | Univ. of Alabama at Huntsville |
| Ashok, Roshini S. | Univ. of Alabama in Huntsville |


| **ThC19** | Bay |
|---|---|
| **Fuzzy Systems** (Regular Session) | |
| Chair: Tovar, Julio César | CINVESTAV-IPN |
| Co-Chair: Gao, Huijun | Harbin Inst. of Tech. |

| 16:30-16:50 | ThC19.1 |
|---|---|

*Modeling Via On-Line Clustering and Fuzzy Support Vector Machines for Nonlinear System*, pp. 8267-8272.


| | |
|---|---|
| Tovar, Julio César | ESIME-ZACATENCO |
| Yu, Wen | CINVESTAV-IPN |
| Ortiz, Floriberto | IPN |
| Mariaca, Carlos Román | ESIME- Zacatenco |
| Rubio, Jose de Jesus | Inst. Pol. Nacional - ESIME Azcapotzalco |


| 16:50-17:10 | ThC19.2 |
|---|---|

*Evidential Evolving Gustafsson-Kessel Algorithm (E2GK) and Its Application to PRONOSTIA's Data Streams Partitioning*, pp. 8273-8278.


| | |
|---|---|
| Serir, Lisa | FEMTO-ST |
| Ramasso, Emmanuel | FEMTO-ST |
| Nectoux, Patrick | FEMTO-ST / AS2M |
| Bauer, Olivier | FEMTO-ST / AS2M |
| Zerhouni, Noureddine | Univ. of Besançon |


| 17:10-17:30 | ThC19.3 |
|---|---|

*Stability and Stabilization of Positive Takagi-Sugeno Fuzzy Continuous Systems with Delay*, pp. 8279-8284.


| | |
|---|---|
| Oubah, Rkia | Univ. Cadi Ayyad |
| Benzaouia, Abdellah | Faculty of Science Semlalia |
| El Hajjaji, Ahmed | Univ. de Picardie-Jules Verne |
| Tadeo, Fernando | Univ. of Valladolid Q4718001C |


| 17:30-17:50 | ThC19.4 |
|---|---|

*Stability and Stabilization of T-S Fuzzy Systems with Time-Varying Delay: An Input-Output Approach*, pp. 8285-8290.


| | |
|---|---|
| Zhao, Lin | Harbin Inst. of Tech. |
| Gao, Huijun | Harbin Inst. of Tech. |
| Shi, Peng | Univ. of Glamorgan |


| 17:50-18:10 | ThC19.5 |
|---|---|

*Adaptive Fuzzy and Sliding-Mode Control of a Robot Manipulator with Varying Payload*, pp. 8291-8296.


| | |
|---|---|
| Beyhan, Selami | Ege Univ. |
| Lendek, Zsofia | Delft Univ. of Tech. |
| Babuska, R. | Delft Univ. of Tech. |
| Wisse, Martijn | Tu Delft |
| Alci, Musa | Ege Univ. |


| **ThC20** | |
|---|---|
| **Sampled Data Control** (Regular Session) | |
| Chair: Rodrigues, Luis | Concordia Univ. |
| Co-Chair: Mizumoto, Ikuro | Kumamoto Univ. |

| 16:30-16:50 | ThC20.1 |
|---|---|

*Fast-Rate Adaptive Output Feedback Control with Adaptive Output Estimator for Non-Uniformly Sampled Multirate Systems*, pp. 8297-8303.


| | |
|---|---|
| Mizumoto, Ikuro | Kumamoto Univ. |
| Fujimoto, Yotaro | Kumamoto Univ. |


| 16:50-17:10 | ThC20.2 |
|---|---|