### Content List of 2013 American Control Conference

## Technical Program for Monday June 17, 2013

### MoSP1
**Event-Based Optimization of Stochastic Systems and Its Applications to Social, Financial, and Engineering Problems**
(Semiplenary Session)

- **Chair:** Lin, Zongli  
  Univ. of Virginia
- **Co-Chair:** Pao, Lucy Y.  
  Univ. of Colorado Boulder

**MoSP1.1**

**08:00-09:00**

**Event-Based Optimization of Stochastic Systems and Its Applications to Social, Financial, and Engineering Problems**

* N/A

- **Cao, Xi-Ren**  
  Shanghai Jiaotong Univ.

### MoSP2
**The Key to a Successful Next Generation of Buildings: Controlling for Energy Efficiency**
(Semiplenary Session)

- **Chair:** Johnson, Kathryn  
  Colorado School of Mines
- **Co-Chair:** Abramovitch, Daniel Y.  
  Agilent Lab.

**MoSP2.1**

**08:00-09:00**

**The Key to a Successful Next Generation of Buildings: Controlling for Energy Efficiency**

* N/A

- **Torcellini, Paul**  
  National Renewable Energy Lab.

---

### MoA01
**Aerospace I (Regular Session)**

- **Chair:** Ghose, Debasis  
  Indian Inst. of Science
- **Co-Chair:** Tyan, Feng  
  Tamkang Univ.

**MoA01.1**

**09:30-09:50**

**L2+, an Improved Line of Sight Guidance Law for UAVs**, pp. 1-6.

- **Curry, Renwick**  
  Univ. of California Santa Cruz
- **Lizarraga, Mariano Isidro**  
  Univ. of California Santa Cruz
- **Mairs, Bryant**  
  Univ. of California Santa Cruz
- **Elkaim, Gabriel Hugh**  
  UC Santa Cruz

**MoA01.2**

**09:50-10:10**

**Capturability of Augmented Proportional Navigation (APN) Guidance with Nonlinear Engagement Dynamics**, pp. 7-12.

- **Ghosh, Satadal**  
  Indian Inst. of Science
- **Ghose, Debasis**  
  Indian Inst. of Science
- **Raha, Soumyendu**  
  Indian Inst. of Science

**MoA01.3**

**10:10-10:30**


- **Bialy, Brendan**  
  Univ. of Florida
- **Klotz, Justin**  
  Univ. of Florida
- **Brink, Kevin**  
  Air Force Res. Lab.
- **Dixon, Warren E.**  
  Univ. of Florida

**MoA01.4**

**10:30-10:50**


- **Tyan, Feng**  
  Tamkang Univ.

---

### MoA02
**Switched Systems I (Regular Session)**

- **Chair:** Rodrigues, Luis  
  Concordia Univ.
- **Co-Chair:** Thistle, John G.  
  Univ. of Waterloo

**MoA02.1**

**09:30-09:50**


- **Kaynama, Sina**  
  Concordia Univ.
- **Moarref, Miad**  
  Concordia Univ.
- **Rodrigues, Luis**  
  Concordia Univ.

**MoA02.2**

**09:50-10:10**

**A-Stable Padé Approximations and Quadratic Stability**, pp. 43-47.

- **Saja, Surya Shravan Kumar**  
  Univ. of Notre Dame
- **Corless, Martin J.**  
  Purdue Univ.
- **Shorten, Robert**  
  Nat. Univ. of Ireland

**MoA02.3**

**10:10-10:30**


- **Jia, Xinchun**  
  Shanxi Univ.
- **Li, Lei**  
  Shanxi Univ.
- **Zhang, Dawei**  
  Central Queensland Univ.
- **Chi, Xiaobo**  
  Shanxi Univ.
- **Fan, Xing**  
  Shanxi Univ.

**MoA02.4**

**10:30-10:50**

**Stability of a Class of Switched Descriptor Systems**, pp. 54-58.

- **Saja, Surya Shravan Kumar**  
  Univ. of Notre Dame
- **Corless, Martin J.**  
  Purdue Univ.
- **Zehed, Ezra**  
  Tech. Inst. of Tech.
- **Shorten, Robert**  
  Nat. Univ. of Ireland

**MoA02.5**

**10:50-11:10**


- **Yang, Hao**  
  Nanjing Univ. of Aeronautics and Astronautics
- **Jiang, Bin**  
  Nanjing Univ. of Aeronautics & Astronautics
- **Coquempot, Vincent**  
  Lille 1 Univ.
- **Aitouche, Abdel**  
  LAGIS/HEI
**MoA03**

**Identification I (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>MoA03.1</td>
<td>Identification of MIMO Switched State-Space Models, pp. 71-76</td>
<td>Bako, Laurent, Le, Van Luong, Lauer, Fabien, Bloch, Gerard</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>MoA03.2</td>
<td>Guaranteed Stability of Recursive Multi-Input-Single-Output Time Series Models, pp. 77-82</td>
<td>Turksoy, Kamuran, Bayrak, Elif, Quinn, Laurie, Littlejohn, Elizabeth, Cinar, Ali</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>MoA03.3</td>
<td>Parameter Estimation for Systems with Binary Subsystems, pp. 83-88</td>
<td>Spall, James C.</td>
</tr>
<tr>
<td>10:30-10:50</td>
<td>MoA03.4</td>
<td>Kullback-Leibler Divergence-Based Optimal Compression of Preisach Operator in Hysteresis Modeling, pp. 89-94</td>
<td>Zhang, Jun, Mercier, Emmanuelle, Sepulveda, Nelson, Tan, Xiaobo</td>
</tr>
</tbody>
</table>

**MoA04**

**Delay Systems I (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>MoA04.1</td>
<td>A Simple Formal Method to Synthesize an Orchestrator in Web Service Composition, pp. 107-112</td>
<td>Alves, Vitor Alex Oliveira, Juliari, Rodrigo C. G., Garcia, Claudio</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>MoA04.2</td>
<td>Decentralized Control of Transmission Rates in Energy-Critical Wireless Networks, pp. 113-118</td>
<td>Xia, Li, Shihada, Basem</td>
</tr>
</tbody>
</table>
Stability Analysis of Multiple Time Delayed Fractional Order Systems, pp. 170-175.

Pakzad, Mohammad Ali  
Department of Electrical Engineering, Science and Res.

Pakzad, Sara  
Department of Electrical Engineering, South Tehran Branch, Islamic A

Nekoui, Mohammad Ali  
K.N.Toosi Univ. of Tech.


Pakzad, Sara  
Department of Electrical Engineering, South Tehran Branch, Islamic A

Pakzad, Mohammad Ali  
Department of Electrical Engineering, Science and Res.

Nekoui, Mohammad Ali  
K.N.Toosi Univ. of Tech.

MoA06  Room 8

Autonomous Systems I (Regular Session)

Chair: Tsiotras, Panagiotis  
Georgia Inst. of Tech.

Co-Chair: Padhi, Radhakant  
Indian Inst. of Science


Wang, Yu  
Yale Univ.

Zhu, Xiaoxi  
Singapore Telecommunications Limited

MoA06  Room 8

Optimal Motion Planning with the Half-Car Dynamical Model for Autonomous High-Speed Driving, pp. 188-193.

Jeon, Jeong hwan  
Massachusetts Inst. of Tech.

Cowgill, Raghvendra V.  
Massachusetts Inst. of Tech.

Peters, Steven C.  
MIT

Karaman, Sertac  
Massachusetts Inst. of Tech.

Frazzoli, Emilio  
Massachusetts Inst. of Tech.

Tsiotras, Panagiotis  
Georgia Inst. of Tech.

Iagnemma, Karl  
MIT

MoA06  Room 8

10:10-10:30

Simultaneous Attitude Control and Trajectory Tracking of a Micro Quadrotor: A SNAC Aided Nonlinear Dynamic Inversion Approach, pp. 194-199.

Tiwari, Shivendra N  
Indian Inst. of Science, Mathikere, Bangalore, 560012

Padhi, Radhakant  
Indian Inst. of Science

MoA06  Room 8

10:30-10:50

Minimum-Violation LTL Planning with Conflicting Specifications, pp. 200-205.

Tumova, Jana  
Masaryk Univ.

Reyes Castro, Luis Ignacio  
Massachusetts Inst. of Tech.

Karaman, Sertac  
Massachusetts Inst. of Tech.

Frazzoli, Emilio  
Massachusetts Inst. of Tech.

Rus, Daniela  
MIT

MoA06  Room 8

10:50-11:10


Mohajer, Soheil  
UC Berkeley

Touri, Behrouz  
Georgia Tech. Univ.

MoA06  Room 8

11:10-11:30

Distributed Dominating Sets on Grids, pp. 211-216.

Fata, Elaheh  
Univ. of Waterloo

Smith, Stephen L.  
Univ. of Waterloo

Sundaram, Shreyas  
Univ. of Waterloo

MoA07  Room 9

Nonlinear Control I (Regular Session)

Chair: Schuster, Eugenio  
Lehigh Univ.

Co-Chair: Al Janaideh, Mohammad  
The Univ. of Jordan


Ping, Zhaowu  
Seoul National Univ.

Huang, Jie  
The Chinese Univ. of Hong Kong

10:50-11:10

Semistabilization, Feedback Dissipation, System Thermodynamics, and Limits of Performance, pp. 229-234.

Haddad, Wassim M.  
Georgia Inst. of Tech.

Hui, Qing  
Texas Tech. Univ.

L’Afflitto, Andrea  
Georgia Inst. of Tech.

11:10-11:30


Zardo Oliveira, Mauricio  
Univ. Federal do Rio Grande do Sul

Gomes da Silva Jr, J.M.I  
Univ. Federal do Rio Grande do Sul

Coutinho, Daniel  
Univ. Federal de Santa Catarina

MoA08  Room 12

Observers for Nonlinear Systems I (Regular Session)

Chair: Alessandri, Angelo  
Univ. of Genoa

Co-Chair: Zak, Stanislaw H.  
Purdue Univ.

Robust Moving Horizon State Estimation for Nonlinear Systems, pp. 253-258.

Liu, Jinfeng  
Univ. of Alberta
Hui, Stefan San Diego State Univ.
Zak, Stanislaw H. Purdue Univ.

Cascade Disturbance Rejection Control of the Uncertain Nonlinear Systems with Nonlinear Parameterization, pp. 265-271.
Wei, Wei Beijing Tech. and Business Univ.
Li, Donghai Tsinghua Univ.
Wang, Jing Univ. of Science and Tech. Beijing

Nonlinear Observer for GNSS-Aided Inertial Navigation with Quaternion-Based Attitude Estimation, pp. 272-279.
Grip, Håvard Fjær Norwegian Univ. of Science and Tech.
Fossen, Thor I. Norwegian Univ. of Science and Tech.
Johansen, Tor Arne Norwegian Univ. of Science & Tech.
Saberi, Ali Washington State Univ.

Alessandri, Angelo Univ. of Genoa

Finite Time Observer Design for a Class of Nonlinear Systems with Unknown Inputs, pp. 286-291.
Liu, Jianxing Univ. de Tech. de Belfort-Montbéliard
Laghrrouch, Salah Univ. de Tech. de Belfort-Montbéliard
Wack, Maxime Univ. de Tech. de Belfort-Montbéliard

Sun, Xin Beijing Univ. of Tech.
Gao, Xuejin Beijing Univ. of Tech.
Jia, Zhiyang Beijing Univ. of Tech.

Passivity Analysis of a System and Its Approximation, pp. 296-301.
Xia, Meng Univ. of Notre Dame
Antsaklis, Panos J. Univ. of Notre Dame
Gupta, Vijay Univ. of Notre Dame

Pedestrian Evacuation in Two-Dimension Via State Feedback Control, pp. 302-306.
Dong, Hairong Beijing Jiaotong Univ.
Yang, Xiaoxia Beijing Jiaotong Univ.
Chen, Yao Beijing Jiaotong Univ.
Wang, Qianling Beijing Jiaotong Univ.

Mir, Muhammad Sarmad Pakistan Inst. of Engineering and Applied Sciences Islamabad, Pa
Shahab, Jehan Zeb Pakistan Inst. of Engineering and Applied Sciences Islamabad,
Majid, Abdul Pakistan Inst. of Engineering and Applied Sciences Islamabad,

A Study on Torque Modelling of Switched Reluctance Motors, pp. 321-326.
Xu, Jian-Xin National Univ. of Singapore
Panda, Sanjib Kumar National Univ. of Singapore

Giselsson, Pontus Lund Univ.

A New Technique to Optimize Single Neuron Models Using Experimental Spike Train Data, pp. 346-351.
Mitra, Anish George Mason Univ.
Manitius, Andre George Mason Univ.
Sauer, Tim George Mason Univ.

An Innovative Method for Optimization Based, High Order Controller Auto-Tuning, pp. 352-357.
Zimmerman, Yaron Spectrum Engineering
Gutman, Per-Olof Tech.
### MoA11

**Optimal Control I (Regular Session)**

**Chair:** Andersson, Sean  
**Boston Univ.**

**Co-Chair:** Utz, Tilman  
**Univ. Ulm**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>MoA11.1</td>
<td>Room 15</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>MoA11.2</td>
<td>Room 15</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>MoA11.3</td>
<td>Room 15</td>
</tr>
<tr>
<td>10:30-10:50</td>
<td>MoA11.4</td>
<td>Room 15</td>
</tr>
<tr>
<td>10:50-11:10</td>
<td>MoA11.5</td>
<td>Room 15</td>
</tr>
</tbody>
</table>

#### A Motion-Based Communication System, pp. 365-370.

- **Jones, Austin**  
  **Boston Univ.**

- **Andersson, Sean**  
  **Boston Univ.**


- **Reynoso-Mora, Pedro**  
  **Univ. of California at Berkeley**

- **Chen, Wenjie**  
  **Univ. of California at Berkeley**

- **Tomizuka, Masayoshi**  
  **Univ. of California, Berkeley**

#### Transscale LQ Tracking Control for a Class of Discrete Systems Based on Wavelet Packet Decomposition, pp. 378-383.

- **Zhao, Lin**  
  **Beihang Univ.**

- **Lin, Yue**  
  **Beijing Inst. of Control Engineering**

- **Jia, Yingmin**  
  **Beihang Univ.**

- **Li, Yawen**  
  **Beijing Univ. of Posts and Telecommunications**

- **Zhang, Jun**  
  **Beihang Univ. (BUAA)**


- **Utz, Tilman**  
  **Univ. Ulm**

- **Graichen, Knut**  
  **Univ. of Ulm**

### MoA12

**Control Applications I (Regular Session)**

**Chair:** Ferrara, Antonella  
**Univ. of Pavia**

**Co-Chair:** Sanfelice, Ricardo G.  
**Univ. of Arizona**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>MoA12.1</td>
<td>Room 16</td>
</tr>
</tbody>
</table>


- **Bender, Frank Alexander**  
  **Univ. of Stuttgart, Germany**

- **Kaszynski, Martin**  
  **Univ. Stuttgart**

- **Sawodny, Oliver**  
  **Univ. of Stuttgart**

### MoA13

**Building and Facility Automation (Regular Session)**

**Chair:** Alleyne, Andrew G.  
**Univ. of Illinois, Urbana-Champaign**

**Co-Chair:** Baldea, Michael  
**The Univ. of Texas at Austin**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>MoA13.1</td>
<td>Mount Vernon Square A</td>
</tr>
</tbody>
</table>


- **Koeln, Justin**  
  **Univ. of Illinois Urbana-Champaign**

- **Alleyne, Andrew G.**  
  **Univ. of Illinois, Urbana-Champaign**

#### Energy Management Via Pricing in LQ Dynamic Games, pp. 443-448.

- **Coogan, Samuel**  
  **Univ. of California, Berkeley**

- **Ratliff, Lillian**  
  **Univ. of California Berkeley**

- **Calderone, Daniel Joseph**  
  **Univ. of California, Berkeley**

- **Tomlin, Claire J.**  
  **UC Berkeley**

- **Sastry, Shankar**  
  **Univ. of California at Berkeley**

Cole, Wesley Joseph
Univ. of Texas - Austin
Hale, Elaine
National Renewable Energy Lab.
Edgar, Thomas F.
Univ. of Texas at Austin

Event-Based Green Scheduling of Radiant Systems in Buildings, pp. 455-460.

Nghiem, Truong X.
Univ. of Pennsylvania
Pappas, George J.
Univ. of Pennsylvania
Mangharam, Rahul
Univ. of Pennsylvania


Touretzky, Cara
Univ. of Texas at Austin
Baldea, Michael
The Univ. of Texas at Austin

Ancillary Service for the Grid Via Control of Commercial Building HVAC Systems, pp. 467-472.

Hao, He
Univ. of California at Berkeley
Kowli, Anupama
Univ. of Illinois
Lin, Yashen
Univ. of Florida
Barooah, Prabir
Univ. of Florida
Meyn, Sean
Univ. of Florida

Determining Blood And/or Breath Alcohol Concentration from Transdermal Alcohol Data (I), pp. 473-478.

Luczak, Susan
Univ. of Southern California
Rosen, I. Gary
Univ. of Southern California
Weiss, Jordan
Univ. of Southern California

Consensus of Spatially Distributed Filters Using Mobile Sensor Networks with Limited Connectivity (I), pp. 479-484.

Demetriou, Michael A.
Worcester Pol. Inst.

Model-Based Analysis of Polymer Drag Reduction in a Turbulent Channel Flow (I), pp. 485-490.

Lieu, Binh K.
Univ. of Minnesota
Jovanovic, Mihailo
Univ. of Minnesota

Using Frechet Sensitivity Analysis to Interrogate Distributed Parameters in Random Systems (I), pp. 491-495.

Borggaard, Jeff
Virginia Tech.
Nunes, Vitor Leite
Virginia Tech.
van Wyk, Hans-Werner
Florida State Univ.
MoA16
Renaissance Ballroom West A
Underwater Vehicles (Regular Session)
Chair: Krieg, Michael Univ. of Florida
Co-Chair: Pettersen, Kristin Y. Norwegian Univ. of Science & Tech.
09:30-09:50 MoA16.1
Path Following of Marine Surface Vessels with Saturated Transverse Actuators, pp. 546-553.
Caharija, Walter NTNU
Pettersen, Kristin Y. Norwegian Univ. of Science and Tech.
Gravdahl, Jan Tommy Norwegian Univ. of Science & Tech.
09:50-10:10 MoA16.2
Observer Based Output Feedback Tracking Control of Dynamically Positioned Surface Vessels, pp. 554-559.
Bidikli, Baris Izmir Inst. of Tech.
Tatlicioglu, Enver Izmir Inst. of Tech.
Zergeroglu, Erkan Gebze Inst. of Tech.
10:10-10:30 MoA16.3
Hassani, Vahid MARINTEK
Sorensen, Asgeir Johan Norwegian Univ. of Sci and Tech.
Pascoal, Antonio Manuel Inst. Superior Tecnico
10:30-10:50 MoA16.4
Liu, Xinmin Univ. of California at Los Angeles
Iwasaki, Tetsuya UCLA
Fish, Frank West Chester Univ.
10:50-11:10 MoA16.5
Krieg, Michael Univ. of Florida
Mohseni, Kamran Univ. of Florida
11:10-11:30 MoA16.6
Korkmaz, Ozan The Scientific and Tech. Res. Council of Turkey
Ider, S. Kemal Middle East Tech. Univ.
 Özgün, M. Kemal Middle East Tech. Univ.
MoA17
Renaissance Ballroom West B
Control of Biomimetic Locomotion Systems (Invited Session)
Chair: Woolsey, Craig Virginia Tech.
Co-Chair: Kelly, Scott Univ. of North Carolina at Charlotte
Organizer: Woolsey, Craig Virginia Tech.
Organizer: Kelly, Scott Univ. of North Carolina at Charlotte
09:30-09:50 MoA17.1
Alaeddini, Atiye Univ. of Washington
Morgansen, Kristi A. Univ. of Washington
09:50-10:10 MoA17.2
Control-Oriented Averaging of Tail-Actuated Robotic Fish Dynamics (I), pp. 591-596.
Wang, Jianxun Michigan State Univ.
Chen, Songlin Harbin Inst. of Tech.
Tan, Xiaobo Michigan State Univ.
10:10-10:30 MoA17.3
A Geometric Control Approach for Optimum Maneuverability of Flapping Wing MAVs Near Hover (I), pp. 597-602.
Taha, Haithem Virginia Tech.
Woolsey, Craig Virginia Tech.
Haj, Muhammad Virginia Tech.
10:30-10:50 MoA17.4
Control of Underactuated Mechanical Systems Using High Frequency Input (I), pp. 603-608.
Tahmasian, Sevak Virginia Tech.
Taha, Haithem Virginia Tech.
Woolsey, Craig Virginia Tech.
10:50-11:10 MoA17.5
Adaptive Control for Bioinspired Flapping Wing Robots (I), pp. 609-614.
Murphy, Ian Virginia Pol. Inst. and State Univ.
Dadashi, Shrin Virginia Tech.
Kurdila, Andrew J. Virginia Tech.
Javid, Bayandor Virginia Tech.
Bledt, Gerardo Virginia Tech.
Lei, Yu Virginia Tech.
11:10-11:30 MoA17.6
Reduced-Order Modeling of Propulsive Vortex Shedding from a Free Pitching Hydrofoil with an Internal Rotor (I), pp. 615-620.
Tallapragada, Phanindra Univ. of North Carolina, Charlotte
Kelly, Scott Univ. of North Carolina at Charlotte
MoA18
Grand Ballroom South
Developments in Wind Power Control I (Invited Session)
Chair: Fleming, Paul National Renewable Energy Lab.
Co-Chair: van Wingerden, J.-W. Delft Univ. of Tech.
Organizer: van Wingerden, J.-W. Delft Univ. of Tech.
09:30-09:50 MoA18.1
Reducing LIDAR Wind Speed Measurement Error with Optimal Filtering (I), pp. 621-627.
Simley, Eric Univ. of Colorado Boulder
Pao, Lucy Y. Univ. of Colorado Boulder
09:50-10:10 MoA18.2
A Model-Free Distributed Approach for Wind Plant Control (I), pp. 628-633.
Gebraad, Pieter M.O. Delft Univ. of Tech.
v an Wingerden, Jan-Willem Delft Univ. of Tech.
v an Dam, Filip C. Delft Univ. of Tech.
Direct Ice Sensing and Localized Closed-Loop Heating for Active De-Icing of Wind Turbine Blades (I), pp. 634-639.

Shajiee, Shervin
Univ. of Colorado

Pao, Lucy Y.
Univ. of Colorado Boulder

Wagner, Patrick
Univ. of Colorado Boulder

Moore, Eric D.
Chiaro Tech. LLC

McLeod, Robert
Univ. of Colorado


Knudsen, Torben
Aalborg Univ. Denmark

Bak, Thomas
Aalborg Univ.

Benefit of Wind Turbine Preview Control As a Function of Measurement Coherence and Preview Time (I), pp. 647-652.

Dunne, Fiona
Univ. of Colorado Boulder

Pao, Lucy Y.
Univ. of Colorado Boulder

Gain-Scheduled Model Predictive Control of Wind Turbines Using Laguerre Functions (I), pp. 653-658.

Adegas, Fabiano Daher
Aalborg Univ.

Wisniewski, Rafal
Aalborg Univ.

Larsen, Lars Finn Sloth
Vestas A/S

MoA19 Airborne Experimental Test Platforms: From Theory to Flight I (Tutorial Session)

Grand Ballroom Central

Chair: Dorobantu, Andrei
Univ. of Minnesota

Co-Chair: Balas, Gary J.
Univ. of Minnesota

Organizer: Dorobantu, Andrei
Univ. of Minnesota

Organizer: Balas, Gary J.
Univ. of Minnesota


Dorobantu, Andrei
Univ. of Minnesota

Johnson, Will
Univ. of Minnesota

Lie, F. Adhika Pradipta
Univ. of Minnesota

Taylor, Brian
Univ. of Minnesota

Murch, Austin
Univ. of Minnesota

Paw, Yew Chai
DSO National Lab.

Gebre-Egziabher, Demoz
Univ. of Minnesota

Balas, Gary J.
Univ. of Minnesota

Design for Multi-Experiment and Expanded Range Flight Testing in the AirSTAR Facility (I), N/A

Cox, David E.
NASA LaRC

Belcastro, Christine M.
NASA Langley Res. Center

Development and Testing of an Aeroservoelastic Test Bed (I), N/A

Holm-Hansen, Brian
Lockheed Martin

Burnett, Edward
Lockheed Martin

Beranek, Jeff
Lockheed Martin Aeronautics Company

Balas, Gary J.
Univ. of Minnesota

MoA20 Modeling, Estimation and Control of Electrochemical Energy Conversion Systems (Invited Session)

Grand Ballroom North

Chair: Das, Tuhin
Univ. of Central Florida

Co-Chair: McKahn, Denise
Smith Coll.

Organizer: Canova, Marcello
The Ohio State Univ.

Organizer: Smith, Kandler
National Renewable Energy Lab.

Organizer: Anderson, R. Dyche
Ford Motor Company

Organizer: Das, Tuhin
Univ. of Central Florida

Organizer: Stefanopoulou, A.G.
Univ. of Michigan


Marcicki, James
The Ohio State Univ.

Bartlett, Alexander
Center for Automotive Res. The Ohio State Univ.

Conlisk, A. Terrence
Ohio State Univ.

Rizzoni, Giorgio
Ohio State Univ.

Yang, Xiao Guang
Ford Motor Company

Miller, Ted
Ford Motor Company


Liu, Xinyi
Smith Coll.

McKahn, Denise
Smith Coll.

A Computationally Efficient Thermal Model of Cylindrical Battery Cells for the Estimation of Radially Distributed Temperatures (I), pp. 698-703.

Kim, Youngki
Univ. of Michigan

Siegel, Jason B.
Univ. of Michigan

Stefanopoulou, Anna G.
Univ. of Michigan


Lin, Xinfan
Univ. of Michigan

Stefanopoulou, Anna G.
Univ. of Michigan

Li, Yonghua
Ford Motor Company

Anderson, R. Dyche
Ford Motor Company
10:50-11:10 MoA20.5

On-Line Energy and Battery Thermal Management for Hybrid Electric Heavy-Duty Truck, pp. 710-715.

Pham, T.H. Eindhoven Univ. of Tech.
Kessels, J.T.B.A. Tech. Univ. Eindhoven
van den Bosch, P. P. J. Eindhoven Univ. of Tech.
Huisman, Rudolf DAF Trucks N.V.
Nevels, R.M.P.A DAF Trucks N.V.

11:10-11:30 MoA20.6


Bashash, Saeid Pennsylvania State Univ.
Fathy, Hosam K. Penn State Univ.

MoA21

Congressional Hall A
Biomedical Systems (Regular Session)

Chair: Noble, Sarah L. United States Naval Acad.
Co-Chair: Gans, Nicholas Univ. of Texas at Dallas

09:30-09:50 MoA21.1

Control-Theoretic Treatment Scheduling for Posttraumatic Stress Disorder, pp. 722-727.

Noble, Sarah L. United States Naval Acad.

09:50-10:10 MoA21.2

Modelling and Exploration of an Active Helmet Design, pp. 728-733.

Meyer, David G. Univ. of Colorado at Boulder
Hauser, John Univ. of Colorado at Boulder

10:10-10:30 MoA21.3


ElMoaqet, Hisham Univ. of Michigan-Ann Arbor
Tilbury, Dawn M. Univ. of Michigan
Ramachandran, Satya-Krishna Univ. of Michigan-Ann Arbor

10:30-10:50 MoA21.4

Subject-Specific Estimation of Aortic Blood Pressure Via System Identification: Preliminary In-Human Experimental Study, pp. 740-745.

Fazeli, Nima Univ. of Maryland Coll. Park
Rashedi, Mohammad Univ. of Alberta
Chappell, Alyssa Univ. of Alberta
Wang, Shaohua Univ. of Alberta
MacArthur, Roderick Univ. of Alberta
McMurty, M. Sean Univ. of Alberta
Finegan, Barry Univ. of Alberta
Hahn, Jin-Oh Univ. of Maryland

10:50-11:10 MoA21.5

Gain-Scheduling Control of a Cable-Driven MRI-Compatible Robotic Platform for Intracardiac Interventions, pp. 746-751.

Salimi, Amirhossein Univ. of Houston
Ramezanifar, Amin Univ. of Houston
Mohammadpour, Javad Univ. of Georgia
Grigoriadis, Karolos M. Univ. of Houston

11:10-11:30 MoA21.6

An Extended Kalman Filter to Estimate Human Gait Parameters and Walking Distance, pp. 752-757.

Bennett, Terrell Univ. of Texas at Dallas
Jafari, Roozbeh Univ. of Texas at Dallas
Gans, Nicholas Univ. of Texas at Dallas

MoA22

Congressional Hall B
Control of Networked Systems I (Regular Session)

Chair: Gugaliya, Jinendra ABB Global Industries Services Ltd
Co-Chair: Chen, Xiang Univ. of Windsor

09:30-09:50 MoA22.1

A Network Control Structure with a Switched PD Delay Compensator and a Nonlinear Network Model, pp. 758-764.

Stefan, Octavian *Pol. Univ. of Timisoara, Faculty of Automation and
Codrean, Alexandru *Pol. Univ. of Timisoara
Dragomir, Toma-Leonida *Pol. Univ. of Timisoara, Faculty of Automation and

09:50-10:10 MoA22.2

Networked Feedback Stabilization Over Quantized Fading Channels, pp. 765-770.

Wan, Shuang The Hong Kong Univ. of Science and Tech.
Gu, Guoxiang Louisiana State Univ.
Qu, Li Hong Kong Univ. of Sci. & Tech.

10:10-10:30 MoA22.3


Garone, Emanuele Univ. Libre de Bruxelles
Gasparri, Andrea Univ. of “Roma Tre”
Lamonaca, Francesco Univ. of Calabria

10:30-10:50 MoA22.4


Feng, Yu Univ. of Windsor
Chen, Xiang Univ. of Windsor
Gu, Guoxiang Louisiana State Univ.

10:50-11:10 MoA22.5


Srinivasan, Seshadri Tallinn Univ. of Tech.
Vallabhan, Mishiga ABB GISL INDIA
Ramaszwny, Srin ABB Corp. Res. Center
Kotta, Ülle Inst. of Cybernetics at TUT

11:10-11:30 MoA22.6


Jaleel, Hassan Georgia Inst. of Tech.
Egerstedt, Magnus Georgia Inst. of Tech.
MoB01
Aerospace II (Regular Session)
Chair: Sultan, Cornel Virginia Tech.
Co-Chair: Lynch, Alan Francis Univ. of Alberta
13:30-13:50 MoB01.1
Robustness of Variance Constrained Controllers for Complex,
Control Oriented Helicopter Models, pp. 794-799.
Oktoy, Tugrul ERCIYES Univ.
Sultan, Cornel Virginia Tech.
13:50-14:10 MoB01.2
A Novel Cascade Controller for a Helicopter UAV with Small
Body Force Compensation, pp. 800-805.
Godbolt, Bryan Univ. of Alberta
Lynch, Alan Francis Univ. of Alberta
14:10-14:30 MoB01.3
The Vertical Bat Tail-Sitter: Dynamic Model and Control
Architecture, pp. 806-811.
Argyle, Matthew Brigham Young Univ.
Beard, Randy Brigham Young Univ.
Morris, Stephen MLB Company
14:30-14:50 MoB01.4
Optimal Waypoint Guidance, Trajectory Design and Tracking,
pp. 812-817.
Bauer, Peter Computer and Automation Res. Inst.
Dorobantu, Andrei Univ. of Minnesota
14:50-15:10 MoB01.5
Flight Test Results for an Improved Line of Sight Guidance
Law for UAVs, pp. 818-823.
Lizarraga, Mariano Isidro Univ. of California Santa Cruz
Curry, Renwick Univ. of California Santa Cruz
Elkaim, Gabriel Hugh UC Santa Cruz
15:10-15:30 MoB01.6
The Leader-Following Consensus of Multiple Rigid Spacecraft
Systems, pp. 824-829.
Cai, He Chinese Univ. of Hong Kong
Huang, Jie The Chinese Univ. of Hong Kong
MoB02
Switched Systems II (Regular Session)
Chair: Rodrigues, Luis Concordia Univ.
Co-Chair: Chowdhary, Girish Massachusetts Inst. of Tech.
13:30-13:50 MoB02.1
Identification of Linear Hybrid Systems: A Geometric
Approach, pp. 830-835.
Le, Van Luong CRAN, Univ. de Lorraine
Lauer, Fabien Univ. de Lorraine, LORIA, CNRS, Inria
Bloch, Gerard Univ. de Lorraine
13:50-14:10 MoB02.2
A Controller Switching Design Approach Via Parameterization
for Control of Hard Disk Drive Dual-Stage Actuators, pp. 836-841.
Wong, Daniel Cornell Univ.
Hencey, Brandon Cornell Univ.

Zhao, Qi
Clausthal Univ. of Tech.

Bohn, Christian
Tech. Univ. Clausthal

MoB04 Room 5
Discrete-Event Systems II (Regular Session)
Chair: Hashtrudi Zad, Shahin
Concordia Univ.
Co-Chair: Su, Rong
Nanyang Tech. Univ.
13:30-13:50 MoB04.1
Coordinated Distributed Time Optimal Supervisory Control, pp. 905-910.

Su, Rong
Nanyang Tech. Univ.

13:50-14:10 MoB04.2

Zibaeeenjad, M. Hadi
Univ. of Waterloo

Thistle, John G.
Univ. of Waterloo

14:10-14:30 MoB04.3
Ideal Free Distributions in Human Decision-Making, pp. 917-922.

Fernández, Isabel
Pontificia Univ. Javeriana

Finke, Jorge
Pontificia Univ. Javeriana

Ruiz, Diego
Univ. del Cauca

14:30-14:50 MoB04.4

Wang, Weilin
Nanyang Tech. Univ.

Su, Rong
Nanyang Tech. Univ.

Lin, Liyong
Nanyang Tech. Univ.

14:50-15:10 MoB04.5

Carvalho, Lilian Kawakami
COPPE/UFRJ

Basilio, Joao Carlos
Univ. Federal de Rio de Janeiro

Moreira, Marcos Vicente
Univ. Federal de Rio de Janeiro

Clavijo, Leonardo
Univ. Federal de Rio de Janeiro

15:10-15:30 MoB04.6

Boroomand, Farzam
Concordia Univ.

Hashtrudi Zad, Shahin
Concordia Univ.

MoB05 Room 6
Delay Systems II (Regular Session)
Chair: Butcher, Eric
New Mexico State Univ.
Co-Chair: Basin, Michael V.
Autonomous Univ. of Nuevo Leon
13:30-13:50 MoB05.1
Further Improvement on H\textsuperscript{\infty} Filtering for Time-Delayed Systems, pp. 940-945.

You, Jia
Purdue Univ.

Gao, Huijun
Harbin Inst. of Tech.

Basin, Michael V.
Autonomous Univ. of Nuevo Leon

13:50-14:10 MoB05.2
Truncated Predictor Feedback Control for Exponentially Unstable Linear Systems with Time-Varying Input Delay, pp. 946-951.

Yoon, Se Young (Pablo)
Univ. of Virginia

Lin, Zongli
Univ. of Virginia

14:10-14:30 MoB05.3
Multi-Agent Consensus under Delayed Feedback: Fundamental Constraint on Graph and Fundamental Bound on Delay, pp. 952-957.

Qi, Tian
South China Univ. of Tech.

Qiu, Li
Hong Kong Univ. of Sci. & Tech.

Chen, Jie
City Univ. of Hong Kong

14:30-14:50 MoB05.4
Stabilization of Discrete-Time Linear Systems Subject to Input Saturation and Multiple Unknown Constant Delays, pp. 958-963.

Wang, Xu
New York Univ.

Saberi, Ali
Washington State Univ.

Stoorvogel, Anton A.
Univ. of Twente

14:50-15:10 MoB05.5
Observer-Based Delayed Feedback Attitude Control for Single and Multi-Actuator Maneuvers, pp. 964-969.

