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Technical Program for Tuesday December 15, 2015

TuPL	Large Hall
Fragility of Networked Systems (Plenary Session)	
Chair: Ohta, Yoshito	Kyoto Univ
Co-Chair: Sampei, Mitsuji	Tokyo Inst. of Tech
08:30-09:30	TuPL.1
*Fragility of Networked Systems**.	
Dahleh, Munther A.	Massachusetts Inst. of Tech

TuA01	Large Hall
New Directions in Power System Analysis, Estimation, and Control (Invited Session)	
Chair: Dvijotham, Krishnamurthy	California Inst. of Tech
Co-Chair: Chertkov, Michael	Los Alamos National Lab
Organizer: Dvijotham, Krishnamurthy	California Inst. of Tech
Organizer: Chertkov, Michael	Los Alamos National Lab
10:00-10:20	TuA01.1
Convexification of Power Flow Problem Over Arbitrary Networks (I), pp. 1-8.	
Madani, Ramtin	Columbia Univ
Lavaei, Javad	UC Berkeley
Baldick, Ross	Univ. of Texas, Austin
10:20-10:40	TuA01.2
Stability of Interconnected DC Converters (I), pp. 9-14.	
Zhang, Baosen	Univ. of Washington
Vianna Cezar, Gustavo	Stanford Univ
Rajagopal, Ram	Stanford Univ
10:40-11:00	TuA01.3
Distributed Optimization Decomposition for Joint Economic Dispatch and Frequency Regulation (I), pp. 15-22.	
Cai, Desmond W. H.	California Inst. of Tech
Mallada, Enrique	California Inst. of Tech
Wierman, Adam	California Inst. of Tech
11:00-11:20	TuA01.4
A Differential Analysis of the Power Flow Equations (I), pp. 23-30.	
Dvijotham, Krishnamurthy	California Inst. of Tech
Chertkov, Michael	Los Alamos National Lab
Low, Steven H.	California Inst. of Tech
11:20-11:40	TuA01.5
Solution of Optimal Power Flow Problems Using Moment Relaxations Augmented with Objective Function Penalization (I), pp. 31-38.	
Molzahn, Daniel	Univ. of Michigan
Josz, Cedric	RTE
Hiskens, Ian A.	Univ. of Michigan
Panciatici, Patrick	RTE
11:40-12:00	TuA01.6
An Intrusion-Resilient Distributed Optimization Algorithm for Modal Estimation in Power Systems, pp. 39-44.	
Nabavi, Seyedbehzad	North Carolina State Univ
Chakrabortty, Aranya	North Carolina State Univ

TuA02	Small Hall
Nonstochastic Entropy and Information in Control (Tutorial Session)	
Chair: Nair, Girish N.	Univ. of Melbourne
Co-Chair: Colonius, Fritz	Univ. of Augsburg
Organizer: Nair, Girish N.	Univ. of Melbourne
10:00-11:00	TuA02.1
Nonstochastic Information Concepts for Estimation and Control (I), pp. 45-56.	
Nair, Girish N.	Univ. of Melbourne
11:00-12:00	TuA02.2
Entropy Properties of Deterministic Control Systems (I), pp. 57-65.	
Colonius, Fritz	Univ. of Augsburg

TuA03	801
Linear Parameter-Varying Systems I (Regular Session)	
Chair: Farhood, Mazen	Virginia Tech
Co-Chair: Tóth, Roland	Eindhoven Univ. of Tech
10:00-10:20	TuA03.1
Bayesian Identification of LPV Box-Jenkins Models, pp. 66-71.	
Darwish, Mohamed	Eindhoven Univ. of Tech
Cox, Pepijn B.	Eindhoven Univ. of Tech
Pillonetto, Gianluigi	Univ. of Padova
Tóth, Roland	Eindhoven Univ. of Tech
10:20-10:40	TuA03.2
Reduced Complexity Control Design for Symmetric LPV Systems, pp. 72-77.	
Danielson, Claus	Mitsubishi Electric Res. Labs
Di Cairano, Stefano	Mitsubishi Electric Res. Lab
10:40-11:00	TuA03.3
BRIEF: Bayesian Regression of Infinite Expert Forecasters for Single and Multiple Time Series Prediction, pp. 78-83.	
Jin, Ming	UC Berkeley
Spanos, Costas J.	Univ. of California at Berkeley
11:00-11:20	TuA03.4
Robust LMI Position Regulation of a Bistable Dielectric Electro-Active Polymer Membrane, pp. 84-90.	
Rizzello, Gianluca	Pol. Di Bari
Naso, David	Pol. Di Bari
Turchiano, Biagio	Pol. Di Bari
York, Alexander	Saarland Univ. Multifuncional Materials Systems Lab
Seelecke, Stefan	Saarland Univ
11:20-11:40	TuA03.5
An MPC Approach for LPV Systems in Input-Output Form, pp. 91-96.	
Abbas, Hossam Seddik	Assiut Univ
Tóth, Roland	Eindhoven Univ. of Tech
Meskin, Nader	Qatar Univ
Mohammadpour, Javad	Univ. of Georgia
Hanema, Jurre	Eindhoven Univ. of Tech
11:40-12:00	TuA03.6
An LPV Path-Following Controller for Small Fixed-Wing UAS, pp. 97-102.	

