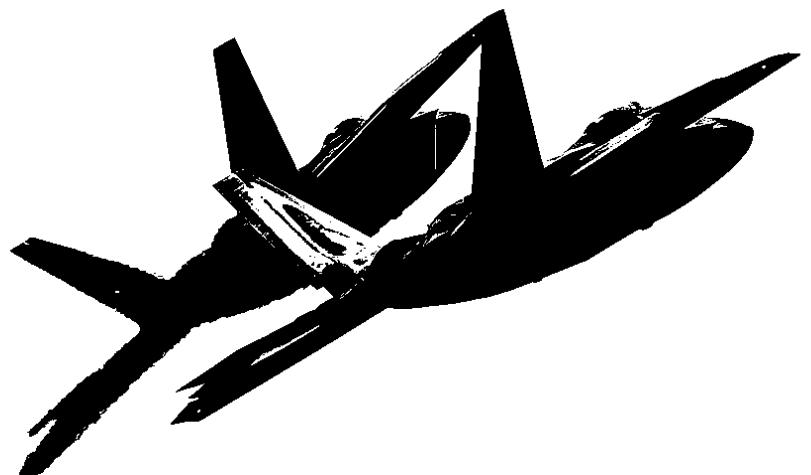


CONTROL SYSTEMS SOCIETY



PUBLICATIONS CONTENT DIGEST

Publications Activities

Vice-President

THOMAS PARISINI *Imperial College, UK*

<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

ANDREA SERRANI *Ohio State University*

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

IEEE Transactions on Control of Network Systems

IOANNIS PASchalidis *Boston University*

JEFF SHAMMA Deputy Editor-in-Chief *King Abdullah University of Science and Technology*

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

IEEE Control Systems Magazine

JONATHAN HOW *Massachusetts Institute of Technology*

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

Electronics Editor

E-letter on Systems, Control and Signal Processing

JIANGHAI HU *Purdue University*

<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



MAY 2017

VOLUME 63

NUMBER 5

IETAA9 (ISSN 0018-9286)

Table of Contents

Full Text: [PDF](#)

IEEE Transactions on Automatic Control

Publication information

Full Text: [PDF](#)

Scanning the Issue

Full Text: [PDF](#)

Full Papers

Distributed Algorithms for Computation of Centrality Measures in Complex Networks

K. You, R. Tempo, L. Qiu

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

Asynchronous Distributed Optimization via Randomized Dual Proximal Gradient

I. Notarnicola, G. Notarstefano

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

Quantization Design for Distributed Optimization

Y. Pu, M. N. Zeilinger, C. N. Jones

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

On Connectivity and Robustness in Random Intersection Graphs

J. Zhao, O. Yagan, V. Gligor

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

Optimal Transport Over A Linear Dynamical System

Y. Chen, T. T. Georgiou, M. Pavon

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

Observer-based Controllers for Max-plus Linear Systems

L. Hardouin, Y. Shang, C. A. Maia, B. Cottenceau

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

Decision-Based System Identification and Adaptive Resource Allocation

J. Guo, B. Mu, L. Y. Wang, G. Yin, L. Xu

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

Matchable-Observable Linear Models and Direct Filter Tuning: An Approach to Multivariable Identification

R. A. Romano, F. Pait

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

2D Observer-Based Control of a Vascular Microrobot

L. Sadelli, M. Fruchard, A. Ferreira

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

Uniform Stabilization of Nonlinear Systems with Arbitrary Switchings and Dynamic Uncertainties

S. Pavlichkov, S. Dashkovskiy, C. K. Pang

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

Adaptive System Optimization using Random Directions Stochastic Approximation

P. L.A., S. Bhatnagar, M. C. Fu, S. Marcus

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

Distributed Continuous-time Optimization: Nonuniform Gradient Gains, Finite-time Convergence, and Convex Constraint Set

P. Lin, W. Ren, J. A. Farrell

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

Variable Selection and Identification of High-dimensional Nonparametric Additive Nonlinear Systems

B. Mu, W. X. Zheng, E-W. Bai

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

Novel Multidimensional Models of Opinion Dynamics in Social Networks

S. E. Parsegov, A. V. Proskurnikov, R. Tempo, N. E. Friedkin

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

Control with Minimal Cost-Per-Symbol Encoding and Quasi-Optimality of Event-Based Encoders