Torkamani, Shahab
New Mexico State Univ.

Nazari, Morad
New Mexico State Univ.

Samiei, Ehsan
New Mexico State Univ.

Butcher, Eric
New Mexico State Univ.

15:10-15:30 MoB05.6

Gundes, A. N.
Univ. of California, Davis

Chow, Liangsheng
Univ. of California, Davis

MoB06 Room 8
Autonomous Systems II (Regular Session)
Chair: Marconi, Lorenzo
Univ. di Bologna
Co-Chair: Kyriakopoulos, K.J.
National Tech. Univ. of Athens
13:30-13:50 MoB06.1
Distributed Flocking of Second-Order Multi-Agent Systems with Global Connectivity Maintenance, pp. 976-981.

Mao, Yutian
Beijing Inst. of Tech.

Dou, Lihua
Beijing Inst. of Tech.

Fang, Hao
Beijing Inst. of Tech.

Chen, Jie
Beijing Inst. of Tech.

Cai, Tao
Beijing Inst. of Tech.

13:50-14:10 MoB06.2
A Smooth Hybrid Symbolic Control for the Formation of UAVs Over a Partitioned Space, pp. 982-987.

Karimoddini, Ali
NUS

Lin, Hai
Univ. of Notre Dame

Chen, Ben M.
National Univ. of Singapore

Lee, Tong Heng
National Univ. of Singapore

Naldi, Roberto
Univ. di Bologna

Torre, Alessio
Univ. of Bologna

Marconi, Lorenzo
Univ. di Bologna

Navigation Functions for Focally Admissible Surfaces, pp. 994-999.

Filippidis, Ioannis
California Inst. of Tech.

Kyrakopoulos, Kostas J.
National Tech. Univ. of Athens

Distributed Network Localization Using Angle-Of-Arrival Information Part II: Discrete-Time Algorithm and Error Analysis, pp. 1000-1005.

Zhu, Guangwei
Purdue Univ.

Hu, Jianghai
Purdue Univ.


Zhu, Guangwei
Purdue Univ.

Hu, Jianghai
Purdue Univ.

Control of a Reaction-Diffusion PDE Cascaded with a Heat Equation, pp. 1012-1017.

Wang, Jun-Min
Beijing Inst. of Tech.

Su, Lingling
bit

Li, Hanxiong
City Univ. of Hong Kong

Quaternion-Based Trajectory Tracking Control of VTOL-UAV's Using Command Filtered Backstepping, pp. 1018-1023.

Zhao, Sheng
Univ. of California, Riverside

Dong, Wenjie
The Univ. of Texas - Pan American

Farrell, Jay A.
Univ. of California Riverside

Experimental Validation of a Globally Stabilizing Feedback Controller for a Quadrotor Aircraft with Wind Disturbance Rejection, pp. 1024-1029.

Cabecinhas, David
Inst. Superior Tecnico, Tech. Univ. of Lisbon

Cunha, Rita
Inst. Superior Tecnico

Silvestre, Carlos
Univ. of Macau


Tyan, Feng
Tamkang Univ.


Galeazzi, Roberto
Tech. Univ. of Denmark

Gryning, Mikkel
Tech. Univ. of Denmark, DONG Energy

Blanke, Mogens
Tech. Univ. of Denmark

Trajectory Tracking of a Class of Underactuated Systems with External Disturbances, pp. 1044-1049.

Kobilarov, Marin
Johns Hopkins Univ.

Observers for Nonlinear Systems II (Regular Session)

Chair: Altouche, Abdel
LAGIS/HEI

Co-Chair: Marx, Benoit
Ctr de Recherche en Automat. de Nancy


Jahanshahi, Esmaeil
Norwegian Univ. of Science & Tech.

Skogestad, Sigurd
Norwegian Univ. of Science & Tech.

Grøtli, Esten Ingar
Norwegian Univ. of Science & Tech.


McCarthy, Philip James
Univ. of Waterloo

Nielsen, Christopher
Univ. of Waterloo

Smith, Stephen L.
Univ. of Waterloo

An Immersion and Invariance Based Speed and Rotation Angle Observer for the Ball and Beam System, pp. 1069-1075.

Rapp, Philipp
Univ. of Stuttgart

Sawodny, Oliver
Univ. of Stuttgart

Tarin, Cristina
Univ. of Stuttgart


Boulkroune, Boulaïd
High Studies in Engineering - HEI

Djemili, Issam
LAGIS, Hautes Etudes d'Ingénieur, Lille

Altouche, Abdel
LAGIS/HEI

Cocquempot, Vincent
Lille 1 Univ.

Robust Tracking Performance and Disturbance Rejection for a Class of Nonlinear Systems Using Disturbance Observers, pp. 1082-1087.

El-Shaer, Ahmed H.
LineStream Tech.

Tomizuka, Masayoshi
Univ. of California, Berkeley
14:10-14:30 MoB11.3
Energy-Based Nonlinear Control for a Quadrotor Rotorcraft, pp. 1177-1182.
Muñoz Hernandez, L.E. Univ. de Tech. de Compiègne
Santos, Omar Univ. Autonoma del Estado de Hidalgo
Castillo, Pedro Univ. de Tech. de Compiègne
Fantoni, Isabelle Univ. de Tech. de Compiègne

14:30-14:50 MoB11.4
Discrete-Time Decentralized Inverse Optimal Neural Control for a Shrimp Robot, pp. 1183-1188.
Lopez-Franco, Michel CINVESTAV, Unidad Guadalajara
Sanchez, Edgar N. CINVESTAV
Alanis, Alma Y. Univ. de Guadalajara
Arana, Nancy CUCEI

14:50-15:10 MoB11.5
Malikopoulos, Andreas Oak Ridge National Lab.

15:10-15:30 MoB11.6
Zheng, Jianyong Hong Kong Univ. of Science and Tech.
Qiu, Li Hong Kong Univ. of Sci. & Tech.

MoB12 Room 16
Control Applications II (Regular Session)
Chair: Schuster, Eugenio Lehigh Univ.
Co-Chair: Gayadeen, Sandira Univ. of Oxford

13:30-13:50 MoB12.1
Gayadeen, Sandira Univ. of Oxford
Duncan, Stephen Univ. of Oxford
Heath, William Paul Univ. of Manchester

13:50-14:10 MoB12.2
Nonlinear Control and Optimization of the Burn Condition in Tokamak Nuclear Fusion Reactors, pp. 1207-1212.
Boyer, Mark D. Lehigh Univ.
Schuster, Eugenio Lehigh Univ.

14:10-14:30 MoB12.3
Vishwajeet, Kumar Univ. at Buffalo
Singla, Puneet Univ. at Buffalo

14:30-14:50 MoB12.4
Identification and Control of Magneto-Kinetic Response During Advanced Tokamak Scenarios in DIII-D, pp. 1219-1224.
Wehner, William Lehigh Univ.
Shi, Wenyu Lehigh Univ.
Schuster, Eugenio Lehigh Univ.
Moreau, Didier CEA
Walker, Michael L. General Atomics
Ferron, J. R. General Atomics
Luce, Timothy General Atomics
Humphreys, D.A. General Atomics
Penafior, Benjamin P. General Atomics
Johnson, Robert D. General Atomics

14:50-15:10 MoB12.5
PTRANSP Simulation and Experimental Test of a Robust Current Profile and Beta_n Controller for Off-Axis Current Drive Scenarios in the DIII-D Tokamak, pp. 1225-1230.
Shi, Wenyu Lehigh Univ.
Wehner, William Lehigh Univ.
Barton, Justin Lehigh Univ.
Boyer, Mark D. Lehigh Univ.
Schuster, Eugenio Lehigh Univ.
Kritz, Arnold Lehigh Univ.
Moreau, Didier CEA
Luce, Timothy General Atomics
Ferron, J. R. General Atomics
Walker, Michael L. General Atomics
Humphreys, D.A. General Atomics
Penafior, Benjamin P. General Atomics
Johnson, Robert D. General Atomics

MoB13 Mount Vernon Square A
Multi-Agent Systems I (Regular Session)
Chair: Jia, Peng Univ. California at Santa Barbara
Co-Chair: Bullo, Francesco Univ. California at Santa Barbara

13:30-13:50 MoB13.1
Resilient Continuous-Time Consensus in Fractional Robust Networks, pp. 1237-1242.
LeBlanc, Heath Ohio Northern Univ.
Zhang, Haotian Univ. of Waterloo
Sundaram, Shreyas Univ. of Waterloo
Koutsoukos, Xenofon Vanderbilt Univ.

13:50-14:10 MoB13.2
Adaptive Estimation Using Multiagent Network Identifiers with Undirected and Directed Graph Topologies, pp. 1243-1248.
Sadikhov, Teymur Georgia Inst. of Tech.
Haddad, Wassim M. Georgia Inst. of Tech.
Yucelen, Tansel Georgia Inst. of Tech.
14:10-14:30 MoB13.3

On the Dynamics of Influence Networks Via Reflected Appraisal, pp. 1249-1254.

Jia, Peng
Univ. of California at Santa Barbara

Mirtabatabaei, Anahita
Univ. of California, Santa Barbara

Friedkin, Noah E.
Univ. of California at Santa Barbara

Bullo, Francesco
Univ. California at Santa Barbara

14:30-14:50 MoB13.4


Etesami, Seyed Rasoul
Univ. of Illinois at Urbana-Champaign

Basar, Tamer
Univ. of Illinois, Urbana-Champaign

Nedich, Angelia
Univ. of Illinois, Urbana-Champaign

Touri, Behrouz
Georgia Tech. Univ.

14:50-15:10 MoB13.5

Towards Optimal Convex Combination Rules for Gossiping, pp. 1261-1265.

Mangoubi, Oren
Massachusetts Inst. of Tech.

Mou, Shaoshuai
Yale Univ.

Liu, Ji
Yale Univ.

Morse, A. Stephen
Yale Univ.

15:10-15:30 MoB13.6

Region Tracking Control for Multi-Agent Systems with High-Order Dynamics, pp. 1266-1271.

Ren, Beibei
Texas Tech. Univ.

Ge, Shuzhi Sam
Univ. of Electronic Science & Tech. of China

Lee, Tong Heng
National Univ. of Singapore

Krstic, Miroslav
Univ. of California, San Diego

MoB14 Mount Vernon Square B

Estimation and Control of Distributed Parameter Systems II (Invited Session)

Chair: Demetriou, Michael A.
Worcester Pol. Inst.

Co-Chair: Fahroo, Fariba
AFOSR

Organizer: Demetriou, Michael A.
Worcester Pol. Inst.

Organizer: Fahroo, Fariba
AFOSR

13:30-13:50 MoB14.1

Reduced Order Controllers for an Anisotropic Composite Plate with Smart Actuation and Sensing (I), pp. 1272-1277.

Singler, John
Missouri Univ. of Science and Tech.

Merritt, Joshua
Oregon State Univ.

Ray, Cody W.
Oregon State Univ.

Batten, Belinda A.
Oregon State Univ.

13:50-14:10 MoB14.2

Optimal Control of PDE-Based Systems by Using a Finite-Dimensional Approximation Scheme (I), pp. 1278-1283.

Alessandri, Angelo
Univ. of Genoa

Gaggero, Mauro
National Res. Council of Italy

Bagnerini, Patrizia
Univ. of Genoa

14:10-14:30 MoB14.3

Reduced Order Modeling for Fluid Flows Based on Nonlinear Balanced Truncation (I), pp. 1284-1289.

Sahyoun, Samir
Univ. of Tennessee

Dong, Jin
Univ. of Tennessee, Knoxville

Djouadi, Seddik, M.
Univ. of Tennessee

14:30-14:50 MoB14.4

Regulation of a Controlled Burgers' Equation: Tracking and Disturbance Rejection for General Time Dependent Signals (I), pp. 1290-1295.

Gilliam, David S.
Texas Tech. Univ.

Aulisa, Eugenio
Texas Tech. Univ.

14:50-15:10 MoB14.5

Two Approach to the Stabilization of Euler-Bernoulli Beam Equation with Control Matched Disturbance (I), pp. 1296-1301.

Guo, Bao-Zhu
Acad. Sinica

Jin, Feng-Fei
Qingdao Univ.

15:10-15:30 MoB14.6

Disturbance-Decoupling Observers for a Class of Second Order Distributed Parameter Systems (I), pp. 1302-1307.

Demetriou, Michael A.
Worcester Pol. Inst.

MoB15 Renaissance Ballroom East

Consensus and Cooperation in Multi-Agent Systems II (Regular Session)

Chair: Ren, Wei
Univ. of California, Riverside

Co-Chair: Belabbas, M.A.
Univ. of Illinois at Urbana-Champaign

13:30-13:50 MoB15.1

Decentralized Design with Localized Objective in Formation Control, pp. 1308-1313.

Belabbas, Mohamed Ali
Univ. of Illinois at Urbana-Champaign

13:50-14:10 MoB15.2

Real-Time Game Theoretic Coordination of Competitive Mobility-On-Demand Systems, pp. 1314-1319.

Zhu, Minghui
Massachusetts Inst. of Tech.

Frazzoli, Emilio
Massachusetts Inst. of Tech.

14:10-14:30 MoB15.3

Approximate Optimal Cooperative Decentralized Control for Consensus in a Topological Network of Agents with Uncertain Nonlinear Dynamics, pp. 1320-1325.

Kamalapurkar, Rushikesh
Univ. of Florida

Dinh, Huyen T.
Univ. of Transport & Communications

Walters, Patrick
Univ. of Florida

Dixon, Warren E.
Univ. of Florida

14:30-14:50 MoB15.4

Finite-Time Consensus of Networked Lipschitz Nonlinear Agents under Communication Constraints, pp. 1326-1331.

Cao, Yongcan
Air Force Res. Lab.

Ren, Wei
Univ. of California, Riverside

Casbeer, David W.
Air Force Res. Lab.

Schumacher, Corey
Air Force Res. Lab.

14:50-15:10 MoB15.5

Distributed Parameterized Model Predictive Control of Networked Multi-Agent Systems, pp. 1332-1337.

Droge, Greg Nathanael
Georgia Inst. of Tech.

Egerstedt, Magnus
Georgia Inst. of Tech.

Zhao, Yingbo
Univ. of Notre Dame

Minero, Paolo
Univ. of Notre Dame

Gupta, Vijay
Univ. of Notre Dame

Vehicle Control and Estimation in the Undersea Environment (Invited Session)

Chair: Woolsey, Craig
Virginia Tech.

Co-Chair: Piccoli, Benedetto
Rutgers Univ. - Camden

Organizer: Woolsey, Craig
Virginia Tech.

Organizer: Chyba, Monique
Univ. of Hawaii

Robust Geometric Formation Control of Multiple Autonomous Underwater Vehicles with Time Delays (I), pp. 1380-1385.

Yang, Huizhen
Northwestern Pol. Univ.

Wang, Chuanfeng
Georgia Inst. of Tech.

Zhang, Fumin
Georgia Inst. of Tech.


DeVries, Levi
Univ. of Maryland at Coll. Park

Paley, Derek A.
Univ. of Maryland

Path Planning to Optimize Observability in a Planar Uniform Flow Field (I), pp. 1392-1399.

Hinson, Brian
Univ. of Washington

Binder, Michael
Univ. of Washington

Morgansen, Kristi A.
Univ. of Washington


Fan, Shuangshuang
Zhejiang Univ.

Woolsey, Craig
Virginia Tech.

Reducing Actuator Switchings for Motion Control of Autonomous Underwater Vehicles (I), pp. 1406-1411.

Chyba, Monique
Univ. of Hawaii

Grammatico, Sergio
Univ. of Pisa

Huynh, Van Thanh
Queensland Univ. of Tech.

Marriott, John
Univ. of Hawaii

Piccoli, Benedetto
Rutgers Univ. - Camden

Smith, Ryan
Queensland Univ. of Tech.

Low Cost Underwater Gliders for Littoral Marine Research (I), pp. 1412-1417.

Mitchell, Byrel
Michigan Tech. Univ.

Wilkening, Eric
Michigan Tech. Univ.

Mahmoudian, Nina
Michigan Tech. Univ.
### MoB18 | Grand Ballroom South

**Developments in Wind Power Control II (Invited Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>

- Buckspan, Andrew | Univ. of Colorado at Boulder |
- Pao, Lucy Y. | Univ. of Colorado Boulder |
- Aho, Jacob | Univ. of Colorado Boulder |
- Fleming, Paul | National Renewable Energy Lab. |

| 13:50-14:10 | MoB18.2 Optimal Trajectory Tracking Control for Wind Turbines During Operating Region Transitions (I), pp. 1424-1429. |

- Aho, Jacob | Univ. of Colorado Boulder |
- Pao, Lucy Y. | Univ. of Colorado Boulder |
- Hauser, John | Univ. of Colorado at Boulder |

| 14:10-14:30 | MoB18.3 On Control of Tethered Wings for Airborne Wind Energy (I), pp. 1430-1435. |

- Fagiano, Lorenzo | ETH Zurich |
- Zgraggen, Aldo Urban | ETH Zurich |
- Khammash, Mustafa H. | ETH Zurich |
- Morari, Manfred | ETH Zurich |

| 14:30-14:50 | MoB18.4 On the Feasibility and Limits of Extrem Load Reduction for Wind Turbines Via Advanced Sensing: A Lidar Case Study (I), pp. 1436-1441. |

- Elorza, Iker | CENER |
- Iribas, Mikel | CENER |
- Miranda, Edurne | CENER |


- Seiler, Peter | Univ. of Minnesota |
- Ozdemir, Ahmet Arda | Univ. of Minnesota |


- Badihi, Hamed | Concordia Univ. |
- Zhang, Youmin | Concordia Univ. |
- Hong, Henry | Concordia Univ. |

### MoB19 | Grand Ballroom Central

**Airborne Experimental Test Platforms: From Theory to Flight II (Invited Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
</table>

- Gu, Yu | West Virginia Univ. |
- Gururajan, Srinath | West Virginia Univ. |
- Seanor, Brad | West Virginia Univ. |
- Chao, Haiyang | West Virginia University |
- Napolitano, M.R. | West Virginia Univ. |


- Laiacker, Maximilian | DLR |
- Köckner, Andreas | DLR |
- Konrad, Konstantin | German Aerospace Center (DLR) |
- Schwarzbach, Marc | DLR |
- Looye, Gertjan | Dir-oberpfaffenhofen |
- Sommer, Dominik | DLR |
- Kossy, Ingo | DLR |

| 14:10-14:30 | MoB19.3 The C3UV Testbed for Collaborative Control and Information Acquisition Using UAVs (I), pp. 1466-1471. |

- Pereira, Eloi | UC Berkeley |
- Hedrick, Karl | Univ. of California at Berkeley |
- Sengupta, Raja | Univ. of California at Berkeley |


- Krings, Matthias | Hamburg Univ. of Tech. |
- Annighoefer, Bjorn | Hamburg Univ. of Tech. |
- Thielecke, Frank | Hamburg Univ. of Tech. |


- Gali, Balazs | Budapest Univ. of Tech. and Ec. |


- Frew, Eric W. | Univ. of Colorado, Boulder |
- Argrow, Brian | Univ. of Colorado |
- Lawrence, Dale A. | Univ. of Colorado |
- Elston, Jack | Univ. of Colorado |
- Stachura, Maciej | Univ. of Colorado |
**MoB20**

**Optical Frequency Stabilization and Optical Phase Locked Loops (Tutorial Session)**

Chair: Leibrandt, David  
NIST

Co-Chair: Taubman, Matthew  
Pacific Northwest National Lab.

Organizer: Zhu, Miao  
Agilent Tech.

13:30-14:30  
MoB20.1

**Optical Frequency Stabilization and Optical Phase Locked Loops: Golden Threads of Precision Measurement (I),** pp. 1488-1505.

Taubman, Matthew  
Pacific Northwest National Lab.

14:30-14:50  
MoB20.2

**Crystalline Coatings for Thermal Noise Reduction in Optical Interferometers (I)**. N/A

Zhang, Wei  
JILA Univ. of Colorado at Boulder

14:50-15:10  
MoB20.3

**Ultra-Stable Laser Local Oscillators (I)**, N/A

Leibrandt, David  
NIST

15:10-15:30  
MoB20.4

**Applications of Stabilized Optical Frequency Combs (I)**. pp. 1506

Holzwarth, Ronald  
Menlo Sytems GmbH

15:30-15:50  
MoB21.5


Siegal-Gaskins, Dan  
California Inst. of Tech.

Noireaux, Vincent  
Univ. of Minnesota

Murray, Richard M.  
California Inst. of Tech.

14:50-15:10  
MoB21.5


Siegal-Gaskins, Dan  
California Inst. of Tech.

Noireaux, Vincent  
Univ. of Minnesota

Murray, Richard M.  
California Inst. of Tech.

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

Chair: Hanebeck, Uwe D.  
Karlsruhe Inst. of Tech. (KIT)

Co-Chair: Pappas, George J.  
Univ. of Pennsylvania

13:30-13:50  
MoB22.1

**Optimal Sequence-Based LQG Control Over TCP-Like Networks Subject to Random Transmission Delays and Packet Losses**, pp. 1543-1549.

Fischer, Jörg  
Karlsruhe Inst. of Tech.

Hekler, Achim  
Karlsruhe Inst. of Tech.

Dolgov, Maxim  
Karlsruhe Inst. of Tech.

Hanebeck, Uwe D.  
Karlsruhe Inst. of Tech. (KIT)

13:50-14:10  
MoB22.2


Sun, Yulei  
Univ. of California, Davis

El-Farra, Nael H.  
Univ. of California, Davis

14:10-14:30  
MoB22.3


Li, Jie  
Univ. of Notre Dame

Gupta, Vijay  
Univ. of Notre Dame

14:30-14:50  
MoB22.4


Gatsis, Konstantinos  
Univ. of Pennsylvania

Ribeiro, Alejandro  
Univ. of Pennsylvania

Pappas, George J.  
Univ. of Pennsylvania

14:50-15:10  
MoB22.5

**Stabilizing a Nonlinear Model-Based Networked Control System with Communication Constraints**, pp. 1570-1577.

Mehta, Siddhartha  
Univ. of Florida - REEF

MacKunis, William  
Embry-Riddle Aeronautical Univ.

Subramanian, Sankrith  
Univ. of Florida

Pasiliao, Eduardo  
US Air Force

Curtis, J. Willard  
Air Force Res. Lab.

15:10-15:30  
MoB22.6

**Control Over TCP-Like Lossy Networks: A Dynamic Game Approach**, pp. 1578-1583.

Moon, Jun  
Univ. of Illinois, Urbana-Champaign

Basar, Tamer  
Univ. of Illinois, Urbana-Champaign
MoC01
Aerospace III (Regular Session)

Chair: Padhi, Radhakant Indian Inst. of Science
Co-Chair: Kolmanovsky, Ilya V. The Univ. of Michigan

16:00-16:20 MoC01.1
Joshi, Girish Indian Inst. of Science, Bangalore
Padhi, Radhakant Indian Inst. of Science

16:20-16:40 MoC01.2
Saussie, David Ec. Pol. de Montreal
BarbÈs, Quentin ISAE SUPAERO
Berard, Caroline ISAE

MoC02
Process Control (Regular Session)

Chair: Christofides, P.D. Univ. of California at Los Angeles
Co-Chair: Dubljevic, Stevan Univ. of Alberta

16:00-16:20 MoC02.1
Porosity Control in Thin Film Solar Cells: Two-Dimensional Case, pp. 1620-1625.
Huang, Jianqiao UCLA
Orkoulas, Gerassimos UCLA
Christofides, Panagiotis D. Univ. of California at Los Angeles

16:20-16:40 MoC02.2
Crystal Radius and Temperature Regulation in Czochralski Crystallization Process, pp. 1626-1632.
Abdollahi, Javad Univ. of Alberta
Dubljevic, Stevan Univ. of Alberta

16:40-17:00 MoC02.3
Model Predictive Control of Dimethyl Ether Combustion in a Jet Stirred Reactor under Low Temperature Conditions, pp. 1633-1638.
Lammersen, Thomas Inst. of Automatic Control of RWTH Aachen Univ.
Abel, Dirk RWTH Aachen Univ.

17:00-17:20 MoC02.4
On the Passivity of Inventory Control in the Port Hamiltonian Framework, pp. 1639-1644.
Hoang, Ngoc Ha Univ. of Tech. (VNU-HCM, Vietnam) and Université Claude Bernar
Du, Juan Carnegie Mellon Univ.
Ydstie, B. Erik Carnegie Mellon

MoC03
Identification III (Regular Session)

Chair: Bernstein, Dennis S. Univ. of Michigan
Co-Chair: Gilson, Marion Univ. de Lorraine

16:00-16:20 MoC03.1
van Solingen, Edwin TU Delft
van Wingerden, Jan-Willem Delft Univ. of Tech.
Torres, Patricio Delft Univ. of Tech.
Rice, Justin TU Delft
de Breuker, Roeland TU Delft
Verhaegen, Michel Delft Univ. of Tech.

16:20-16:40 MoC03.2
Frequency-Domain Instrumental Variable Based Method for Wide Band System Identification, pp. 1663-1668.
Gilson, Marion Univ. of Lorraine
Welsh, James S. Univ. of Newcastle
Gamier, Hugues Univ. of Lorraine

16:40-17:00 MoC03.3
Aljanaideh, Khaled The Univ. of Michigan, Ann Arbor
Coffen, Benjamin James Univ. of Michigan
Bernstein, Dennis S. Univ. of Michigan

17:00-17:20 MoC03.4
Wang, Jia Dalian Univ. of Tech.
Gu, Hong Dalian Univ. of Tech.
Wang, Hongwei Dalian Univ. of Tech. China
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:20-17:40</td>
<td>MoC03.5</td>
<td>Identification of Fractional Order Systems Using Modulating Functions Method</td>
<td>Liu, Da-Yan (King Abdullah Univ. of Science and Tech.), Laleg Kirati, Taous Meriem (King Abdullah Univ. of Science and Tech.), Gibaru, Olivier (ARTS ET METIERS PARISTECH), Perruquetti, Wilfrid (Éc. Centrale de Lille)</td>
</tr>
<tr>
<td>17:40-18:00</td>
<td>MoC03.6</td>
<td>Reconstruction of Directed Networks from Consensus Dynamics</td>
<td>Shahrampour, Shahin (Univ. of Pennsylvania), Preciado, Victor M. (Univ. of Pennsylvania)</td>
</tr>
</tbody>
</table>

**MoC04 Room 5**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC04.1</td>
<td>Linear Model Predictive Control (Regular Session)</td>
<td>Chair: Olaru, Sorin (Supelec), Co-Chair: Shi, Yang (Univ. of Victoria)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Output Feedback Distributed Model Predictive Control with Inherent Robustness Properties</td>
<td>Peng, Chen (Nanjing Normal Univ.), Han, Qing-Long (Central Queensland Univ.)</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC04.2</td>
<td>Distributed Model Predictive Control of Leader-Follower Systems Using an Interior Point Method with Efficient Computations</td>
<td>Necoara, Ion (Univ. Pol. Bucharest), Clipici, Dragoș Niculce (Univ. Pol. Bucharest), Olaru, Sorin (Supelec)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distributed Receding Horizon Control of Constrained Linear Systems with Communication Delays</td>
<td>Li, Huiping (Univ. of Victoria), Shi, Yang (Univ. of Victoria)</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>MoC04.4</td>
<td>Model Predictive Control Suitable for Closed-Loop Re-Identification</td>
<td>González, Alejandro H. (CONICET-UNLP), Ferramosca, Antonio (CONICET-UNLP), Bustos, Germán A. (INTEC), Marchetti, Jacinto L. (INTEC), Odoiak, Darci (Univ. of São Paulo)</td>
</tr>
<tr>
<td>17:20-17:40</td>
<td>MoC04.5</td>
<td>Parallelized Model Predictive Control</td>
<td>Soudabakhsh, Damoon (MIT), Annaswamy, Anuradha (Massachusetts Inst. of Tech.)</td>
</tr>
<tr>
<td>17:40-18:00</td>
<td>MoC04.6</td>
<td>A Tuning Procedure for ARX-Based MPC of Multivariate Processes</td>
<td>Olesen, Daniel Haugaard (Tech. Univ. of Denmark), Huusom, Jakob Kjæbsted (Tech. Univ. of Denmark), Jorgensen, John Bagterp (Tech. Univ. of Denmark)</td>
</tr>
</tbody>
</table>

**MoC05 Room 6**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC05.1</td>
<td>Delay Systems III (Regular Session) Output-Based Event-Triggered $\mathcal{H}_{\infty}$ Control for Sampled-Data Control Systems with Nonuniform Sampling</td>
<td>Peng, Chen (Nanjing Normal Univ.), Han, Qing-Long (Central Queensland Univ.)</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>MoC05.2</td>
<td>Delay Distribution Dependent Stability Criteria for Discrete-Time Systems with Interval Time-Varying Delay</td>
<td>Xiao, Nan (Beihang Univ.), Jia, Yingmin (Beihang Univ.), Matsuno, Fumihiro (Kyoto Univ.)</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC05.3</td>
<td>Novel Stabilization Technique for the $H_\infty$ Control of Systems with Time-Varying Input Delay</td>
<td>Figueredo, Luís Felipe da Cruz (Univ. of Brasilia), Brandao Cavalcanti, Felipe (Univ. of Brasilia), Ishihara, Joao Yoshiyuki (Univ. of Brasilia), Borges, Geovany A. (Univ. de Brasilia), Bauchspiess, Adolfo (Univ. de Brasilia)</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>MoC05.4</td>
<td>Output Feedback Control for Uncertain Nonlinear Systems with Slowly Varying Input Delay</td>
<td>Dinh, Huyen T. (Univ. of Transport &amp; Communications), Fischer, Nicholas (Univ. of Florida), Kamalapurkar, Rushikesh (Univ. of Florida), Dixon, Warren E. (Univ. of Florida)</td>
</tr>
<tr>
<td>17:20-17:40</td>
<td>MoC05.5</td>
<td>Observer-Based Closed-Loop Control for the Glucose-Insulin System: Local Input-To-State Stability with Respect to Unknown Meal Disturbances</td>
<td>Palumbo, Pasquale (IASI-CNR), Pepe, Pierdomenico (Univ. of L’Aquila), Panunzi, Simona (Consiglio Nazionale delle Ricerche), De Gaetano, Andrea (CNR)</td>
</tr>
<tr>
<td>17:40-18:00</td>
<td>MoC05.6</td>
<td>Small-Gain Stability Conditions for Linear Systems with Time-Varying Delays</td>
<td>Zhu, Jing (City Univ. of Hong Kong), Chen, Jie (City Univ. of Hong Kong), Qi, Tian (South China Univ. of Tech.)</td>
</tr>
</tbody>
</table>
### MoC06
**PID Control (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC06.1</td>
<td>Noise Filtering in PI and PID Control, pp. 1763-1770.</td>
<td>Romero Segovia, Vanessa, Hagglund, Tore, Aström, Karl J.</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>MoC06.2</td>
<td>Stability Analysis of Symmetric Send-On-Delta Event-Based Control Systems, pp. 1771-1776.</td>
<td>Beschi, Manuel, Dormido, Sebastián, Sánchez Moreno, José, Visioli, Antonio</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC06.3</td>
<td>Design and Implementation of Fractional-Order PID Controllers for a Fluid Tank System, pp. 1777-1782.</td>
<td>Tepljakov, Aleksei, Petlenkov, Eduard, Belikov, Juri, Halas, Miroslav</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>MoC06.4</td>
<td>PI Auto-Tuning and Performance Assessment in HVAC Systems, pp. 1783-1788.</td>
<td>Zhao, Futao, Fan, Junqiang, Mijanovic, Stevo</td>
</tr>
<tr>
<td>17:20-17:40</td>
<td>MoC06.5</td>
<td>Determination of All Stabilizing Fractional-Order PID Controllers That Satisfy a Robust Performance Constraint, pp. 1789-1794.</td>
<td>Lee, Yung K, Watkins, John</td>
</tr>
</tbody>
</table>

### MoC07
**Nonlinear Control III (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC07.1</td>
<td>Multi-Step Procedure for Orbital Feedback Linearization of Multi-Input Control Affine Systems, pp. 1802-1809.</td>
<td>Sekiguchi, Kazuma, Sampei, Mitsuji</td>
</tr>
</tbody>
</table>

### MoC08
**Stability of Linear Systems (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC08.1</td>
<td>Low-Order Simultaneous Stabilization of Linear Bicycle Models at Different Forward Speeds, pp. 1840-1845.</td>
<td>Gundes, A. N., Nanjangud, Akshay</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>MoC08.2</td>
<td>Root Locus for a Controller Class That Yields Cubic Gain Parameterization, pp. 1846-1851.</td>
<td>Wellman, Brandon, Hoagg, Jesse B.</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC08.3</td>
<td>Remarks on the Feedback Interconnection of Positive Linear Systems, pp. 1852-1858.</td>
<td>Najson, Federico</td>
</tr>
</tbody>
</table>
Static Output Feedback Passivation of a SISO System Characterized by State Matrices, pp. 1859-1863.

Zeheb, Ezra Tech. Inst. of Tech.
Shorten, Robert Nat. Univ. of Ireland
Davison, Edward J. Univ. of Toronto

17:20-17:40 MoC08.5

Shorten, Robert Nat. Univ. of Ireland
Narendra, Kumpati S. Yale Univ.

17:40-18:00 MoC08.6
The Parameterization of All Robust Stabilizing Simple Multi-Period Repetitive Controllers for Multiple-Input/Multiple-Output Plants with Specified Input-Output Frequency Characteristic, pp. 1870-1875.

Sakanushi, Tatsuya Gunma Univ.
Yamada, Kou Gunma Univ.
Hu, Jie Gunma Univ.

17:00-17:20 MoC09.4
Static Output Feedback Passivation of a SISO System Characterized by State Matrices, pp. 1859-1863.

Zeheb, Ezra Tech. Inst. of Tech.
Shorten, Robert Nat. Univ. of Ireland
Davison, Edward J. Univ. of Toronto

17:20-17:40 MoC09.5
A Novel Attempt to Reduce Engineering Effort in Modeling Non-Linear Chemical Systems for Operator Training Simulators, pp. 1902-1907.

Mukhopadhyay, Saswata IIT Madras
Gundappa, Madhukar Honeywell Tech. Solutions Lab. Pvt
Srinivasan, Ranganathan Honeywell Tech. Solutions
Narasimhan, Sridharakumar IIT Madras

17:40-18:00 MoC09.6

Zhao, Xin Univ. of California, San Diego
de Callafon, Raymond A. Univ. of California, San Diego

MoC10
Room 13

Modeling and Simulation II (Regular Session)
Chair: Leva, Alberto Pol. di Milano
Co-Chair: Grossi, Federica DIEF, Univ. of Modena and Reggio Emilia, ViaVignolese905, Modena

16:00-16:20 MoC10.1
Multi-Parametric Extremum Seeking-Based Learning Control for Electromagnetic Actuators, pp. 1914-1919.

Benosman, Mouhacine Mitsubishi Electric Res. Lab.
Atinc, Gokhan M. Univ. of Illinois at Urbana Champaign

16:20-16:40 MoC10.2
Average Strategy Fictitious Play with Application to Road Pricing, pp. 1920-1925.

Xiao, Nan Singapore MIT Alliance for Res. and Tech. Centre
Wang, Xuehe Nanyang Tech. Univ.
Wongpiromsarn, Tichakorn Ministry of Science and Tech.
You, Keyou Tsinghua Univ.
Xie, Lihua Nanyang Tech. Univ.
Frazzoli, Emilio Massachusetts Inst. of Tech.
Rus, Daniela MIT

17:00-17:20 MoC10.4

Menon, Anup Univ. of Maryland Coll. Park
Baras, John S. Univ. of Maryland

17:20-17:40 MoC10.5
Language Evolution in a Noisy Environment, pp. 1938-1943.

