CSS Publications Activities

Vice-President
ANDREA SERRANI Ohio State University
http://ieeecss.org/publications

Journal Editors
IEEE Transactions on Automatic Control
ALESSANDRO ASTOLFI Imperial College London and University of Rome “Tor Vergata”
http://ieeecss.org/publication/transactions-automatic-control

IEEE Transactions on Control Systems Technology
ILYA KOLMANOVSKY University of Michigan
http://ieeecss.org/publication/transactions-control-systems-technology

IEEE Transactions on Control of Network Systems
JEFF SHAMMA University of Illinois at Urbana-Champaign
http://ieeecss.org/publication/transactions-control-network-systems

IEEE Control Systems Letters
MARIA ELENA VALCHER University of Padua
http://ieeecss.org/publication/control-systems-letters

IEEE Control Systems Magazine
RODOLPHE SEPULCHRE University of Cambridge
http://ieeecss.org/publication/ieee-control-systems-magazine

IEEE Open Journal of Control Systems
SONIA MARTINEZ University of California, San Diego
http://ieeecss.org/publication/open-journal-control-systems

Electronic Information
CSS State-Space Forum
FABIO PASQUALETTI University of California, Riverside
https://state-space.ieeecss.org

*Submission and editorial instructions can be found on each publication’s homepage
REGULAR PAPERS

Stochastic Hybrid Networks for Global Almost Sure Unanimous Decision Making ........................................... A. R. Teel .................................................. 1386
Linear Optimal Control for Autonomous Pattern Generation ............................................................................ T. Ludeke and T. Iwasaki ............................................. 1402
No-Regret Learning in Dynamic Stackelberg Games ..................................................................................... N. Lauffer, M. Ghasemi, A. Hashemi, Y. Savas, and U. Topcu ................................................................. 1418
Convergence of Nonlinear Observers on $\mathbb{R}^n$ With a Riemannian Metric (Part III) ................................. R. G. Sanfelice and L. Praly ......................................................... 1432
Density Stabilization Strategies for Nonholonomic Agents on Compact Manifolds ........................................ K. Elamvazhuthi and S. Berman ......................................................... 1448
Frequency Synthesis of Interconnected Homogeneous LTI Systems .............................................................. A. Perodou, A. Kornienko, M. Zarudniev, and G. Scorletti ......................................................... 1480
Verifying $k$-Contraction Without Computing $k$-Compounds ........................................................................ O. Dalin, R. Ofir, E. Bar-Shalom, A. Ossevich, F. Bullo, and M. Margaliot ............................................. 1492
Geometric Maneuvering for Underactuated VTOL Vehicles ........................................................................... S. Wu, X. Liang, Y. Fang, and W. He ......................................................... 1507
Arbitrarily Fast Robust KKL Observer for Nonlinear Time-Varying Discrete Systems ................................. G. Q. B. Tran and P. Bernard ......................................................... 1520
Maximum Entropy Optimal Density Control of Discrete-Time Linear Systems and Schrödinger Bridges ........ K. Ito and K. Kashima ......................................................... 1536
Adaptive Identification With Guaranteed Performance Under Saturated Observation and Nonpersistent Excitation ............................................................... L. Zhang and L. Guo ......................................................... 1584
Data-Driven Computational Methods for the Domain of Attraction and Zubov’s Equation ......................... W. Kang, K. Sun, and L. Xu ......................................................... 1600
Robust Saturated Stabilization With Measurement Errors: From a Chain of Integrators to Feedforward Systems ........................................................................ M. Wang, T. Liu, and Z.-P. Jiang ......................................................... 1627
Optimal Output-Feedback Control Over Markov Wireless Communication Channels ................................. A. Impicciatore, Y. Z. Lun, P. Pepe, and A. D’Innocenzo ......................................................... 1643
A Bayesian Nash Equilibrium-Based Moving Target Defense Against Stealthy Sensor Attacks ................... D. Umsonst, S. Saritas, G. Dón, and H. Sandberg ......................................................... 1659

(Content Continued on Page 1385)
### TECHNICAL NOTES

- **Preset-Time and Preset-Accuracy Human-in-the-Loop Cluster Consensus Control for MASs Under Stochastic Actuation Attacks**  
  - Page 1675

**On the Behavioral Reachability of a Confined Molecule Under Laser Action**  
- M. Bonilla-Licea and M. E. Bonilla  
- Page 1689

**Composite Error Learning Robot Control Using Discontinuous Lyapunov Analysis**  
- T. Chang, X. Cao, and W. X. Zheng  
- Page 1697