J. Pearson, J. P. Hespanha, D. Liberzon

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

Asymptotic Stability of Perturbation-Based Extremum-Seeking Control for Nonlinear Plants

M. Haring, T. A. Johansen

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

Scalable Design of Heterogeneous Networks

R. Pates, G. Vinnicombe

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

General Stochastic Convergence Theorem and Stochastic Adaptive Output-Feedback Controller

F. Li, Y. Liu

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

Adaptive Control via Extremum Seeking: Global Stabilization and Consistency of Parameter Estimates

M. S. Radenkovic, M. Krstic

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

Finite Model Approximations and Asymptotic Optimality of Quantized Policies in Decentralized Stochastic Control

N. Saldi, S. Yuksel, T. Linder

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

An Efficient Game for Coordinating Electric Vehicle Charging

S. Zou, Z. Ma, X. Liu, I. Hiskens

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

Adaptive Input Design for LTI Systems

L. Gerencser, H. Hjalmarsson, L. Huang

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

Sampled Observability and State Estimation of Linear Discrete Ensembles

S. Zeng, H. Ishii, F. Allgower

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

Stabilization by Output Feedback of Multivariable Invertible Nonlinear Systems

L. Wang, A. Isidori, L. Marconi, H. Su

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

Networked Control under Random and Malicious Packet Losses

A. Cetinkaya, H. Ishii, T. Hayakawa

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

Technical Notes and Correspondence

Distributed LPV State-Feedback Control Under Control Input Saturation

A. Dabiri, B. Kulcsar, H. Koroglu

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

Approximate MMSE Estimator for Linear Dynamic Systems with Gaussian Mixture Noise

L. Pishdad, F. Labeau

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

A State-Dependent Updating Period For Certified Real-Time Model Predictive Control

M. Alamir

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

Novel Summation Inequalities and Their Applications to Stability Analysis for Systems with Time-Varying Delay

J. Chen, S. Xu, X. Jia, B. Zhang

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

Relationships Between Subclasses of integral Input-to-State Stability

C. M. Kellett, P. M. Dower, H. Ito

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

A Criterion for Exponential Consensus of Time-Varying Non-Monotone Nonlinear Networks

S. Manfredi, D. Angeli

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

Energy Based Limit Cycle Control of Elastically Actuated Robots

G. Garofalo, C. Ott

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

Adaptive Tracking Control for a Class of Stochastic Uncertain Nonlinear Systems with Input Saturation

Y-F. Gao, X-M. Sun, C. Wen, W. Wang

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

On Stabilization of 2D Roesser Models

O. Bachelier, N. Yeganefar, D. Mehdi, W. Paszke

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

Local Controllability of the Two-Link

Magneto-Elastic Micro-Swimmer

L. Giraldi, J-B. Pomet

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

Convergence and State Reconstruction of Time-varying Multi-agent Systems from Complete Observability Theory

B. D. O. Anderson, G. Shi, J. Trumpf

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

Identification of Discrete-time Output Error Model Using Filtered Input Excitation for Integrating Processes with Time Delay

T. Liu, S. Dong, F. Chen, D. Li

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

Simultaneous Input and State Estimation for Linear Time-Varying Continuous-Time Stochastic Systems

S. Z. Yong, M. Zhu, E. Frazzoli

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

Leader-Follower Synchronization of Euler-Lagrange Systems with Time-Varying Leader Trajectory and Constrained Discrete-time Communication

A. Abdessameud, A. Tayebi, I. G. Polushin

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

Contact-Force Control of a Flexible Timoshenko Arm in Rigid/Soft Environment

T. Endo, M. Sasaki, F. Matsuno, Y. Jia

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

Finite/Fixed Time Stabilization for Nonlinear Interconnected Systems With Dead-Zone Input

C-C. Hua, Y. Li, X. Guan

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

Sampled-data Stabilization of Nonlinear Dynamics with Input Delays through Immersion and Invariance

S. Monaco, D. Normand-Cyrot, M. Mattioni

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

Stability Analysis of Switched Linear Systems defined by Regular Languages

Y. Wang, N. Roohi, G. E. Dullerud, M. Viswanathan

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

Supervisor Synthesis for Mealy Automata with Output Function: A Model Transformation Approach

X. Yin

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

Summation Inequalities To Bounded Real Lemmas of Discrete-Time Systems With Time-Varying Delay