Touri, Behrouz Georgia Tech. Univ.
Langbort, Cedric Univ. of Illinois, Urbana-Champaign

17:40-18:00 MoC10.6

Kallapur, Abhijit Univ. of New South Wales at the Australian Defence Force Acad.
Petersen, Ian R. Univ. of New South Wales at the Australian Defence Force Acad.
### MoC11
Modern Control Approaches in Human Behavior, Social Networks, and Behavioral Health (Invited Session)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC11.1</td>
<td>Containment Control for a Directed Social Network with State-Dependent Connectivity (I), pp. 1950-1955.</td>
<td>Kan, Zhen, Univ. of Florida; Klotz, Justin, Univ. of Florida; Pasiliao, Eduardo, US Air Force; Dixon, Warren E., Univ. of Florida</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>MoC11.2</td>
<td>A Model-Based Feedback-Control Approach toBehavior Modification through Reward-Induced Attitude Change (I), pp. 1956-1963.</td>
<td>Ni, Jie, Univ. of Waterloo; Kulic, Dana, Univ. of Waterloo; Davison, Daniel E., Univ. of Waterloo</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC11.3</td>
<td>Control Systems Engineering for Understanding and Optimizing Smoking Cessation Interventions (I), pp. 1964-1969.</td>
<td>Timms, Kevin P., Arizona State Univ.; Rivera, Daniel E., Arizona State Univ.; Collins, Linda M., Penn State; Piper, Megan, Univ. of Wisconsin, Center for Tobacco Res. &amp; Intervention</td>
</tr>
</tbody>
</table>

### MoC12
Control Applications III (Regular Session)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:20-16:40</td>
<td>MoC12.2</td>
<td>Hybrid Observer Design for Online Battery State-Of-Charge Estimation, pp. 1994-1999.</td>
<td>LeSage, Jonathan, Univ. of Texas at Austin; Longoria, Raul, Univ. of Texas at Austin</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>MoC12.3</td>
<td>A Trajectory Tracking Algorithm for a Hopping Rotorchute Using Surrogate Models</td>
<td>Aksaray, Derya, Georgia Inst. of Tech.; Mavris, Dimitri, Georgia Inst. of Tech.</td>
</tr>
</tbody>
</table>

### MoC13
Multi-Agent Systems II (Regular Session)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>MoC13.1</td>
<td>Flocking with Fixed-Wing UAVs for Distributed Sensing: A Stochastic Optimal Control Approach, pp. 2025-2031.</td>
<td>Quintero, Steven, Univ. of California, Santa Barbara; Collins, Gaemus, Toyon Res. Corp.; Hespanha, Joao P., Univ. of California, Santa Barbara</td>
</tr>
</tbody>
</table>
Tracking the Average of Time-Varying Nonsmooth Signals for Double-Integrator Agents with a Fixed Topology, pp. 2032-2037.

Chen, Fei  
Xiamen Univ.

Ren, Wei  
Univ. of California, Riverside

Lan, Weiyao  
Xiamen Univ.

Chen, Guanrong  
City Univ. of Hong Kong

Cooperative Semi-Global Robust Output Regulation of Nonlinear Uncertain Multi-Agent Systems, pp. 2038-2043.

Su, Youfeng  
The Chinese Univ. of Hong Kong

Huang, Jie  
The Chinese Univ. of Hong Kong

Distributed Control of Multi-Agent Systems with Rotating Fields of View, pp. 2044-2049.

Asadi, Mohammad Mehdi  
Concordia Univ.

Ajorlou, Amir  
Concordia Univ.

Aghdam, Amir G.  
Concordia Univ.

Finite-Time Coordination in Multiagent Systems Using Sliding Mode Control Approach, pp. 2050-2055.

Ghasemi, Masood  
Villanova Univ.

Nersesov, Sergey G.  
Villanova Univ.

Flocking Control for Multi-Agent Systems with Communication Optimization, pp. 2056-2061.

Li, Heng  
Central South Univ.

Peng, Jun  
Central South Univ.

Liu, Weirong  
Central South Univ.

Wang, Jing  
Bethune-Cookman Univ.

Liu, Jianguang  
Central South Univ.

Huang, Zhiwu  
Central South Univ.

LQR Tracking of a Delay Differential Equation Model for the Study of Nanoparticle Dosing Strategies for Cancer Therapy (I), pp. 2068-2073.

Adhikari, Pratik  
Louisiana Tech. Univ.

Bracey, Scarlett Savannah  
Louisiana Tech. Univ.

Evans, Katie  
Louisiana Tech. Univ.

Magana, Isidro B.  
Louisiana Tech. Univ.

O’Neal, Dennis  
Louisiana Tech. Univ.

Robustness to Time and State-Dependent Delay Perturbations in Networked Nonlinear Control Systems (I), pp. 2074-2079.

Bekiaris-Liberis, Nikolaos  
Univ. of California, San Diego

Krstic, Miroslav  
Univ. of California, San Diego

Approximating Parabolic Boundary Control Problems with Delayed Actuator Dynamics (I), pp. 2080-2085.

Burns, John A  
Virginia Tech.

Zietsman, Lizette  
Virginia Tech.

Herdman, Terry L  
Virginia Pol. Inst. & State Univ.


Kasinathan, Dhanaraja  
Univ. of Waterloo

Morris, Kirsten  
Univ. of Waterloo

Yang, Steven  
Univ. of Waterloo

Feedback Compensation of the In-Domain Attenuation of Inputs in Diffusion Processes (I), pp. 2092-2097.

Yebi, Adamu  
Clemson Univ.

Ayalew, Beshah  
Clemson Univ.

MoC13.2  
Tracking the Average of Time-Varying Nonsmooth Signals for Double-Integrator Agents with a Fixed Topology, pp. 2032-2037.

Chen, Fei  
Xiamen Univ.

Ren, Wei  
Univ. of California, Riverside

Lan, Weiyao  
Xiamen Univ.

Chen, Guanrong  
City Univ. of Hong Kong

MoC13.3  
Cooperative Semi-Global Robust Output Regulation of Nonlinear Uncertain Multi-Agent Systems, pp. 2038-2043.

Su, Youfeng  
The Chinese Univ. of Hong Kong

Huang, Jie  
The Chinese Univ. of Hong Kong

MoC13.4  
Distributed Control of Multi-Agent Systems with Rotating Fields of View, pp. 2044-2049.

Asadi, Mohammad Mehdi  
Concordia Univ.

Ajorlou, Amir  
Concordia Univ.

Aghdam, Amir G.  
Concordia Univ.

MoC13.5  
Finite-Time Coordination in Multiagent Systems Using Sliding Mode Control Approach, pp. 2050-2055.

Ghasemi, Masood  
Villanova Univ.

Nersesov, Sergey G.  
Villanova Univ.

MoC13.6  
Flocking Control for Multi-Agent Systems with Communication Optimization, pp. 2056-2061.

Li, Heng  
Central South Univ.

Peng, Jun  
Central South Univ.

Liu, Weirong  
Central South Univ.

Wang, Jing  
Bethune-Cookman Univ.

Liu, Jianguang  
Central South Univ.

Huang, Zhiwu  
Central South Univ.

MoC14  
Estimation and Control of Distributed Parameter Systems III (Invited Session)

Chair: Demetriou, Michael A.  
Worcester Pol. Inst.

Co-Chair: Fahroo, Fariba  
AFOSR

Organizer: Demetriou, Michael A.  
Worcester Pol. Inst.

Organizer: Fahroo, Fariba  
AFOSR

MoC14.1  
Networked Model Predictive Control of Spatially Distributed Processes (I), pp. 2062-2067.

Yao, Zhiyuan  
Univ. of California, Davis

Hu, Ye  
Univ. of California, Davis

El-Farra, Nael H.  
Univ. of California, Davis

MoC14.2  
LQR Tracking of a Delay Differential Equation Model for the Study of Nanoparticle Dosing Strategies for Cancer Therapy (I), pp. 2068-2073.

Adhikari, Pratik  
Louisiana Tech. Univ.

Bracey, Scarlett Savannah  
Louisiana Tech. Univ.

Evans, Katie  
Louisiana Tech. Univ.

Magana, Isidro B.  
Louisiana Tech. Univ.

O’Neal, Dennis  
Louisiana Tech. Univ.

MoC14.3  
Robustness to Time and State-Dependent Delay Perturbations in Networked Nonlinear Control Systems (I), pp. 2074-2079.

Bekiaris-Liberis, Nikolaos  
Univ. of California, San Diego

Krstic, Miroslav  
Univ. of California, San Diego

MoC14.4  
Approximating Parabolic Boundary Control Problems with Delayed Actuator Dynamics (I), pp. 2080-2085.

Burns, John A  
Virginia Tech.

Zietsman, Lizette  
Virginia Tech.

Herdman, Terry L  
Virginia Pol. Inst. & State Univ.

MoC14.5  

Kasinathan, Dhanaraja  
Univ. of Waterloo

Morris, Kirsten  
Univ. of Waterloo

Yang, Steven  
Univ. of Waterloo

MoC14.6  
Feedback Compensation of the In-Domain Attenuation of Inputs in Diffusion Processes (I), pp. 2092-2097.

Yebi, Adamu  
Clemson Univ.

Ayalew, Beshah  
Clemson Univ.

MoC15  
Algebraic/geometric Methods (Regular Session)

Chair: Guay, Martin  
Queen's Univ.

Co-Chair: Lee, Taeyoung  
George Washington Univ.

MoC15.1  
Coherence Preservation of Markovian Open Quantum Systems in N-Level Ladder Configuration, pp. 2098-2102.

Yang, Fei  
Department of Automation, Univ. Chi

Cong, Shuang  
Univ. of Science and Tech. of China

Shuang, Feng  
Inst. of Intelligent Machines, Chinese Acad. of Sciences.

MoC15.2  
Robust Global Exponential Attitude Tracking Controls on SO(3), pp. 2103-2108.

Lee, Taeyoung  
George Washington Univ.
Chen, Yong National Univ. of Defense Tech.
Huang, Yiyong Department of Aerospace and Material Eng.
Zhao, Yong Coll. of Aerospace and Materials Engi.
Cao, Lu Coll. of Aerospace Science and Engineering
Chen, Xiaoqian National Univ. of Defense Tech.

Amiss, Scott Queen's Univ.
Guay, Martin Queen's Univ.

Guay, Martin Queen's Univ.
Hudon, Nicolas Univ. Catholique de Louvain
Hoeffner, Kai Massachusetts Inst. of Tech.

Permenter, Frank MIT
Wampler, Charles General Motors
Tedrake, Russ MIT

Zaseck, Kevin Univ. of Michigan
Kolmanovsky, Ilya V. The Univ. of Michigan
Brusstar, Matthew The United States Environmental Protection Agency

Zhang, Hui The Ohio State Univ.
Wang, Junmin The Ohio State Univ.
Wang, Yue-Yun General Motors Company

Model Predictive Controller Design for Throttle and Wastegate Control of a Turbocharged Engine, pp. 2183-2188.
Santillo, Mario Ford Motor Company
Karnik, Amey IIT Gandhinagar

Control-Oriented Time-Varying Input-Delayed Temperature Model for SI Engine Exhaust Catalyst, pp. 2189-2195.
Bresch-Pietri, Delphine MIT
Leroy, Thomas IFPEN
Petit, Nicolas MINES ParisTech

Integrated Diesel Engine and Selective Catalytic Reduction System Active NOx Control for Fuel Economy Improvement, pp. 2196-2201.
Chen, Pingen Ohio State Univ.
Wang, Junmin The Ohio State Univ.
17:40-18:00 MoC17.6
Active Disturbance Rejection Control of Common Rail Pressure for Gasoline Direct Injection Engine, pp. 2202-2207.
Liu, Qifang Jilin Univ. PR China
Gong, Xun Jilin Univ.
Hu, Yunfeng Jilin Univ.
Chen, Hong Jilin Univ. Campus NanLing

MoC18 Developments in Wind Power Control III (Invited Session)
Chair: Fleming, Paul National Renewable Energy Lab.
Co-Chair: Laks, Jason Univ. of Colorado at Boulder
Organizer: van Wingerden, J.-W. Delft Univ. of Tech.

16:00-16:20 MoC18.1 Direct Speed Control Using LIDAR and Turbine Data (I), pp. 2208-2213.
Schlipf, David Stuttgart Wind Energy, Univ. of Stuttgart
Fleming, Paul National Renewable Energy Lab.
Kapp, Stefan Robert Bosch GmbH
Scholbrock, Andrew National Renewable Energy Lab.
Haizmann, Florian Univ. of Stuttgart
Belen, Fred Blue Scout Tech.
Wright, Alan National Renewable Energy Lab.
Cheng, Po Wen Stuttgart Wind Energy, Univ. of Stuttgart

Christiansen, Søren Aalborg Univ.
Tabatabaei, Seyed Mojtaba Aalborg Univ.
Bak, Thomas Aalborg Univ.
Knudsen, Torben Aalborg Univ. Denmark

16:40-17:00 MoC18.3 Adaptive Disturbance Tracking Theory with State Estimation and State Feedback for Region II Control of Large Wind Turbine (I), pp. 2220-2226.
Balas, Mark Univ. of Wyoming
Magar, Kaman Univ. of Wyoming
Frost, Susan NASA Ames Res. Center

17:00-17:20 MoC18.4 Field Testing of a Wind Turbine Active Drivetrain/Tower Damper Using Advanced Design and Validation Techniques (I), pp. 2227-2234.
Fleming, Paul National Renewable Energy Lab.
vander Wingerden, Jan-Willem Delft Univ. of Tech.
Scholbrock, Andrew National Renewable Energy Lab.
vander Veen, Gijs Delft Univ. of Tech.
Wright, Alan National Renewable Energy Lab.

17:20-17:40 MoC18.5 Model Predictive Control of Wind Turbines Using Uncertain LIDAR Measurements, pp. 2235-2240.
Mirzaei, Mahmood Tech. Univ. of Denmark
Solati, Mohsen Aalborg Univ.
Poulsen, Niels Kjeldstad Tech. Univ. of Denmark
Niennman, Henrik Tech. Univ. of Denmark

17:40-18:00 MoC18.6 Power Optimization and Control in Wind Energy Conversion Systems Using Extremum Seeking, pp. 2241-2246.
Ghaffari, Azad San Diego State Univ. and Univ. of California at San Diego
Krstić, Miroslav Univ. of California, San Diego
Seshagiri, Sridhar San Diego State Univ.

MoC19 Identification of Nonlinear Parameter-Varying Systems: Theory and Applications (Tutorial Session)
Chair: Larimore, Wallace E. Adaptics, Inc.
Co-Chair: Buchholz, Michael Univ. Ulm
Organizer: Larimore, Wallace E. Adaptics, Inc.
Organizer: Buchholz, Michael Univ. Ulm

16:00-17:00 MoC19.1 Identification of Nonlinear Parameter-Varying Systems Via Canonical Variate Analysis (I), pp. 2247-2262.
Larimore, Wallace E. Adaptics, Inc.

17:00-17:20 MoC19.2 Subspace Identification of an Aircraft Linear Parameter-Varying Flutter Model (I), pp. 2263-2267.
Buchholz, Michael Univ. Ulm
Larimore, Wallace E. Adaptics, Inc.

Remmlinger, Jürgen Univ. Ulm
Buchholz, Michael Univ. Ulm
Dietmayer, Klaus Christian Jürgen Univ. Ulm

MoC20 Discriminative Sparse Representations with Applications (Tutorial Session)
Chair: Monga, Vishal Pennsylvania State Univ.
Co-Chair: Tran, Trac Johns Hopkins Univ.
Organizer: Monga, Vishal Pennsylvania State Univ.
Organizer: Tran, Trac Johns Hopkins Univ.

16:00-17:00 MoC20.1 Structured Sparsity for Detection and Classification (I), N/A
Monga, Vishal Pennsylvania State Univ.
Tran, Trac Johns Hopkins Univ.

17:00-17:20 MoC20.2 Simultaneous Sparsity for Histopathological Image Representation and Classification (I), N/A
Monga, Vishal Pennsylvania State Univ.
MoC22

Control of Networked Systems III (Regular Session)

Chair: Tsumura, Koji
The Univ. of Tokyo
Co-Chair: El-Farra, Nael H.
Univ. of California, Davis

16:00-16:20 MoC22.1
Stabilizability of LTI MIMO Systems with Uncertain Parameters under Communication Constraints, pp. 2319-2324.
Iranoppaiboon, Matee
The Univ. of Tokyo
Tsumura, Koji
The Univ. of Tokyo

16:20-16:40 MoC22.2
Stochastic Sensor Scheduling with Application to Networked Control, pp. 2325-2332.
Farokhi, Farhad
KTH - Royal Inst. of Tech.
Johansson, Karl H.
Royal Inst. of Tech.

16:40-17:00 MoC22.3
Stabilization by Controller Networks, pp. 2333-2338.
Izumi, Shinsaku
Kyoto Univ.
Azuma, Shun-ichi
Kyoto Univ.
Sugie, Toshiharu
Kyoto Univ.

17:00-17:20 MoC22.4
On the Compensation of LQG Over a Lossy Network Utilizing Previous Control Signals, pp. 2339-2343.
Yu, Jen-te
National Taiwan Univ.
Fu, Li-Chen
National Taiwan Univ.

17:20-17:40 MoC22.5
Hierarchical Modeling and Speed Control of Networked Induction Motor Systems, pp. 2344-2349.
Zhao, Dezong
Loughborough Univ.
Li, Chunwen
Professor
Stobart, Richard
Loughborough Univ.

17:40-18:00 MoC22.6
Model-Based Scheduling for Networked Control Systems, pp. 2350-2355.
Yu, Han
Univ. of Notre Dame
Antsaklis, Panos J.
Univ. of Notre Dame
Garcia, Eloy
Infoscitex Corp.

MoPL1

How We Interact with Robots, Feedback Loops, and Autonomous Systems: Historical Perspectives and a Look Forward (Public Lecture)

Chair: Abramovitch, Daniel Y.
Agilent Lab.
Co-Chair: Pao, Lucy Y.
Univ. of Colorado Boulder

18:30-19:30 MoPL1.1
How We Interact with Robots, Feedback Loops, and Autonomous Systems: Historical Perspectives and a Look Forward*. N/A
Mindell, David
MIT
Technical Program for Tuesday June 18, 2013

TuSP1 | Grand Ballroom North
Intelligent Surveillance and Decision Support in Healthcare Systems (Semiplenary Session)
Chair: Mestha, Lalit K. Xerox Corp.
Co-Chair: Abramovitch, Daniel Y. Agilent Lab.
08:00-09:00 TuSP1.1
Intelligent Surveillance and Decision Support in Healthcare Systems*. N/A
Fromherz, Markus Xerox

TuA01 | Room 2
Multi-Vehicle Control (Regular Session)
Chair: Farhood, Mazen Virginia Tech.
Co-Chair: Werner, Herbert Hamburg Univ. of Tech.
09:30-09:50 TuA01.1
Campbell, Trevor MIT
Johnson, Luke MIT
How, Jonathan P. MIT
09:50-10:10 TuA01.2
Rebalancing the Rebalancers: Optimally Routing Vehicles and Drivers in Mobility-On-Demand Systems, pp. 2362-2367.
Smith, Stephen L. Univ. of Waterloo
Pavone, Marco Stanford Univ.
Schwager, Mac Boston Univ.
Frazzoli, Emilio Massachusetts Inst. of Tech.
Rus, Daniela MIT
10:10-10:30 TuA01.3
Control of Spatially Distributed Nonstationary Systems Over Arbitrary Graph Structures with Communication Latency, pp. 2368-2373.
Farhood, Mazen Virginia Tech.
Dullerud, Geir E. Univ. of Illinois, Urbana-Champaign
10:30-11:00 TuA01.4
Maximum-Likelihood Localization of a Camera Network from Heterogeneous Relative Measurements, pp. 2374-2379.
Knuth, Joseph Univ. of Florida
Barooah, Prabir Univ. of Florida

TuSP2 | Grand Ballroom South
Game Theoretic Learning with Applications to Networked Control Systems (Semiplenary Session)
Chair: Frew, Eric W. Univ. of Colorado, Boulder
Co-Chair: Pao, Lucy Y. Univ. of Colorado Boulder
08:00-09:00 TuSP2.1
Game Theoretic Learning with Applications to Networked Control Systems*. N/A
Marden, Jason Univ. of Colorado at Boulder

TuA02 | Room 3
LMIs (Regular Session)
Chair: Schoenwald, David A. Sandia National Lab.
Co-Chair: George, Jemin U.S. Army Res. Lab.
09:30-09:50 TuA02.1
Controller Synthesis of Multi Dimensional, Discrete LTI Systems Based on Numerical Solutions of Linear Matrix Inequalities, pp. 2386-2391.
Mayer, Sascha Univ. of Wuppertal
Dehreht, Robert Univ. of Wuppertal
Tibken, Bernd Univ. of Colorado at Boulder
09:50-10:10 TuA02.2
An LMI Approach for Reduced-Order H_2 LTI Controller Synthesis, pp. 2392-2396.
Hilhorst, Gijs KU Leuven
Pipeleers, Goele Katholieke Univ. Leuven
Swevers, Jan K. U. Leuven
10:10-10:30 TuA02.3
Minimal State Measurements for Regional Pole Placement, pp. 2397-2402.
Datta, Subashish Indian Inst. of Tech. Bombay
Chakraborty, Debraj Indian Inst. of Tech. Bombay
10:30-10:50 TuA02.4
Stabilization of Nonlinear Systems Subject to Uncertainties and Actuator Saturation, pp. 2403-2408.
Bezzaoucha, Souad Univ. de Lorraine
Marx, Benoit Centre de Recherche en Automatique de Nancy
Maquin, Didier Univ. de Lorraine
Ragot, Jose CRAN-INPL
10:50-11:10 TuA02.5
Internal Model Control Design for Linear Parameter Varying Systems, pp. 2409-2414.
Mohammadpour, Javad Univ. of Georgia
Sun, Jing Univ. of Michigan
Karnik, Amey IIT Gandhinagar
Jankovic, Mrdjan Ford Res. & Advanced Engineering
Multi-Dimensional Feedback Particle Filter for Coupled Oscillators, pp. 2415-2421.

Tilton, Adam  
Univ. of Illinois, Urbana-Champaign

Mehta, Prashant G.  
Univ. of Illinois, Urbana-Champaign

Meyn, Sean  
Univ. of Florida

Efficient Deterministic Dirac Mixture Approximation of Gaussian Distributions, pp. 2422-2427.

Gilitschenski, Igor  
Karlsruhe Inst. of Tech. (KIT)

Hanebeck, Uwe D.  
Karlsruhe Inst. of Tech. (KIT)


Thai, Jerome  
Univ. of California, Berkeley

Bayen, Alexandre M.  
Univ. of California at Berkeley


Chen, Huibo  
Jiangnan Univ.

Ding, Feng  
Jiangnan Univ.


Zahedi, Ramin  
Colorado State Univ.

Krakow, Lucas W.  
Colorado State Univ.

Chong, Edwin K. P.  
Colorado State Univ.

Pezeshki, Ali  
Colorado State Univ.

Application of Conjugate Unscented Transform in Source Parameters Estimation, pp. 2448-2453.

Madakan, Reza  
State Univ. of New York at Buffalo

Singla, Puneet  
Univ. at Buffalo

Singh, Tarunraj  
State Univ. of New York at Buffalo

Conjugate Unscented Transform Rules for Uniform Probability Density Functions, pp. 2454-2459.

Adurthi, Nagavenkat  
Univ. at Buffalo

Singla, Puneet  
Univ. at Buffalo

Singh, Tarunraj  
State Univ. of New York at Buffalo

Scaled Minimum Unscented Multiple Hypotheses Mixing Filter, pp. 2460-2465.

Menegaz, Henrique Marra  
Univ. of Brasilia

Santana, Pedro Henrique de Rodrigues  
Univ. of Brasilia

Ishihara, Joao Yoshiyuki  
Univ. of Brasilia

Borges, Geovany A.  
Univ. de Brasilia

Robust Kalman Filtering for Discrete-Time Uncertain Stochastic Systems, pp. 2466-2471.

George, Jemin  
U.S. Army Res. Lab.

Rauch-Tung-Striebel High-Degree Cubature Kalman Smoother, pp. 2472-2477.

Jia, Bin  
Columbia Univ.

Xin, Ming  
Mississippi State Univ.

Constructions of Interval Observers for Discrete-Time Systems of Luenberger Type, pp. 2478-2483.

Mazenc, Frederic  
EPI INRIA DISCO

Dinh, Thach N.  
LSS, Supelec

Niculescu, Silviu-Iulian  
CNRS-Supelec

A Decentralized Moving Horizon Observer for Distributed Implementation of Centralized Controllers, pp. 2484-2490.

Philipp, Peter  
Tech. Univ. München

Schneider, Michael  
Tech. Univ. of Munich


Jiang, Benben  
Tsinghua Univ.

Yang, Fan  
Tsinghua Univ.

Huang, Dexian  
Tsinghua Univ.

Wang, Wei  
Tsinghua Univ.

A Coupled Pair of Luenberger Observers for Linear Systems to Improve Rate of Convergence and Robustness to Measurement Noise, pp. 2497-2502.

Li, Yuchun  
The Univ. of Arizona

Sanfelice, Ricardo G.  
Univ. of Arizona

Further Results on the Observability in Magneto-Inertial Navigation, pp. 2503-2508.

Batista, Pedro  
Inst. Superior Técnico, Univ. Técnica de Lisboa

Petit, Nicolas  
MINES ParisTech

Silvestre, Carlos  
Univ. of Macau

Oliveira, P.J.  
Inst. Superior Técnico
TuA06
Control of Agent-Based Systems I (Regular Session)

Chair: de Queiroz, Marcio
Co-Chair: Franco, Elisa

09:30-09:50 TuA06.1
Bakolas, Efstathios
The Univ. of Texas at Austin

09:50-10:10 TuA06.2
Formation Control of a Team of Single-Integrator Agents with Measurement Error, pp. 2515-2520.
Salehisadaghiani, Farzad
Univ. of Toronto
Asadi, Mohammad Mehdi
Concordia Univ.
Aghdam, Amir G.
Concordia Univ.

10:10-10:30 TuA06.3
Multi-Agent Formation Maintenance and Target Tracking, pp. 2521-2526.
Cai, Xiaoyu
Louisiana State Univ.
de Queiroz, Marcio
Louisiana State Univ.

10:30-10:50 TuA06.4
On Efficiency in Mean Field Differential Games, pp. 2527-2532.
Balandat, Maximilian
Univ. of California, Berkeley
Tomlin, Claire J.
UC Berkeley

10:50-11:10 TuA06.5
Receding Horizon Control of a Two-Agent System with Competitive Objectives, pp. 2533-2538.
Carron, Andrea
Univ. of Padova
Franco, Elisa
Univ. of California at Riverside

TuA07
Quantum Control (Regular Session)

Chair: Petersen, Ian R.
Co-Chair: Ganesan, Narayan

09:30-09:50 TuA07.1
On the Preservation of Commutation and Anticommutation Relations of N-Level Quantum Systems, pp. 2539-2543.
Duffaut Espinosa, L.A.
Univ. of New South Wales at ADFA
Miao, Zibo
The Australian National Univ.
Petersen, Ian R.
Univ. of New South Wales at the Australian Defence Force Acad.
Ugrinovskii, Valery
Univ. of New South Wales
James, Matthew R.
Australian National Univ.

09:50-10:10 TuA07.2
Nurdin, Hendra Ishwara
The Univ. of New South Wales

10:10-10:30 TuA07.3
A Popov Stability Condition for Uncertain Linear Quantum Systems, pp. 2551-2555.
James, Matthew R.
Australian National Univ.
Petersen, Ian R.
Univ. of New South Wales at the Australian Defence Force Acad.
Ugrinovskii, Valery
Univ. of New South Wales

10:30-10:50 TuA07.4
Realtime Generation of the Bell States by Linear-Nonlocal Measurements and Bang-Bang Control, pp. 2556-2561.
Vu, Thanh Long
National Univ. of Singapore
Dhupia, Jaspreet Singh
Nanyang Tech. Univ.

10:50-11:10 TuA07.5
Achieving Decoherence Suppression in Open Quantum Systems by Utilizing the Model of Environmental Interactions, pp. 2562-2567.
Ganesan, Narayan
Stevens Inst. of Tech.
Tarn, Tzyh-Jong
Washington Univ.

TuA08
Path Planning and Navigation (Regular Session)

Chair: Zhang, Fumin
Co-Chair: Dai, Ran

09:30-09:50 TuA08.1
Chakrabarty, Anjan
The Pennsylvania State Univ.
Langelaan, Jack W.
Penn State Univ.

09:50-10:10 TuA08.2
Controlled Lagrangian Particle Tracking Error under Biased Flow Prediction, pp. 2575-2580.
Szwaykowska, Klementyna
Georgia Inst. of Tech.
Zhang, Fumin
Georgia Inst. of Tech.

10:10-10:30 TuA08.3
Venkateswaran, Sriram
Univ. of California Santa Barbara
Isaacs, Jason T.
Univ. of California, Santa Barbara
Fregene, Kingsley C.
Lockheed Martin Advanced Tech. Lab.
Ratmansky, Richard
Lockheed Martin
Sadler, Brian
ARL
Hespansha, Joao P.
Univ. of California, Santa Barbara
Madhow, Upamanyu
Univ. of California Santa Barbara

10:30-10:50 TuA08.4
RF Source-Seeking by a Micro Aerial Vehicle Using Rotation-Based Angle of Arrival Estimates, pp. 2588-2593.
Hosseini, Saghar
Univ. of Washington
Dai, Ran
Iowa State Univ.
Mesbahi, Mehran
Univ. of Washington

10:50-11:10 TuA08.5
Coverage Control of Autonomous Vehicles for Oil Spill Cleaning in Dynamic and Uncertain Environments, pp. 2594-2599.
Jin, Xin
National Renewable Energy Lab.
Ray, Asok
Pennsylvania State Univ.
**TuA09**

**Large-Scale Systems (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>TuA09.1</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>TuA09.2</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>TuA09.3</td>
</tr>
<tr>
<td>10:30-10:50</td>
<td>TuA09.4</td>
</tr>
<tr>
<td>10:50-11:10</td>
<td>TuA09.5</td>
</tr>
</tbody>
</table>

**TuA09.1**

*A Computational Method for Boundary Estimation and Control Via the Sequentially Semi Separable Approach*, pp. 2600-2605.

Rice, Justin TU Delft
van Wingerden, Jan-Willem Delft Univ. of Tech.

**TuA09.2**

*On the Residual of Large-Scale Lyapunov Equations for Krylov-Based Approximate Solutions*, pp. 2606-2611.

Wolf, Thomas Tech. Univ. München
Panzner, Heiko K. F. Tech. Univ. München
Lohmann, Boris Tech. Univ. München

**TuA09.3**


Hu, Ye Univ. of California, Davis
El-Farra, Nael H. Univ. of California, Davis

**TuA09.4**

*Complexity Reduction for Parameter-Dependent Linear Systems*, pp. 2618-2624.

Farokhi, Farhad KTH - Royal Inst. of Tech.
Sandberg, Henrik KTH Royal Inst. of Tech.
Joansson, Karl H. Royal Inst. of Tech.

**TuA09.5**

*Guaranteed Performance Leader-Follower Control for Multi-Agent Systems with Linear IQC-Constrained Coupling*, pp. 2625-2630.

Cheng, Yi Univ. of New South Wales
Ugrinovskii, Valery Univ. of New South Wales

---

**TuA10**

**Adaptive Control I (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>TuA10.1</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>TuA10.2</td>
</tr>
</tbody>
</table>

**TuA10.1**

*Adaptive Modular Control for a Class of Nonlinear Systems with Unknown Time-Varying Parameters*, pp. 2631-2636.

Zhu, Yang State Key Lab. of Industrial Control Tech. Inst.
Wen, Changyuan Nanyang Tech. Univ.
Su, Hongye Zhejiang Univ.
Xu, Weihua Zhejiang Univ.
Wang, Lei State Key Lab. of Industrial Control Tech. Inst.

**TuA10.2**

*Simultaneous Stabilization and Optimization of Unknown, Time-Varying Systems*, pp. 2637-2642.

Scheinker, Alexander Univ. of California San Diego, Los Alamos National Lab.

---

**TuA11**

**Pattern Recognition and Classification (Regular Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30-09:50</td>
<td>TuA11.1</td>
</tr>
<tr>
<td>09:50-10:10</td>
<td>TuA11.2</td>
</tr>
<tr>
<td>10:10-10:30</td>
<td>TuA11.3</td>
</tr>
</tbody>
</table>

**TuA11.1**

*Pattern Matching Using Correspondence Analysis*, pp. 2662-2667.

Katariya, Ashish Dharmsinh Desai Univ.
Detroja, Ketan P. Indian Inst. of Tech. Hyderabad

**TuA11.2**


Das, Santanu Nasa Ames Res. Center, Moffett Field
Sarkar, Soumya Pennsylvania State Univ.
Ray, Asok Pennsylvania State Univ.
Srivastava, Ashok Nasa Ames Res. Center, Moffett Field
Simon, Donald L. US Army Res. Lab.

**TuA11.3**

*Maximally Bijective Discretization for Data-Driven Modeling of Complex Systems*, pp. 2674-2679.

Sarkar, Soumik United Tech. Res. Center
Shrivastav, Abhishek United Tech. Res. Center
Shashanka, Madhusudana United Tech. Res. Center

---

**TuA10.3**


Guay, Martin Queen's Univ.
Dhaliwal, Samandeep Hatch and associates
Dochain, Denis Univ. Catholique de Louvain

**TuA10.4**

*Contraction Based Adaptive Control for a Class of Nonlinearly Parameterized Systems*, pp. 2649-2654.

Flores Perez, Anahi Facultad de Ingeniería, UNAM
Grave, Ileana UNAM
Tang, Yu National Univ. of Mexico

**TuA10.5**


Chowdhary, Girish Massachusetts Inst. of Tech.
Kingravi, Hassan Georgia Inst. of Tech.
How, Jonathan P. MIT
Vela, Patricio Georgia Inst. of Tech.

Chakraborty, Subhadeep  
Univ. of Tennessee, Knoxville

Manahan, Michael  
Pennsylvania State Univ.

Mench, Matthew  
Univ. of Tennessee and Oak Ridge National Lab.

Computation Methods (Regular Session)

TuA12  Room 16

Chair: Simaan, Marwan A.  
Univ. of Central Florida

Co-Chair: Singla, Puneet  
Univ. at Buffalo

09:30-09:50  TuA12.1


Zhao, Shen  
Michigan State Univ.

Usher, Nathan  
Michigan State Univ.

Morris, Dan  
Michigan State Univ. / NSCL / FRIB

Vincent, John  
Michigan State Univ.

09:50-10:10  TuA12.2


Li, Lichun  
U. of Notre Dame

Lemmon, Michael  
Univ. of Notre Dame

Wang, Zhao  
Univ. of Notre Dame

10:10-10:30  TuA12.3

Sequential Randomized Matrix Factorization, pp. 2705-2710.

Bopardikar, Shaunak D.  
United Tech. Res. Center, Inc.

Nair, Sujit  
United Tech. Res. Center

Rai, Rahul  
Univ. at Buffalo, SUNY

10:30-10:50  TuA12.4


Lin, Wei  
Univ. of Central Florida

Qu, Zhihuai  
Univ. of Central Florida

Simaan, Marwan A.  
Univ. of Central Florida

10:50-11:10  TuA12.5


Paul, Prokash  
West Virginia Univ.

Bhattacharyya, Debansu  
West Virginia Univ.

Turton, Richard  
West Virginia Univ.

Zitney, Stephen  
National Energy Tech. Lab.

Control of Communication Networks (Regular Session)

Chair: Hsu, Shun-Pin  
National Chung-Hsing Univ.

Co-Chair: Campos-Delgado, D.U.  
UASLP

09:30-09:50  TuA13.1

Optimal Bandwidth Control Subject to the User-Grouping Constraint, pp. 2722-2727.

Hsu, Shun-Pin  
National Chung-Hsing Univ.

Hsu, Shun-Liang  
National Chung-Hsing Univ.

Tsai, Sheng-han  
National Chung-Hsing Univ.