Palframan, Mark	Virginia Tech
Guthrie, Kyle	Virginia Pol. Inst. & State Univ
Farhood, Mazen	Virginia Tech

TuA04 802

Nonlinear Systems Identification (Regular Session)

Chair: Sznaier, Mario	Northeastern Univ
Co-Chair: Dabbene, Fabrizio	CNR-IEIIT

10:00-10:20 TuA04.1

Dimension Estimation for Autonomous Nonlinear Systems, pp. 103-108.

Padoan, Alberto	Imperial Coll. London
Astolfi, Alessandro	Imperial Coll. & Univ. of Rome

10:20-10:40 TuA04.2

Efficient Identification of Wiener Systems Using a Combination of Atomic Norm Minimization and Interval Matrix Properties, pp. 109-114.

Yilmaz, Burak	Northeastern Univ
Sznaier, Mario	Northeastern Univ

10:40-11:00 TuA04.3

A New Kernel-Based Approach for Overparameterized Hammerstein System Identification, pp. 115-120.

Risuleo, Riccardo Sven	KTH Royal Inst. of Tech
Bottegal, Giulio	KTH Royal Inst. of Tech
Hjalmarsson, Håkan	KTH Royal Inst. of Tech

11:00-11:20 TuA04.4

Recursive Identification of Nonparametric Nonlinear Systems with Binary-Valued Output Observations, pp. 121-126.

Zhao, Wenxiao	Acad. of Mathematics and Systems Science, Chinese Acad. Sc
Chen, Han-Fu	AMSS, Chinese Acad. of Sciences
Tempo, Roberto	CNR-IEIIT, Pol. Di Torino
Dabbene, Fabrizio	CNR-IEIIT

11:20-11:40 TuA04.5

Towards Deterministic Subspace Identification for Autonomous Nonlinear Systems, pp. 127-132.

Padoan, Alberto	Imperial Coll. London
Astolfi, Alessandro	Imperial Coll. & Univ. of Rome

11:40-12:00 TuA04.6

Iterative Function Separation for Gene Regulatory Function Identification, pp. 133-138.

Bhushan, Palak	Univ. of California Berkeley
Chang, Young Hwan	Oregon Health and Science Univ
Tomlin, Claire J.	UC Berkeley

TuA05 804

Mechanical Systems and Robotics (Regular Session)

Chair: Consolini, Luca	Univ. of Parma
Co-Chair: Menini, Laura	Univ. Di Roma 'Tor Vergata'

10:00-10:20 TuA05.1

Induced Connections for Virtual Holonomic Constraints, pp. 139-144.

Consolini, Luca	Univ. of Parma
Costalunga, Alessandro	Univ. of Parma

10:20-10:40 TuA05.2

On the Computation of the Continuous-Time Reference Trajectory for Mechanical Juggling Systems, pp. 145-150.

Menini, Laura	Univ. Di Roma 'Tor Vergata'
Possieri, Corrado	Univ. Di Roma Tor Vergata
Tornambe, Antonio	Univ. Di Roma Tor Vergata

10:40-11:00 TuA05.3

Continuity and Smoothness Properties of Nonlinear Optimization-Based Feedback Controllers, pp. 151-158.