C-K. Zhang, Y. He, L. Jiang, M. Wu, H-B. Zeng

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

Adaptive Control with Exponential Regulation in the Absence of Persistent Excitation

Y. Song, K. Zhao, M. Krstic

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

Comments on “Simultaneous Reduction of Petri Nets and Linear Constraints for Efficient Supervisor Synthesis”

N. Ran, S. Wang, H. Su

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

IEEE TRANSACTIONS ON CONTROL SYSTEMS TECHNOLOGY

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



MARCH 2017

VOLUME 25

NUMBER 2

IETTE2

(ISSN 1063-6536)

Table of Contents

Full Text: [PDF](#)

IEEE Transactions on Control Systems Technology

Publication information

Full Text: [PDF](#)

Regular Papers

Data and Reliability Characterization Strategy for Automatic Detection of Valve Stiction in Control Loops
O. Pozo Garcia, A. Zakharov, and S.-L. Jämsä-Jounela
[Abstract](#) | Full Text: [PDF](#)

Plug-and-Play Voltage Stabilization in Inverter-Interfaced Microgrids via a Robust Control Strategy
M. S. Sadabadi, Q. Shafiee, and A. Karimi
[Abstract](#) | Full Text: [PDF](#)

Identification and Multivariable Gain-Scheduling Control for Cloud Computing Systems
P. S. Saikrishna, R. Pasumarthy, and N. P. Bhatt
[Abstract](#) | Full Text: [PDF](#)

Optimum Adaptive Piecewise Linearization: An Estimation Approach in Wind Power
M. Vaezi, P. Khayyer, and A. Izadian
[Abstract](#) | Full Text: [PDF](#)

Overshoot-Free Steering-Based Source Seeking

A. Raisch and M. Krstic

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

Resource-Efficient Gradient Methods for Model Predictive Pulse Pattern Control on an FPGA
S. Richter, T. Geyer, and M. Morari

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

Critical-to-Fault-Degradation Variable Analysis and Direction Extraction for Online Fault Prognostic

C. Zhao and F. Gao

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

Improving Demand Response Potential of a Supermarket Refrigeration System: A Food Temperature Estimation Approach
R. Pedersen, J. Schwensen, B. Biegel, T. Green, and J. Stoustrup

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

Bilateral Control of SeNZA—A Series Hybrid Electric Bicycle

M. Corno, F. Roselli, and S. M. Savaresi

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

Speed Advisory and Signal Offsets Control for Arterial Bandwidth Maximization and Energy Consumption Reduction

G. De Nunzio, G. Gomes, C. Canudas-de-Wit, R. Horowitz, and P. Moulin

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

An Alternative Approach to the Inference of the Extended Observability Matrix, and Its Relation With the PO-MOESP Algorithm

R. Nava Cabrera, V. M. Alvarado, G. Lopez Lopez, and M. Adam Medina

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

Distributed Model Predictive Control for Heterogeneous Vehicle Platoons Under Unidirectional Topologies

Y. Zheng, S. E. Li, K. Li, F. Borrelli, and J. K. Hedrick

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

Health-Aware and User-Involved Battery Charging Management for Electric Vehicles: Linear Quadratic Strategies

H. Fang, Y. Wang, and J. Chen

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

JLS-PPC: A Jump Linear System Framework for Networked Control

B. L. Reed and F. S. Hover

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

A Hybrid Dynamic System Model for Multimodal Transportation Electrification

A. M. Farid

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

Organic Rankine Cycle for Vehicles: Control Design and Experimental Results

J. Peralez, M. Nadri, P. Dufour, P. Tona, and

A. Sciarretta

[Abstract](#) | Full Text: [PDF](#) [2326 KB]

Robust Real-Time Needle Tracking in 2-D Ultrasound Images Using Statistical Filtering

K. Mathiassen, D. Dall'Alba, R. Muradore, P. Fiorini, and O. J. Elle

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

Control Engineering Methods for the Design of Robust Behavioral Treatments

K. Bekiroglu, C. Lagoa, S. A. Murphy, and S. T. Lanza

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

A Passivity-Based Approach for Stable Patient–Robot Interaction in Haptics-Enabled Rehabilitation Systems: Modulated Time-Domain Passivity Control