10:10-10:30  TuA13.3


Campos-Delgado, Daniel U.  
UASLP

Luna-Rivera, Martin  
Univ. Autónoma de San Luis Potosi

10:30-10:50  TuA13.4


Campos-Delgado, Daniel U.  
UASLP

Luna-Rivera, Martin  
Univ. Autónoma de San Luis Potosi

10:50-11:10  TuA13.5

Retaining Connectivity in Multi-Task Communications Network with Multiple Agents: Connectivity Theory Approach, pp. 2745-2750.

Cosby, J. Alan  
Univ. of Alabama in Huntsville

Shtessel, Yuri B.  
Univ. of Alabama at Huntsville

Bordetsky, Alexander  
Naval Postgraduate School

Optimization Applications I (Regular Session)

Chair: Tan, Ying  
The Univ. of Melbourne

Co-Chair: Gans, Nicholas  
Univ. of Texas at Dallas

09:30-09:50  TuA14.1

Trajectory-Based Proofs for Sampled-Data Extremum Seeking Control, pp. 2751-2756.

Khong, Sei Zhen  
Univ. of Melbourne

Nesic, Dragan  
Univ. of Melbourne

Tan, Ying  
The Univ. of Melbourne

Manzie, Chris  
The Univ. of Melbourne

10:10-10:30  TuA14.2

Multi-Robot Active SLAM with Relative Entropy Optimization, pp. 2757-2764.

Kontitsis, Michail  
Univ. of Denver

Theodorou, Evangelos  
Univ. of Washington

Todorov, Emanuel  
Univ. of Washington
Extremum Seeking Control of a Nonholonomic Mobile Robot with Limited Field of View, pp. 2765-2771.
Zhang, Yinghua The Univ. of Texas at Dallas
Gans, Nicholas Univ. of Texas at Dallas

Poveda, Jorge Univ. de los Andes
Quijano, Nicanor Univ. de los Andes

Practical Smooth Minimum Time Trajectory Planning for Path Following Robotic Manipulators, pp. 2778-2783.
Zhang, Qiang China Univ. of petroleum (East China)
Li, Shurong China Univ. of Petroleum (East China)
Gao, Xiao-Shan Chinese Acad. of Sciences

Fault Detection/Accommodation I (Regular Session)
Chair: Hu, Gangshi Praxair, Inc.
Co-Chair: Chakraborty, Aranya North Carolina State Univ.

An LMI Based Robust Fault Detection and Isolation Scheme, pp. 2784-2789.
George, Jemin U.S. Army Res. Lab.

Robust Partial Fault Isolation for Linear Systems Using Observers, pp. 2790-2796.
Wahrburg, Arne Tech. Univ. Darmstadt
Adamy, Jürgen Tech. Univ. Darmstadt

Chen, Jingyan McMaster Univ.
Yu, Jie McMaster Univ.
Mori, Junichi McMaster Univ.
Rashid, Mudassir McMaster Univ.
Hu, Gangshi Praxair, Inc.
Yu, Honglu Praxair
Flores-Cerrillo, Jesus Praxair
Megan, Lawrence Praxair

Average Run Length Function of CUSUM Test with Independent but Non-Stationary Log-Likelihood Ratios, pp. 2803-2808.
Liu, Yu Univ. of New Orleans
Li, X. Rong Univ. of New Orleans

Wheel Slip Estimation Based on Real-Time Identification of Tire-Road Friction Conditions, pp. 2815-2820.
Chen, Changfang Beihang Univ. (BUAA)
Jia, Yingmin Beihang Univ.
Matsumo, Fumitoshi Kyoto Univ.

Lean and Steering Motorcycle Dynamics Reconstruction: An Unknown-Input HOSMO Approach, pp. 2821-2826.
Nehaoua, Lamri Evry Univ.
Ichalal, Dallal Univ. d'Evry Val d'Essonne, IBISC Lab.
Arioui, Hichem Evry Val d'Essonne Univ.
Mammar, Said Univ. d'Evry IBISC
Fridman, Leonid M. National Autonomous Univ. of Mexico

Robust Weighted Gain-Scheduling H∞ Vehicle Lateral Dynamics Control in the Presence of Steering System Backlash-Type Hysteresis, pp. 2827-2832.
Huang, Xiaoyu Ohio State Univ.
Zhang, Hui The Ohio State Univ.
Wang, Junmin The Ohio State Univ.

Pellegrini, Enrico Tech. Univ. München
Spirk, Sebastian Tech. Univ. München
Diepold, Klaus Jürgen Tech. Univ. München
Dessort, Ronnie Tech. Univ. München
Lohmann, Boris Tech. Univ. München

Zhang, Yizhai Rutgers Univ.
Chen, Kuo Rutgers Univ.
Yi, Jingang Rutgers Univ.

Towards Combining Nonlinear and Predictive Control of Diesel Engines, pp. 2846-2853.
Huang, Mike Univ. of Michigan
Nakada, Hayato Toyota Motor Corp.
Polavarapu, Srinivas Belcan Corp.
Choroszucha, Richard Univ. of Michigan, Ann Arbor
Butts, Kenneth R. Toyota Tech. Center
Kolmanovsky, Ilya V. The Univ. of Michigan
Incorporation of Implementation Imprecision in Automotive Control Design, pp. 2854-2859.

Edelberg, Kyle
Univ. of California, Berkeley

Shahbakti, Mahdi
Michigan Tech. Univ.

Hedrick, Karl
Univ. of California at Berkeley

10:10-10:30
TuA17.3

Feru, Emanuel
Eindhoven Univ. of Tech.

Willems, Frank
Eindhoven Univ. of Tech.

Roijer, Chepa
TNO Automotive Helmond

de Jager, Bram
Tech. Univ. Eindhoven

Steinbuch, Maarten
Eindhoven Univ. of Tech.

10:30-10:50
TuA17.4
Multi-Objective Control Design for Turbocharged Spark Ignited Air System: A Switching Takagi-Sugeno Model Approach, pp. 2866-2871.

Nguyen, AnhTu
Univ. of Valenciennes

Lauber, Jimmy
Univ. of Valenciennes and Hainaut Cambresis

Dambrine, Michel
Univ. de Valenciennes et du Hainaut-Cambresis

10:50-11:10
TuA18.1

Yang, Xiaolei
Univ. of Minnesota

Sotiropoulos, Fotis
Univ. of Minnesota

10:50-11:10
TuA18.2

Fagiano, Lorenzo
ETH Zurich

Huynh, Khanh
Univ. of California at Santa Barbara

Bamieh, Bassam
Univ. of California at Santa Barbara

Khammassh, Mustafa H.
ETH Zurich

10:50-11:10
TuA18.3
Model Predictive and Adaptive Wind Farm Power Control (I), pp. 2890-2897.

Guo, Yi
Univ. of Oklahoma

Wang, Wei
Univ. of Oklahoma

Tang, Choon Yik
Univ. of Oklahoma

Jiang, John
Univ. of Oklahoma

Ramakumar, Rama
Oklahoma State Univ.
TuA20  Grand Ballroom North

Advanced Process Control Applications to Novel Power Systems (Invited Session)

Chair: Dunia, Ricardo The Univ. of Texas at Austin
Co-Chair: Edgar, Thomas F. Univ. of Texas at Austin
Organizer: Dunia, Ricardo The Univ. of Texas at Austin
Organizer: Edgar, Thomas F. Univ. of Texas at Austin
Organizer: Qin, S. Joe Univ. of Southern California

09:30-09:50 TuA20.1
Iterative Optimal and Adaptive Control of a Near Isothermal Liquid Piston Air Compressor in a Compressed Air Energy Storage System (I), pp. 2934-2939.

Shirazi, Farzad Univ. of Minnesota
Saadat, Mohsen Univ. of Minnesota
Yan, Bo Univ. of Minnesota
Li, Perry Y. Univ. of Minnesota
Simon, Terrence W. Univ. of Minnesota

09:50-10:10 TuA20.2
Operational Planning in Energy Networks Based on Microgeneration (I), pp. 2940-2945.

Kopanos, Georgios M. Imperial Coll. London, Centre for Process Systems Engineering
Georgiadis, Michael C. Aristotle Univ. of Thessaloniki
Pistikopoulos, Efstratios N. Imperial Coll.

10:10-10:30 TuA20.3

Powell, Kody Univ. of Texas at Austin
Hedengren, John Brigham Young Univ.
Edgar, Thomas F. Univ. of Texas at Austin

10:30-10:50 TuA20.4

Kim, Jong Suk Univ. of Texas at Austin
Powell, Kody Univ. of Texas at Austin
Edgar, Thomas F. Univ. of Texas at Austin

10:50-11:10 TuA20.5

Deng, Kun Univ. of Illinois, Urbana-Champaign
Sun, Yu Univ. of Illinois, Urbana-Champaign
Chakraborty, Amit Siemens Corp. Res.
Lu, Yan Siemens
Brouwer, Jack National Fuel Cell Res. Center, Univ. of California at
Mehta, Prashant G. Univ. of Illinois, Urbana-Champaign

TuA21  Congressional Hall A

Biologically-Inspired Methods and Models (Regular Session)

Chair: Ghose, Debasis Indian Inst. of Science
Co-Chair: Iwasaki, Tetsuya UCLA

09:30-09:50 TuA21.1
Collision Avoidance in Biological Systems Using Collision Cones, pp. 2964-2971.

Boardman, Beth L. Univ. of California, San Diego
Hedrick, Tyson L. Univ. of North Carolina, Chapel Hill
Theriault, Diane H. Boston Univ.
Fuller, Nathan W. Boston Univ.
Belke, Margrit Boston Univ.
Morgansen, Kristi A. Univ. of Washington

10:00-10:10 TuA21.2
Control Design for Coordinated Oscillations with Central Pattern Generator, pp. 2972-2977.

Iwasaki, Tetsuya UCLA
Wen, Min Zhejiang Univ.

10:10-10:30 TuA21.3
Pursuit, Herding and Evasion: A Three-Agent Model of Caribou Predation, pp. 2978-2983.

Scott, William Princeton Univ.
Leonard, Naomi Ehrich Princeton Univ.

10:30-10:50 TuA21.4
Boundary Mapping of 3-Dimensional Regions, pp. 2984-2989.

Menon, Prathyush P Univ. of Exeter
Ghose, Debasis Indian Inst. of Science

10:50-11:10 TuA21.5
State-Estimation and Cooperative Control with Uncertain Time, pp. 2990-2995.

Carver, Sean Johns Hopkins Univ.
Fortune, Eric New Jersey Inst. of Tech.
Cowan, Noah Johns Hopkins Univ.

TuA22  Congressional Hall B

Control of Networked Systems IV (Regular Session)

Chair: Chen, Tongwen Univ. of Alberta
Co-Chair: Daafouz, Jamal CRAN, UMR CNRS - Nancy Univ.

09:30-09:50 TuA22.1
Networked Realization of Discrete-Time Controllers, pp. 2996-3001.

Miao, Fei Univ. of Pennsylvania
Pajic, Miroslav Univ. of Pennsylvania
Mangharam, Rahul Univ. of Pennsylvania
Pappas, George J. Univ. of Pennsylvania

10:00-10:10 TuA22.2
Event-Driven Communication for Sampled-Data Control Systems, pp. 3002-3007.

Meng, Xiangyu Univ. of Alberta
Chen, Tongwen Univ. of Alberta
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Topic</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:10-10:30</td>
<td>TuA22.3</td>
<td>Event-Based Dynamic Output Feedback Control for Networked Control Systems, pp. 3008-3013.</td>
<td>Zhang, Xianming Central Queensland Univ. Han, Qing-Long Central Queensland Univ.</td>
</tr>
<tr>
<td>13:30-13:50</td>
<td>TuB01.1</td>
<td>Exact Formation Control with Very Coarse Information, pp. 3026-3031.</td>
<td>Jafarian, Matin Univ. of Groningen De Persis, Claudio Univ. of Groningen</td>
</tr>
<tr>
<td>13:50-14:10</td>
<td>TuB01.2</td>
<td>Readiness in Formation Control of Multi-Robot System, pp. 3032-3038.</td>
<td>Xu, Zhihao Univ. of Wuerzburg Kawashima, Hiroaki Kyoto Univ. Schilling, Klaus Univ. Würzburg</td>
</tr>
<tr>
<td>14:10-14:30</td>
<td>TuB01.3</td>
<td>Formation Control of Dynamic Nonholonomic Mobile Robots with Curvature Constraints Via Potential Functions, pp. 3039-3044.</td>
<td>Gouvea, Josiel CEFET/RJ Lizarralde, Fernando Federal Univ. of Rio de Janeiro Hsu, Liu COPPE/UFRJ</td>
</tr>
<tr>
<td>14:10-14:30</td>
<td>TuB02.3</td>
<td>Aspects and Comparison of Matrix Decompositions in Unscented Kalman Filter, pp. 3075-3080.</td>
<td>Straka, Ondrej Univ. of West Bohemia Dunk, Jindrich Univ. of West Bohemia Simandl, Miroslav Univ. of West Bohemia in Pilsen Havlík, Jindrich Univ. of West Bohemia</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>TuB02.4</td>
<td>Marginal Marginalised Particle Filter, pp. 3081-3086.</td>
<td>Agl, Jiří Univ. of West Bohemia Simandl, Miroslav Univ. of West Bohemia in Pilsen</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>TuB02.6</td>
<td>Constrained Dual Ensemble Kalman Filter for State and Parameter Estimation, pp. 3093-3098.</td>
<td>Bavdekar, Vinay Univ. of Alberta Prakash, Jagadeesan MIT campus Shah, Sirish L. Univ. of Alberta Gopaluni, Bhushan Univ. of British Columbia</td>
</tr>
</tbody>
</table>
TuB03  
**Estimation II (Regular Session)**

**Chair:** Petersen, Ian R.  
Univ. of New South Wales at the  
Australian Defence Force Acad.

**Co-Chair:** D'Amato, Anthony  
Univ. of Michigan

13:30-13:50  
**TuB03.1**  
**Direct Data-Driven Design of Sparse Controllers**, pp. 3099-3104.  
Formentin, Simone  
Pol. di Milano  
Karimi, Alireza  
EPFL

13:50-14:10  
**TuB03.2**  
Formentin, Simone  
Pol. di Milano  
Karimi, Alireza  
EPFL

14:10-14:30  
**TuB03.3**  
D'Amato, Anthony  
Ford Motor Company

14:30-14:50  
**TuB03.4**  
Bopardikar, Shaunak D.  
United Tech. Res. Center, Inc.  
Speranzon, Alberto  
United Tech. Res. Center  
Zhang, Shuo  
United Tech. Res. Center  
Sinopoli, Bruno  
Carnegie Mellon Univ.

14:50-15:10  
**TuB03.5**  
Pin, Gilberto  
Electrolux Professional S.p.A. (Italy)  
Lovera, Marco  
Pol. di Milano  
Assaloni, Andrea  
Univ. of Trieste  
Parisini, Thomas  
Imperial Coll. & Univ. of Trieste

15:10-15:30  
**TuB03.6**  
Roy, Shibdas  
Univ. of New South Wales, Canberra  
Petersen, Ian R.  
Univ. of New South Wales at the Australian Defence Force Acad.  
Huntington, Elanor  
Univ. of New South Wales

TuB04  
**Nonlinear Model Predictive Control (Regular Session)**

**Chair:** Allgower, Frank  
Univ. of Stuttgart  
Co-Chair: Christofides, P.D.  
Univ. of California at Los Angeles

13:30-13:50  
**TuB04.1**  
Ellis, Matthew  
Univ. of California, Los Angeles  
Christofides, Panagiotis D.  
Univ. of California at Los Angeles

13:50-14:10  
**TuB04.2**  
Muller, Matthias A.  
Univ. of Stuttgart  
Angeli, David  
Imperial Coll.  
Allgower, Frank  
Univ. of Stuttgart

14:10-14:30  
**TuB04.3**  
**Encirclement of Multiple Targets Using Model Predictive Control**, pp. 3147-3152.  
Hafez, Ahmed Taimour K.  
Queen's Univ.  
Marasco, Anthony  
Royal Military Coll. of Canada  
Givigi, Sidney  
Royal Military Coll. of Canada  
Beaulieu, Alain  
Royal Military Coll. of Canada  
Rabbath, Camille Alain  
Defence R&D Canada

14:30-14:50  
**TuB04.4**  
**Coordinated-Distributed MPC of Nonlinear Systems Based on Price-Driven Coordination**, pp. 3153-3158.  
Hassanzadeh, Bardia  
Univ. of Alberta  
Pakravesh, Hallas  
Univ. of Alberta  
Liu, Jinfeng  
Univ. of Alberta  
Forbes, J. Fraser  
Univ. of Alberta

14:50-15:10  
**TuB04.5**  
**NMPC Based on Huber Penalty Functions to Handle Large Tracking Errors of Quadrature States**, pp. 3159-3164.  
Gros, Sebastien  
KU Leuven  
Diehl, Moritz  
Katholieke Univ. Leuven

15:10-15:30  
**TuB04.6**  
Heidarinejad, Mohsen  
UCLA  
Liu, Jinfeng  
Univ. of Alberta  
Christofides, Panagiotis D.  
Univ. of California at Los Angeles

TuB05  
**Linear Systems (Regular Session)**

**Chair:** Bazaei, Ali  
Univ. of Newcastle, Australia  
Co-Chair: Rojas, Alejandro J.  
Univ. de Concepción

13:30-13:50  
**TuB05.1**  
Jikuya, Ichiro  
Nagoya Univ.  
Hodaka, Ichijo  
Univ. of Miyazaki

13:50-14:10  
**TuB05.2**  
**Control Over Direct and Feedback Path Signal-To-Noise Ratio Constrained Channels**, pp. 3177-3182.  
Rojas, Alejandro J.  
Univ. de Concepción

14:10-14:30  
**TuB05.3**  
Paszke, Wojciech  
Univ. of Zielona Gora  
Rogers, Eric  
Univ. of Southampton  
Galkowski, Krzysztof  
Univ. of Zielona Gora
<table>
<thead>
<tr>
<th>Time</th>
<th>TuB05.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-14:50</td>
<td>Harmonic Control: A Natural Way to Bridge Resonant Control and Repetitive Control, pp. 3189-3193.</td>
</tr>
<tr>
<td></td>
<td>Zhou, Keliang  Univ. of Canterbury</td>
</tr>
<tr>
<td></td>
<td>Lu, Wenzhou  Southeast Univ.</td>
</tr>
<tr>
<td></td>
<td>Yang, Yongheng  Aalborg Univ.</td>
</tr>
<tr>
<td></td>
<td>Blaabjerg, Frede  Aalborg Univ.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB05.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bazaei, Ali  Univ. of Newcastle, Australia</td>
</tr>
<tr>
<td></td>
<td>Moheimani, S.O. Reza  Univ. of Newcastle</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB05.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kabamba, Pierre T.  Univ. of Michigan</td>
</tr>
<tr>
<td></td>
<td>Meerkov, Semyon M.  Univ. of Michigan</td>
</tr>
<tr>
<td></td>
<td>Ossareh, Hamid R.  Univ. of Michigan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bakolas, Efstathios  The Univ. of Texas at Austin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:50-14:10</td>
<td>Optimal Distribution of Heterogeneous Agents under Delays, pp. 3212-3217.</td>
</tr>
<tr>
<td></td>
<td>Nogales, Juan M.  Pontificia Univ. Javeriana</td>
</tr>
<tr>
<td></td>
<td>Finke, Jorge  Pontificia Univ. Javeriana</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:10-14:30</td>
<td>Multiattribute Utility Copulas for Multiobjective Control, pp. 3218-3223.</td>
</tr>
<tr>
<td></td>
<td>Valicka, Christopher G.  Univ. of Illinois at Urbana-Champaign</td>
</tr>
<tr>
<td></td>
<td>Stipanovic, Dusan M.  Univ. of Illinois at Urbana-Champaign</td>
</tr>
<tr>
<td></td>
<td>Abbas, Ali E.  Univ. of Illinois at Urbana-Champaign</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-14:50</td>
<td>Performance Bounds on Decomposable Systems, pp. 3224-3229.</td>
</tr>
<tr>
<td></td>
<td>Eichler, Annika  Hamburg Univ. of Tech. (TUHH)</td>
</tr>
<tr>
<td></td>
<td>Werner, Herbert  Hamburg Univ. of Tech.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ponda, Sameera  MIT</td>
</tr>
<tr>
<td></td>
<td>Johnson, Luke  MIT</td>
</tr>
<tr>
<td></td>
<td>How, Jonathan P.  MIT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB06.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pradhan, Ninad  Clemson Univ.</td>
</tr>
<tr>
<td></td>
<td>Burg, Timothy C.  Clemson Univ.</td>
</tr>
<tr>
<td></td>
<td>Birchfield, Stan  Clemson Univ.</td>
</tr>
<tr>
<td></td>
<td>Hasirci, Ugur  DUZCE Univ.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session</th>
<th>Room 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>TuB07.1</td>
<td>Stability of Hybrid Systems (Regular Session)</td>
</tr>
<tr>
<td></td>
<td>Chair: Lawrence, Douglas A.  Ohio Univ.</td>
</tr>
<tr>
<td></td>
<td>Co-Chair: Hayakawa, Tomohisa  Tokyo Inst. of Tech.</td>
</tr>
<tr>
<td></td>
<td>Xu, Xiangru  Acad. of Mathematics and Systems Science, Chinese Acad. of S</td>
</tr>
<tr>
<td></td>
<td>Zhang, Yanqiong  Acad. of Mathematics and Systems Science, Chinese Academy of Sci</td>
</tr>
<tr>
<td></td>
<td>Hong, Yiguang  Chinese Acad. of Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB07.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lawrence, Douglas A.  Ohio Univ.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB07.3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ladino, Andres A  Pontificia Univ. Javeriana</td>
</tr>
<tr>
<td></td>
<td>Patino, Diego  Pontificia Univ. Javeriana</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB07.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:30-14:50</td>
<td>Consensus in Multi-Agent Systems with Non-Uniform Sampling, pp. 3260-3265.</td>
</tr>
<tr>
<td></td>
<td>Wu, Jian  Univ. of Victoria</td>
</tr>
<tr>
<td></td>
<td>Shi, Yang  Univ. of Victoria</td>
</tr>
<tr>
<td></td>
<td>Li, Huxiong  Wenzhou Univ.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB07.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Celinkaya, Ahmet  Tokyo Inst. of Tech.</td>
</tr>
<tr>
<td></td>
<td>Hayakawa, Tomohisa  Tokyo Inst. of Tech.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>TuB07.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phillips, Sean  Univ. of Arizona</td>
</tr>
<tr>
<td></td>
<td>Sanfelice, Ricardo G.  Univ. of Arizona</td>
</tr>
</tbody>
</table>
TuB08

Control of Distributed Parameter Systems (Regular Session)

Chair: Werner, Herbert
Co-Chair: Ishihara, Abraham K.
Hamburg Univ. of Tech.
Carnegie-Mellon Univ.

13:30-13:50 TuB08.1

Distributed Control of Parameter-Varying Spatially Interconnected Systems Using Parameter-Dependent Lyapunov Functions, pp. 3278-3283.

Liu, Qin
Hamburg Univ. of Tech.
Hoffmann, Christian
Hamburg Univ. of Tech.
Werner, Herbert
Hamburg Univ. of Tech.

13:50-14:10 TuB08.2

Identification of Surface Tension in Mean Curvature Flow, pp. 3284-3289.

Yang, Insoon
Univ. of California, Berkeley
Tomlin, Claire J.
UC Berkeley

14:10-14:30 TuB08.3

Exponential Stability of a Class of PDE’s with Dynamic Boundary Control, pp. 3290-3295.

Ramirez, Hector
FEMTO-ST / ENSMM
Le Gorrec, Yann
ENSMM, FEMTO-ST / AS2M

14:30-14:50 TuB08.4

Inversion Based Tracking Control for a Distributed Parameter System with Spatially Distributed Control Input, pp. 3296-3301.

Malchow, Florian
Robert Bosch GmbH
Alt, Simon
Univ. of Stuttgart
Sawodny, Oliver
Univ. of Stuttgart

14:50-15:10 TuB08.5

Stabilization of Linearized Korteweg-De Vries Systems with Anti-Diffusion, pp. 3302-3307.

Tang, Shuxia
Univ. of California, San Diego
Krstic, Miroslav
Univ. of California, San Diego

15:10-15:30 TuB08.6

A Stability Result for Distributed Control of the Beam, pp. 3308-3313.

Ishihara, Abraham K.
Carnegie-Mellon Univ.
Nguyen, Nhan
NASA Ames Res. Center
Balas, Mark
Univ. of Wyoming

TuB09

Estimation in Networked Systems I (Regular Session)

Chair: Liu, Weiyi
Co-Chair: Roy, Sandip
Purdue Univ.
Washington State Univ.

13:30-13:50 TuB09.1

An Event-Based Scheduling Solution for Remote State Estimation of Two LTI Systems under Bandwidth Constraint, pp. 3314-3319.

Han, Duo
Hong Kong Univ. of Science and Tech.
Zhang, Huanshui
Shandong Univ.
Shi, Ling
Hong Kong Univ. of Science and Tech.

13:50-14:10 TuB09.2


Leong, Alex
Univ. of Melbourne
Quevedo, Daniel E.
The Univ. of Newcastle

14:10-14:30 TuB09.3

State Detection from Local Measurements in Network Synchronization Processes, pp. 3326-3331.

Chen, Chih-wei
Washington State Univ.
Roy, Sandip
Washington State Univ.

14:30-14:50 TuB09.4

DiSync: Accurate Distributed Clock Synchronization in Mobile Ad-Hoc Networks from Noisy Difference Measurements, pp. 3332-3337.

Liao, Chenda
Univ. of Florida
Barooah, Prabir
Univ. of Florida

14:50-15:10 TuB09.5

A New Distributed State Estimation Technique for Power Networks, pp. 3338-3343.

Tai, Xin
Univ. of Newcastle, Australia
Lin, Zhiyun
Zhejiang Univ.
Fu, Minyu
Univ. of Newcastle
Sun, Yuanzhang
Tsinghua Univ.

15:10-15:30 TuB09.6

Security Analysis for Cyber-Physical Systems against Stealthy Deception Attacks, pp. 3344-3349.

Kwon, Cheolhyeon
Purdue Univ.
Liu, Weiyi
Purdue Univ.
Hwang, Inseok
Purdue Univ.

TuB10

Adaptive Control II (Regular Session)

Chair: Boskovic, Jovan D.
Co-Chair: Annaswamy, Anuradha
Scientific Systems Co. Inc.
Massachusetts Inst. of Tech.

13:30-13:50 TuB10.1


Ortega, Romeo
LSS-SUPELEC

13:50-14:10 TuB10.2


Tao, Gang
Univ. of Virginia
Burkholder, Jason
Barron Associates, Inc.
Guo, Jiaxing
Univ. of Virginia

14:10-14:30 TuB10.3

Guaranteed Delay Margins for Adaptive Systems with State Variables Accessible, pp. 3362-3369.

Matsutani, Megumi
Massachusetts Inst. of Tech.
Annaswamy, Anuradha
Massachusetts Inst. of Tech.
Lavretsky, Eugene
The Boeing Co.
Boskovic, Jovan D. Scientific Systems Co. Inc.
Mehra, Raman K. Scientific Systems Co. Inc.

Gibson, Travis Massachusetts Inst. of Tech.
Annaswamy, Anuradha Massachusetts Inst. of Tech.
Lavretsky, Eugene The Boeing Co.

Adaptive Control Via Embedding in Reproducing Kernel Hilbert Spaces, pp. 3384-3389.
Kurdila, Andrew J. Virginia Tech.
Lei, Yu Virginia Tech.

TuB11
Optimal Control III (Regular Session)
Chair: Hindi, Haitham Walmart Lab.
Co-Chair: Ackmese, Behcet The Univ. of Texas at Austin

Konnik, Mikhail The Univ. of Newcastle
De Dona, Jose Adrian The Univ. of Newcastle

MDP Based Optimal Control for a Colloidal Self-Assembly System, pp. 3397-3402.
Xue, Yuzhen Georgia Inst. of Tech.
Bevan, Michael Johns Hopkins Univ.
Grover, Martha Georgia Inst. of Tech.

Discrete Objective-Based Control for Self-Optimizing Systems, pp. 3403-3408.
Krüger, Martin Univ. of Paderborn
Remirez, Andria Rice Univ.
Keßler, Jan Henning Univ. of Paderborn, Heinz Nixdorf Inst.
Trächtler, Ansgar Univ. of Paderborn

Jain, Rajni Honeywell Tech. Solutions
Gugaliya, Jinendra ABB Global Industries Services Ltd
Sriniwasan, Ranganathan Honeywell Tech. Solutions

Lossless Convexification for a Class of Optimal Control Problems with Quadratic State Constraints, pp. 3415-3420.
Harris, Matthew Univ. of Texas at Austin
Ackmese, Behcet The Univ. of Texas at Austin

Optimal Minimax Pursuit Evasion on a Manhattan Grid, pp. 3421-3426.
Kalyanam, Krishnamoorthy Infosicite Corp.
Darbha, Swaroop Texas A & M Univ.
Khargonekar, Pramod P. Univ. of Florida
Casbeer, David W. Air Force Res. Lab.
Chandler, Phillip R. USAF
Pachter, Meir AFIT/ENG

TuB12
Control Applications IV (Regular Session)
Chair: Stotsky, Alexander A. Chalmers Univ. of Tech.
Co-Chair: Espinosa-Perez, Gerardo Univ. Nacional Autonoma de Mexico

Control of Wind Turbines: A Tutorial on Proactive Perspectives, pp. 3429-3436.
Loria, Antonio CNRS
Espinosa-Perez, Gerardo Univ. Nacional Autonoma de Mexico
Chumacero-Polanco, Erik Alfredo L2S supelec
Aguido-Rojas, Missie UNAM

Speed-Sensorless Control of Switched-Reluctance Motors with Uncertain Payload, pp. 3437-3442.
Kishida, Masako Univ. of Canterbury
Braatz, Richard D. Massachusetts Inst. of Tech.

Inversion-Based Output Regulation of Chemotaxis Using a Constrained Influx of Chemical Signaling Molecules, pp. 3443-3448.
Braun, James E. Purdue Univ.

Yue, Zuogong, The Hong Kong Univ. of Science and Tech.
Zhou, Kang, Hong Kong Univ. of Science and Tech.
Cai, Lilong, Hong Kong Univ. of Science & Tech.

TuB13

Power Systems I (Regular Session)
Chair: Biegel, Benjamin, Aalborg Univ.
Co-Chair: Chakraborty, Aranya, North Carolina State Univ.

13:30-13:50 TuB13.1
A Graph-Theoretic Algorithm for Disturbance Localization in Large Power Grids Using Residue Estimation, pp. 3467-3472.
Nudell, Tom, North Carolina State Univ.
Chakraborty, Aranya, North Carolina State Univ.

13:50-14:10 TuB13.2
Observer-Based Control of a Tethered Wing Wind Power System: Indoor Real-Time Experiment, pp. 3473-3478.
Hably, Ahmad, GIPSA-Lab.
Lozano Rogelio Jr, Rogelio, gipsa-Lab.
Alamir, Mazen, CNRS / Univ. of Grenoble
Duman, Jonathan, CNRS, Gipsa-Lab.

14:10-14:30 TuB13.3
Spagnol, Pierfrancesco, Pol. di Milano
Corno, Matteo, Pol. di Milano
Mura, Roberto, Pol. di Milano
Savaresi, Sergio M., Pol. Di Milano

14:30-14:50 TuB13.4
Fang, Huazhen, Univ. of California, San Diego
Wang, Yebin, Mitsubishi Electric Res. Lab.
Sahinoglu, Zafer, MERL
Wada, Toshifumi, Mitsubishi Electric Corp.
Hara, Satoshi, Mitsubishi Electric Corp.

14:50-15:10 TuB13.5
A Distributed Command Governor Approach for Voltage Regulation in Medium Voltage Power Grids with Distributed Generation, pp. 3492-3497.
Tedesco, Francesco, Univ. della Calabria
Casavola, Alessandro, Univ. della Calabria

15:10-15:30 TuB13.6
Information Modeling for Direct Control of Distributed Energy Resources, pp. 3498-3504.
Biegel, Benjamin, Aalborg Univ.
Andersen, Palle, Aalborg Univ.
Stoustrup, Jakob, Aalborg Univ.
Hansen, Lars Henrik, Dong Energy
Tackie, David Victor, Danish Energy Association

TuB14

Optimization Applications II (Regular Session)
Chair: Fullmer, Daniel, Brigham Young Univ.
Co-Chair: Kumar, Manish, Univ. of Toledo

13:30-13:50 TuB14.1
Integration of Planning, Scheduling and Stochastic Inventory under Uncertainty for Flexible Process Networks, pp. 3505-3510.
You, Dajun, Northwestern Univ.
You, Fengqi, Northwestern Univ.

13:50-14:10 TuB14.2
Integration of Scheduling and Dynamic Optimization for Sequential Batch Processes, pp. 3511-3516.
Chu, Yunfei, Northwestern Univ.
Wang, Yebin, Mitsubishi Electric Res. Lab.

14:10-14:30 TuB14.3
Press Sheet Optimization for Open Loop Control of Industrial Scale Gang-Run Printing, pp. 3517-3522.
Fullmer, Daniel, Brigham Young Univ.
Warnick, Sean, Brigham Young Univ.

14:30-14:50 TuB14.4
Efficient OOK/DS-CDMA Detection Threshold Selection, pp. 3523-3528.
Katselis, Dimitrios, ACCESS Linnaeus Center, KTH
Fischione, Carlo, Royal Inst. of Tech.
Hjalmarsson, Håkan, KTH Royal Inst. of Tech.

14:50-15:10 TuB14.5
A Proper Orthogonal Decomposition Based Algorithm for Smoke Filtering in Videos, pp. 3529-3534.
Garg, Sushil, Univ. of Cincinnati
Sharma, Balaji, Univ. of Cincinnati
Kumar, Manish, Univ. of Toledo

TuB15

Fault Detection/Accommodation II (Regular Session)
Chair: Mhaskar, Prashant, McMaster Univ.
Co-Chair: Chen, Tongwen, Univ. of Alberta

13:30-13:50 TuB15.1
Application of Principal Component Pursuit to Process Fault Detection and Diagnosis, pp. 3535-3540.
Cheng, Yue, Univ. of Alberta
Chen, Tongwen, Univ. of Alberta

13:50-14:10 TuB15.2
Geometric Fault Detection and Isolation of Two-Dimensional (2D) Systems, pp. 3541-3548.
Baniamerian, Amir, Concordia Univ.
Meskin, Nader, Qatar Univ.
Khorasani, Khashayar, Concordia Univ.
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

14:30-14:50 TuB15.4
Ge, Xiaohua
Central Queensland Univ.
Han, Qing-Long
Central Queensland Univ.
Jiang, Xiefu
Hangzhou Dianzi Univ.

14:50-15:10 TuB15.5
Design of Active Inputs for Set-Based Fault Diagnosis, pp. 3561-3566.
Scott, Joseph
Massachusetts Inst. of Tech.
Findleisen, Rolf
OGV Univ. Magdeburg
Braatz, Richard D.
Massachusetts Inst. of Tech.
Raimondo, Davide Martino
Univ. degli Studi di Pavia

15:10-15:30 TuB15.6
Du, Miao
McMaster Univ.
Scott, James
McMaster Univ.
Mhaskar, Prashant
McMaster Univ.

TuB16
Renaissance Ballroom West A
Modeling, Analysis, and Control of Systems with Hysteresis (Invited Session)
Chair: Tan, Xiaobo
Michigan State Univ.
Co-Chair: Iyer, Ram Venkataraman
Texas Tech. Univ.
Organizer: Tan, Xiaobo
Michigan State Univ.
Organizer: Iyer, Ram Venkataraman
Texas Tech. Univ.