Morris, Benjamin	Matrix Computing
Powell, Matthew	Texas A&M Univ
Ames, Aaron D.	Georgia Inst. of Tech

11:00-11:20 TuA05.4

Modeling and Control of a Multifingered Robot Hand for Object Grasping and Manipulation Tasks, pp. 159-164.

Reis, Matheus	Federal Univ. of Rio De Janeiro
Leite, Antonio C.	COPPE - Federal Univ. of Rio De Janeiro
Lizarralde, Fernando	Federal Univ. of Rio De Janeiro

11:20-11:40 TuA05.5

Heave Spring and Ride Height Optimisation of a Formula One Car Suspension System, pp. 165-170.

Imani Masouleh, Mehdi	Univ. of Oxford
Limebeer, David	Engineering Science Department, Univ. of Oxford

11:40-12:00 TuA05.6

Stability Analysis for Set-Based Control within the Singularity-Robust Multiple Task-Priority Inverse Kinematics Framework, pp. 171-178.

Moe, Signe	Norwegian Univ. of Science and Tech
Teel, Andrew R.	Univ. of California at Santa Barbara
Antonelli, Gianluca	Univ. Di Cassino
Pettersen, Kristin Y.	Norwegian Univ. of Science and Tech

TuA06 805

Automotive Control I (Regular Session)

Chair: Nadri, Madiha	Univ. Claude Bernard Lyon 1
Co-Chair: Longo, Stefano	Cranfield Univ

10:00-10:20 TuA06.1

Explicit Multi Model Predictive Control of a Waste Heat Rankine Based System for Heavy Duty Trucks, pp. 179-184.

Grelet, Vincent	Volvo Trucks
Dufour, Pascal	Univ. De Lyon, Univ. Claude Bernard Lyon 1, CNRS
Nadri, Madiha	Univ. Claude Bernard Lyon 1
Lemort, Vincent	Univ. of Liège
Reiche, Thomas	Volvo GTT

10:20-10:40 TuA06.2

A Tracking Control for Pantograph-Catenary System, pp. 185-190.

Mokrani, Nassim	Univ. Picardie Jule Verne
Rachid, Ahmed	Univ. De Picardie-Jules Verne
Ait Rami, Mustapha	Univ. De Valladolid

10:40-11:00 TuA06.3

Knocking Detection in Gasoline Engines Based on Probability Density Functions: A Mixed Gaussian Distribution Approach, pp. 191-196.

Ibuki, Tatsuya	Tokyo Inst. of Tech

Awai, Yasuhiro	Tokyo Inst. of Tech
Sakayanagi, Yoshihiro	Toyota Motor Corp
Sampei, Mitsuji	Tokyo Inst. of Tech
Kako, Junichi	Toyota Motor Corp

11:00-11:20 TuA06.4

Model-Based Active Brake Force Distribution for Pitch Angle Minimization, pp. 197-202.

Tavernini, Davide	Cranfield Univ
Velenis, Efstathios	Cranfield Univ
Longo, Stefano	Cranfield Univ

11:20-11:40 TuA06.5

Composite Nonlinear Feedback Control for Path Following of Four-Wheel Independently Actuated Autonomous Ground Vehicles, pp. 203-208.

Hu, Chuan	McMaster Univ
Wang, Rongrong	Southeast Univ
Yan, Fengjun	McMaster Univ
Chadli, Mohammed	Univ. De Picardie-Jules Verne
Karimi, Hamid Reza	Univ. of Agder

11:40-12:00 TuA06.6

Robust Control with Parameter Uncertainties for Vehicle Chassis Stability in Critical Situations (I), pp. 209-214.

Dahmani, Hamid	Univ. of Picardie Jules Verne
Pages, Olivier	Univ. of Picardie Jules Verne
El Hajjaji, Ahmed	Univ. of Picardie-Jules Verne

TuA07 1001

Recent Trends in Mobile Sensor Networks (Invited Session)

Chair: Wu, Wencen	Rensselaer Pol. Inst
Co-Chair: Zhang, Fumin	Georgia Inst. of Tech
Organizer: Wu, Wencen	Rensselaer Pol. Inst
Organizer: Zhang, Fumin	Georgia Inst. of Tech

10:00-10:20 TuA07.1

Network Integrity Via Coordinated Motion of Stratospheric Vehicles (I), pp. 215-220.