**A Novel Neural-Network-Based Consensus Protocol of Nonlinear Multiagent Systems**  
- W. Zou and J. Zhou  
- Page 1713

**Limited-Information Event-Triggered Observer-Based Control of Nonlinear Systems**  
- A. Boetti, M. di Ferdinando, and P. Pepe  
- Page 1721

**Generalization of Filtering Sensitivity Tradeoffs in Continuous- and Discrete-Time Systems: A Simplified Approach**  
- N. Wan, D. Li, L. Song, and N. Hovakimyan  
- Page 1728

**Adaptive Iterative Learning Control for Nonsquare Nonlinear Systems With Various Nonrepetitive Uncertainties: A Unified Approach**  
- X. Li and D. Huang  
- Page 1736

**FBSDEs Approach for Solving Discrete-Time Rational Expectations Model With State Delays**  
- T. Ma, J. Xu, W. Wang, and H. Zhang  
- Page 1744

**Dual-Channel Event-Triggered Robust Adaptive Control of Strict-Feedback System With Flexible Prescribed Performance**  
- L. Li, K. Zhao, Z. Zhang, and Y. Song  
- Page 1752

**Composite Antidisturbance $H_{\infty}$ Control for Hidden Markov Jump Systems With Multi-Sensor Against Replay Attacks**  
- J. Wang, D. Wang, H. Yan, and H. Shen  
- Page 1760

**Exponential Decay Rate of Linear Port-Hamiltonian Systems: A Multiplier Approach**  
- L. A. Mora and K. Morris  
- Page 1767

**A Proximal Dynamic Approach to Equilibrium Problems With Finite-Time Convergence**  
- X. Ju, C. Li, X. He, and G. Feng  
- Page 1773

**Fully Distributed Consensus of Multiple Euler–Lagrange Systems Under Switching Directed Graphs Using Only Position Measurements**  
- X. Meng, J. Mei, Z. Miao, A. Wu, and G. Ma  
- Page 1781

**Multiple-Pursuer Single-Evader Reach-Avoid Games in Constant Flow Fields**  
- Page 1789

**Consensus for a Class of Multiagent Systems With Time Delays: A Systematic Study in Parameter Space**  
- Y.-J. Chen, X.-G. Li, G.-X. Fan, and Y. Zhang  
- Page 1796

**Consensus of Saturated Multiagent Systems: Tolerance to Nonidentical Asymmetric Saturation Levels**  
- Y. Zou, Z. Zuo, K. Xia, and Z. Ding  
- Page 1804

**Effects of Time Delay on Cucker–Smale Flocking Under Hierarchical Leadership**  
- C. Wu and J.-G. Dong  
- Page 1812

**A Unified Distributed Method for Constrained Networked Optimization via Saddle-Point Dynamics**  
- Y. Huang, Z. Meng, J. Sun, and W. Ren  
- Page 1816

**Optimal Transmission Scheduling Over Multihop Networks: Structural Results and Reinforcement Learning**  
- L. Yang, Y. Xu, W. Lv, J.-Y. Li, and L. Shi  
- Page 1826

**Stability in Distribution of Highly Nonlinear Hybrid Stochastic Delay Systems by Delay Feedback Control**  
- X. Gao, Y. Li, and H. Fan  
- Page 1834

**Constrained Containment Control for Multiagent Systems With Possible Empty Intersection of Position Constraints**  
- P. Lin, Y. Wang, D. Wang, and Z.-G. Wu  
- Page 1842

**Distributed Formation Maneuver Control Using Complex Laplacian**  
- X. Fang and L. Xie  
- Page 1850

**Stabilization of Probabilistic Boolean Networks via State-Flipped Control and Reinforcement Learning**  
- Y. Liu, Z. Liu, A. Yeruldak, and C. Del Vecchio  
- Page 1858

**Data-Based Transfer Stabilization in Linear Systems**  
- L. Li, C. De Persis, P. Tesi, and N. Monshizadeh  
- Page 1866

**Trajectory Tracking for a Class of $\theta$-Periodic Switched Systems**  
- G. S. Deaecto, L. C. Costanzo, and L. N. Egidio  
- Page 1874

**Reach-Avoid Analysis for Polynomial Stochastic Differential Equations**  
- B. Xue, N. Zhan, and M. Fränzel  
- Page 1882

**Angle-Based Distributed Node Localizability and Localization**  
- L. Chen, Z. Lin, and L. Xie  
- Page 1890

**On Decidability of Existence ofFortified Supervisors Against Covert Actuator Attacker**  
- R. Tai, L. Lin, and R. Su  
- Page 1898