13:30-13:50 TuB16.1
Closed-Loop Analysis for Systems with Fast Linear Dynamics Preceded by Hysteresis (I), pp. 3573-3578.
Edardar, Mohamed
Michigan State Univ.
Tan, Xiaobo
Michigan State Univ.
Khalil, Hassan K.
Michigan State Univ.

13:50-14:10 TuB16.2
Inversion-Free Adaptive Control of Uncertain Systems with Shape-Memory-Alloy Actuation (I), pp. 3579-3584.
Al Janaideh, Mohammad
The Univ. of Jordan
Bernstein, Dennis S.
Univ. of Michigan

14:10-14:30 TuB16.3
Robust Constrained Trajectory Tracking for Magnetically Controlled Linear Actuators with Hysteresis (I), pp. 3585-3590.
Ekanayake, Dinesh Bandara
Western Illinois Univ.

14:30-14:50 TuB16.4
Cascading Effects in the Moving Preisach Model (I), pp. 3591-3598.
Rachinskii, Dmitrii
Univ. of Texas at Dallas
Aman, Andreas
Univ. Coll. Cork
McCarthy, Stephen
Univ. Coll. Cork
Brokate, Martin
TU Munich

14:50-15:10 TuB16.5
Davino, Daniele
Univ. of Sannio, Benevento
Krejci, Pavel
Acad. of Sciences of the Czech Republic
Visone, Ciro
Univ. of Sannio, Benevento

15:10-15:30 TuB16.6
Model of a Contact Lens and Tear Layer at Static Equilibrium (I), pp. 3605-3612.
Athukorallage, Bhagya
Texas Tech. Univ.
Iyer, Ram Venkataraman
Texas Tech. Univ.

TuB17
Renaissance Ballroom West B
Modeling, Estimation and Control of Advanced Engine Sensing and Actuation (Invited Session)
Chair: Shahbakhti, Mahdi
Michigan Tech. Univ.
Co-Chair: Shim, Taehyun
Univ. of Michigan-Dearborn
Organizer: Shahbakhti, Mahdi
Michigan Tech. Univ.
Organizer: Shim, Taehyun
Univ. of Michigan-Dearborn
Organizer: Canova, Marcello
The Ohio State Univ.
Organizer: Scacchioli, Annalisa
New York Univ.

13:30-13:50 TuB17.1
Jankovic, Mrdjan
Ford Res. & Advanced Engineering
Hagner, David
Ford Motor Company

13:50-14:10 TuB17.2
Dynamic, Output-Feedback, Gain-Scheduling Control of an Electric Variable Valve Timing System (I), pp. 3619-3624.
White, Andrew
Michigan State Univ.
Choi, Jongeun
Michigan State Univ.
Zhu, Guoming
Michigan State Univ.

14:10-14:30 TuB17.3
Model-Based Within-A-Cycle Estimation of Rate Shaping for a Piezoelectric Fuel Injector (I), pp. 3625-3630.
Shen, Jin
Purdue Univ.
Ruikar, Neha
Purdue Univ.
Le, Dat
Purdue Univ.
Shaver, Gregory M.
Purdue Univ.

14:30-14:50 TuB17.4
Taghvaeeyan, Saber
Univ. of Minnesota
Rajamani, Rajesh
Univ. of Minnesota
Sun, Zongxuan
Univ. of Minnesota
14:50-15:10 TuB17.5
Design and Control of a Direct Fuel Injector with Rate Shaping Capability (I), pp. 3637-3642.
Wu, Chienshin
Univ. of Minnesota, Twin Cities
Sun, Zongxuan
Univ. of Minnesota

15:10-15:30 TuB17.6
Dynamic Modeling of Piezoelectric Injector-Enabled Rate Shaping (I), pp. 3643-3648.
Le, Dat
Purdue Univ.
Shen, Jin
Purdue Univ.
Ruikar, Neha
Purdue Univ.
Shaver, Gregory M.
Purdue Univ.

Wind Energy Systems and Control (Invited Session)

TuB18

13:30-13:50 TuB18.1
Effect of Storage Characteristics on Wind Intermittency Mitigation Effectiveness (I), pp. 3649-3654.
Jaworsky, Christina
Massachusetts Inst. of Tech.
Turitsyn, Konstantin
Massachusetts Inst. of Tech.

13:50-14:10 TuB18.2
MIMO Control of Wind Turbine Using Direct Shooting Method (I), pp. 3655-3660.
Yan, Zeyu
Univ. of Texas at Austin
Hall, John
Univ. of Texas - Austin, Dept of Mechanical Eng.
Chen, Dongmei
The Univ. of Texas at Austin

14:10-14:30 TuB18.3
Zeng, Jianwu
Univ. of Nebraska-Lincoln
Lu, Dingguo
Univ. of Nebraska-Lincoln
Zhao, Yue
Univ. of Nebraska-Lincoln
Zhang, Zhe
Univ. of Nebraska-Lincoln
Qiao, Wei
Univ. of Nebraska-Lincoln
Gong, Xiang
Univ. of Nebraska-Lincoln

14:30-14:50 TuB18.4
Wisniewski, Rafal
Aalborg Univ.
Svenstrup, Mikael
Aalborg Univ.
Pedersen, Andreas, Sandergaard
Aalborg Univ.
Steiniche, Christian, Sigge
Aalborg Univ.

14:50-15:10 TuB18.5
Laks, Jason
Univ. of Colorado at Boulder
Simley, Eric
Univ. of Colorado Boulder
Pao, Lucy Y.
Univ. of Colorado Boulder

15:10-15:30 TuB18.6
Fuzzy Scheduler Fault Tolerant Control Method for WES Subject to Instrument Faults, pp. 3680-3685.
Ibrahim, Elkhattab
LAGIS FRE CNRS 3033, Lille, France
Aitouche, Abdel
LAGIS/HEI
Ghorbani, Reza
Univ. of Hawaii
Bayart, Mireille
Pol.

TuB19

13:30-14:30 TuB19.1
A Tutorial on Laser Interferometry for Precision Measurements (I), pp. 3686-3703.
Loughridge, Russell
Agilent Tech.
Abramovitch, Daniel Y.
Agilent Lab.

14:30-14:50 TuB19.2
Control Methodologies for Precision Positioning Systems (I), pp. 3704-3711.
Chen, Xu
Univ. of California at Berkeley
Tomizuka, Masayoshi
Univ. of California, Berkeley

14:50-15:10 TuB19.3
Periodic Error Correction in Heterodyne Interferometry (I), pp. 3712-3716.
Ganguly, Vasishta
Univ. of North Carolina at Charlotte
Schmitz, Tony
Univ. of North Carolina at Charlotte
Yun, Janet
Agilent Tech.
Loughridge, Russell
Agilent Tech. Inc.

15:10-15:30 TuB19.4
Quintessential Phase: A Method of Mitigating Turbulence Effects in Interferometer Measurements of Precision Motion (I), pp. 3717-3722.
Johnstone, Eric
Agilent Tech.
Abramovitch, Daniel Y.
Agilent Lab.

TuB20

13:30-13:50 TuB20.1
Monitoring of Carbon Dioxide Capture Processes (I), pp. 3723-3728.
Dunia, Ricardo
The Univ. of Texas at Austin
Edgar, Thomas F.
Univ. of Texas at Austin
Rochelle, Gary
Univ. of Texas at Austin
Nixon, Mark
Emerson Process Management

14:00-15:00 TuB20.2

dT: Process Control for Novel Power Generation Systems and Regulations (Invited Session)

Chair: Dunia, Ricardo
The Univ. of Texas at Austin
Co-Chair: Edgar, Thomas F.
Univ. of Texas at Austin
Organizer: Dunia, Ricardo
The Univ. of Texas at Austin
Organizer: Edgar, Thomas F.
Univ. of Texas at Austin
Organizer: Qin, S. Joe
Univ. of Southern California

14:30-15:00 TuB20.3

Get the full transcript from the University of Texas at Austin.
13:50-14:10  TuB20.2

An Effective Multi-Loop Control System to Improve Control Performance of CO2 Capture (I), pp. 3729-3734.

Ziaiifashami, Sepideh  Univ. of Texas
Rochelle, Gary  Univ. of Texas at Austin
Edgar, Thomas F.  Univ. of Texas at Austin

14:10-14:30  TuB20.3

Latent Storage-Enhanced Distributed Temperature Control in Hydrogen Microreactors (I), pp. 3735-3740.

Pattison, Richard  Univ. of Texas at Austin
Baldea, Michael  The Univ. of Texas at Austin

14:30-14:50  TuB20.4

Model Predictive Control with a Rigorous Model of a Solid Oxide Fuel Cell (I), pp. 3741-3746.

Jacobsen, Lee Thomas  Brigham Young Univ.
Hedengren, John  Brigham Young Univ.
Spivey, Benjamin  ExxonMobil

14:50-15:10  TuB20.5

Nonlinear Model Predictive Control of IGCC Plants with Membrane Reactors for Carbon Capture (I), pp. 3747-3752.

Lima, Fernando V.  West Virginia Univ.
Amrit, Rishi  Shell Projects and Tech.
Tsapatsis, Michael  Univ. of Minnesota
Daoutidis, Prodromos  Univ. of Minnesota

15:10-15:30  TuB20.6


Ma, Jingran  Univ. of Southern California
Qin, S. Joe  Univ. of Southern California
Salsbury, Timothy  Johnson Controls, Inc.

TuB21  Congressional Hall A

Systems Biology (Regular Session)

Chair: Kashima, Kenji  Osaka Univ.
Co-Chair: Palumbo, Pasquale  IASI-CNR

13:30-13:50  TuB21.1


Kashima, Kenji  Osaka Univ.
Ogawa, Toshiyuki  Meiji Univ.
Sakurai, Tatsunari  Chiba Univ.

13:50-14:10  TuB21.2


Xu, Zhaobin  Chemical Engineering, Villanova Univ. Villanova, PA
Fang, Xin  The Henry M. Jackson Foundation for the Advancement of Military M
Wood, Thomas  Depts of Chemical Engineering and Biochemistry and Molec
Huang, Zuyi (Jacky)  Villanova Univ.

14:10-14:30  TuB21.3

Some Results on the Structural Properties and the Solution of the Chemical Master Equation, pp. 3771-3776.

Borti, Alessandro  Istituto di Analisi dei Sistemi ed Informatica "A. Ruberti" (IAS
Carravetta, Francesco  IASI-CNR
Mavelli, Gabriella  Consiglio Nazionale Delle Ricerche
Palumbo, Pasquale  IASI-CNR

14:30-14:50  TuB21.4

Elucidating Xylose Metabolism of Scheffersomyces Stipitis by Integrating Principal Component Analysis with Flux Balance Analysis, pp. 3777-3782.

Liang, Meng  Auburn Univ.
He, Qinghua  Tuskegee Univ.
Jefferis, Thomas W.  Univ. of Wisconsin-Madison
Wang, Jin  Auburn Univ.

14:50-15:10  TuB21.5

Optimal Design of Phosphorylation-Based Insulation Devices, pp. 3783-3789.

Rivera, Phillip  Massachusetts Inst. of Tech.
Del Vecchio, Domitilla  Massachusetts Insitute of Tech.

15:10-15:30  TuB21.6


Chakrabarty, Ankush  Purdue Univ.
Pearce, Serena  Purdue Univ.
Nelson, Robert  Indiana School of Medicine
Rundell, Ann E.  Purdue Univ.

TuB22  Congressional Hall B

Cooperative Networked Control Systems (Regular Session)

Chair: Zavlanos, Michael M.  Duke Univ.
Co-Chair: Bushnell, Linda  Univ. of Washington

13:30-13:50  TuB22.1

A Distributed Algorithm for Cooperative Relay Beamforming, pp. 3796-3801.

Chatzipanagiotis, Nikolaos  Duke Univ.
Petropulu, Athina  Rutgers, State Univ. of New Jersey
Zavlanos, Michael M.  Duke Univ.

13:50-14:10  TuB22.2

Leader Selection and Network Assembly for Controllability of Leader-Follower Networks, pp. 3802-3807.

Yazicioglu, Ahmet Yasin  Georgia Inst. of Tech.
Egerstedt, Magnus  Georgia Inst. of Tech.

14:10-14:30  TuB22.3

H Infinity Almost Synchronization for Non-Identical Introspective Multi-Agent Systems under External Disturbances, pp. 3808-3813.

Peymani Foroughzadeh, Ehsan  Norwegian Univ. of Science & Tech.
Grip, Håvard Fjær  Washington State Univ.
Saberi, Ali  Washington State Univ.
Wang, Xu  New York Univ.
Fossen, Thor I.  Norwegian Univ. of Science & Tech.
Joint Leader and Link Weight Selection for Fast Convergence in Multi-Agent Systems, pp. 3814-3820.

Clark, Andrew
Univ. of Washington

Bushnell, Linda
Univ. of Washington

Poovendran, Radha
Univ. of Washington, Seattle

Team-Triggered Coordination of Networked Systems, pp. 3821-3826.

Nowzari, Cameron
Univ. of California, San Diego

Cortes, Jorge
Univ. of California, San Diego

A General Framework for Distributed Vote Aggregation, pp. 3827-3832.

Touri, Behrouz
Georgia Tech. Univ.

Farnoud, Farzad
Univ. of Illinois at Urbana-Champaign

Nedich, Angelia
Univ. of Illinois, Urbana-Champaign

Milenkovic, Olgica
UIUC


Qian, Li
Nanjing Univ. China

Zhengxing, Sun
Nanjing Univ.

Songle, Chen
Nanjing Univ.

Yudi, Liu
Nanjing Univ.

Optimal Fusion Rules in Team Classification under Three Decision Structures, pp. 3840-3845.

Pan, Songya
Univ. of Michigan

Hyun, Baro
Univ. of Michigan

Kabamba, Pierre T.
Univ. of Michigan

Girard, Anouck
Univ. of Michigan, Ann Arbor


Sarkar, Soumya
Pennsylvania State Univ.

Virani, Nurali
Pennsylvania State Univ. Univ. Park, PA

Yasar, Murat
Tech. Inc.

Ray, Asok
Pennsylvania State Univ.

Sarkar, Soumik
United Tech. Res. Center

Distributed Fusion Kalman Filtering with Communication Constraints, pp. 3852-3857.

Chen, Bo
Zhejiang Univ. of Tech.

Yu, Li
Zhejiang Univ. of Tech.

Zhang, Wenan
Zhejiang Univ. of Tech.

Song, Haiyu
Zhejiang Univ. of Tech.
Robust Mu-Synthesis Control of a Four-Wire Autonomous Electronically-Interfaced Distributed Generation Unit for Mitigation of Harmonic Voltage Disturbance, pp. 3900-3905.

Haddadi, Aboutaleb McGill Univ.
Modinia, Rahi McGill Univ.
Boulet, Benoit McGill Univ.

Identification: Optimal Input Design and Convex Methods (Regular Session)
Chair: Braatz, Richard D. Massachusetts Inst. of Tech.
Co-Chair: Van den Hof, Paul M.J. Eindhoven Univ. of Tech.
16:00-16:20 TuC03.1

Kim, Kwang-Ki UIUC/MIT
Braatz, Richard D. Massachusetts Inst. of Tech.

16:20-16:40 TuC03.2
Experiment Design for Batch-To-Batch Model-Based Learning Control, pp. 3912-3917.

Forgione, Marco Delft Univ. of Tech.
Bombois, Xavier Delft Univ. of Tech.
Van den Hof, Paul M.J. Eindhoven Univ. of Tech.

16:40-17:00 TuC03.3

Larsson, Christian A. KTH Royal Inst. of Tech.
Hägg, Per KTH Royal Inst. of Tech.
Hjalmarsson, Håkan KTH Royal Inst. of Tech.

17:00-17:20 TuC03.4
Optimal Input Signal Design for Data-Centric Estimation Methods, pp. 3924-3929.

Deshpande, Sunil Arizona State Univ.
Rivera, Daniel E. Arizona State Univ.

17:20-17:40 TuC03.5

Coffre, Benjamin James Univ. of Michigan
Aljanaidieh, Khaled The Univ. of Michigan, Ann Arbor
Bernstein, Dennis S. Univ. of Michigan

17:40-18:00 TuC03.6
Stable Nonlinear Identification from Noisy Repeated Experiments Via Convex Optimization, pp. 3936-3941.

Tobenkin, Mark M. Massachusetts Inst. of Tech.
Manchester, Ian R. Univ. of Sydney
Megretski, Alexandre Massachusetts Inst. of Tech.

Model Predictive Control Applications (Regular Session)
Chair: Franze', Giuseppe Univ. Degli Studi della Calabria
Co-Chair: Kyriakopoulos, K.J. National Tech. Univ. of Athens
16:00-16:20 TuC04.1
Model Predictive Quality Control of Polymethyl Methacrylate, pp. 3942-3947.

Corbett, Brandon McMaster Univ.
Macdonald, Brian McMaster Univ.
Mhaskar, Prashant McMaster Univ.

16:20-16:40 TuC04.2
An Obstacle Avoidance Receding Horizon Control Scheme for Autonomous Vehicles, pp. 3948-3953.

Franze', Giuseppe Univ. Degli Studi della Calabria
Lucia, Walter Univ. of Calabria (UNICAL)
Muraca, Pietro Maria Univ. Della Calabria

16:40-17:00 TuC04.3

Pedersen, Rasmus Aalborg Univ.
Schwensen, John Aalborg Univ.
Sivabal, Senthuran Aalborg Univ.
Corazzol, Chiara Aalborg Univ.
Shafiei, Seyed Ehsan Aalborg Univ.
Vinther, Kasper Aalborg Univ.
Stoustrup, Jakob Aalborg Univ.

17:00-17:20 TuC04.4
Dynamic Encirclement of a Moving Target Using Decentralized Model Predictive Control, pp. 3960-3966.

Marasco, Anthony Royal Military Coll. of Canada
Givigi, Sidney Royal Military Coll. of Canada
Rabbath, Camille Alain Defence R&D Canada
Beaulieu, Alain Royal Military Coll. of Canada

17:20-17:40 TuC04.5
Model Predictive Control for the Navigation of a Nonholonomic Vehicle with Field-Of-View Constraints, pp. 3967-3972.

Maniatopoulos, Spyros Cornell Univ.
Panagou, Dimitra Univ. of Illinois at Urbana-Champaign
Kyriakopoulos, Costas J. National Tech. Univ. of Athens

17:40-18:00 TuC04.6
Model Predictive Control of an Overhead Crane Using Constraint Substitution, pp. 3973-3978.

Käpernick, Bartosz Univ. of Ulm
Graichen, Knut Univ. of Ulm
### Optimization I (Regular Session)

**Chair:** Smith, Stephen L.  
**Univ. of Waterloo**  
**Co-Chair:** Cao, Xumeng  
**Johns Hopkins Univ.**

**16:00-16:20** TuC05.1


Brown, Brandon  
Singh, Tarunraj  
Rai, Rahul  

Univ. at Buffalo  
State Univ. of New York at Buffalo  
Univ. at Buffalo, SUNY

**16:20-16:40** TuC05.2


Yue, Dajun  
You, Fengqi  

Northwestern Univ.  
Northwestern Univ.

**16:40-17:00** TuC05.3


Marzat, Julien  
Walter, Eric  

ONERA - The French Aerospace Lab.  
CNRS-Supelec-Univ. Paris-Sud  

Piet-Lahanier, Helene  

ONERA

**17:00-17:20** TuC05.4


Jawaid, Syed Taiha  
Smith, Stephen L.  

Univ. of Waterloo  
Univ. of Waterloo

**17:20-17:40** TuC05.5


Cao, Xumeng  

IBM/JHU

**17:40-18:00** TuC05.6


Galpin, Thomas  
Voulgaris, Petros G.  

Univ. of Illinois at Urbana Champaign  
Univ. of Illinois, Urbana-Champaign

### Consensus Control (Regular Session)

**Chair:** Lin, Zongli  
**Univ. of Virginia**  
**Co-Chair:** Zhai, Guisheng  
**Shibaura Inst. of Tech.**

**16:00-16:20** TuC06.1


Chen, Yao  
Dong, Hairong  
Lu, Jinhu  
Sun, Xubin  

Beijing Jiaotong Univ.  
Beijing Jiaotong Univ.  
Chinese Acad. of Sciences  
School of Electronic and Information Engineering

**16:20-16:40** TuC06.2

**Consensus Algorithms for Linear Multi-Agent Systems with Switching Topologies by Internal Mode Control**, pp. 4021-4026.

Wang, Yinqiu  
Wu, Qinghe  
Wang, Yao  

Beijing Inst. of Tech.  
Beijing Inst. of Tech.  
Beijing Inst. of Tech.

**16:40-17:00** TuC06.3

**Consensus of High-Order Multi-Agent Systems with Input and Communication Delays State Feedback Case**, pp. 4027-4032.

Zhou, Bin  
Lin, Zongli  

Harbin Inst. of Tech.  
Univ. of Virginia

**17:00-17:20** TuC06.4

**Position Tracking of Multi Double-Integrator Dynamics by Bounded Distributed Control without Velocity Measurements**, pp. 4033-4038.

Zhu, Bo  
Sun, Wei  
Meng, Chang  

Univ. of Electronic Science and Tech. of China  
Information Education Tech. Center, Southwest Univ. of China  
Univ. of Electronic Science and Tech. of China

**17:20-17:40** TuC06.5


Ajourlou, Amir  
Asadi, Mohammad Mehdi  
Aghdam, Amir G.  
Blouin, Stephane  

Concordia Univ.  
Concordia Univ.  
Concordia Univ.  
DRDC Atlantic

### Stability of Nonlinear Systems I (Regular Session)

**Chair:** Jiang, Zhong-Ping  
**Pol. Inst. NYU**  
**Co-Chair:** Hudon, Nicolas  
**Univ. Catholique de Louvain**

**16:00-16:20** TuC07.1

**Global Lyapunov Functions and a Hierarchical Control Scheme for Networks of Robotic Agents**, pp. 4050-4055.

Maidens, John  
Li, Michael Y.  

Univ. of California, Berkeley  
Univ. of Alberta

**16:20-16:40** TuC07.2


Liu, Tengfei  
Jiang, Zhong-Ping  
Xin, Wujing  
Li, Michael Y.  

Pol. Inst. of New York Univ.  
Pol. Inst. NYU  
KLD Engineering, P.C. & KLD Assoc., Inc.  
KLD Engineering, P.C. & KLD Assoc., Inc.

**16:40-17:00** TuC07.3


Dürr, Hans-Bernd  
Stankovic, Milos S.  
Dimarogonas, Dimos V.  
Johansson, Karl H.  

Univ. of Stuttgart  
KTH Royal Inst. of Tech.  
Royal Inst. of Tech.  
Royal Inst. of Tech.
17:00-17:20  TuC07.4  Dissipative-Based Dynamic State Feedback Design Using a Geometric Decomposition, pp. 4068-4073.
Hudon, Nicolas  Univ. Catholique de Louvain
Bao, Jie  The Univ. of New South Wales

17:20-17:40  TuC07.5  Nonlinear Static State Feedback Controller Design to Enlarge the Domain of Attraction for a Class of Nonlinear Systems, pp. 4074-4079.
Saleme, Ahmed  Univ. of Wuppertal
Tibken, Bernd  Univ. of Wuppertal

17:40-18:00  TuC07.6  Instability Criteria for Lur'e Systems Toward Oscillation Analysis of Uncertain Gene Networks, pp. 4080-4085.
Inoue, Masaki  Tokyo Inst. of Tech.
Imura, Jun-ichi  Tokyo Inst. of Tech.
Kashima, Kenji  Osaka Univ.
Aihara, Kazuyuki  Univ. of Tokyo

16:00-16:20  TuC08.1  A Robust Two Degree-Of-Freedom Controller for Systems with Delay, pp. 4086-4091.
Xie, Yangmin  Univ. of Illinois, Urbana-Champaign
Alleyne, Andrew G.  Univ. of Illinois, Urbana-Champaign

Duarte, Franklyn  Clausthal Univ. of Tech.
Ballesteros, Pablo  Clausthal Univ. of Tech.
Shu, Xinyu  Clausthal Univ. of Tech.
Bohn, Christian  Tech. Univ. Clausthal

16:40-17:00  TuC08.3  Modeling of Coupled Bending and Torsional Oscillations of an Inclined Aerial Ladder, pp. 4098-4103.
Pertsch, Alexander  Univ. Stuttgart
Sawodny, Oliver  Univ. of Stuttgart

17:00-17:20  TuC08.4  Discrete-Time Transfer Matrix Modeling of Flexible Robots under Feedback Control, pp. 4104-4109.
Krauss, Ryan  Southern Illinois Univ. Edwardsville
Okasha, Mohamed  Southern Illinois Univ. Edwardsville

17:20-17:40  TuC08.5  Sub-Optimal Control Design of a Semi-Active Vibration Reduction System, pp. 4110-4115.
Wang, Yebin  Mitsubishi Electric Res. Lab.
Utsunomiya, Kenji  Mitsubishi Electric Corp.

17:40-18:00  TuC08.6  Intersample Ripple Resulting from Discrete-Time Feedforward Control, pp. 4116-4121.
Chen, Hua  Univ. of Colorado Boulder
Li, Yang  Univ. of Colorado, Boulder
Pao, Lucy Y.  Univ. of Colorado Boulder

11:00-11:20  Room 13  Estimation in Networked Systems II (Regular Session)  Chair: Allgower, Frank  Univ. of Stuttgart
Co-Chair: Zhu, Quanyan  Univ. of Illinois, Urbana-Champaign

11:00-11:20  TuC09.1  LI Adaptive Control of Uncertain Networked Control Systems, pp. 4122-4127.
Wang, Xiaofeng  Univ. of South Carolina
Kharisov, Evgeny  Univ. of Illinois at Urbana-Champaign (UIUC)
Hovakimyan, Najra  Univ. of Illinois, Urbana-Champaign

Xia, Meng  Univ. of Notre Dame
Gupta, Vijay  Univ. of Notre Dame
Antsaklis, Panos J.  Univ. of Notre Dame

11:40-12:00  TuC09.3  Topology Design in Networked Estimation: A Generic Approach, pp. 4134-4139.
Doostmohammadian, Mohammadreza  Tufts Univ.
Khan, Usman  Tufts Univ.

12:00-12:20  TuC09.4  An Impact-Aware Defense against Stuxnet, pp. 4140-4147.
Clark, Andrew  Univ. of Washington
Zhu, Quanyan  Univ. of Illinois, Urbana-Champaign
Poovendran, Radha  Univ. of Washington, Seattle
Basar, Tamer  Univ. of Illinois, Urbana-Champaign

12:20-12:40  TuC09.5  Retransmitting Lost Measurements to Improve Remote Estimation, pp. 4148-4152.
Blind, Rainer  Univ. of Stuttgart
Allgower, Frank  Univ. of Stuttgart

12:40-13:00  TuC09.6  Efficient Distributed Sensing Using Adaptive Censoring Based Inference, pp. 4153-4158.
Mu, Beipeng  MIT
Chowdhary, Girish  Massachusetts Inst. of Tech.
How, Jonathan P.  MIT
TuC10  Room 14
Adaptive Control Applications (Regular Session)
Chair: Lynch, Alan Francis  Univ. of Alberta
Co-Chair: Batista, Pedro  Inst. Superior Técnico, Univ. Técnica de Lisboa

16:00-16:20 TuC10.1
Experimental Validation of an Adaptive Control for a Voltage Source Converter, pp. 4159-4164.
M. Milasi, Rasoul  Univ. of Alberta
Lynch, Alan Francis  Univ. of Alberta
Li, Yun Wei  Univ. of Alberta

16:20-16:40 TuC10.2
Active Noise Control of Impulsive Noise with Selective Outlier Elimination, pp. 4165-4170.
Bergamasco, Marco  Pol. di Milano
Della Rossa, Fabio  Pol. di Milano
Piroddi, Luigi  Pol. di Milano

An Empirical Weight Update Approach for Nonlinear Active Noise Control, pp. 4171-4176.
Morici, Simone  Pol. di Milano
Spiriti, Emanuele  Dipart. di Elettronica e Informazione, Pol.
Piroddi, Luigi  Pol. di Milano

17:00-17:20 TuC10.4
LMI-Based H2 Adaptive Filtering for 3D Positioning and Tracking Systems, pp. 4177-4182.
Gaspar, Tiago  Inst. Superior Técnico, Tech. Univ. of Lisbon
Oliveira, Paulo Jorge  Inst. Superior Técnico

TuC11  Room 15
Optimal Control IV (Regular Session)
Chair: Vamvoudakis, Kyriakos  Univ. of California, Santa Barbara
Co-Chair: Murphey, Todd  Northwestern Univ.

16:00-16:20 TuC11.1
Multi-Agent Discrete-Time Graphical Games: Interactive Nash Equilibrium and Value Iteration Solution, pp. 4189-4195.
Abohual, Mohammed  Univ. of Texas at Arlington Res. Inst. The Univ.
Lewis, Frank L.  Univ. of Texas at Arlington
Haesaert, Sofie  Delft Univ. of Tech.
Babuska, R.  Delft Univ. of Tech.
Vamvoudakis, Kyriakos  Univ. of California, Santa Barbara

16:20-16:40 TuC11.2
Trajectory Optimization for Continuous Ergodic Exploration, pp. 4196-4201.
Miller, Lauren  Northwestern Univ.
Murphey, Todd  Northwestern Univ.

16:40-17:00 TuC11.3
Storage in Risk Limiting Dispatch: Control and Approximation, pp. 4202-4208.
Qin, Junjie  Stanford Univ.
Su, Han-I  Stanford Univ.
Rajagopal, Ram  Stanford Univ.

17:00-17:20 TuC11.4
The Delta-Sensitivity and Its Application to Stochastic Optimal Control of Nonlinear Diffusions, pp. 4209-4214.
Theodorou, Evangelos  Univ. of Washington
Todorov, Emanuel  Univ. of Washington

17:20-17:40 TuC11.5
On Integral Value Iteration for Continuous-Time Linear Systems, pp. 4215-4220.
Lee, Jae Young  Yonsei Univ.
Park, Jin Bae  Yonsei Univ.
Choi, Yoon Ho  Kyunggi Univ.

17:40-18:00 TuC11.6
An Active Set Solver for Min-Max Robust Control, pp. 4221-4227.
Buerger, Johannes  Univ. of Oxford
Cannon, Mark  Univ. of Oxford
Kouvaritakis, Basil  Oxford Univ.

TuC12  Room 16
Control Applications V (Regular Session)
Chair: Grover, Martha  Georgia Inst. of Tech.
Co-Chair: Kishida, Masako  Univ. of Tokyo

16:00-16:20 TuC12.1
Colloidal Self-Assembly with Model Predictive Control, pp. 4228-4233.
Tang, Xun  Georgia Inst. of Tech.
Xue, Yuzhen  Georgia Inst. of Tech.
Grover, Martha  Georgia Inst. of Tech.

16:20-16:40 TuC12.2
Application of Dynamic Inversion with Extended High-Gain Observers to Inverted Pendulum on a Cart, pp. 4234-4238.
Lee, Joonho  Michigan State Univ.
Mukherjee, Ranjan  Michigan State Univ.
Khali, Hassan K.  Michigan State Univ.

16:40-17:00 TuC12.3
Ma, Xiao  Univ. of Tennessee
Djouadi, Seddik, M.  Univ. of Tennessee
Charalambous, Charalambos D.  Univ. of Cyprus
Denic, Stojan  Univ. of Arizona

17:00-17:20 TuC12.4
Design of a Fractional-Order Controller for the Setpoint Ramp Tracking Problem, pp. 4245-4250.
Morell, Antonio  Univ. de La Laguna
Trujillo, Juan J.  Univ. de La Laguna
Acosta, L.  Univ. de La Laguna
Rivero, Margarita  Univ. de La Laguna

17:20-17:40 TuC12.5
Interaction Analysis of Control Systems Employed in Roll-To-Roll Printing, pp. 4251-4256.
Seshadri, Aravind  Oklahoma State Univ.
Pagilla, Prabhakar R.  Oklahoma State Univ.
Observability Optimization for the Nonholonomic Integrator, pp. 4257-4262.

Hinson, Brian
Univ. of Washington
Morgansen, Kristi A.
Univ. of Washington

TuC13
Mount Vernon Square A
Power Systems II (Regular Session)

Chair: Alamir, Mazen
CNRS / Univ. of Grenoble
Co-Chair: Bullo, Francesco
Univ. California at Santa Barbara

16:00-16:20 TuC13.1
Predictive Control of Demand Side Units Participating in the Primary Frequency Reserve Market, pp. 4263-4270.

Biegel, Benjamin
Aalborg Univ.
Andersen, Palle
Aalborg Univ.
Stoustrup, Jakob
Aalborg Univ.
Hansen, Lars Henrik
Dong Energy

16:20-16:40 TuC13.2

Meng, Wenchao
Zhejiang Univ.
Yang, Qinmin
Zhejiang Univ.
Ying, You
Zhejiang Windey Col, Ltd and the State Key Lab. of Industri
Sun, Yong
Zhejiang Windey Co., Ltd and the State Key Lab. of Industri
Sun, Youxian
Zhejiang Univ.

16:40-17:00 TuC13.3

Rahmani, Mustapha Amine
Univ. de Grenoble, GIPSA-Lab.
Alamir, Mazen
CNRS / Univ. of Grenoble
Gualino, David
Schneider Electric Industries

17:00-17:20 TuC13.4

Jung, Hoeguk
Univ. of Massachusetts, Lowell
Conficoni, Christian
Alma Mater Studiorum, Univ. of Bologna
Tilli, Andrea
Univ. of Bologna
Hu, Tingshu
Univ. of Massachusetts, Lowell

17:20-17:40 TuC13.5
Sparse and Optimal Wide-Area Damping Control in Power Networks, pp. 4289-4294.

Dörfler, Florian
Univ. of California at Santa Barbara
Jovanovic, Mihailo
Univ. of Minnesota
Chertkov, Michael
Los Alamos National Lab.
Bullo, Francesco
Univ. California at Santa Barbara

17:40-18:00 TuC13.6
Asynchronous Thermal-Aware DVFS Control, pp. 4295-4300.

Durand, Sylvain
CNRS, CINVESTAV
Lesecq, Suzanne
CEA

TuC14
Mount Vernon Square B
Uncertain Systems I (Regular Session)

Chair: Nounou, Hazem
Texas A&M Univ. at Qatar
Co-Chair: Canuto, Enrico S.
Pol. di Torino

16:00-16:20 TuC14.1
Robust Output Tracking Control of a Laboratory Helicopter for Automatic Landing, pp. 4301-4306.

Liu, Hao
Tsinghua Univ.
Lu, Geng
Tsinghua Univ.
Zhong, Yisheng
Tsinghua Univ.

16:20-16:40 TuC14.2
Disturbance Rejection Control of a Morphing UAV, pp. 4307-4312.

Wang, Lu
Shanghai Jiao Tong Univ.
Su, Jianbo
Shanghai Jiao Tong Univ.

17:00-17:20 TuC14.4
Command Governor-Based Model Reference Control, pp. 4319-4324.

De La Torre, Gerardo
Georgia Inst. of Tech.
Yucelen, Tansel
Georgia Inst. of Tech.
Johnson, Eric N.
Georgia Inst. of Tech.

17:20-17:40 TuC14.5
Robust Control Design Method for Uncertain System Using a Set of Measurements, pp. 4325-4330.

Khadraoui, Sofiane
Texas A&M Univ. at Qatar
Nounou, Hazem
Texas A&M Univ. at Qatar
Nounou, Mohamed
Texas A&M Univ. at Qatar
Datta, Aniruddha
Texas A&M Univ.
Bhattacharya, Shankar P.
Texas A & M Univ.

17:40-18:00 TuC14.6
Design of Reduced-Order Controllers Using a Set of Measurements: Application to a DC Servomotor, pp. 4331-4336.

Khadraoui, Sofiane
Texas A&M Univ. at Qatar
Nounou, Hazem
Texas A&M Univ. at Qatar
Nounou, Mohamed
Texas A&M Univ. at Qatar
Datta, Aniruddha
Texas A&M Univ.
Bhattacharya, Shankar P.
Texas A & M Univ.