S. F. Atashzar, M. Shahbazi, M. Tavakoli, and R. V. Patel

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

Force Feedback Control Assisted Tympanostomy Tube Insertion

W. Liang and K. K. Tan

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

Brief Papers

Flocking for Multirobots Without Distinguishing Robots and Obstacles

D. Sakai, H. Fukushima, and F. Matsuno

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

System Identification and Fault Diagnosis of an Electromagnetic Actuator

A. Forrai

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

Modeling and Vibration Control for a Moving Beam With Application in a Drilling Riser

W. He, S. Nie, T. Meng, and Y-J. Liu

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

Online Learning-Based Server Provisioning for Electricity Cost Reduction in Data Center Dynamic Simulator Platform

J. Yang, S. Zhang, X. Wu, Y. Ran, and H. Xi

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

Toward a Robust Motorcycle Braking

M. E-H. Dabladji, D. Ichalal, H. Arioui, and S. Mammar

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

Allocating Sensors and Actuators via Optimal Estimation and Control

J. A. Taylor, N. Luangsomboon, and D. Fooladivanda

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

Robust Control Allocation for Spacecraft Attitude Tracking Under Actuator Faults

Q. Shen, D. Wang, S. Zhu, and E. K. Poh

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

State Estimation of Macromotion Positioning Tables Based on Switching Kalman Filter

Y. Li, Y. Tan, R. Dong, and H. Li

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

An Adaptive Two-Level Quantizer for Networked Control Systems

D. Almakles, A. K. Swain, A. Nasiri, and

N. Patel

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

Variational Bayesian Gaussian Mixture Regression
for Soft Sensing Key Variables in Non-Gaussian

Industrial Processes

J. Zhu, Z. Ge, and Z. Song

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

Policy Iteration Approach to Control Residual Gas
Fraction in IC Engines Under the Framework of
Stochastic Logical Dynamics

Y. Wu and T. Shen

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

Subspace Identification of 2-D CRSD Roesser
Models With Deterministic-Stochastic Inputs: A
State Computation Approach

A. Alenany, G. Mercère, and J. A. Ramos

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

3-D Trajectory Planning of Aerial Vehicles Using
RRT*

P. Pharpatara, B. Hérissé, and Y. Bestaoui

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

A Probabilistic Just-in-Time Learning Framework
for Soft Sensor Development With Missing Data

X. Yuan, Z. Ge, B. Huang, and Z. Song

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

Modular-Controller-Design-Based Fast Terminal
Sliding Mode for Articulated Exoskeleton Systems

T. Madani, B. Daachi, and K. Djouani

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

Modular-Controller-Design-Based Fast Terminal
Sliding Mode for Articulated Exoskeleton Systems

T. Madani, B. Daachi, and K. Djouani

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

General Unbiased FIR Filter With Applications to
GPS-Based Steering of Oscillator Frequency

Y. S. Shmaliy, S. H. Khan, S. Zhao, and

O. Ibarra-Manzano

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

Introducing IEEE Collabratec

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

IEEE Transactions on Control Systems Technology
Information for authors

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

IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



COSPONSORED BY
IEEE CIRCUITS AND SYSTEMS SOCIETY
IEEE COMMUNICATIONS SOCIETY
IEEE COMPUTER SOCIETY
IEEE ROBOTICS AND AUTOMATION SOCIETY



MARCH 2017

VOLUME 4

NUMBER 1

ITCNAY

(ISSN 2325-5870)

Guest Editorial Special Issue on Secure Control of Cyber-Physical Systems

Peng Cheng ; Ling Shi ; Bruno Sinopolip. 1 – 3.....[PDF](#)

Optimal Linear Cyber-Attack on Remote State Estimation

Ziyang Guo ; Dawei Shi ; Karl Henrik Johansson ; Ling Shi p.4 – 13.....[PDF](#)

Dynamic State Recovery for Cyber-Physical Systems Under Switching Location Attacks

Chensheng Liu ; Jing Wu ; Chengnian Long ; Yebin Wang .p.14 – 22.....[PDF](#)

Security Assessment of Electricity Distribution Networks Under DER Node Compromises

Devendra Shelar ; Saurabh Aminp.23-36[PDF](#)

Cited by: Papers (1)

A Clean Slate Approach to Secure Ad Hoc Wireless Networking-Open Unsynchronized Networks

Jonathan Ponniah ; Yih-Chun Hu ; P. R. Kumarp.37 – 48.....[PDF](#)