**Integrated Relative-Measurement-Based Network Localization and Formation Maneuver Control**  
- X. Fang, L. Xie, and X. Li  
- Page 1906

**Safe Stabilization for Stochastic Time-Delay Systems**  
- Z.-R. Pan, W. Ren, and X.-M. Sun  
- Page 1914

**Proportional-Integral Funnel Control of Unknown Lower-Triangular Nonlinear Systems**  
- J.-X. Zhang and T. Chai  
- Page 1921
<table>
<thead>
<tr>
<th>Title</th>
<th>Author(s)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive Fixed-Time Control for High-Order Nonlinear Systems With Unknown Control Coefficients and Quantized Input</td>
<td>J. Ma, S. Fei, S. Xu, and G. Cui</td>
<td>1928</td>
</tr>
<tr>
<td>Specified-Time Affine Formation Maneuver Control of Multiagent Systems Over Directed Networks</td>
<td>Y. Zhao, K. Gao, P. Huang, and G. Chen</td>
<td>1936</td>
</tr>
<tr>
<td>On Connections Between Invariant Subspace and Quotient Approaches for Analysis and Control of Boolean Networks</td>
<td>R. Li, N. Zhao, Q. Zhang, and T. Chu</td>
<td>1944</td>
</tr>
<tr>
<td>Admission Control of Double-Sided Queues With Multiple Customer Types</td>
<td>Y. Su and J. Li</td>
<td>1960</td>
</tr>
<tr>
<td>Global Distributed Fault-Tolerant Consensus Control of Nonlinear Delayed Multiagent Systems With Hybrid Faults</td>
<td>K. Li, S. X. Ding, W. X. Zheng, and C.-C. Hua</td>
<td>1967</td>
</tr>
<tr>
<td>Low-Complexity Control With Funnel Performance for Uncertain Nonlinear Multiagent Systems</td>
<td>X. Min, S. Baldi, W. Yu, and J. Cao</td>
<td>1975</td>
</tr>
<tr>
<td>A Robust Covert Attack Strategy for a Class of Uncertain Cyber-Physical Systems</td>
<td>X. Li, P. Zhang, and H. Dong</td>
<td>1983</td>
</tr>
<tr>
<td>Dirac Structures for a Class of Port-Hamiltonian Systems in Discrete Time</td>
<td>A. Moreschini, S. Monaco, and D. Normand-Cyrot</td>
<td>1999</td>
</tr>
<tr>
<td>Event-Based Average Consensus of Disturbed MASs via Fully Distributed Sliding Mode Control</td>
<td>D. Yao, H. Li, and Y. Shi</td>
<td>2015</td>
</tr>
<tr>
<td>Sliding-Mode-Based Output-Feedback Control of Multivariable Systems via Youla Parameterization</td>
<td>R. Seeber, S. Koch, and M. Horn</td>
<td>2023</td>
</tr>
<tr>
<td>A Note on Stability of Event-Triggered Control Systems With Time Delays</td>
<td>K. Zhang, B. Gharesifard, and E. Braverman</td>
<td>2031</td>
</tr>
<tr>
<td>Stability of Consensus-Based Distributed Estimation Under Denial of Service</td>
<td>G. Battistelli, L. Chisci, D. Selvi, and P. Tesi</td>
<td>2036</td>
</tr>
<tr>
<td>Verification of Pattern–Pattern Diagnosability in Partially Observed Discrete Event Systems</td>
<td>Z. Ma, Y. Tong, and C. Seatzu</td>
<td>2044</td>
</tr>
<tr>
<td>Model Reference Adaptive Stabilizing Control With Application to Leaderless Consensus</td>
<td>D. Yue, S. Baldi, J. Cao, and B. D. Schutter</td>
<td>2052</td>
</tr>
<tr>
<td>Stable Linear System Identification With Prior Knowledge by Riemannian Sequential Quadratic Optimization</td>
<td>M. Obara, K. Sato, H. Sakamoto, T. Okuno, and A. Takeda</td>
<td>2060</td>
</tr>
<tr>
<td>Attack Detection and Secure State Estimation of Collectively Observable Cyber-Physical Systems Under False Data Injection Attacks</td>
<td>Y. Suo, R. Chai, S. Chai, I. MD Farhan, Y. Xia, and G.-P. Liu</td>
<td>2067</td>
</tr>
<tr>
<td>Stabilization for a Class of Feedforward Nonlinear Systems via Pulsewidth-Modulated Controllers</td>
<td>L. Chang, X. Ge, D. Ding, and C. Fu</td>
<td>2075</td>
</tr>
</tbody>
</table>
REGULAR PAPERS