TuC15
Renaissance Ballroom East
Applications of Fault Detection/Accommodation (Regular Session)

Chair: Khorasani, Khashayar
Concordia Univ.
Co-Chair: Wang, Jin
Auburn Univ.

16:00-16:20 TuC15.1
Fault Diagnosis for Satellite’s Attitude Determination System Based on Model Error Prediction and EMD, pp. 4337-4342.

Wang, Jongqi
National Univ. of Defense Tech.
He, Zhangming
National Univ. of Defense Tech.
Pan, Xiaogang
NUDT
Zhou, Haiyin
National Univ. of Defense Tech.
Particle Filtering for State and Parameter Estimation in Gas Turbine Engine Fault Diagnostics, pp. 4343-4349.

Daroogheh, Najmeh Concordia Univ.
Meskin, Nader Qatar Univ.
Khorasani, Khashayar Concordia Univ.

Supervisory Traction Control for a Slipping UGV, pp. 4350-4355.

Broderick, John Univ. of Michigan
Tilbury, Dawn M. Univ. of Michigan
Atkins, Ella Univ. of Michigan

Plating Mechanism Detection in Lithium-Ion Batteries, by Using a Particle-Filtering Based Estimation Technique, pp. 4356-4361.

Alavi, S.M. Mahdi Univ. of Windsor
Saif, Mehrdad Univ. of Windsor
Samadi, Mohammad Foad Simon Fraser Univ.

TuC15.2

TuC15.3

TuC15.4

TuC15.5

TuC15.6

Formal Methods in Systems and Control (Invited Session)

Chair: Abate, Alessandro TU Delft
Co-Chair: Julius, Agung Rensselaer Pol. Inst.
Organizer: Abate, Alessandro TU Delft
Organizer: Julius, Agung Rensselaer Pol. Inst.


Winn, Andrew Rensselaer Pol. Inst.
Julius, Agung Rensselaer Pol. Inst.


Dallal, Eric Univ. of Michigan
Colombo, Alessandro Pol. di Milano
Del Vecchio, Domitilla Massachusetts Institute of Tech.
Lafortune, Stephane Univ. of Michigan

A Nonlinear Model-Based Controller for Premixed Charge Compression Ignition Combustion Timing in Diesel Engines (I), pp. 4411-4416.

Kocher, Lyle Purdue Univ.
Magee, Mark Purdue Univ.
Van Alstine, Dan Purdue Univ. School of Mechanical Eng
Shaver, Gregory M. Purdue Univ.

Hybrid Switching Control of Automotive Cold Start Hydrocarbon Emission (I), pp. 4417-4422.

Salehi, Rasoul Sharif Univ. of Tech.
Shahbakhti, Mahdi Michigan Tech. Univ.
Hedrick, Karl Univ. of California at Berkeley


Jade, Shyam Univ. of Michigan
Larimore, Jacob Univ. of Michigan
Hellström, Erik Univ. of Michigan
Jiang, Li Robert Bosch LLC
Stefanopoulou, Anna G. Univ. of Michigan
17:00-17:20 TuC17.4
Ebrahimi, Khashayar Univ. of Alberta
Koch, Charles Robert Univ. of Alberta

17:20-17:40 TuC17.5
Larimore, Jacob Univ. of Michigan
Hellström, Erik Univ. of Michigan
Jade, Shyam Univ. of Michigan
Jiang, Li Robert Bosch LLC
Stefanopoulou, Anna G. Univ. of Michigan

17:40-18:00 TuC17.6
Development of Control-Oriented Charge Mixing Model and Experimental Validation Using Graphical Analysis (I), pp. 4441-4446.
Yoon, Yongsoon Univ. of Minnesota, twin-cities
Sun, Zongxuan Univ. of Minnesota
Zhang, Shupeng Michigan State Univ.
Zhu, Guoming Michigan State Univ.

17:00-17:20 TuC18.4
Data-Driven Design of KPI-Related Fault-Tolerant Control System for Wind Turbines (I), pp. 4465-4470.
Luo, Hao Univ. Duisburg-Essen
Ding, Steven X. Univ. Duisburg-Essen
Haghasi Abandan Sari, Adel Univ. Duisburg-Essen
Hao, Haiyang Univ. Duisburg-Essen
Yin, Shen Univ. Duisburg-Essen
Jeinsch, Torsten IAV GmbH

17:20-17:40 TuC18.5
Jain, Tushar Aalto Univ.
Yame, Joseph Julien Univ. de Lorraine
Sauter, Dominique D.J. Lorraine Univ.

16:00-17:00 TuC19.1
Automated Steady and Transient State Identification in Noisy Processes (Tutorial Session)
Chair: Rhinehart, R. Russell Oklahoma State Univ.
Co-Chair: Vennavelli, Anand Fractionation Res. Inc.
Organizer: Rhinehart, R. Russell Oklahoma State Univ.

17:00-17:20 TuC19.2
Demonstration of the SS and TS Identifier at the Fractionation Research, Inc. (FRI) Distillation Unit (I), pp. 4494-4497.
Vennavelli, Anand Fractionation Res. Inc.
Resetarits, Michael Fractionation Res. Inc.

17:00-17:40 TuC19.3
Steady State and Transient State Identification for Flow Rate on a Pilot-Scale Absorption Column (I), pp. 4498-4503.
Huang, Ting Oklahoma State Univ.
Rhinehart, R. Russell Oklahoma State Univ.

17:40-18:00 TuC19.4
Steady State Identification As a Convergence Criterion in Nonlinear Regression (I)*. N/A
Rhinehart, R. Russell Oklahoma State Univ.

16:00-16:20 TuC18.1
Wind Turbine Fault Detection and Fault Tolerant Control - an Enhanced Benchmark Challenge (Invited Session)
Chair: Odgaard, Peter Fogh KK electronic a/s
Co-Chair: Johnson, Kathryn Colorado School of Mines
Organizer: Odgaard, Peter Fogh KK electronic a/s
Organizer: Johnson, Kathryn Colorado School of Mines

16:20-16:40 TuC18.2
Wind Turbine Fault Diagnosis and Fault Tolerant Control - An Enhanced Benchmark Challenge (I), pp. 4447-4452.
Odgaard, Peter Fogh KK electronic a/s
Johnson, Kathryn Colorado School of Mines

16:40-17:00 TuC18.3
Fault Detection and Isolation in Wind Turbines Using Support Vector Machines and Observers (I), pp. 4455-4464.
Othman, Nida Univ. Claude Bernard Lyon 1
Othman, Sami Univ. Claude Bernard Lyon 1
Benlahrache, Mohamed Univ. of Lyon
Odgaard, Peter Fogh KK electronic a/s

16:00-16:20 TuC20.1
H2 Model Matching Feedforward Control for Tape Head Positioning Servo Systems, pp. 4504-4509.
Zhong, Hua Univ. of Colorado at Boulder
Pao, Lucy Y. Univ. of Colorado Boulder
Qureshi, Faran Ahmed EPFL
Spinu, Veaceslav Eindhoven Univ. of Tech.
Wijnands, Korneel Eindhoven Univ. of Tech.
Lazar, Mircea Eindhoven Univ. of Tech.

Combining Self-Sensing with an Unknown-Input-Observer to Estimate the Displacement, the Force and the State in Piezoelectric Cantilevered Actuators, pp. 4516-4523.
Rakotondrabe, Micky FEMTO-ST Inst.

Cassidy, Ian Duke Univ.
Song, Wei Unv. of Alabama
Scruggs, Jeff Univ. of Michigan

Maneuver Based Design of a Passive-Assist Device for Augmenting Linear Motion Drives, pp. 4530-4537.
Brown, W. Robert Univ. of Michigan
Ulsoy, A. Galip Univ. of Michigan

Stabilization of Asymmetric Bilateral Teleoperation Systems for Haptic Devices with Time-Varying Delays, pp. 4538-4543.
Hilliard, Trent Dalhousie Univ.
Pan, Ya-Jun Dalhousie Univ.

TuC21 Modeling Biological Systems (Regular Session)
Chair: Hespanha, Joao P. Univ. of California, Santa Barbara
Co-Chair: Hashtrudi Zad, S. Concordia Univ.

Layering in Networks: The Case of Biochemical Systems, pp. 4544-4549.
Prescott, Thomas Paul Univ. of Oxford
Papachristodoulou, Antonis Univ. of Oxford

Towards Modularity in Biological Networks While Avoiding Retroactivity, pp. 4550-4556.
Sivakumar, Hari Univ. of California Santa Barbara
Hespanha, Joao P. Univ. of California Santa Barbara

Hamadeh, Abdullah Omar Rutgers, State Univ. of New Jersey
Sontag, Eduardo D. Rutgers Univ.
Ingalls, Brian P. Univ. of Waterloo

Stochastic Analysis and Inference of a Two-State Genetic Promoter Model, pp. 4563-4568.
Singh, Abhyudai Univ. of Delaware
Vargas-Garcia, Cesar A. Univ. of Delaware
Karmakar, Rajesh AKPC Mahavidyalaya, Physics Dept

Sensitivity Analysis in Petri Net Representation of Biological Systems, pp. 4569-4574.
Zahirazami, Shauheen Concordia Univ.
Dadar, Mahsa Concordia Univ.
Hashtrudi Zad, Shahin Concordia Univ.

Barreto, Carlos Univ. de los Andes
Mojica-Nava, Eduardo Univ. de Los Andes
Quijano, Nicanor Univ. de los Andes

TuC22 Stochastic Models, Control and Algorithms in Robotics (Invited Session)
Chair: Choi, Jongeun Michigan State Univ.
Co-Chair: Milutinovic, Dejan Univ. of California at Santa Cruz
Organizer: Choi, Jongeun Michigan State Univ.
Organizer: Milutinovic, Dejan Univ. of California at Santa Cruz

Graph-Based Stochastic Control with Constraints: A Unified Approach with Perfect and Imperfect Measurements (I), pp. 4581-4586.
Agha-mohammadi, Ali-akbar Texas A&M Univ.
Chakravorty, Suman Texas A&M Univ.
Amato, Nancy Texas A&M Univ.

Noise Induced Pattern Switching in Randomly Distributed Delayed Swarms (I), pp. 4587-4591.
Lindley, Brandon Naval Res. Lab.
Schwartz, Ira US Naval Res. Lab.

Fully Bayesian Simultaneous Localization and Spatial Prediction Using Gaussian Markov Random Fields (GMRFs) (I), pp. 4592-4597.
Jadalihya, Mahdi Michigan State Univ.
Choi, Jongeun Michigan State Univ.

Hahn, Bongsu Agency for Defense Development
Oldham, Ken Univ. of Michigan, Ann Arbor
17:20-17:40 TuC22.5

*Sampling-Based Algorithms for Continuous-Time POMDPs (I),* pp. 4604-4610.

Chaudhari, Pratik  
Karaman, Sertac  
Hsu, David  
Frazzoli, Emilio  
Massachusetts Inst. of Tech.  
Massachusetts Inst. of Tech.  
National Univ. of Singapore  
Massachusetts Inst. of Tech.

17:40-18:00 TuC22.6

*Distributed Path Integral Feedback Control Based on Kalman Smoothing for Unicycle Formations (I),* pp. 4611-4616.

Anderson, Ross  
Milutinovic, Dejan  
Univ. of California, Santa Cruz  
Univ. of California at Santa Cruz
### Technical Program for Wednesday June 19, 2013

#### WeP1

**Advanced Motion Control for High Tech Systems (Plenary Session)**

Chair: Pao, Lucy Y.  
Univ. of Colorado Boulder  
Co-Chair: Abramovitch, Daniel Y.  
Agilent Lab.

08:00-09:00  
**WeP1.1**  
*Advanced Motion Control for High Tech Systems*.  
N/A

Steinbuch, Maarten  
Eindhoven Univ. of Tech.

#### WeA01

**Room 2**

**WeA01**  
**Cooperative Control I (Regular Session)**

Chair: Ghose, Debasish  
Indian Inst. of Science  
Co-Chair: Fierro, Rafael  
Univ. of New Mexico

09:30-09:50  
**WeA01.1**  
**Distributed Linear Programming and Bargaining in Exchange Networks**, pp. 4617-4622.  
Richert, Dean  
Univ. of California, San Diego  
Cortes, Jorge  
Univ. of California, San Diego

09:50-10:10  
**WeA01.2**  
Panyakeow, Prachya  
Univ. of Washington  
Dai, Ran  
Iowa State Univ.  
Mesbahi, Mehran  
Univ. of Washington

10:10-10:30  
**WeA01.3**  
**Collective Behavior with Heterogeneous Controllers**, pp. 4629-4634.  
Jain, Anoop  
Indian Inst. of Science, Bangalore  
Ghose, Debasish  
Indian Inst. of Science

10:30-10:50  
**WeA01.4**  
**A Convergent Solution to the Multi-Vehicle Coverage Problem**, pp. 4635-4641.  
Tahirovic, Adnan  
Univ. of Sarajevo  
Astolfi, Alessandro  
Imperial Coll. & Univ. of Rome

10:50-11:10  
**WeA01.5**  
Narayananchar, Dhananjay  
Indian Inst. of Science, Bangalore, India  
Kuduvalli, Akhil  
Cogo Lab. Inc  
Ghose, Debasish  
Indian Inst. of Science

11:10-11:30  
**WeA01.6**  
**Decentralized Output Synchronization of Heterogeneous Linear Systems with Fixed and Switching Topology Via Self-Triggered Communication**, pp. 4648-4653.  
Tolic, Domagoj  
Univ. of Zagreb  
Fierro, Rafael  
Univ. of New Mexico

#### WeA02

**Room 3**

**WeA02**  
**Stochastic Systems I (Regular Session)**

Chair: Salapaka, Murli V.  
Univ. of Minnesota, Minneapolis  
Co-Chair: Xu, Hua  
Univ. of Tsukuba

09:30-09:50  
**WeA02.1**  
Mukaidani, Hiroaki  
Hiroshima Univ.  
Unno, Masaru  
NTT FINANCE Corp.  
Xu, Hua  
Univ. of Tsukuba  
Dragan, Vasile  
Romanian Acad.

09:50-10:10  
**WeA02.2**  
Mukaidani, Hiroaki  
Hiroshima Univ.  
Unno, Masaru  
NTT Finance Corp.  
Xu, Hua  
Univ. of Tsukuba  
Dragan, Vasile  
Romanian Acad.

10:10-10:30  
**WeA02.3**  
Ono, Masahiro  
Keio Univ.  
Kuwata, Yoshiaki  
Jet Propulsion Lab.  
Balaram, J  
Jet Propulsion Lab.

10:30-10:50  
**WeA02.4**  
Oldewurtel, Frauke  
ETH Zurich  
Sturzenegger, David  
ETH Zurich  
Mohajerin Esfahani, Peyman  
ETH Zurich  
Andersson, Goran  
Swiss Federal Inst. of Tech.  
Morari, Manfred  
ETH Zurich  
Lygeros, John  
ETH Zurich

10:50-11:10  
**WeA02.5**  
Elvira Ceja, Jose Santiago  
CINVESTAV-IPN, Campus Guadalajara  
Sanchez, Edgar N.  
CINVESTAV

11:10-11:30  
**WeA02.6**  
Materassi, Donatello  
Massachusetts Inst. of Tech.  
Salapaka, Murli V.  
Univ. of Minnesota, Minneapolis

#### WeA03

**Room 4**

**WeA03**  
**Application of Estimation Methods (Regular Session)**

Chair: Saif, Mehrdad  
Univ. of Windsor  
Co-Chair: Khorasani, Khashayar  
Concordia Univ.

09:30-09:50  
**WeA03.1**  
**Online State and Parameter Estimation of the Li-Ion Battery in a Bayesian Framework**, pp. 4693-4698.  
Samadi, Mohammad Foad  
Simon Fraser Univ.  
Alavi, S.M. Mahdi  
Univ. of Windsor  
Saif, Mehrdad  
Univ. of Windsor
09:50-10:10 WeA03.2


Zhang, Wanlin McMaster Univ.
Gadsden, Andrew McMaster Univ.
Habibi, Saeid McMaster Univ.

10:10-10:30 WeA03.3


Fang, Huazhen Univ. of California, San Diego
de Callafon, Raymond A. Univ. of California, San Diego

10:30-10:50 WeA03.4


Mechhoud, Sarah Univ. de Grenoble1, Gipsa-Lab.
Witrant, Emmanuel Univ. Joseph Fourier
Dugard, Luc CNRS-Grenoble INP
Moreau, Didier CEA

10:50-11:10 WeA03.5

Multiple-Model Based Sensor Fault Diagnosis Using Hybrid Kalman Filter Approach for Nonlinear Gas Turbine Engines, pp. 4717-4723.

Pourbabaei, Bahareh Concordia Univ.
Meskin, Nader Qatar Univ.
Khorasani, Khashayar Concordia Univ.

11:10-11:30 WeA03.6


Leon Ojeda, Luis Ramon INRIA, Grenoble. Univ. de Grenoble
Kibangou, Alain Univ. Joseph Fourier-CNRS
Canudas de Wit, Carlos CNRS, GIPSA-Lab.

09:30-09:50 WeA04.1

A Control-Based Approach to Quantification of Rate-Dependent Elastic Modulus of Living Cell Using Atomic Force Microscope, pp. 4730-4735.

Ren, Juan Rutgers Univ.
Yu, Shiyang Rutgers, the State Univ. of New Jersey
Gao, Nan Rutgers, the State Univ. of New Jersey
Zou, Qingze Rutgers, the State Univ. of New Jersey

10:00-10:20 WeA04.2

Self-Excited Limit Cycles in an Integral-Controlled System with Backlash, pp. 4736-4741.

Esbrook, Alex Michigan State Univ.
Tan, Xiaobo Michigan State Univ.
Khali, Hassan K. Michigan State Univ.

10:30-10:50 WeA04.3

Double Skin Façades As Mass Dampers, pp. 4742-4746.

Fu, Tat S Univ. of New Hampshire

10:30-10:50 WeA04.4


Giordano, Giulia Univ. of Udine
Franco, Elisa Univ. of California at Riverside
Murray, Richard M. California Inst. of Tech.

11:00-11:20 WeA04.5


Liu, Sining Concordia Univ.
Su, Chun-Yi Concordia Univ.

11:30-11:50 WeA04.6

Room 8
Optimization II (Regular Session)

Chair: Spall, James C. Johns Hopkins Univ.
Co-Chair: Jovanovic, Mihailo Univ. of Minnesota

09:30-09:50 WeA05.1

A Distributed Adaptive Steplength Stochastic Approximation Method for Monotone Stochastic Nash Games, pp. 4765-4770.

Yousefian, Farzad Univ. of Illinois at Urbana-Champaign
Nedich, Angelia Univ. of Illinois, Urbana-Champaign
Shanbhag, Uday V. Univ. of Illinois, Urbana-Champaign

09:50-10:10 WeA05.2


Wang, Qi The Johns Hopkins Univ.
Spall, James C. Johns Hopkins Univ.

10:10-10:30 WeA05.3


Fardad, Makan Syracuse Univ.
Lin, Fu Univ. of Minnesota
Zhang, Xi Syracuse Univ.
Jovanovic, Mihailo Univ. of Minnesota

10:30-10:50 WeA05.4

A Numerical Gradient Based Technique and Directed Neighborhood Structure for Constrained Particle Swarm Optimization, pp. 4783-4788.

Liu, Zhenyi Texas Tech. Univ.
Hui, Qing Texas Tech. Univ.

10:50-11:10 WeA05.5

Epoch Gradient Descent for Smoothed Hinge-Loss Linear SVMs, pp. 4789-4794.

Lee, Soomin Univ. of Illinois at Urbana-Champaign
Nedich, Angelia Univ. of Illinois, Urbana-Champaign
Raghunathan, Arvind Mitsubishi Electric Res. Lab.

Spacecraft Control (Regular Session) Room 8
Chair: Holzinger, Marcus Georgia Inst. of Tech.
Co-Chair: Butcher, Eric Univ. of Alaska, Fairbanks

Weiss, Avishai Univ. of Michigan
Baldwin, Morgan Air Force Res. Lab.
Peterson, Christopher Univ. of Michigan
Kolmanovsky, Ilya V. The Univ. of Michigan

Simultaneous Position and Attitude Control without Linear and Angular Velocity Feedback Using Dual Quaternions, pp. 4808-4813.
Filipe, Nuno Georgia Inst. of Tech.
Tsiotras, Panagiotis Georgia Inst. of Tech.

Decentralized Mean Orbit Element Formation Stability for Uncoordinated Maneuvers, pp. 4814-4819.
Holzinger, Marcus Georgia Inst. of Tech.
McMahon, Jay Univ. of Colorado

Spacecraft Relative Attitude Formation Tracking on SO(3) Based on Line-Of-Sight Measurements, pp. 4820-4825.
Wu, Tse-Huai George Washington Univ.
Flewelling, Brien Air Force Res. Lab.
Leve, Frederick Air Force Res. Lab.
Lee, Taeyoung George Washington Univ.

Decentralized Guidance and Control for Spacecraft Formation Flying Using Virtual Target Configuration, pp. 4826-4831.
Lee, Daero New Mexico State Univ. Dept of Mechanical and Aerospa
Viswanathan, Sasi Prabhakaran New Mexico State Univ.
Holguin, Lee New Mexico State Univ.
Sanyal, Amit New Mexico State Univ.
Butcher, Eric New Mexico State Univ.

Adaptive Spacecraft Attitude Control with Reaction Wheel Actuation, pp. 4832-4837.
Cruz, Gerardo Univ. of Michigan
Bernstein, Dennis S. Univ. of Michigan
09:50-10:10  WeA08.2  
Wang, Yue  
Clemson Univ.  
Gupta, Vijay  
Univ. of Notre Dame  
Antsaklis, Panos J.  
Univ. of Notre Dame

10:10-10:30  WeA08.3  
Zhang, Yingqi  
Henan Univ. of Tech.  
Shi, Peng  
Univ. of Glamorgan  
Nguyen, Sing Kiong  
The Univ. of Auckland  
Karimi, Hamid Reza  
Univ. of Agder

10:30-10:50  WeA08.4  
**Hinf Gearshift Control of a Dual Clutch Based on Uncertain TS Models**, pp. 4891-4896.  
Tran, Van-Nhu  
Univ. of Valenciennes and Hainaut Cambresis  
Lauber, Jimmy  
Univ. of Valenciennes and Hainaut Cambresis  
Dambrine, Michel  
Univ. de Valenciennes et du Hainaut-Cambresis

10:50-11:10  WeA08.5  
He, Qingnan  
Jiangnan Univ.  
Shen, Yanxia  
Jiangnan Univ.  
Ji, Lingyan  
Jiangnan Univ.  
Ji, Zhicheng  
Jiangnan Univ.

11:10-11:30  WeA08.6  
Li, Wenling  
Beihang Univ.  
Jia, Yingmin  
Beihang Univ.  
Du, Junping  
Beijing Univ. of Posts and Telecommunications  
Zhang, Jun  
Beihang Univ. (BUAA)  
Meng, Deyuan  
Beihang Univ. (BUAA)

**WeA09**  Room 13  
**Direct Adaptive Control (Regular Session)**  
Chair: Mizumoto, Ikuro  
Kumamoto Univ.  
Co-Chair: Nunes, Eduardo  
COPPE - Federal Univ. of Rio de Janeiro  
Vieira Leao  
Univ. of Rio de Janeiro

09:30-09:50  WeA09.1  
Mizumoto, Ikuro  
Kumamoto Univ.  
Takagi, Taro  
Kumamoto Univ.  
Yamanaka, Keshi  
Kumamoto Univ.

09:50-10:10  WeA09.2  
Yan, Jin  
The Univ. of Michigan  
Bernstein, Dennis S.  
Univ. of Michigan

10:10-10:30  WeA09.3  
**Hierarchical Decomposition Based Distributed Adaptive Control for Output Consensus Tracking of Uncertain Nonlinear Systems**, pp. 4921-4926.  
Wang, Wei  
Tsinghua Univ.  
Wen, Changyun  
Nanyang Tech. Univ.  
Li, Zhengguo  
Institute fro nfcmm Res.  
Huang, Jiangshuai  
Nanyang Tech. Univ.

10:30-10:50  WeA09.4  
**Aliasing Effects in Direct Digital Adaptive Control of Plants with High-Frequency Dynamics and Disturbances**, pp. 4927-4932.  
Sumer, Dogan  
Univ. of Michigan - Ann Arbor  
Bernstein, Dennis S.  
Univ. of Michigan

10:50-11:10  WeA09.5  
**Direct Adaptive Multiple-Model Control Schemes**, pp. 4933-4938.  
Tan, Chang  
Nanjing Univ. of Aeronautics and Astronautics  
Tao, Gang  
Univ. of Virginia  
Qi, Ruiyun  
Nanjing Univ. of Aeronautics and Astronautics

11:10-11:30  WeA09.6  
Hsu, Liu  
COPPE/UFJ  
Battistel, Andrei  
Federal Univ. of Rio de Janeiro  
Nunes, Eduardo V.L.  
COPPE - Federal Univ. of Rio de Janeiro

**WeA10**  Room 14  
**Mechanical Systems/Robotics I** (Regular Session)  
Chair: Sawodny, Oliver  
Univ. of Stuttgart  
Co-Chair: Yu, Wen  
CINVESTAV-IPN

09:30-09:50  WeA10.1  
**A Variable Curvature Modeling Approach for Kinematic Control of Continuum Manipulators**, pp. 4945-4950.  
Mahl, Tobias  
Univ. Stuttgart  
Mayer, Annika  
Univ. of Stuttgart  
Hildebrandt, Alexander  
Res. Mechatronic Systems  
Sawodny, Oliver  
Univ. of Stuttgart

09:50-10:10  WeA10.2  
**Trajectory Tracking in the Sagittal Plane: Decoupled Lift/Thrust Control Via Tunable Impedance Approach in Flapping-Wing MAVs**, pp. 4951-4956.  
Mahjoubi, Hosein  
Univ. of California at Santa Barbara  
Byl, Katie  
Univ. of California at Santa Barbara

10:10-10:30  WeA10.3  
**PID Motion Control Tuning Rules in a Damping Injection Framework**, pp. 4957-4962.  
Tadele, Tadele Shiferaw  
Univ. of Twente  
de Vries, T.J.A.  
Univ. of Twente  
Stramigioli, Stefano  
Univ. of Twente

10:30-10:50  WeA10.4  
**Neural PID Admittance Control of a Robot**, pp. 4963-4968.  
Yu, Wen  
CINVESTAV-IPN  
Carmona Rodriguez, Roberto  
CINVESTAV-IPN  
Li, Xiaoyu  
CINVESTAV-IPN
**WeA10.5**


Romero Velazquez, Jose Lab. des Signaux et Systèmes, Guadalupe CNRS-SUPELEC
Sarras, Ioannis Ortega, Romeo LSS-SUPELEC

**WeA10.6**

Tuning the S-Curve Motion Profile in Short Distance Case, pp. 4975-4980.

Ha, Chang-Wan Korea Advanced Inst. of Science and Tech. (KAIST)
Rew, Keun-Ho Hoseo Univ.
Kim, Kyung-Soo Soohyun KAIST (Korea Adv. Inst. of Sci. & Tech.)
Kim, Soohyun KAIST

**WeA11**

Optimal Control for Nonlinear Systems (Regular Session)

<table>
<thead>
<tr>
<th>Room 15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chair:</strong> Ceilikovsky, Sergej</td>
</tr>
<tr>
<td><strong>Co-Chair:</strong> Padhi, Radhakant</td>
</tr>
<tr>
<td><strong>WeA11.1</strong></td>
</tr>
<tr>
<td>Jimenez-Lizarraga, Manuel A.</td>
</tr>
<tr>
<td>Basin, Michael V.</td>
</tr>
<tr>
<td>Rodriguez-Celeste</td>
</tr>
<tr>
<td>Rodriguez-Ramirez, Pablo C.</td>
</tr>
<tr>
<td><strong>WeA11.2</strong></td>
</tr>
<tr>
<td>Optimal Control for a Polynomial System with a Quadratic Criterion Over Infinite Horizon, pp. 4987-4992.</td>
</tr>
<tr>
<td>Basin, Michael V.</td>
</tr>
<tr>
<td>Jimenez-Lizarraga, Manuel A.</td>
</tr>
<tr>
<td>Rodriguez-Ramirez, Pablo C.</td>
</tr>
<tr>
<td>Rodriguez-Celeste</td>
</tr>
<tr>
<td><strong>WeA11.3</strong></td>
</tr>
<tr>
<td>Poolka, Matej</td>
</tr>
<tr>
<td>Celikovsky, Sergej</td>
</tr>
<tr>
<td><strong>WeA11.4</strong></td>
</tr>
<tr>
<td>Maity, Arnab</td>
</tr>
<tr>
<td>Oza, Harshal</td>
</tr>
<tr>
<td>Padhi, Radhakant</td>
</tr>
<tr>
<td><strong>WeA11.5</strong></td>
</tr>
<tr>
<td>Optimal Trajectories for the Preview Control of Dual-Stage Actuators, pp. 5005-5010.</td>
</tr>
<tr>
<td>Salton, Aurelio Tergolina</td>
</tr>
<tr>
<td>Chen, Zhiyong</td>
</tr>
<tr>
<td>Zheng, Jinchuan</td>
</tr>
<tr>
<td>Fu, Minyue</td>
</tr>
</tbody>
</table>

**WeA12**

Emerging Control Applications (Regular Session)

<table>
<thead>
<tr>
<th>Room 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chair:</strong> Leva, Alberto</td>
</tr>
<tr>
<td>Co-Chair: Wisniewski, Rafal</td>
</tr>
<tr>
<td><strong>WeA12.1</strong></td>
</tr>
<tr>
<td>Leva, Alberto</td>
</tr>
<tr>
<td>Terraneo, Federico</td>
</tr>
<tr>
<td><strong>WeA12.2</strong></td>
</tr>
<tr>
<td>Control for Large Scale Demand Response of Thermostatic Loads, pp. 5023-5028.</td>
</tr>
<tr>
<td>Totu, Luminita C.</td>
</tr>
<tr>
<td>Leth, John</td>
</tr>
<tr>
<td>Wisniewski, Rafal</td>
</tr>
<tr>
<td><strong>WeA12.3</strong></td>
</tr>
<tr>
<td>Designing Closed-Loop Brain-Machine Interfaces Using Optimal Receding Horizon Control, pp. 5029-5034.</td>
</tr>
<tr>
<td>Kumar, Gautam</td>
</tr>
<tr>
<td>Schieber, Marc H.</td>
</tr>
<tr>
<td>Thakor, Nitish</td>
</tr>
<tr>
<td>Kothare, Mayuresh V.</td>
</tr>
<tr>
<td><strong>WeA12.4</strong></td>
</tr>
<tr>
<td>Optimal Selection of Primary Controlled Variables for an Acid Gas Removal Unit As Part of an IGCC Plant with CO2 Capture, pp. 5035-5040.</td>
</tr>
<tr>
<td>Jones, Dustin</td>
</tr>
<tr>
<td>Bhattacharya, Debangsu</td>
</tr>
<tr>
<td>Turton, Richard</td>
</tr>
<tr>
<td>Zitney, Stephen</td>
</tr>
<tr>
<td><strong>WeA12.5</strong></td>
</tr>
<tr>
<td>Hirata, Kenji</td>
</tr>
<tr>
<td>Koizumi, Keigo</td>
</tr>
<tr>
<td>Yoshitake, Masahiro</td>
</tr>
<tr>
<td><strong>WeA12.6</strong></td>
</tr>
<tr>
<td>Stochastic Optimal Control of Jump Diffusion Excited Energy Harvesters, pp. 5049-5055.</td>
</tr>
<tr>
<td>Kolmanovsky, Ilya V.</td>
</tr>
<tr>
<td>Maizenberg, Tatiana</td>
</tr>
</tbody>
</table>
### Power Systems III (Regular Session)

**Chair:** Wu, Neng Eva  
**Co-Chair:** Gharesifard, B.  
**Univ. of Illinois, Urbana-Champaign**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Location</th>
</tr>
</thead>
</table>
| WeA13.1 | Control Reconfigurability-Based Placement Strategy for FACTS Devices, pp. 5056-5061. | Qin, Qiu  
Wu, Neng Eva | Binghamton Univ. |
| WeA13.2 | A Real-Time Control Framework for Smart Power Networks with Star Topology, pp. | Zhang, Xuan  
Papachristodoulou, Antonis | Univ. of Oxford  
Univ. of Oxford |
| WeA13.3 | A New Scalable Solution to Optimal PMU Placement under a Long-Run Data Availability Criterion, pp. 5068-5073. | Huang, Jianzhuang  
Wu, Neng Eva | Binghamton Univ.  
Binghamton Univ. |
| WeA13.4 | Event-Based DVFS Control in GALS-AoC MPSoCs, pp. 5074-5079. | Durand, Sylvain  
Lesecq, Suzanne  
Beigné, Edith  
Puschini, Diego | CNRS, CINVESTAV  
CEA  
CEA  
CEA-Leti |
| WeA13.5 | A Method for Automatically Scheduling Notified Deferrable Loads, pp. 5080-5085. | O'Brien, Gearoid  
Rajagopal, Ram | Stanford  
Stanford Univ. |
| WeA13.6 | Price-Based Distributed Control for Networked Plug-In Electric Vehicles, pp. 5086-5091. | Gharesifard, Bahman  
Basar, Tamer  
Dominguez-Garcia, A. | Univ. of Illinois, Urbana-Champaign  
Univ. of Illinois  
Univ. of Illinois at Urbana-Champaign |

### Uncertain Systems II (Regular Session)

**Chair:** Chesi, Graziano  
**Co-Chair:** Yucelen, Tansel  
**Georgia Inst. of Tech.**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
<th>Location</th>
</tr>
</thead>
</table>
| WeA14.1 | Understanding Disturbance Attenuation Problems with Unknown Input Time-Delays: A Game-Theoretic Approach with Performance Risk Aversion, pp. 5092-5097. | Pham, Khanh D.  
Xu, Yunjun | AIR FORCE Res. Lab.  
Univ. of Central Florida |
| WeA14.2 | On the Mahler Measure of Matrix Pencils, pp. 5098-5103. | Chesi, Graziano | Univ. of Hong Kong |
| WeA14.3 | Random Matrix Based Approach to Quantify the Effect of Measurement Noise on Hankel Matrix, pp. 5104-5109. | Vishwaseet, Kumar  
Maji, Manoranjan  
Singla, Puneet | Univ. at Buffalo  
Univ. at Buffalo  
Univ. at Buffalo |
| WeA14.4 | Low-Frequency Learning and Fast Adaptation in Model Reference Adaptive Control for Safety-Critical Systems, pp. 5116-5121. | Yucelen, Tansel  
Haddad, Wassim M. | Georgia Inst. of Tech.  
Georgia Inst. of Tech. |
| WeA15.1 | Reconfigurable Fault Tolerant Flight Control Based on Nonlinear Model Predictive Control, pp. 5128-5133. | Kuofoalor, Dzordzoenyenye K.  
Johansen, Tor Arne | Norwegian Univ. of Science & Tech.  
Norwegian Univ. of Science & Tech. |
| WeA15.2 | Adaptive Fault-Tolerant Control with Control Allocation for Flight Systems with Severe Actuator Failures and Input Saturation, pp. 5134-5139. | Wang, Man  
Yang, Jianying  
Qin, Guozheng  
Yan, Yingxin | Peking Univ.  
Peking Univ.  
Peking Univ.  
Beijing Inst. of Nearspace Vehicle's System engineering |
| WeA15.3 | Proactive Fault-Tolerant Model Predictive Control: Concept and Application, pp. 5140-5145. | Lao, Liangfeng  
Ellis, Matthew  
Christofides, Panagiotis D. | Univ. of California, Los Angeles  
 Univ. of California, Los Angeles  
 Univ. of California at Los Angeles |
| WeA15.4 | A Fault-Tolerant Steering Control Design for Automatic Path Tracking in Autonomous Vehicles, pp. 5146-5151. | Fekih, Afef  
Devariste, Darlene | Univ. of Louisiana at Lafayette  
Univ. of Louisiana at Lafayette |
Extended Hybrid Technique for Control Redesign with Stabilization and Correction, pp. 5152-5158.
Ciubotaru, Bogdan D. Pol. Univ. of Bucharest
Staroswiecki, Marcel Univ. des Sciences et Tech. de Lille
Christov, Nicolai Univ. Lille 1 Sciences et Tech.

