

CONTROL SYSTEMS SOCIETY

APRIL

2014



Publications Content Digest

TABLE OF CONTENTS

Publications Activities

Vice-President

FRANCESCO BULLO University of California, Santa Barbara

<http://www.ieeecss.org/publications/css-publications>

Journal Editors

IEEE Transactions on Automatic Control

PANOS J. ANTSAKLIS University of Notre Dame

<http://www.ieeecss.org/publications/tac>

IEEE Transactions on Control Systems Technology

THOMAS PARISINI Imperial College, UK

<http://www.ieeecss.org/publications/tcst>

IEEE Transactions on Control of Network Systems

Ioannis Paschalidis Boston University

<http://www.ieeecss.org/publications/transactions-control-network-systems>

MAGNUS EGERSTEDT Deputy Editor-in-Chief

IEEE Control Systems Magazine

RICHARD D. BRAATZ Massachusetts Institute of Technology

JONATHAN HOW Deputy Editor-in-Chief

<http://www.ieeecss.org/publications/csm>

Electronics Editor

E-letter on Systems, Control and Signal Processing

MARIA PRANDINI Politecnico di Milano, Italy

<http://www.ieeecss.org/publications/e-letter/e-letter>

*Submission and editorial instructions can be found on each publication's homepage

For subscription to the monthly E-Letter, please visit:

<http://www.ieeecss.org/newsletter/subscriptions>

IEEE TRANSACTIONS ON AUTOMATIC CONTROL

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



APRIL 2014

VOLUME 59

NUMBER 4

IETAA9

(ISSN 0018-9286)

Table of Contents

Full Text: [PDF](#) [135 KB]

Scanning the Issue

Full Text: [PDF](#) [135 KB]

Papers

Risk-Sensitive Mean-Field Games

H. Tembine, Q. Zhu, and T. Başar

[Abstract](#) | Full Text: [PDF](#) [4652 KB]

LQ Control for Coordinated Linear Systems

P. L. Kempker, A. C. M. Ran, and J. H. van Schuppen

[Abstract](#) | Full Text: [PDF](#) [3037 KB]

On the Robustness of Nominal Nonlinear Minimum-Time Control and Extension to Non-Robustly Controllable Target Sets

G. Pin and T. Parisini

[Abstract](#) | Full Text: [PDF](#) [3784 KB]

Rapidly Exponentially Stabilizing Control Lyapunov Functions and Hybrid Zero Dynamics

A. D. Ames, K. Galloway, J. W. Grizzle, and K. Sreenath

[Abstract](#) | Full Text: [PDF](#) [3909 KB]

A New Family of High-Resolution Multivariate Spectral Estimators

M. Zorzi

[Abstract](#) | Full Text: [PDF](#) [3628 KB]

Accelerated Dual Descent for Network Flow Optimization

M. Zargham, A. Ribeiro, A. Ozdaglar, and A. Jadbabaie

[Abstract](#) | Full Text: [PDF](#) [3936 KB]

Partial-Information State-Based Optimization of Partially Observable Markov Decision Processes and the Separation Principle

X-R. Cao, D-X. Wang, and L. Qiu

[Abstract](#) | Full Text: [PDF](#) [3980 KB]

Nonanticipative Rate Distortion Function and Relations to Filtering Theory

C. D. Charalambous, P. A. Stavrou, and N. U. Ahmed

[Abstract](#) | Full Text: [PDF](#) [6808 KB]

Unified Analysis of Iterative Learning and Repetitive Controllers in Trial Domain

G. Pipeleers and K. L. Moore

[Abstract](#) | Full Text: [PDF](#) [2734 KB]

On Most Permissive Observers in Dynamic Sensor Activation Problems

E. Dallal and S. Lafortune

[Abstract](#) | Full Text: [PDF](#) [5032 KB]

Control for Safety Specifications of Systems With Imperfect Information on a Partial Order