Secure State Estimation Against Sensor Attacks in the Presence of Noise

Shaunak Mishra ; Yasser Shoukry ; Nikhil Karamchandani ; Suhas N. Diggavi ; Paulo Tabuada p.49 – 59.....[PDF](#)

A Graph-Theoretic Characterization of Perfect Attackability for Secure Design of Distributed Control Systems

Sean Weerakkody ; Xiaofei Liu ; Sang Hyuk Son ; Bruno Sinopoli

p. 60 – 70.....[PDF](#)

Dynamic Games With Asymmetric Information and Resource Constrained Players With Applications to Security of Cyberphysical Systems

Abhishek Gupta ; Cédric Langbort ; Tamer Başarp. 71 -81[PDF](#)

Attack-Resilient State Estimation for Noisy Dynamical Systems

Miroslav Pajic ; Insup Lee ; George J. Pappasp. 82 – 92.....[PDF](#)

Event-Triggered Control Systems Under Denial-of-Service Attacks

V. S. Dolk ; P. Tesi ; C. De Persis ; W. P. M. H. Heemels....p.93 – 105.....[PDF](#)

Coding Schemes for Securing Cyber-Physical Systems Against Stealthy Data Injection Attacks

Fei Miao ; Quanyan Zhu ; Miroslav Pajic ; George J. Pappas

p. 106 – 117.....[PDF](#)

Differential Privacy in Linear Distributed Control Systems: Entropy Minimizing Mechanisms and Performance Tradeoffs

Yu Wang ; Zhenqi Huang ; Sayan Mitra ; Geir E. Dullerud .p. 118 - 130[PDF](#)

Upcoming IEEE Conferences



ACC 2017

Important Dates

Draft Manuscripts:

~~September 19, 2016~~ (*PASSED*)

Best Student Paper Nominations:

~~September 30, 2016~~ (*PASSED*)

Workshop Proposals:

~~October 10, 2016~~ (*PASSED*)

Acceptance/Rejection Notice:

~~January 15, 2017~~ (*PASSED*)

Final Manuscript Submission:

~~February 28, 2017~~ (*PASSED*)

HOPE TO SEE YOU THERE!

2017 AMERICAN CONTROL CONFERENCE

MAY 24-26, 2017
SEATTLE, WA, USA

The 2017 American Control Conference will be held Wednesday through Friday, May 24-26 at the Sheraton Seattle Hotel, centrally located in the heart of downtown Seattle, WA. Sheraton Seattle Hotel is near nightlife, restaurants, shopping, and entertainment, just a walk to all of Seattle's known sights such as the Seattle Waterfront, Pike Place Market, Space Needle, Seattle Aquarium, and the Washington State Ferries.



CCTA 2017

Important Dates

Paper Submissions Open:
~~December 15, 2016~~ (Passed)

Invited Session Proposals Due:
~~March 1, 2017~~ (Passed)

Contributed and Invited Papers Due:
~~March 1, 2017~~ (Passed)

Acceptance Notice:
June 1, 2017

Final Submissions Due:
July 1, 2017

2017 CONFERENCE ON TECHNOLOGY AND APPLICATIONS

AUGUST 27-30, 2017
KOHALA COAST, HI, USA

CCTA 2017 will be held at the Mauna Lani Bay Hotel and Bungalows on the Big Island. The venue is a medium-sized, serene property on the west Kohala Coast, and the organizers have negotiated reasonable room rates which include all resort amenities. The Big Island of Hawai'i offers an abundance of natural beauty and sites, with 11 of the world's 13 climate zones. With a land mass of nearly twice the size of all other Hawaiian Islands combined, but with only a small fraction of the state's population, its diverse terrain spans green and black sand beaches to lush rainforests, waterfalls and active volcanoes.

<http://ccta2017.ieecss.org/>

December 12-15, 2017
Melbourne, Australia

2017 IEEE Conference on Decision and Control



Important Dates

- January 4, 2017:** Submission Site Opens (Passed)
- March 20, 2017:** Initial Paper Submissions Due (Passed)
- May 1, 2017** Workshop Proposals Due (Passed)
- Mid-July** Paper and Workshop Decision Notification
- August 1, 2017:** Final Submission Open and Registration Opens
- September 20, 2017:** Accepted Papers Due