Multivariable Controller Design with Integrity, pp. 5159-5164.
Kallakuri, Sirisha Tennessee State Univ.
Keel, L. H. Tennessee State Univ.
Bhattacharyya, Shankar P. Texas A & M Univ.

Formation Learning Algorithms for Mobile Agents Subject to 2-D Dynamically Changing Topologies, pp. 5165-5170.
Meng, Deyuan Beihang Univ. (BUAA)
Jia, Yingmin Beihang Univ.
Du, Junping Beijing Univ. of Posts and Telecommunications
Zhang, Jun Beihang Univ. (BUAA)
Li, Wenling Beihang Univ.

Pareto Optimization-Based Iterative Learning Control, pp. 5171-5176.
Lim, Ingyu Univ. of Michigan, Ann Arbor
Barton, Kira Univ. of Michigan, Ann Arbor

A Position Based Iterative Learning Control Applied to Active Flow Control, pp. 5177-5182.
Cai, Zhonglun Univ. of Southampton
Chen, Peng Univ. of Southampton
Angland, David Univ. of Southampton
Zhang, Xin Univ. of Southampton

Control-Based High-Speed Direct Mask Fabrication for Lithography Via Mechanical Plowing, pp. 5183-5188.
Wang, Zhihua Rutgers, The State Univ. of New Jersey
Tan, Jun Rutgers, The State Univ. of New Jersey
Zou, Qingze Rutgers, The State Univ. of New Jersey
Jiang, Wei Rutgers, The State Univ. of New Jersey

Iterative Learning Control of Wind Turbine Smart Rotors with Pressure Sensors, pp. 5189-5194.
Blackwell, Mark William Univ. of Southampton
Tutty, Owen Univ. of Southampton
Rogers, Eric Univ. of Southampton
Sandberg, Richard David Univ. of Southampton

Iterative Learning Control for Vibration Reduction in Industrial Robots with Link Flexibility, pp. 5195-5200.
Tsai, Chi-Shen Univ. of California at Berkeley
Chen, Wenjie Univ. of California at Berkeley
Yun, Daekyu Hyundai Heavy Industries
Tomizuka, Masayoshi Univ. of California, Berkeley

Model-Order Reduction for Prediction of Pressure Wave Propagation Dynamics in the IC Engine Air Path System (I), pp. 5201-5206.
Stockar, Stephanie The Ohio State Univ.
Canova, Marcello The Ohio State Univ.
Guezennec, Yann Ohio State Univ.

Control Oriented Modeling of a Radial Turbine for a Turbocharged Gasoline Engine (I), pp. 5207-5212.
Salehi, Rasoul Sharif Univ. of Tech.
Shahbakhti, Mahdi Michigan Tech. Univ.
Alasty, Aria Sharif Univ. of Tech.
Vossoughi, Gholamreza Sharif Univ. of Tech.

System Analysis and Optimization of Variable Geometry Compressor for Turbocharged Diesel Engines (I), pp. 5213-5218.
Zhao, Dezong Loughborough Univ.
Liu, Cunjia Loughborough Univ.
Stobart, Richard Loughborough Univ.
Deng, Jiane Kingstone Univ. London
Winward, Edward Loughborough Univ.

Surge Index and Compressor Efficiency Estimation for Diesel Engines with Variable Geometry Compressor System (I), pp. 5225-5230.
Zhou, Junjiang OSU
Fiorentini, Lisa The Ohio State Univ.
Chiara, Fabio The Ohio State Univ.
Canova, Marcello The Ohio State Univ.
Nonlinear Observer Design for Turbocharger in a SI Engine (I), pp. 5231-5236.

Salehi, Rasoul Sharif Univ. of Tech.
Shahbakti, Mahdi Michigan Tech. Univ.
Alasty, Aria Sharif Univ. of Tech.
Vossoughi, Gholamreza Sharif Univ. of Tech.

Pathways Toward Smart, Flexible and Efficient Power Systems (Tutorial Session)
Chair: Gayme, Dennice The Johns Hopkins Univ.
Co-Chair: Topcu, Ufuk Univ. of Pennsylvania
Organizer: Gayme, Dennice The Johns Hopkins Univ.
Organizer: Topcu, Ufuk Univ. of Pennsylvania

Topcu, Ufuk Univ. of Pennsylvania
Gayme, Dennice The Johns Hopkins Univ.
Low, Steven California Inst. of Tech.
Khargonekar, Pramod P. Univ. of Florida

Convexifying Optimal Power Flow: Recent Advances in OPF Solution Methods (I)*, pp. 5245
Low, Steven California Inst. of Tech.
Gayme, Dennice The Johns Hopkins Univ.
Topcu, Ufuk Univ. of Pennsylvania

Management of Energy Resources for Grid Integration of Renewables (I)*. N/A
Gayme, Dennice The Johns Hopkins Univ.

Engaging Consumers to Increase Grid Flexibility (I)*. N/A
Topcu, Ufuk Univ. of Pennsylvania

Output Feedback (Regular Session)
Chair: Khalil, Hassan K. Michigan State Univ.
Co-Chair: Allgower, Frank Univ. of Stuttgart

Chen, Yun Hangzhou Dianzi Univ.
Xue, Anke Hangzhou Dianzi Univ.
Ge, Ming National Univ. of Singapore
Wang, JunHong Hangzhou Dianzi Univ.

Schmidt, Gerd Simon Univ. of Stuttgart
Ebenbauer, Christian Univ. of Stuttgart
Allgower, Frank Univ. of Stuttgart

Analytic Parameterization of Stabilizing Controllers for the Surge Subsystem of the Moore-Greitzer Compressor Model, pp. 5257-5262.
Rubanova, Alina Alexandrovna Lund Univ. LTH
Roberts, Anders LTH, Lund Univ.
Shiriaev, Anton NTNU/Umea Univ.
Freidovich, Leonid Umea Univ.
Johannson, Rolf Lund Univ.

Cho, Dongsoo Seoul National Univ.
Kim, H. Jin Seoul National Univ.

Boker, Al-Muatazbeilah M Michigan State Univ.
Khalil, Hassan K. Michigan State Univ.

A New Stabilizer for LTV Internal Model Based System and Its Application to Camless Engine Valve Actuation, pp. 5276-5281.
Song, Xingyong General Motors Res. Center
Gillera, Pradeep Kumar Univ. of Minnesota, Twin Cities
Sun, Zongxuan Univ. of Minnesota

Semiconductor Capiral Equipment Design (I), pp. 5282-5285
Ummethala, Upendra KLA-Tencor Corp.
Subrahmanyan, Pradeep KLA-Tencor Corp.
Hench, John KLA-Tencor Corp.
van Lievenoogen, Anne Philips Innovation Services

Precision Motion Control in Semiconductor Processing Equipment (I)*. N/A
Subrahmanyan, Pradeep KLA-Tencor Corp.

Challenges in the Application of Hybrid Reluctance Actuators in Scanning Positioning Stages in Vacuum with Nanometer Accuracy and Mgauss Magnetic Stray Field (I)*. pp. 5286-5289
van Lievenoogen, Anne Philips Innovation Services

Shape Recovery for Rotating Surfaces: A Tutorial (I)*. pp. 5290-5292
Hench, John KLA-Tencor Corp.
Embedded Systems (Regular Session)

Chair: Liu, Steven  
Univ. of Kaiserslautern

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


Schultz, Jarvis  
Northwestern Univ.

Murphey, Todd  
Northwestern Univ.

Event-Based Control and Scheduling Codesign of Networked Embedded Control Systems, pp. 5299-5304.

Al-Areqi, Sanad  
Univ. of Kaiserslautern

Görges, Daniel  
Univ. of Kaiserslautern

Reimann, Sven  
Univ. of Kaiserslautern

Liu, Steven  
Univ. of Kaiserslautern


Chasparis, Georgios C.  
Lund Univ.

Maggio, Martina  
Lund Univ.

Arzen, Karl-Erik  
Lund Inst. of Tech.

Bini, Enrico  
Lund Univ.


Lutz, Collin C.  
Virginia Tech.

Stilwell, Daniel J.  
Virginia Tech.


Reimann, Sven  
Univ. of Kaiserslautern

Al-Areqi, Sanad  
Univ. of Kaiserslautern

Liu, Steven  
Univ. of Kaiserslautern

Control and Analysis of Energy Generation and Storage Systems (Invited Session)

Chair: Soroush, Masoud  
Drexel Univ.

Co-Chair: Chmielewski, Donald J.  
Illinois Inst. of Tech.

Organizer: Soroush, Masoud  
Drexel Univ.

Organizer: Chmielewski, Donald J.  
Illinois Inst. of Tech.

Organizer: McKahn, Denise  
Smith Coll.

Constraint Management in Li-Ion Batteries: A Modified Reference Governor Approach (I), pp. 5332-5337.

Moura, Scott  
Univ. of California, San Diego

Chaturvedi, Nalin A.  
Robert Bosch LLC

Krstic, Miroslav  
Univ. of California, San Diego

Cooperative Control II (Regular Session)

Chair: Jia, Yingmin  
Beihang Univ.

Co-Chair: Zhang, Youmin  
Concordia Univ.

Evasion As a Team against a Faster Pursuer, pp. 5368-5373.

Liu, Shih-Yuan  
Univ. of California, Berkeley

Zhou, Zhengyuan  
UC Berkeley

Tomlin, Claire J.  
UC Berkeley

Hedrick, Karl  
Univ. of California at Berkeley

Cooperative Control of Linear Systems with Choice Actions, pp. 5374-5379.

Liu, Zhongchang  
The Chinese Univ. of Hong Kong

Wong, Wing Shing  
Chinese Univ. of Hong Kong

Guo, Ge  
Dalian Univ. of Tech.

Finite-Time Consensus Control for Multiple Manipulators with Unmodeled Dynamics, pp. 5380-5385.

Zhang, Bin  
Beihang Univ.

Jia, Yingmin  
Beihang Univ.

Du, Junping  
Beijing Univ. of Posts and Telecommunications

Zhang, Jun  
Beihang Univ. (BUAA)
Cooperative Target Tracking in Balanced Circular Formation: Multiple UAVs Tracking a Ground Vehicle, pp. 5386-5391.
Ma, Lili Wentworth Inst. of Tech.
Hovakimyan, Naira Univ. of Illinois, Urbana-Champaign

Collision-Free Trajectory Tracking While Preserving Connectivity in Unicycle Multi-Agent Systems, pp. 5392-5397.
Atinc, Gokhan M. Univ. of Illinois at Urbana Champaign
Slipanovic, Dusan M. Univ. of Illinois, Urbana-Champaign
Voulgaris, Petros G. Univ. of Illinois, Urbana-Champaign
Karkoub, Mansour Texas A&M Univ.

Distributed Coordination of a Network of Nonidentical Agents with Limited Communication Capabilities in the Presence of Fixed Obstacles, pp. 5398-5403.
Mahboubi, Hamid Concordia Univ.
Sharifi, Farid Concordia Univ.
Aghdam, Amir G. Concordia Univ.
Zhang, Youmin Concordia Univ.

Exponential Disturbance Rejection with Decay Rate for Stochastic Systems, pp. 5404-5408.
Barbata, Asma Univ. de Lorraine
Zasadzinski, Michel CRAN
Souley Ali, Harouna CRAN UMR 7039 CNRS
Messoud, Hassani Ec. Nationale d'Ingénieurs de Monastir

Fault Diagnosis and Fault Tolerant Control for the Non-Gaussian Time-Delayed Stochastic Distribution Control System, pp. 5409-5414.
Yao, Lina Zhengzhou Univ.

Reaching Consensus in the Sense of Probability, pp. 5415-5420.
Cao, Yongcan Air Force Res. Lab.
Casbeer, David W. Air Force Res. Lab.
Schumacher, Corey Air Force Res. Lab.

Marcondes de Freitas, Michael Rutgers Univ.
Sontag, Eduardo D. Rutgers Univ.

Mateos, David UC San Diego
Cortes, Jorge Univ. of California, San Diego

Recursive Nonlinear Filtering for Angular Data Based on Circular Distributions, pp. 5433-5438.
Vu, Ky AuLac Tech. Inc.

A Two-Stage Least Squares Based Iterative Parameter Estimation Algorithm for Feedback Nonlinear Systems Based on the Model Decomposition, pp. 5446-5450.
Hu, Peipei Jiangnan Univ.
Mori, Junichi McMaster University

Laleg Kirati, Taous Meriem King Abdullah Univ. of Science and Tech. (KAUST)
Arabi Hakim, Arabi ISAE Inst. supérieur de l'aeronautique et de l'espace
Tadjine, Mohamed Ec. Nationale Pol.

Normalized Unscented Kalman Filter and Normalized Unscented RTS Smoother for Nonlinear State-Space Model Identification, pp. 5462-5467.
Murata, Masaya NTT Corp.
Kashino, Kunio NTT Communication Science Lab.

Huang, Guoquan MIT
Roumeliotis, Stergios Univ. of Minnesota
WeB04
Atomic Force Microscopy (Regular Session)

Chair: Zou, Qingze
Co-Chair: Herrmann, Guido

13:30-13:50 WeB04.1
Das, Sajal
Pota, Hemanshu R.
Petersen, Ian R.

13:50-14:10 WeB04.2
B-Spline-Decomposition-Based Approach to Multi-Axis Trajectory Tracking: Nanomanipulation Example, pp. 5-5.
Wang, Haiming
Zou, Qingze
Xu, Hongbing

14:10-14:30 WeB04.3
Design and Control of Phase-Detection Mode Atomic Force Microscopy for Cells Precision Contour Reconstruction under Different Environments, pp. 5489-5493.
Wu, Jim-Wei
Chen, Jyun-Jhih
Huang, Kuan-Chia
Chen, Chih Lieh
Lin, Yi-Ting
Chen, Mei-Yung
Fu, Li-Chen

14:30-14:50 WeB04.4
Nguyen, Thang
Khan, Said Ghani
Edwards, Christopher
Herrmann, Guido
Picco, Loren
Harniman, Robert
Burgess, Stuart C.
Antogni, Massimo
Miles, Mervyn J.

14:50-15:10 WeB04.5
Ghosal, Sayan
Saraswat, Govind
Ramamoorthy, Aditya
Salapaka, Murti V.

15:10-15:30 WeB04.6
Saraswat, Govind
Agarwal, Pranav
Salapaka, Murti V.

WeB05
Reduced-Order Modeling (Regular Session)

Chair: Weiland, Siep
Co-Chair: Lin, Xinfan

13:30-13:50 WeB05.1
Panzer, Heiko K. F.
Jaensch, Stefan
Wolf, Thomas
Lohmann, Boris

13:50-14:10 WeB05.2
Families of Reduced Order Models That Achieve Nonlinear Moment Matching, pp. 5518-5523.
Ionescu, Tudor C.
Astolfi, Alessandro

14:10-14:30 WeB05.3
Structured Model Reduction of Interconnected Linear Systems Based on Singular Perturbation, pp. 5524-5529.
Ishizaki, Takayuki
Sandberg, Henrik
Johansson, Karl H.
Kashima, Kenji
Imura, Jun-ichi
Aihara, Kazuyuki

14:30-14:50 WeB05.4
Shaker, Hamidreza
Shaker, Fatemeh

14:50-15:10 WeB05.5
Model Development for Real Time Optimal Control in Pipe Lines, pp. 5536-5541.
Wang, Boyun
Warnock, April
Stefanopoulou, Anna G.
Nikolaos, Katopodes

15:10-15:30 WeB05.6
Reduced-Order Modeling of Thermally Induced Deformations on Reticles for Extreme Ultraviolet Lithography, pp. 5542-5549.
Bikcora, Can
Weiland, Siep
Coene, Wim M. J.

WeB06
Flight Control (Regular Session)

Chair: Kolmanovsky, Ilya V.
Co-Chair: Kim, H. Jin

13:30-13:50 WeB06.1
Baldwin, Morgan
Kolmanovsky, Ilya V.
### WeB08.6
Ichalal, Dalil  
Dabладjı, Habib  
Ariou, Hichem  
Mammar, Said  
Nehaoua, Lamri  
Univ. d’Evry Val d’Essonne, IBISC Lab.  
Lab. Evry Val d’Essonne Univ.  
Evry Val d’Essonne Univ.  
Univ. d’Evry IBISC  
Evry Univ.

### WeB09
**Supervisory Control and Emerging Control Theory**  
(Regular Session)
Chair: Valasek, John  
Co-Chair: Zhang, Fumin  
Texas A&M Univ.  
Georgia Inst. of Tech.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
Rasmussen, Henrik  
Stoustrup, Jakob  
Aalborg Univ.  
Aalborg Univ.  
Aalborg Univ. |
| 13:50-14:10 | WeB09.2 | 13 | Supervision Localization of Timed Discrete-Event Systems, pp. 5666-5671. | Cai, Kai  
Zhang, Renyuan  
Wonham, W. Murray  
Univ. of Toronto  
Xian Jiaotong Univ. China  
Univ. of Toronto |
| 14:10-14:30 | WeB09.3 | 13 | Adaptive Event-Triggered Control of a Uncertain Linear Discrete Time System Using Measured Input and Output Data, pp. 5672-5677. | Sahoo, Avimanyu  
Xu, Hao  
Jayannathan, Sarangapani  
Missouri Univ. of Science and Tech.  
Missouri Univ. of Science and Tech.  
Missouri Univ. of Science & Tech. |
| 14:30-14:50 | WeB09.4 | 13 | A Parity-Based Architecture for Decentralized Discrete-Event Control, pp. 5678-5684. | Ricker, S. Laurie  
Marchand, Herve  
Mount Allison Univ.  
INRIA Rennes - Bretagne Atlantique |
| 14:50-15:10 | WeB09.5 | 13 | A Constructive Stabilization Approach for Open-Loop Unstable Non-Affine Systems, pp. 5685-5689. | Narang-Siddarth, Anshu  
Valasek, John  
Texas A&M Univ.  
Texas A&M Univ. |
| 15:10-15:30 | WeB09.6 | 13 | Robustness of a Class of Three-Dimensional Curve Tracking Control Laws under Time Delays and Polygonal State Constraints, pp. 5690-5695. | Malisoff, Michael  
Zhang, Fumin  
Louisiana State Univ.  
Georgia Inst. of Tech. |

### WeB10
**Mechanical Systems/Robotics II**  
(Regular Session)
Chair: Loria, Antonio  
Co-Chair: Salamci, Metin U.  
CNRS  
Gazi Univ.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
Garcia, Cecilia  
Aracil, Rafael  
Saltaren, Roque  
Pontificia Univ. Catolica del Peru  
Univ. Pol. de Madrid  
Univ. Pol. de Madrid  
Univ. Pol. de Madrid |
| 14:10-14:30 | WeB10.2 | 14 | Biomimetic Virtual Constraint Control of a Transfemoral Powered Prosthetic Leg, pp. 5702-5708. | Gregg, Robert D.  
Sensinger, Jonathon  
Univ. of Texas at Dallas  
Rehabilitation Inst. of Chicago |
| 14:30-14:50 | WeB10.3 | 14 | Globally Converging MIMO Optimal Controller for Adaptive Manipulation of Mobile Robots with Redundant Arms, pp. 5709-5714. | Moubarak, Paul  
Ben-Tzvi, Pinhas  
The George Washington Univ.  
George Washington Univ. |
| 14:50-15:10 | WeB10.4 | 14 | Orbital Stabilization of Mechanical Systems through Semidefinite Lyapunov Functions, pp. 5715-5721. | Garofalo, Gianluca  
Ott, Christian  
Albu-Schaeffer, Alin  
German Aerospace Center (DLR)  
German Aerospace Center (DLR)  
German Aerospace Center (DLR) |
| 15:10-15:30 | WeB10.5 | 14 | Uniform Global Position Feedback Tracking Control of Mechanical Systems, pp. 5722-5727. | Loria, Antonio  
CNRS |
Parra-Vega, Vicente  
Sanchez, Anand  
Rosales, Sergio  
Garcia, Octavio  
Ruiz-Sanchez, Francisco  
CINVESTAV  
CINVESTAV  
CINVESTAV  
Cinestav  
CINVESTAV Monterrey  
Cinestav |

### WeB11
**Sliding Mode Control I**  
(Regular Session)
Chair: Toda, Masayoshi  
Co-Chair: Salamci, Metin U.  
Tokyo Univ. of Marine Science and Tech.  
Gazi Univ.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Room</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 13:30-13:50 | WeB11.1 | 15 | Hidden Mode Tracking Control for a Class of Hybrid Systems, pp. 5735-5741. | Yong, Sze Zheng  
Frazzoli, Emilio  
Massachusetts Inst. of Tech.  
Massachusetts Inst. of Tech. |
**WeB11.2**

**Motion Control of an Oscillatory-Base Manipulator Using Sliding Mode Control Via Rotating Sliding Surface with Variable-Gain Integral Control,** pp. 5742-5747.

Iwamura, Takuya  
Toda, Masayoshi  
Tokyo Univ. of Marine Science and Tech.

**WeB11.3**

**State Dependent Sliding Sectors for Nonlinear Systems with Nonlinear Sliding Surfaces,** pp. 5754-5759.

Ozcan, Sinan  
Salamci, Metin U.  
Birinci, Burak Eren  
Turkish Aerospace Industries, Kazan, Ankara  
Gazi Univ.  
Mechanical Engineering Dept., Gazi Univ. Ankara

**WeB11.4**

**Achievable Performance of Decentralized Control Systems,** pp. 5797-5802.

Liu, Su  
Liu, Jinfeng  
Feng, Yiping  
Rong, Gang  
Zhejiang Univ.  
Univ. of Alberta  
Zhejiang Univ.  
Zhejiang Univ.

**WeB11.5**

**A Dual Problem in H2 Decentralized Control Subject to Delays,** pp. 5772-5777.

Matni, Nikolai  
Doyle, John C.  
California Inst. of Tech.  
California Inst. of Tech.

**WeB11.6**

**The Price of Synchrony: Resistive Losses Due to Phase Synchronization in Power Networks,** pp. 5815-5820.

Bamieh, Bassam  
Gayme, Dennice  
Univ. of California at Santa Barbara  
The Johns Hopkins Univ.

**WeB12.1**

**A Dual Problem in H2 Decentralized Control Subject to Delays,** pp. 5772-5777.

Matni, Nikolai  
Doyle, John C.  
California Inst. of Tech.  
California Inst. of Tech.

**WeB12.2**


Lamperski, Andrew  
Doyle, John C.  
Univ. of Cambridge  
California Inst. of Tech.

**WeB12.3**

**On Structured Realizability and Stabilizability of Linear Systems,** pp. 5784-5790.

Lessard, Laurent  
Kristalny, Maxim  
Rantzer, Anders  
Univ. of California, Berkeley  
Tech.  
Lund Univ.

**WeB12.4**

**Output Synchronization for Heterogeneous Networks of Non-Introspective, Non-Right-Invertible Agents,** pp. 5791-5796.

Grip, Håvard Fjær  
Saber, Ali  
Yang, Tao  
Stoorvogel, Anton A.  
Norwegian Univ. of Science and Tech.  
Washington State Univ.  
Royal Inst. of Tech.  
Univ. of Twente

**WeB12.5**

**Achievable Performance of Decentralized Control Systems,** pp. 5797-5802.

Liu, Su  
Liu, Jinfeng  
Feng, Yiping  
Rong, Gang  
Zhejiang Univ.  
Univ. of Alberta  
Zhejiang Univ.  
Zhejiang Univ.

**WeB12.6**

**A Heuristic for Sub-Optimal H2 Decentralized Control Subject to Delay in Non-Quadratically-Invariant Systems,** pp. 5803-5808.

Matni, Nikolai  
Doyle, John C.  
California Inst. of Tech.  
California Inst. of Tech.

Adeodu, Oluwasanmi
Illinois Inst. of Tech.

Chmielewski, Donald J.
Illinois Inst. of Tech.

Wireless Sensor Networks (Regular Session)

Chair: Aghdam, Amir G.
Concordia Univ.

Co-Chair: Shtessel, Yuri B.
Univ. of Alabama at Huntsville

13:30-13:50 WeB15.1
On Connectivity Preservation in Mobile Wireless Multi-Agent/Node Mesh Networks, pp. 5881-5886.

Edwards, Christopher
Univ. of Exeter

Menon, Prathyush P
Univ. of Exeter

Shtessel, Yuri B.
Univ. of Alabama at Huntsville

Bordetsky, Alexander
Naval Postgraduate School

13:50-14:10 WeB15.2
Distributed Deployment Strategies to Increase Coverage in a Network of Wireless Mobile Sensors, pp. 5887-5892.

Mahboubi, Hamid
Concordia Univ.

Aghdam, Amir G.
Concordia Univ.

14:10-14:30 WeB15.3
Design, Build, and Test of an Autonomous Inverted Pendulum Cart, pp. 5893-5898.

White, Warren N.
Kansas State Univ.

Wagner, Jacob
Kansas State Univ.

Blankenau, Brian
Kansas State Univ.

Wang, Ziming
Kansas State Univ.

Salazar, Victor
Kansas State Univ.

14:30-14:50 WeB15.4

Bezzo, Nicola
Univ. of Pennsylvania

Sorrentino, Francesco
Univ. of New Mexico

Fierro, Rafael
Univ. of New Mexico

14:50-15:10 WeB15.5

Wu, Dalei
Massachusetts Inst. of Tech.

Youcef-Toumi, Kamal
Massachusetts Inst. of Tech.

Mekid, Samir
King Fahd Univ. of Petroleum & Minerals

Ben-Mansour, Rached
King Fahd Univ. of Petroleum & Minerals

15:10-15:30 WeB15.6
Wireless Sensor Network Data Collection by Connected Cooperative UAVs, pp. 5911-5916.

Wei, Peng
Purdue Univ.

Gu,quanquan
Univ. of Illinois at Urbana-Champaign

Sun, Dengfeng
Purdue Univ.
**WeB16 (Renaissance Ballroom West A)**

**Emerging Applications of Iterative Learning Control (Invited Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30-13:50</td>
<td>WeB16.1</td>
<td>Systematic Surveillance for UAVs: A Feedforward Iterative Learning Control Approach (I), pp. 5917-5922.</td>
<td>Barton, Kira; Kingston, Derek B.</td>
</tr>
<tr>
<td>13:50-14:10</td>
<td>WeB16.2</td>
<td>Point-To-Point Learning in Human Motor Systems (I), pp. 5923-5928.</td>
<td>Zhou, Shou-Han; Tan, Ying; Oetomo, Denny Nurjanto; Freeman, Christopher T.; Burdet, Eileen; Mareels, Iven</td>
</tr>
<tr>
<td>14:10-14:30</td>
<td>WeB16.3</td>
<td>Iterative Learning Control for Fault-Tolerance in Multi-Phase Permanent-Magnet Machines (I), pp. 5929-5934.</td>
<td>Mohammadpour, Ali; Mishra, Sandipan; Parsa, Leila</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>WeB16.4</td>
<td>Norm Optimal Iterative Learning Control for a Roll to Roll Nano/Micro-Manufacturing System (I), pp. 5935-5941.</td>
<td>Sutanto, Erick; Alleyne, Andrew G.</td>
</tr>
<tr>
<td>14:50-15:10</td>
<td>WeB16.5</td>
<td>Iterative Learning Control of Bead Morphology in Laser Metal Deposition Processes (I), pp. 5942-5947.</td>
<td>Sammons, Patrick; Bristow, Douglas A.; Landers, Robert G.</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>WeB16.6</td>
<td>An Efficient Fixed-Point Realization of Inversion Based Repetitive Control (I), pp. 5948-5953.</td>
<td>Chang, Herrick; Tsao, Tsu-Chin</td>
</tr>
</tbody>
</table>

**WeB17 (Renaissance Ballroom West B)**

**Energy Management and Control of Advanced Propulsion Systems (Invited Session)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30-13:50</td>
<td>WeB17.1</td>
<td>Fuel Economy Comparisons of Series, Parallel and HMT Hydraulic Hybrid Architectures (I), pp. 5954-5959.</td>
<td>Du, Zhekang; Cheong, Kai Loon; Li, Perry Y.; Chase, Thomas R.</td>
</tr>
<tr>
<td>13:50-14:10</td>
<td>WeB17.2</td>
<td>Experimental Validation of Mission Energy Prediction Model for Unmanned Ground Vehicles (I), pp. 5960-5966.</td>
<td>Sadrpour, Amir; Ulsoy, A. Galip; Jin, Judy</td>
</tr>
<tr>
<td>14:10-14:30</td>
<td>WeB17.3</td>
<td>Analysis of Energy Management Strategies in Plug-In Hybrid Electric Vehicles: Application to the GM Chevrolet Volt (I), pp. 5966-5971.</td>
<td>Tribioli, Laura; Onori, Simona</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>WeB17.4</td>
<td>Rapid Sizing for Power Split Hybrid Vehicles with Multiple Operation Modes (I), pp. 5972-5977.</td>
<td>Zhang, Xiaowu; Peng, Huei; Sun, Jing</td>
</tr>
<tr>
<td>14:50-15:10</td>
<td>WeB17.5</td>
<td>Trip-Based Energy Management for Electric Vehicles: An Optimal Control Approach, pp. 5978-5983.</td>
<td>Boehme, Thomas Juergen; Held, Florian; Schultalbers, Matthias; Lampe, Bernhard P.</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>WeB17.6</td>
<td>A Predictive Energy Management for Hybrid Vehicles Based on Optimal Control Theory, pp. 5984-5989.</td>
<td>Boehme, Thomas Juergen; Schori, Markus; Frank, Benjamin; Schultalbers, Matthias; Drewelow, Wolfgang</td>
</tr>
<tr>
<td>Time</td>
<td>Session Name</td>
<td>Location</td>
<td>Chair/Co-Chair/ Organizer</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------</td>
<td>-------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>13:30-14:30</td>
<td>WeB18.1 An Overview of Computational Challenges in Online Advertising (I)</td>
<td>Grand Ballroom South</td>
<td>Chatwin, Richard Adchemy, Inc.</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>WeB18.2 Applications of Feedback Control in Online Advertising (I)</td>
<td>Grand Ballroom South</td>
<td>Karlsson, Niklas Aol Networks, Zhang, Jianlong Aol Networks</td>
</tr>
<tr>
<td>14:50-15:10</td>
<td>WeB18.3 How Effective Is Targeted Advertising? (I)</td>
<td>Grand Ballroom South</td>
<td>Shanahan, James Church and Duncan Group Inc.</td>
</tr>
<tr>
<td>13:30-14:30</td>
<td>WeB19.1 Precision Charge Drive with Low Frequency Voltage Feedback for Linearization of Piezoelectric Hysteresis (I)</td>
<td>Grand Ballroom Central</td>
<td>Fleming, Andrew J. Univ. of Newcastle</td>
</tr>
<tr>
<td>13:50-14:10</td>
<td>WeB19.2 An Experimental Comparison of PI, Inversion, and Damping Control for High Performance Nanopositioning (I)</td>
<td>Grand Ballroom Central</td>
<td>Fleming, Andrew J. Leang, Kam K. Univ. of Nevada, Reno</td>
</tr>
<tr>
<td>14:10-14:30</td>
<td>WeB19.3 Feedback for Flexible Systems with Time-Varying Performance Locations (I)</td>
<td>Grand Ballroom Central</td>
<td>Ronde, Michael van den Bulk, John Molengraft, René van de Steinbuch, Maarten Eindhoven Univ. of Tech.</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>WeB19.4 Enhancing Performance through Multivariable Weighting Function Design in H-Infinity Loop-Shaping: With Application to a Motion System (I)</td>
<td>Grand Ballroom Central</td>
<td>Boeren, Frank van Herpen, Robbert Oomen, Tom van de Wal, Marc Bosgra, Okko H. Eindhoven Univ. of Tech.</td>
</tr>
<tr>
<td>14:50-15:10</td>
<td>WeB18.4 Control Strategies for Real-Time Bidding in Display Advertising (I)*</td>
<td>Grand Ballroom South</td>
<td>Zhang, Jianlong Aol Networks, Karlsson, Niklas Aol Networks</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>WeB18.5 How Effective Is Targeted Advertising? (I)*</td>
<td>Grand Ballroom South</td>
<td>Farahat, Ayman Adobe</td>
</tr>
<tr>
<td>15:50-16:10</td>
<td>WeB19.6 Experimental Verification of High Speed AFM through Local Raster Scanning} (I), pp. 6051-6056</td>
<td>Grand Ballroom North</td>
<td>Huang, Peng Boston Univ. Andersson, Sean Boston Univ.</td>
</tr>
<tr>
<td>14:30-14:50</td>
<td>WeB20.2 Algorithmic Tuning of Clock Networks, Igor Markov, IEEE Fellow, University of Michigan (I), N/A</td>
<td>Grand Ballroom North</td>
<td>Bustany, Ismail Mentor Graphics Corp.</td>
</tr>
<tr>
<td>15:10-15:30</td>
<td>WeB20.4 Lithography-Aware Place and Route Techniques, Martin Wong, IEEE Fellow, University of Illinois at Urbana-Champaign (I), N/A</td>
<td>Grand Ballroom North</td>
<td>Bustany, Ismail Mentor Graphics Corp.</td>
</tr>
<tr>
<td>13:30-14:30</td>
<td>WeB21.1 H-Infinity Dynamic Output Feedback for LPV Systems Subject to Inexactly Measured Scheduling Parameters, pp. 6060-6065</td>
<td>Congressional Hall A</td>
<td>Agulhari, Cristiano Marcos Univ. Tecnológica Federal do Paraná Tognetti, Eduardo Stockler Univ. of Brasilia Oliveira, Ricardo C. L. F. Univ. of Campinas - UNICAMP Peres, Pedro L. D. Univ. of Campinas</td>
</tr>
</tbody>
</table>
14:10-14:30 WeB21.3
Xue, Wenping Zhejiang Univ.
Mao, Wei-Jie Zhejiang Univ.

14:30-14:50 WeB21.4
Gain Scheduling Compensator Synthesis for Output Regulation of Nonlinear Systems, pp. 6078-6083.
Song, Xun Beihang Univ.
Ren, Zhang Beijing Univ. of Aeronautics and Astronautics
Wu, Fen North Carolina State Univ.

14:50-15:10 WeB21.5
Mean-Square Optimal Control of Linear Parameter Varying Systems with Noisy Scheduling Parameter Measurements, pp. 6084-6089.
Luspay, Tamás Univ. of Houston
Kulcsar, Balazs Chalmers Univ. of Tech.
Grigoriadis, Karolos M. Univ. of Houston

15:10-15:30 WeB21.6
Shu, Xinyu Clausthal Univ. of Tech.
Ballesteros, Pablo Clausthal Univ. of Tech.
Heins, Wiebke Clausthal Univ. of Tech.
Bohn, Christian Tech. Univ. Clausthal

14:50-15:10 WeB22.5
Observability and Controllability of Linearly-Coupled Dynamical Systems: Complex Interplay between Local Dynamics and Network Interactions, N.A.
Xue, Mengran Univ. of Michigan
Roy, Sandip Washington State Univ.

15:10-15:30 WeB22.6
Chapman, Airlie Univ. of Washington
Mesbahi, Mehran Univ. of Washington

WeC01
Cooperative Control III (Regular Session) Room 2
Chair: Jia, Yingmin Beihang Univ.
Co-Chair: Shamma, Jeff S. Georgia Inst. of Tech.
16:00-16:20 WeC01.1
Consensus Based Distributed Motion Planning on a Sphere, pp. 6132-6137.
Okoloko, Innocent Univ. of Benin

16:20-16:40 WeC01.2
Balanced Deployment of Multiple Robots Using a Modified Kuramoto Model, pp. 6138-6144.
Xu, Zhihao Univ. of Wuerzburg
Egerstedt, Magnus Georgia Inst. of Tech.
Droge, Greg Nathanael Georgia Inst. of Tech.
Schilling, Klaus Univ. Würzburg

16:40-17:00 WeC01.3
Robustness of Stochastic Stability in Game Theoretic Learning, pp. 6145-6150.
Lim, Yusun Georgia Inst. of Tech.
Shamma, Jeff S. Georgia Inst. of Tech.