R. Ghaemi and D. Del Vecchio

[Abstract](#) | Full Text: [PDF](#) [5461 KB]

Necessary and Sufficient LMI Conditions for Stability and Performance Analysis of 2-D Mixed Continuous-Discrete-Time Systems

G. Chesi and R. H. Middleton

[Abstract](#) | Full Text: [PDF](#) [3064 KB]

Technical Notes and Correspondence

A Heuristic Approach to Static Output-Feedback Controller Synthesis With Restricted Frequency-Domain Specifications

X. Li and H. Gao

[Abstract](#) | Full Text: [PDF](#) [1228 KB]

Distinguishability of Discrete-Time Nonlinear Systems

M. Baglietto, G. Battistelli, and P. Tesi

[Abstract](#) | Full Text: [PDF](#) [1395 KB]

Self-Excited Limit Cycles in an Integral-Controlled System With Backlash

A. Esbrook, X. Tan, and H. K. Khalil

[Abstract](#) | Full Text: [PDF](#) [939 KB]

Particle Filtering Framework for a Class of Randomized Optimization Algorithms

E. Zhou, M. C. Fu, and S. I. Marcus

[Abstract](#) | Full Text: [PDF](#) [1207 KB]

On Feasibility, Stability and Performance in Distributed Model Predictive Control

P. Giselsson and A. Rantzer

[Abstract](#) | Full Text: [PDF](#) [1032 KB]

Efficient Foraging Strategies in Multi-Agent Systems Through Curve Evolutions

M. Haque, A. Rahmani, M. Egerstedt, and A. Yezzi

[Abstract](#) | Full Text: [PDF](#) [896 KB]

Multivariable MRAC Design Without Gain Symmetry Conditions Using a Stabilizing Multiplier

L. Hsu, A. Battistel, and E. V. L. Nunes

[Abstract](#) | Full Text: [PDF](#) [1492 KB]

Stable Internally Positive Representations of Continuous Time Systems

F. Cacace, A. Germani, and C. Manes

[Abstract](#) | Full Text: [PDF](#) [1956 KB]

On Discrete-Time Convergence for General Linear Multi-Agent Systems Under Dynamic Topology

J. Qin, H. Gao, and C. Yu

[Abstract](#) | Full Text: [PDF](#) [1177 KB]

Continuous-Discrete Time Observers for a Class of MIMO Nonlinear Systems

M. Farza, M. M'Saad, M. L. Fall, E. Pigeon, O. Gehan, and K. Busawon

[Abstract](#) | Full Text: [PDF](#) [1199 KB]

Average Consensus on Arbitrary Strongly Connected Digraphs With Time-Varying Topologies

K. Cai and H. Ishii

[Abstract](#) | Full Text: [PDF](#) [304 KB]

Almost Periodic Parameters for the Second Moment Stability of Linear Stochastic Systems

A. N. Vargas and J. B. R. do Val

[Abstract](#) | Full Text: [PDF](#) [1627 KB]

Rational Lyapunov Functions and Stable Algebraic Limit Cycles

E. Moulay

[Abstract](#) | Full Text: [PDF](#) [738 KB]

A Small-Gain Theorem for Switched Interconnected Nonlinear Systems and Its Applications

L. Long and J. Zhao

[Abstract](#) | Full Text: [PDF](#) [1758 KB]

MPC for Sampled-Data Linear Systems: Guaranteeing Constraint Satisfaction in Continuous-Time

P. Sopasakis, P. Patrinos, and H. Sarimveis

[Abstract](#) | Full Text: [PDF](#) [1260 KB]

Saturated RISE Feedback Control for a Class of Second-Order Nonlinear Systems

N. Fischer, Z. Kan, R. Kamalapurkar, and W. E. Dixon

[Abstract](#) | Full Text: [PDF](#) [1139 KB]

Sensitivity Reduction by Stable Controllers for MIMO Infinite Dimensional Systems via the Tangential Nevanlinna-Pick Interpolation