Data-Driven Robust Passivity-Based Controller Design for Grid-Connected Converters ................................................................. S. S. Madani and A. Karimi 300
A Multilayer Control Strategy for the Calais Canal ........................................ P. Segovia, V. Puig, and E. Duvieila 311
Causal, Stochastic MPC for Wave Energy Converters ........................................... C. H. Ligeikis and J. T. Scruggs 351
Predictive Control and Benefit Sharing in Multi-Energy Systems ........ A. La Bella, L. Nigro, and R. Scattolini 368
Automated Photovoltaic Power Plant Inspection via Unmanned Vehicles .................................................. M. M. De Benedetti, L. Bascetta, A. Falsone, and M. Prandini 399
Decentralized Enforcement of Linear State Specifications for Augmented Marked Graphs With a Coordinator ..................... B. Yang and H. Hu 413
Model-Guided Learning for Wind Farm Power Optimization ............ Z. Xu, B. Chu, H. Geng, X. Nian, and C. Zhang 428
A Structure-Inspired Disturbance Observer for Finite-Dimensional Mechanical Systems .............................................. Y.-C. Chen and C. A. Woolsey 440
Predictive Control of Cooperative Robots Sharing Common Workspace ................... A. Tika and N. Bajcinca 456
Safe Learning MPC With Limited Model Knowledge and Data .............. A. Kandel and S. J. Moura 472

(Contents Continued on Page 299)
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive Image-Based Moving-Target Tracking Control of Wheeled Mobile</td>
<td>S.-L. Dai, J. Liang, K. Lu, and X. Jin</td>
<td>488</td>
</tr>
<tr>
<td>Robots With Visibility Maintenance and Obstacle Avoidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyberattack and Machine-Induced Fault Detection and Isolation</td>
<td>M. Taheri, K. Khorasani, I. Shames, and N.</td>
<td>502</td>
</tr>
<tr>
<td>Methodologies for Cyber-Physical Systems</td>
<td>Meskin</td>
<td></td>
</tr>
<tr>
<td>Supervisory Control of Discrete Event Systems With Dynamic Control</td>
<td>C. Li, Y. Chen, and Z. Li</td>
<td>518</td>
</tr>
<tr>
<td>Specifications by Petri Nets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hierarchical Fuel-Cell Airpath Control: An Efficiency-Aware MIMO</td>
<td>E. Bacher-Chong, M. A. Ayubirad, Z. Qiu,</td>
<td>534</td>
</tr>
<tr>
<td>Control Approach Combined With a Novel Constraint-Enforcing Reference</td>
<td>H. Wang, A. Goshbashb, and H. R. Ossareh</td>
<td></td>
</tr>
<tr>
<td>Governor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guiding Vector Fields</td>
<td>Xu, C. Luo, and H. Cao</td>
<td></td>
</tr>
<tr>
<td>Optimization Using Economic Model Predictive Control With Zone</td>
<td>J. Fu</td>
<td></td>
</tr>
<tr>
<td>Tracking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model Predictive Control of a Parallel Plug-In Hybrid Electric</td>
<td>J. Soldo, B. Škugor, and J. Deur</td>
<td>581</td>
</tr>
<tr>
<td>Vehicle Relying on Dynamic Programming and Extended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backward-Looking Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Cooperation and Competition Arise in Regional Climate Policies:</td>
<td>Y. Chen and G. Shi</td>
<td>595</td>
</tr>
<tr>
<td>RICE as a Dynamic Game</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robust and Kernelized Data-Enabled Predictive Control for Nonlinear</td>
<td>L. Huang, J. Lygeros, and F. Dörfler</td>
<td>611</td>
</tr>
<tr>
<td>Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Resilient-by-Design Distributed Control Framework for Cyber-Physical</td>
<td>M. S. Sadabadi</td>
<td>625</td>
</tr>
<tr>
<td>DC Microgrids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decentralized Control Based on Fuzzy Anti-Windup for a Class of</td>
<td>E. Kamal and R. Ghorbani</td>
<td>637</td>
</tr>
<tr>
<td>Uncertain Systems Subject to State and Control Constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistent Mission Planning of an Energy-Harvesting Autonomous</td>
<td>B. Haydon, J. Reed, and C. Vermillion</td>
<td>653</td>
</tr>
<tr>
<td>Underwater Vehicle for Gulf Stream Characterization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRIEF PAPERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive Switching Control of Active Suspension Systems: A Switched</td>
<td>Q. Zeng and J. Zhao</td>
<td>663</td>
</tr>
<tr>
<td>System Point of View</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning-Based Fault-Tolerant Control for an Hexarotor With Model</td>
<td>L. J. Colombo and J. I. Giribet</td>
<td>672</td>
</tr>
<tr>
<td>Uncertainty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underwater Vehicles Under Ocean Currents</td>
<td>Roberson, and J. Sun</td>
<td></td>
</tr>
<tr>
<td>Model Predictive Control of Port–City Traffic Interactions Over</td>
<td>C. Cervellera, D. Maccio, and F. Rebora</td>
<td>688</td>
</tr>
<tr>
<td>Shared Urban Infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LASSO-Based Detection and Identification of Actuator Integrity</td>
<td>N. Yang, Z. Wang, T. Yang, Y. Li, and L. Shi</td>
<td>696</td>
</tr>
<tr>
<td>Attacks in Remote Control Systems</td>
<td>M. Jankovic, M. Santillo, and Y. Wang</td>
<td>705</td>
</tr>
<tr>
<td>Multiagent Systems With CBF-Based Controllers: Collision Avoidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Liveness From Instability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMMENTS AND CORRECTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments on “Energy-Driven-Damper (EDD): Comfort-Oriented Semiactive</td>
<td>D. Hrovat and H. E. Tseng</td>
<td>713</td>
</tr>
<tr>
<td>Suspensions Optimized From an Energy Perspective”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IEEE CONTROL SYSTEMS LETTERS
A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY

2024 VOLUME 8 NUMBER 2 (PAPERS from 22 to 36)

PAPERS

On the Inherent Closed-Loop Instability of Multi-Stage MPC, Y. Abdelsalam, S. Subramanian and S. Engell .......................................................... p. 151-156
Nesterov’s Accelerated Gradient Descent: The Controlled Contraction Approach, R. Gunjal, S. S. Nayyer, S. Wagh and N. M. Singh ......................................................... p. 163-168
Multi-Outer Loop Dynamic Inversion Control: An Application to a VTOL Free-Wing Aircraft, R. M. Axten, T. Khamvilai and E. N. Johnson .......................................................... p. 181-186
Structured Kalman Filter for Time Scale Generation in Atomic Clock Ensembles, Y. Yan, T. Kawaguchi, Y. Yano, Y. Hanado and T. Ishizaki .......................................................... p. 187-192
Optimized Coadministrition of Propofol and Remifentanil During the Induction Phase of Total Intravenous Anesthesia With Statistical Validation, D. Denardi Huff, M. Fiacchini, T. Dang and T. Alamo ........................................ p. 193-198
Data-Driven Model Predictive Techniques for Unknown Linear Time Invariant Systems, M. Ghorbani .......................................................... p. 199-204
Distributed MPC With Continuous-Time STL Constraint Satisfaction Guarantees, M. Charitidou and D. V. Dimarogonas .......................................................... p. 211-216
American Control Conference
ACC 2024

July 8–12, Toronto, Canada

L-CSS option Submission
September 08, 2023 (Passed)

ACC Manuscript Submission
September 22, 2023 (Passed)

Acceptance/Rejection Notice
January 22, 2024

Final Manuscript Submission
March 13, 2024

https://acc2024.a2c2.org/
Conference on
Control Technology and Applications
CCTA 2024

August 21–23, Newcastle upon Tyne, UK

Paper Submission Opens
November 01, 2023

Tutorial Session Proposals Due
February 01, 2024 (Passed)

Paper Submission Due
February 05, 2024 (Passed)

Invited Session Proposals Due
March 01, 2024 (Passed)

Decision Notification
April 08, 2024

Registration Opens
May 01, 2024

Final Camera-Ready Submission
June 15, 2024

https://ccta2024.ieeecs.org/
Conference on Decision and Control  
**CDC 2024**

**December 17–19, Milan, Italy**

- Initial Paper Submissions to L-CSS with CDC Option Due  
  March 8, 2024
- Invited Session Proposals Due  
  March 15, 2024
- Initial Paper Submissions Due  
  March 22, 2024
- Workshop Proposals Due  
  April 29, 2024
- Decision Notification  
  Mid-July, 2024
- Final Submissions Due  
  September 10, 2024

[https://cdc2024.ieeecss.org/](https://cdc2024.ieeecss.org/)