17:00-17:20 WeC01.4
Distributed Consensus Filter on Directed Graphs with Switching Topologies, pp. 6151-6156.
Li, Shuai Stevens Inst. of Tech.
Guo, Yi Stevens Inst. of Tech.

17:20-17:40 WeC01.5
Set-Based Model Predictive Consensus under Bounded Additive Disturbances, pp. 6157-6162.
Gautam, Ajay Nanyang Tech. Univ.
Soh, Yeng Chai Nanyang Tech. Univ.
Chu, Yun-Chung Nanyang Tech. Univ.

17:40-18:00 WeC01.6
Generalization of Deviated Linear Cyclic Pursuit, pp. 6163-6168.
Mukherjee, Dwaipayan Indian Inst. of Science
Ghose, Debasish Indian Inst. of Science
WeC02
Estimation of Moving Targets (Regular Session)

Chair: Padhi, Radhakant
   Indian Inst. of Science
Co-Chair: Ohlmeyer, Ernest J.
   Aero Science Applications

16:00-16:20 WeC02.1
Moving Horizon Estimation with a Huber Penalty Function for
Robust Pose Estimation of Tethered Airplanes, pp. 6169-6174.
   Geebelen, Kurt
   KU Leuven
   Wagner, Andrew
   KU Leuven
   Gros, Sebastien
   KU Leuven
   Swevers, Jan
   K. U. Leuven
   Diehl, Moritz
   Katholieke Univ. Leuven

16:20-16:40 WeC02.2
State Estimation Using UKF and Predictive Guidance for
Engaging Barrel Roll Aircrafts, pp. 6175-6180.
   Dwivedi, Prasiddha Nath
   DRDO
   Bhale, Prashant Gajanan
   DRDO
   Bhattacharyaa, Abhijit
   DRDO
   Padhi, Radhakant
   Indian Inst. of Science

16:40-17:00 WeC02.3
Applications of the Particle Filter for Multi-Object Tracking
and Classification, pp. 6181-6186.
   Ohlmeyer, Ernest J.
   Aero Science Applications
   Menon, P. K.
   Optimal Synthesis Inc.

17:00-17:20 WeC02.4
H-infty Filtering with Diagonal Interacting Multiple Model
Algorithm for Maneuvering Target Tracking, pp. 6187-6192.
   Fu, Xiaoyan
   Beihang Univ. (BUAA)
   Jia, Yingmin
   Beihang Univ.
   Du, Junping
   Beijing Univ. of Posts and Telecommunications
   Zhang, Jun
   Beihang Univ. (BUAA)
   Li, Wenling
   Beihang Univ.
   Liu, Xiaohui
   Beijing Information Science and Tech. Univ.

17:20-17:40 WeC02.5
On the Estimation of Fast-Rate Systems Using Slow-Rate
   Tani, Jacono
   Rensselaer Pol. Inst.
   Mishra, Sandipan
   Rensselaer Pol. Inst.
   Wen, John T.
   Rensselaer Pol. Inst.

17:40-18:00 WeC02.6
LED-Based Initialization and Navigation, pp. 6199-6205.
   Zheng, Dongfang
   Univ. of California, Riverside
   Vanisthian, Rathavut
   Univ. of California, Riverside
   Chen, Gang
   Univ. of California at Riverside
   Farrell, Jay A.
   Univ. of California Riverside

WeC03
Hybrid Systems (Regular Session)

Chair: Murphey, Todd
   Northwestern Univ.
Co-Chair: Ishihara, Joao Yoshiyuki
   Univ. of Brasilia

16:00-16:20 WeC03.1
Robust Event-Based Stabilization of Periodic Orbits for
Hybrid Systems: Application to an Underactuated 3D Bipedal
Robot, pp. 6206-6212.
   Akbari Hamed, Kaveh
   The Univ. of Michigan
   Grizzle, Jessy W.
   Univ. of Michigan

16:20-16:40 WeC03.2
Second-Order Switching Time and Magnitude Optimization
for Impulsive Hybrid Systems, pp. 6213-6218.
   Leong, Yoke Peng
   California Inst. of Tech.
   Murphey, Todd
   Northwestern Univ.

16:40-17:00 WeC03.3
New Algorithm for Identification of Discrete-Time Switched
Linear Systems, pp. 6219-6224.
   Lopes, Renato Vilela
   Univ. of Brasilia
   Borges, Geovany A.
   Univ. de Brasilia
   Ishihara, Joao Yoshiyuki
   Univ. of Brasilia

17:00-17:20 WeC03.4
A Hybrid Observer for a Class of DC-DC Power Converters,
pp. 6225-6230.
   Mehnous, Ahmed-Redha
   INSA de LYON, Lab. Ampère
   Pham, Minh Tu
   INSA de Lyon
   Lin Shi, Xuefang
   INSA Lyon

17:20-17:40 WeC03.5
Optimal Control of Partially Observable Discrete Time Stochastic
   Ding, Jerry
   Univ. of California - Berkeley
   Abate, Alessandro
   TU Delft
   Tomlin, Claire J.
   UC Berkeley

17:40-18:00 WeC03.6
Computing Augmented Finite Transition Systems to
Synthesize Switching Protocols for Polynomial Switched
Systems, pp. 6237-6244.
   Ozay, Necmiye
   California Inst. of Tech.
   Liu, Jun
   Univ. of Sheffield
   Prabhakar, Pavithra
   Inst. IMDEA Software
   Murray, Richard M.
   California Inst. of Tech.

WeC04
Control of MEMS (Regular Session)

Chair: Berg, Jordan M.
   Texas Tech. Univ.
Co-Chair: Oldham, Kenn
   Univ. of Michigan, Ann Arbor

16:00-16:20 WeC04.1
Inversion-Free Stabilization and Regulation of Systems with
Hysteresis Using Integral Action, pp. 6245-6250.
   Esbrook, Alex
   Michigan State Univ.
   Tan, Xiaobo
   Michigan State Univ.
   Khalil, Hassan K.
   Michigan State Univ.
16:20-16:40  WeC04.2  
**Delay of Side Pull-In for an Electrostatic Comb Drive Model with Rotational Degree of Freedom**, pp. 6251-6256.
- Wickramasinghe, Imiya  
  Texas Tech. Univ.
- Berg, Jordan M.  
  Texas Tech. Univ.

16:40-17:00  WeC04.3  
*A Green’s Function-Based Design for Deformation Control of a Microbeam with In-Domain Actuation*, pp. 6257-6262.
- Badkoubeh, Amir  
  Ec. Pol. Montreal
- Zhu, Guchuan  
  Ec. Pol. de Montreal

17:00-17:20  WeC04.4  
- Sihite, Eric  
  Univ. of Michigan
- Qiu, Zhen  
  Univ. of Michigan
- Oldham, Kenn  
  Univ. of Michigan, Ann Arbor

17:20-17:40  WeC04.5  
*Oscillation Amplitude Enhancement of an Electrostatic MEMS Resonator Via Chaos Control*, pp. 6269-6274.
- Jimenez-Triana, A.  
  Univ. Distrital Francisco José de Caldas
- Zhu, Guchuan  
  Ec. Pol. de Montreal
- Saydy, Lahcen  
  Ec. Pol. de Montreal

17:40-18:00  WeC04.6  
- Shahid, Wajiha  
  Univ. of Michigan, Ann Arbor
- Qiu, Zhen  
  Univ. of Michigan
- Duan, Xiyu  
  Univ. of Michigan
- Li, Hualin  
  Univ. of Michigan
- Wang, Thomas D.  
  Univ. of Michigan
- Oldham, Kenn  
  Univ. of Michigan, Ann Arbor

**WeC05**  
Vision-Based Control (Regular Session)

**Room 8**

16:00-16:20  WeC05.1  
- Yoo, Jeff  
  Univ. of Washington, Mechanical Engineering
- Devasia, Santosh  
  Univ. of Washington

16:20-16:40  WeC05.2  
- Lin, Chung-Yen  
  Univ. of California, Berkeley
- Wang, Cong  
  Univ. of California, Berkeley
- Tomizuka, Masayoshi  
  Univ. of California, Berkeley

16:40-17:00  WeC05.3  
**Constrained Optimization for Opportunistic Distributed Visual Sensing**, pp. 6294-6301.
- Morey, Akshay A.  
  Univ. of California, Riverside
- Ding, Chong  
  Univ. of California, Riverside
- Roy-Chowdhury, Amit K.  
  Univ. of California, Riverside
- Farrell, Jay A.  
  Univ. of California Riverside

17:00-17:20  WeC05.4  
- Keshmiri, Mohammad  
  Concordia Univ.
- Xie, Wenfang  
  Concordia Univ.

17:20-17:40  WeC05.5  
**Partially Distributed Multirobot Control with Multiple Cameras**, pp. 6308-6314.
- Aranda, Miguel  
  Univ. de Zaragoza
- Mezouar, Youssef  
  Blaise Pascal Univ.
- Lopez-Nicolas, Gonzalo  
  Univ. de Zaragoza
- Sagues, Carlos  
  Univ. de Zaragoza

**WeC06**  
Air Traffic Management (Regular Session)

Chair: Devasia, Santosh  
Univ. of Washington
Co-Chair: Habibi, Saeid  
McMaster Univ.

16:00-16:20  WeC06.1  
- Yoo, Jeff  
  Univ. of Washington, Mechanical Engineering
- Devasia, Santosh  
  Univ. of Washington

16:20-16:40  WeC06.2  
**Target Tracking Formulation of the SVSF As a Probabilistic Data Association Algorithm**, pp. 6328-6332.
- Attari, Mina  
  McMaster Univ.
- Gadsden, Andrew  
  McMaster Univ.
- Habibi, Saeid  
  McMaster Univ.

16:40-17:00  WeC06.3  
- Cao, Yi  
  Purdue Univ.
- Sun, Dengfeng  
  Purdue Univ.
- Zhang, Lingsong  
  Purdue Univ.
17:00-17:20 WeC06.4
Layers of Interacting Dynamic Networks: Motivation and Theory, pp. 6339-6344.
Dhal, Rahul Washington State Univ.
Roy, Sandip Washington State Univ.

17:20-17:40 WeC06.5
Zhou, Yi Univ. of North Texas
Ramamurthy, Dinesh Washington State Univ.
Wan, Yan Univ. of North Texas
Roy, Sandip Washington State Univ.
Taylor, Christine MITRE
Wanke, Craig MITRE

WeC07
Room 9
Stability of Nonlinear Systems IV (Regular Session)
Chair: Martinez, Sonia Univ. of California at San Diego
Co-Chair: Forbes, James R. McGill Univ.
16:00-16:20 WeC07.1
Conic-Sector Based Control to Circumvent Passivity Violations, pp. 6358-6363.
Bridgeman, Leila Jasmine McGill Univ.
Forbes, James Richard McGill Univ.
16:20-16:40 WeC07.2
Pinning Control for Complex Networks of Linearly Coupled Oscillators, pp. 6364-6369.
Manaffam, Saeed Univ. of Central Florida
Seyedi, Alireza Univ. of Central Florida
16:40-17:00 WeC07.3
Cortés, Andrés Univ. of California, San Diego
Martinez, Sonia Univ. of California at San Diego
17:00-17:20 WeC07.4
Complexity of Ten Decision Problems in Continuous Time Dynamical Systems, pp. 6376-6381.
Ahmadi, Amir Ali MIT
Majumdar, Anirudha Massachusetts Inst. of Tech.
Tedrake, Russ MIT
17:20-17:40 WeC07.5
Optimal Trajectory Generation for Nonlinear Systems Based on Double Generating Functions, pp. 6382-6387.
Hao, Zh hei Nagoya Univ.
Fujimoto, Kenji Kyoto Univ.
Hayakawa, Yoshikazu Nagoya Univ.
17:40-18:00 WeC07.6
Distributed Nonlinear MPC Formation Control with Limited Bandwidth, pp. 6388-6393.
El Ferik, Sami King Fahd Univ. of Petroleum and Minerals
Siddiqi, Bilal King Fahd Univ. of Engineering and Tech.
Lewis, Frank L. Univ. of Texas at Arlington

WeC08
Room 12
Neural Networks and Fuzzy Systems (Regular Session)
Chair: Zhang, Lixian Harbin Inst. of Tech.
Co-Chair: Cal, Yunze Shanghai Jiaotong Univ.
16:00-16:20 WeC08.1
Observer-Based Finite-Time Control for Discrete Fuzzy Jump Nonlinear Systems with Time Delays, pp. 6394-6399.
Zhang, Yingqi Henan Univ. of Tech.
Shi, Peng Univ. of Glamorgan
Nguang, Sing Kiong The Univ. of Auckland
Karimi, Hamid Reza Univ. of Agder
16:20-16:40 WeC08.2
Lu, Quagang Harbin Inst. of Tech.
Zhang, Lixian Harbin Inst. of Tech.
Zhang, Qingrui Harbin Inst. of Tech.
Karimi, Hamid Reza Univ. of Agder
16:40-17:00 WeC08.3
Han, Fei Univ. of Science and Tech. of China
Feng, Gang City Univ. of Hong Kong
Wang, Yong Univ. of Science and Tech. of China
17:00-17:20 WeC08.4
Koo, Geun Bum Yonsei Univ.
Park, Jin Bae Yonsei Univ.
Joo, YoungHoon Kunsan National Univ.
17:20-17:40 WeC08.5
Neural Network-Based Adaptive Event-Triggered Control of Affine Nonlinear Discrete Time Systems with Unknown Internal Dynamics, pp. 6418-6423.
Sahoo, Avimanyu Missouri Univ. of Science and Tech.
Xu, Hao Missouri Univ. of Science and Tech.
Jagannathan, Sarangapani Missouri Univ. of Science & Tech.
17:40-18:00 WeC08.6
Hoshino, Kenta Graduate School of Information Science and Technology, Hokkaido U
Nishimura, Yuki Kagoshima Univ.
Yamashita, Yuh Hokkaido Univ.
Tsubakino, Daisuke Hokkaido Univ.
### WeC09 Room 13

**Human-In-The-Loop Control (Regular Session)**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>A Haptic-Based Traction Control System, pp. 6430-6435.</td>
<td>Corno, Matteo Pol. di Milano</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>Teleoperation of a Cluster of Mobile Robots Subject to Model Uncertainty, pp. 6436-6441.</td>
<td>Dong, Wenjie The Univ. of Texas - Pan American, Ben Ghalia, Mounir The Univ. of Texas - Pan American, Chen, Chunyu Univ. of Texas-Pan American, Xing, Yifan UTPA</td>
</tr>
</tbody>
</table>

### WeC10 Room 14

**Mechanical Systems/Robotics III (Regular Session)**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>A Two-Loop Contour Tracking Control for Biaxial Servo Systems with Constraints and Uncertainties, pp. 6468-6473.</td>
<td>Lu, Lu Purdue Univ. West Lafayette, Yao, Bin Zhejiang Univ., Lin, Wei Case Western Res. Univ.</td>
</tr>
</tbody>
</table>

### WeC11 Room 15

**Sliding Mode Control II (Regular Session)**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Fault Tolerant Control of an Octorotor Using LPV Based Sliding Mode Control Allocation, pp. 6505-6510.</td>
<td>Alwi, Halim Uni. of Leicester, Edwards, Christopher Uni. of Exeter</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>LMI Based Design of a Sliding Mode Controller for a Class of Uncertain Fractional-Order Nonlinear Systems, pp. 6511-6516.</td>
<td>Yin, Chun Univ. of California, Merced, Chen, YangQuan Univ. of California, Merced, Zhong, Shou-ming School of Mathematics Science, Univ. of Electronic Science</td>
</tr>
</tbody>
</table>

### WeC12 Room 16

**Trajectory Follow-Up Control by Enclosing Control with Rotary Pneumatic 2-Link Manipulator, pp. 6474-6479.**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:20-16:40</td>
<td>Teleoperation of a Cluster of Mobile Robots Subject to Model Uncertainty, pp. 6436-6441.</td>
<td>Dong, Wenjie The Univ. of Texas - Pan American, Ben Ghalia, Mounir The Univ. of Texas - Pan American, Chen, Chunyu Univ. of Texas-Pan American, Xing, Yifan UTPA</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>Multi-Link Mechanical Locomotors in Natural Gaits - Controller Design and Experiments, pp. 6480-6485.</td>
<td>Nurul, Islam Univ. of Newcastle, Chen, Zhiyong The Univ. of Newcastle</td>
</tr>
</tbody>
</table>

### WeC13 Room 17

**Power Regulation of Wind Turbines Using Torque and Pitch Control, pp. 6486-6491.**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:20-16:40</td>
<td>A Robust Probing Motion Planning Scheme: A Tube-Based MPC Approach, pp. 6492-6498.</td>
<td>Farrokhsiar, Morteza School of Engineering, UBC Okanagan, Najjaran, Homayoun Univ. of British Columbia Okanagan</td>
</tr>
</tbody>
</table>

### WeC14 Room 18

**Modeling Driver Behavior During Complex Manoeuvres, pp. 6448-6453.**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Autonomous Task Assignment of Multiple Operators for Human Robot Interaction, pp. 6454-6459.</td>
<td>Majji, Manoranjan Univ. at Buffalo, Rai, Rahul Univ. at Buffalo, SUNY</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>Fundamental Control Characteristics of Curvilinear Motion in Human and Automatic Path Tracking Tasks, pp. 6460-6467.</td>
<td>Mettler, Berenice Univ. of Minnesota, Andersh, Jon Univ. of Minnesota</td>
</tr>
</tbody>
</table>

### WeC15 Room 19

**High Order Sliding Mode Observer and Optimum Integral Backstepping Control for Sensorless IPMSM Drive, pp. 6517-6522.**

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>ABS Design and Active Suspension Control Based on HOSM, pp. 6523-6528.</td>
<td>Sánchez-Torres, Juan Diego CINVESTAV-IPN GDL, Ferreira de Loza, Alejandra Unam, Galicia, Marcos Israel CINVESTAV Unidad Guadalajara, Loukianov, Alexander G. CINVESTAV IPN GDI</td>
</tr>
</tbody>
</table>
### WeC11.5
**Adaptive Torque Ripple Compensation Technique Based on the Variable Structure Control and Its Applications to Gear Driven Motion Systems**, pp. 6529-6534.

Sencer, Burak  
Nagoya Univ.

Shamoto, Eiji  
Nagoya Univ.

### WeC11.6

Rittenhouse, Benjamin  
Penn State Univ.

Sinha, Alok  
Pennsylvania State Univ.

### WeC12
**Decentralized Control II (Regular Session)**

Chair: Han, Qing-Long  
Central Queensland Univ.

Co-Chair: Gasparri, Andrea  
Univ. of "Roma Tre"

### WeC12.1
**Robust Distributed Control Design for Interconnected Systems under Topology Uncertainty**, pp. 6541-6546.

Xue, Dong  
Tech. Univ. of Munich

Gusrialdi, Azwirman  
Univ. of Central Florida

Hirche, Sandra  
Tech. Univ. München

### WeC12.2
**A Decentralized Algorithm for Balancing a Strongly Connected Weighted Digraph**, pp. 6547-6552.

Priolo, Attilio  
Univ. degli Studi Roma Tre

Gasparri, Andrea  
Univ. of "Roma Tre"

Montijano, Eduardo  
Center de la Defensa

Sagues, Carlos  
Univ. de Zaragoza

### WeC12.3

Pfeiffer, Sven  
DESY

Werner, Herbert  
Hamburg Univ. of Tech.

Schmidt, Christian  
DESY

Schlarb, Holger  
DESY

### WeC12.4
**Global Decentralized Control of Interconnected Nonlinear Systems by Sampled-Data Output Feedback**, pp. 6559-6564.

Zhang, Chuannlin  
Souttheast Univ. School of Automation

Qian, Chunjiang  
Univ. of Texas at San Antonio

Li, Shihua  
Souttheast Univ.

### WeC12.5

Guan, Yanpeng  
Central Queensland Univ.

Han, Qing-Long  
Central Queensland Univ.

Peng, Chen  
nanjing normal Univ.

### WeC12.6

Ó Buadhachán, Séamus  
Univ. Coll. Cork

Provan, Gregory  
Univ. Coll. Cork

---

### WeC13
**Power Systems V (Regular Session)**

Chair: Peng, Huei  
Univ. of Michigan

Co-Chair: Chakrabortty, Aranya  
North Carolina State Univ.

---

### WeC13.1

Wang, Zhao  
Univ. of Notre Dame

Xia, Meng  
Univ. of Notre Dame

Lemmon, Michael  
Univ. of Notre Dame

### WeC13.2
**Minimum Loss Reconfiguration of Electrical Distribution Networks with Quality Requirements**, pp. 6583-6588.

Coslovich, Luca  
Univ. of Trieste

Fanti, Maria Pia  
Pol. of Bari

Mainà, Paolo  
AcegasAps S.p.A.

Piccoli, Giovanni  
AcegasAps S.p.A.

Ukovich, Walter  
Univ. of Trieste

### WeC13.3

Stumper, Jean-François  
Tech. Univ. München

Kennel, Ralph  
Tech. Univ. München

### WeC13.4

Dahmane, Menad  
Univ. of Picardie Jules Verne, MIS Lab.

Bosche, Jerome  
Univ. of Amiens

El Hajaji, Ahmed  
Univ. of Picardie-Jules Verne

Pierre, Xavier  
Univ. of Picardy Jules Verne of Amiens

### WeC13.5
**Decentralized Control of Aggregated Loads for Demand Response**, pp. 6601-6606.

Guo, Di  
Zhejiang Univ.

Zhang, Wei  
The Ohio State Univ.

Yan, Gangfeng  
Zhejiang Univ.

Lin, Zhiyun  
Zhejiang Univ.

Fu, Minyue  
Univ. of Newcastle

### WeC13.6

Li, Chiao-Ting  
Univ. of Michigan

Peng, Huei  
Univ. of Michigan

Sun, Jing  
Univ. of Michigan
### WeC14  Uncertain Systems IV (Regular Session)

Chair: Gao, Zhiqiang  
Co-Chair: Yucelen, Tansel

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>On Active Vibration Suppression of a Piezoelectric Beam, pp. 6613-6618.</td>
<td>Zheng, Qinling, Richter, Hanz, Gao, Zhiqiang</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>On Observer-Based Active Vibration Control of Two-Inertia Systems, pp. 6619-6624.</td>
<td>Zheng, Qinling, Gao, Zhiqiang</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>Root Locus for a Controller Class That Yields Quadratic Gain Parameterization, pp. 6625-6630.</td>
<td>Wellman, Brandon, Hoagg, Jesse B.</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>Frequency-Limited Adaptive Control Architecture for Transient Response Improvement, pp. 6631-6636.</td>
<td>Yucelen, Tansel, De La Torre, Gerardo, Johnson, Eric N.</td>
</tr>
<tr>
<td>17:20-17:40</td>
<td>On Frequency-Domain Analysis of ADRC for Uncertain System, pp. 6637-6642.</td>
<td>Xue, WenChao, Huang, Yi</td>
</tr>
</tbody>
</table>

### WeC15  Manufacturing Systems (Regular Session)

Chair: Belikov, Sergey  
Co-Chair: Wang, Jin

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Improved State Estimation for High-Mix Semiconductor Manufacturing, pp. 6649-6654.</td>
<td>Wang, Jin, He, Qinghua, Edgar, Thomas F.</td>
</tr>
</tbody>
</table>

### WeC16  Developments in Iterative Learning Control (Invited Session)

Chair: Oomen, Tom  
Co-Chair: Barton, Kira  
Organizer: Oomen, Tom  
Organizer: Barton, Kira  
Organizer: Mishra, Sandipan

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Learning in the Synthesis of Data-Driven Variable-Gain Controllers (I), pp. 6685-6690.</td>
<td>Heertjes, Marcel, Hunnekins, Bram, Van De Wouw, Nathan, Nijmeijer, Hendrik</td>
</tr>
<tr>
<td>16:20-16:40</td>
<td>Norm Optimal Iterative Learning Control with Auxiliary Optimization -- an Inverse Model Approach (I), pp. 6691-6696.</td>
<td>Owens, David H., Freeman, Christopher T., Chu, Bing</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>Iteratively Learning the H-Infinity-Norm of Multivariable Systems Applied to Model-Error-Modeling of a Vibration Isolation System (I), pp. 6703-6708.</td>
<td>Altin, Berk, Barton, Kira</td>
</tr>
</tbody>
</table>

### WeC17  Renaissance Ballroom West A

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Demand Response for Chemical Manufacturing Using Economic MPC, pp. 6655-6660.</td>
<td>Mendoza-Serrano, David, Chmielewski, Donald J.</td>
</tr>
<tr>
<td>16:40-17:00</td>
<td>Constrained Optimization of Rotating Magnetron in Low-Pressure Plasma Sputtering, pp. 6661-6666.</td>
<td>Belikov, Sergey NT-MDT Development</td>
</tr>
<tr>
<td>17:00-17:20</td>
<td>Modeling and Analysis of a Rotating Turret Winder in Roll-To-Roll Manufacturing Systems, pp. 6667-6672.</td>
<td>Seshadri, Aravind, Pagilla, Prabhakar R.</td>
</tr>
</tbody>
</table>

### WeC18  Renaissance Ballroom East

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:00-16:20</td>
<td>Improved State Estimation for High-Mix Semiconductor Manufacturing, pp. 6649-6654.</td>
<td>Wang, Jin, He, Qinghua, Edgar, Thomas F.</td>
</tr>
</tbody>
</table>

---

**Note:** The content includes topics such as active vibration suppression, observer-based control, adaptive control, and iterative learning control, among others, across various sessions and authors from different institutions.
WeC16.5 17:20-17:40
LMI-Based Design of Robust Iterative Learning Control
Schemes with Finite Frequency Range Tracking Specifications (I), pp. 6709-6714.
Paszke, Wojciech  Univ. of Zielona Gora
Rogers, Eric  Univ. of Southampton
Galkowski, Krzysztof  Univ. of Zielona Gora

17:40-18:00  WeC16.6
Time-Varying Norm Optimal Iterative Learning Identification (I), pp. 6715-6720.
Liu, Nanjun  Univ. of Illinois, Urbana-Champaign
Alleyne, Andrew G.  Univ. of Illinois, Urbana-Champaign

WeC17  Renaissance Ballroom West B
Modeling and Control of Driveline and Vehicle Dynamics
(Invited Session)
Chair: Scacchioli, Annalisa  New York Univ.
Co-Chair: Shim, Taehyun  Univ. of Michigan-Dearborn
Organizer: Scacchioli, Annalisa  New York Univ.
Organizer: Shim, Taehyun  Univ. of Michigan-Dearborn
Organizer: Shahbakhti, Mahdi  Michigan Tech. Univ.
Organizer: Canova, Marcello  The Ohio State Univ.

16:00-16:20  WeC17.1
Model Reference Control to Reduce Both the Jerk and Frictional Loss During DCT Gear Shifting (I), pp. 6721-6726.
Yuan, ShuLei  Shanghai Jiao Tong Univ.
Chen, Li  Shanghai Jiao Tong Univ.

16:20-16:40  WeC17.2
An Optimal Control for a Novel ABS Based on Vehicle Dynamic Load Transfer Effect for Reducing Stopping Distance (I), pp. 6727-6733.
Fan, Yinai  Pol. Inst. of New York Univ.
Scacchioli, Annalisa  New York Univ.

16:40-17:00  WeC17.3
Yu, Chuan  Univ. of Michigan-Dearborn
Shim, Taehyun  Univ. of Michigan-Dearborn

17:00-17:20  WeC17.4
Optimal Decoupled Control for Dry Clutch Engagement (I), pp. 6740-6745.
Jin, Taotao  Beijing Jiaotong Univ.
Li, Pingkang  Beijing Jiaotong Univ.
Zhu, Guoming  Michigan State Univ.

17:20-17:40  WeC17.5
Vehicle Yaw Dynamics Control by Torque-Based Assist Systems Enforcing Driver's Steering Feel Constraints (I), pp. 6746-6751.
Zafeiropoulos, Spyridon  Georgia Tech.
Di Cairano, Stefano  Mitsubishi Electric Res. Lab.

WeC18  Grand Ballroom South
Wide-Area Control of Large Power Systems (Tutorial Session)
Chair: Chakrabortty, Aranya  North Carolina State Univ.
Co-Chair: Khargonekar, Pramod P.  Univ. of Florida
Organizer: Chakrabortty, Aranya  North Carolina State Univ.
Organizer: Khargonekar, Pramod P.  Univ. of Florida

16:00-16:40  WeC18.1
Introduction to Wide-Area Control of Power Systems (I), pp. 6758-6770.
Chakrabortty, Aranya  North Carolina State Univ.
Khargonekar, Pramod P.  Univ. of Florida

16:40-17:00  WeC18.2
Wide-Area Monitoring and Control Research in the NSF/DOE CURENT ERC (I)*. N/A
Chow, Joe H.  Rensselaer Pol. Inst.

17:00-17:20  WeC18.3
Model Based Control and Protection of the Power Grid (I)*. N/A
Bose, Anjan  Washington State Univ.

17:20-17:40  WeC18.4
Mining PMU Data for Real-Time Insights into Grid Power Flow Properties (I)*. pp. 6771
DeMarco, Christopher L  Univ. of Wisconsin-Madison

WeC19  Grand Ballroom Central
Markov Processes (Regular Session)
Chair: How, Jonathan P.  MIT
Co-Chair: Mehta, Prashant G.  Univ. of Illinois, Urbana-Champaign

16:00-16:20  WeC19.1
Feedback Particle Filter for a Continuous-Time Markov Chain, pp. 6772-6777.
Yang, Tao  Univ. of Illinois at Urbana-Champaign
Mehta, Prashant G.  Univ. of Illinois, Urbana-Champaign
Meyn, Sean  Univ. of Florida

16:20-16:40  WeC19.2
Lin, Kun  Univ. of Maryland - Coll. Park
Marcus, Steve  Univ. of Maryland
### Robust Stability and Stabilization of Discrete-Time Markov Jump Linear Systems with Partly Unknown Transition Probability Matrix

- **Braga, Marcio** 
  Univ. of Campinas (UNICAMP)
- **Morais, Cecília** 
  State Univ. of Campinas (Unicamp)
- **Oliveira, Ricardo C. L. F.** 
  Univ. of Campinas - UNICAMP
- **Peres, Pedro L. D.** 
  Univ. of Campinas

### Rational Inattention in Controlled Markov Processes

- **Shafieepoorfard, Ehsan** 
  Univ. of Illinois Urbana Champaign
- **Raginsky, Maxim** 
  Univ. of Illinois at Urbana-Champaign
- **Meyn, Sean** 
  Univ. of Florida

### Design of a Robust Adaptive Vehicle Observer towards Delayed and Missing Vehicle Dynamics Sensor Signals by Usage of Markov Chains

- **Korte, Matthias** 
  Intedis GmbH
- **Kaiser, Gerd** 
  Intedis
- **Holzmann, Frederic** 
  Intedis
- **Roth, Hubert** 
  Univ. of Florida

### Optimization Methods for Cancer Radiation Treatment Planning (Tutorial Session)

Chair: Hindi, Haitham 
Co-Chair: Romeijn, H. Edwin 
Organizer: Hindi, Haitham

16:00-17:00 
**A Tutorial on Optimization Methods for Cancer Radiation Treatment Planning (I)**, pp. 6809-6816.

**Hindi, Haitham** 
Walmart Lab.

17:00-17:40 
**Sampled-Data Control of Linear Parameter Varying Time-Delay Systems Using State Feedback**, pp. 6847-6852.

**Ramezanifar, Amin** 
Univ. of Houston
**Mohammadpour, Javad** 
Univ. of Georgia
**Grigoriadis, Karolos M.** 
Univ. of Houston

### Control of Networks II (Regular Session)

Chair: Aghdam, Amir G. 
Co-Chair: Zhao, Xia

16:00-16:20 
**Identifiability of Links and Nodes in Multi-Agent Systems under the Agreement Protocol**, pp. 6853-6858.

**Rahimian, Mohammad Amin** 
Concordia Univ.
**Ajorlou, Amir** 
Concordia Univ.
**Tutunov, Rasul** 
Univ. of Pennsylvania
**Aghdam, Amir G.** 
Concordia Univ.

16:20-16:40 
**Convergence of Distributed Averaging and Maximizing Algorithms Part II: State-Dependent Graphs**, pp. 6859-6864.

**Shi, Guodong** 
Royal Inst. of Tech.
**Johansson, Karl H.** 
Royal Inst. of Tech.

16:40-17:00 
**Synchronization of Coupled Nonlinear Oscillators with Shifted Gamma-Distributed Delays**, pp. 6865-6870.

**Moraescu, Irinel Constantin** 
Univ. de Lorraine
**Michiels, Wim** 
K.U. Leuven
**Jungers, Marc** 
CNRS - Univ. de Lorraine

17:00-17:20 
**Structural Controllability of Multi-Agent Networks: Importance of Individual Links**, pp. 6871-6876.

**Rahimian, Mohammad Amin** 
Concordia Univ.
**Aghdam, Amir G.** 
Concordia Univ.
Distributed Coverage Optimization in a Network of Static and Mobile Sensors, pp. 6877-6881.

Mahboubi, Hamid  Concordia Univ.
Habibi, Jalal  Concordia Univ.
Aghdam, Amir G.  Concordia Univ.
Sayrafian-Pour, Kamran  National Inst. of Standard & Tech.


Mahboubi, Hamid  Concordia Univ.
Aghdam, Amir G.  Concordia Univ.

Additional Papers:

Decentralized Linear State Observers for Vehicle Formations with Time-Varying Topologies  pp. 65-70
Daniel Viegas, Pedro Batista, Paulo Oliveira, Carlos Silvestre

Optimal Distributed State Estimations for a Networked Dynamical System  pp. 101-106
Tong Zhou

Bayesian Hybrid Estimation of LTI Networked Systems using Finite Set Statistics  pp. 396-401
Islam I. Hussein, Francesco Sorrentino, R. S. Erwin

Communication and Path Planning Strategies of a Robotic Coverage Operation  pp. 869-866
Yuan Yan, Yasamin Mostofi

Distributed Adaptive Sliding Mode Observers for a Network of Dynamical Systems  pp. 1537-1542
Prathyush P. Menon, Christopher Edwards

Model Predictive Control of Burgers Equation Based on Galerkin Models  pp. 1651-1656
Mathias Hakenberg, Dirk Abel

Time-Varying Internal Model-Based Tracking Control for a Voice Coil Motor Servo Gantry  pp. 2872-2877
Zhen Zhang, Peng Yan, Chao Lu, Tongtong Leng, Bofeng Liu

A Distributed Control Strategy for Connectivity Preservation of Multi-Agent Systems Subject to Actuator Saturation  pp. 4044-4049
Iman Saboori, H. Nayyeri, K. Khorasani

L1 Adaptive Output-Feedback Controller for Linear Time-Varying Reference Systems  pp. 4183-4188
Justin Vanness, Evgeny Kharisov, N. Hovakimyan

State Detection from Local Measurements in Network Synchronization Processes  pp. 6120-6125
Chih-Wei Chen, Sandip Roy

Robust Vehicle Routing Policies Using Local Communications & Sensing  pp. 6351-6357
David Pike, Sidner Givigi, Joshua Marshall, Adrian Taylor, Alain Beaulieu

Modeling and Linear Control of a Flapping-Wing MAV with Split-Amplitude and Phase-Modulated Wingbeat  pp. 6499-6504
Pratik Vernekar, Andrea Serrani

Decentralized Stabilization of Symmetric Systems with Delayed Observer-Based Feedback  pp. 6679-6684
Lubomir Bakule, Manuel de la Sen, Martin Papik, Branislav Rehak