M. Wakaiki, Y. Yamamoto, and H. Özbay

[Abstract](#) | Full Text: [PDF](#) [1280 KB]

A Limiting Property of the Matrix Exponential

S. Trimpe and R. D'Andrea

[Abstract](#) | Full Text: [PDF](#) [1403 KB]

IEEE Control Systems Society Information
Full Text: [PDF](#) [164 KB]

The logo for IEEE Control Systems Magazine. It features the word "IEEE" in a blue box on the left, "control systems" in large, bold, blue letters in the center, and "MAGAZINE" in a blue box on the right. The text "control" and "systems" are stacked vertically.

IEEE control systems MAGAZINE

APRIL 2014

Volume 34

Number 2

Front Cover

Full Text: [PDF](#) [589 KB]

Table of Contents

Full Text: [PDF](#) [1147 KB]

Simon van der Meer's Nobel Prize in Control Engineering [From the Editor]

R. D. Braatz

Full Text: [PDF](#) [315 KB]

Hybrid Electric Vehicles and Oscillators

[About This Issue]

R. D. Braatz

Full Text: [PDF](#) [816 KB]

Prediction is Very Difficult, Especially About the Future? (Niels Bohr) [President's

Message]

J. Farrell

Full Text: [PDF](#) [767 KB]

CSS News

Full Text: [PDF](#) [245 KB]

[25 Years Ago]

Full Text: [PDF](#) [459 KB]

IEEE Control Systems Magazine Board

Full Text: [PDF](#) [184 KB]

A Real Nobel Prize for a Feedback Control System: Simon van der Meer [Feedback]

M. Weinberger, R. Braatz

Full Text: [PDF](#) [7064 KB]

CSS Quarter-Century Members [Member Activities]

K. Morris

Full Text: [PDF](#) [220 KB]

IEEE CSS Technical Committee on System Identification and Adaptive Control

[Technical Activities]

D. Regruto

Full Text: [PDF](#) [226 KB]

And Then, There Are None? Who Pays, Who Reads, and Who Remains? [Publication

Activities]

Y. Yamamoto

Full Text: [PDF](#) [837 KB]

Jie Huang [People in Control]

Full Text: [PDF](#) [806 KB]

Zhong-Ping Jiang [People in Control]

Full Text: [PDF](#) [613 KB]

Wei Kang [People in Control]

Full Text: [PDF](#) [968 KB]

Derong Liu [People in Control]

Full Text: [PDF](#) [711 KB]

Ravi R. Mazumdar [People in Control]

Full Text: [PDF](#) [757 KB]

Kevin A. Wise [People in Control]

Full Text: [PDF](#) [1069 KB]

Electromobility Studies Based on
Convex Optimization: Design and
Control Issues Regarding Vehicle
Electrification

B. Egardt, N. Murgovski,
M. Pourabollah, L. Johannesson
Mardh

Full Text: [PDF](#) [3265 KB]

Sensitivity Analysis of Oscillator
Models in the Space of Phase-Response
Curves: Oscillators As Open Systems

P. Sacre, R. Sepulchre

Full Text: [PDF](#) [3818 KB]

Writing Papers on Control Theory
[Focus on Education]

R. Braatz

Full Text: [PDF](#) [261 KB]

Unlikely Candidate? [Historical
Perspectives]

M. Masten

Full Text: [PDF](#) [407 KB]

Industrial Process Identification and
Control Design: Step-Test and Relay-
Experiment-Based Methods [Bookshelf]

P. Albertos

Full Text: [PDF](#) [768 KB]

Book Announcements [Bookshelf]

Full Text: [PDF](#) [1581 KB]

Sixth IFAC Symposium on
Mechatronic Systems (MECH 2013)
[Conference Reports]

B. Yao, H. Yang, Q. Wang

Full Text: [PDF](#) [4176 KB]

[Conference Calendar]

Full Text: [PDF](#) [208 KB]

IEEE Control Systems Society

Full Text: [PDF](#) [187 KB]

Bandwidth [On the Lighter Side]

S. Mash

Full Text: [PDF](#) [524 KB]

Linear Quadratic Footwear [Random
Inputs]

D. Bernstein

Full Text: [PDF](#) [868 KB]

Upcoming IEEE Conferences

ACC 2014



IMPORTANT DATES

Draft Manuscript due:
September 27, 2013 [CLOSED]

Workshop Proposals due:
October 18, 2013 [CLOSED]

Acceptance/Rejection Notice:
Late January 2014 [CLOSED]

Final Manuscript Submission:
March 18, 2014 [CLOSED]

2014 AMERICAN CONTROL CONFERENCE

JUNE 4-6, 2014

PORTLAND, OREGON, USA

Will be held at the Hilton Portland & Executive Tower, which is centrally located in downtown Portland within blocks of many of Portland's best entertainment and tourist venues. Also in close proximity to the conference venue is the Portland Center for the Performing Arts, Oregon Historical Society, Portland Art Museum, and the Washington Park Zoo. America's most bike friendly city, Portland is also well known for its friendly walk able short city blocks dotted with microbreweries.

<http://a2c2.org/conferences/acc2014/>

IEEE 2014 Multi-Conference on Systems and Control



NICE/ANTIBES, FRANCE ° OCTOBER 8-10

Important Dates

March 24, 2014: Workshop and invited session proposals due [CLOSED]

April 1, 2014: Technical papers due [CLOSED]

July 1, 2014: Notification of acceptance

July 15, 2014: Preliminary program ready

September 1, 2014: Final manuscripts due

September 1, 2014: Early registration ends

September 15, 2014: Conference program ready

October 8-10, 2014: Conference dates

MSC 2014 will be a three-day event, preceded by a full day of Tutorials and Workshops. The conference proceedings will be included in IEEE Xplore and indexed by INSPEC and Ei-Compendex.

<http://www.msc2014.org>

CDC 2014

53rd IEEE Conference on
Decision and Control
December 15-17, 2014



IMPORTANT DATES

March 10, 2014: Invited Session Proposals Due [CLOSED]

March 20, 2014: Initial Paper Submissions Due [CLOSED]

May 1, 2014: Workshop Proposals Due

Mid-July 2014: Paper and Workshop Decision Notification

August 1, 2014: Registration Opens

September 20, 2014: Accepted Papers Due

The 53rd IEEE Conference on Decision and Control will be held Monday through Wednesday, December 15-17, 2014 at the [J.W. Marriott Hotel](#), Los Angeles, CA, USA. The conference will be preceded by technical workshops on Sunday, December 14, 2014.

The CDC is recognized as the premier scientific and engineering conference dedicated to the advancement of the theory and practice of systems and control. The CDC annually brings together an international community of researchers and practitioners in the field of automatic control to discuss new research results, perspectives on future developments, and innovative applications relevant to decision making, automatic control, and related areas.

<http://control.disp.uniroma2.it/cdc2014/>



ACC 2015

Important Dates

Draft Manuscript due:
September 26, 2014

Workshop Proposals due:
October 17, 2014

Acceptance/Rejection Notice:
By January 31, 2015

Final Manuscript Submission:
March 15, 20145

**2015 AMERICAN CONTROL
CONFERENCE**
JULY 1-3, 2015
CHICAGO, ILLINOIS, USA

Will be held Wednesday through Friday, July 1–3 in downtown Chicago, Illinois. The conference venue is the **Hilton Palmer House**, located in the heart of The Loop, just minutes away from Millennium Park, Grant Park, the Willis Tower, and Chicago's downtown theater district. Chicago is also home to museums and galleries of every variety along with world-class dining, shopping, and entertainment along the sparkling shores of Lake Michigan.

<http://www.a2c2.org/conferences/acc2015/>