Ouimet, Michael	Univ. of California, San Diego
Cortes, Jorge	Univ. of California, San Diego
Martinez, Sonia	Univ. of California at San Diego

10:20-10:40 TuA07.2

Correct-By-Construction Control Synthesis for Multi-Robot Mixing (I), pp. 221-226.

Diaz-Mercado, Yancy	Georgia Inst. of Tech
Jones, Austin	Boston Univ
Belta, Calin	Boston Univ
Egerstedt, Magnus	Georgia Inst. of Tech

10:40-11:00 TuA07.3

Leader-Follower Tracking for a Network of Gliding Robotic Fish Using Dynamic Feedback Linearization (I), pp. 227-233.

Ennasr, Osama	Michigan State Univ
Tan, Xiaobo	Michigan State Univ

11:00-11:20 TuA07.4

Connectivity-Preserving Rendezvous of Multi-Agent Systems with Event-Triggered Controllers (I), pp. 234-239.

Fan, Yuan	Anhui Univ
Hu, Guoqiang	Nanyang Tech. Univ

11:20-11:40 TuA07.5

Anisotropic Active Lagrangian Particle Swarm Control in a Meandering Jet, pp. 240-245.

Song, Zhuoyuan	Univ. of Florida
Mohseni, Kamran	Univ. of Florida

11:40-12:00 TuA07.6

Distributed Coverage Optimization for Deployment of Directional Sensor Networks, pp. 246-251.

Zhang, Xuebo	Nankai Univ
Chen, Xiang	Univ. of Windsor
Liang, Xiao	Nankai Univ
Fang, Yongchun	Nankai Univ

TuA08 1002

Hybrid Systems I (Regular Session)

Chair: Lazar, Mircea	Eindhoven Univ. of Tech
Co-Chair: Spinu, Veaceslav	Eindhoven Univ. of Tech

10:00-10:20 TuA08.1

Epsilon Controllability of Nonlinear Systems on Polytopes, pp. 252-257.

Helwa, Mohamed K.	McGill Univ
Caines, Peter E.	McGill Univ

10:20-10:40 TuA08.2

Optimal Exploration and Control for a Robotic Pick-Up and Delivery Problem in Two Dimensions, pp. 258-263.

Nenchev, Vladislav	Tech. Univ. Berlin
Cassandras, Christos G.	Boston Univ

10:40-11:00 TuA08.3

From Non-Homogeneous Stabilizing Control Laws to Tracking of Constrained Discrete-Time Linear Systems, pp. 264-269.

Spinu, Veaceslav	Eindhoven Univ. of Tech
Lazar, Mircea	Eindhoven Univ. of Tech

11:00-11:20 TuA08.4

On the Design of Synergistic Potential Functions on SO(3), pp. 270-275.

Berkane, Soulaimane	Western Univ
Tayebi, Abdelhamid	Lakehead Univ

11:20-11:40 TuA08.5

On the Construction of In-Block Controllable Covers of Nonlinear Systems on Polytopes, pp. 276-281.

Helwa, Mohamed K.	McGill Univ
Caines, Peter E.	McGill Univ

11:40-12:00 TuA08.6

Decentralized Abstractions for Feedback Interconnected Multi-Agent Systems, pp. 282-287.

Boskos, Dimitris	KTH
Dimarogonas, Dimos V.	Royal Inst. of Tech

TuA09 1003

Control and Strategic Decision in Complex Networks (Invited Session)

Chair: Hayel, Yezekael	Univ. of Avignon
Co-Chair: Zhu, Quanyan	New York Univ
Organizer: Hayel, Yezekael	Univ. of Avignon
Organizer: Zhu, Quanyan	New York Univ

10:00-10:20 TuA09.1

The Italian Coffee Queue: A Dynamic Priority Discipline for Multi-Class Queues (I), pp. 288-293.

Maggi, Lorenzo	Huawei Tech
De Pellegrini, Francesco	CREATE-NET

10:20-10:40 TuA09.2

Designing Virus-Resistant Networks: A Game-Formation Approach (I), pp. 294-299.

Trajanovski, Stojan	Delft Univ. of Tech
Kuipers, Fernando A.	Delft Univ. of Tech
Hayel, Yezekael	Univ. of Avignon
Altman, Eitan	INRIA
Van Mieghem, Piet	Delft Univ. of Tech

10:40-11:00 TuA09.3

Evolutionary Poisson Games for Controlling Large Population Behaviors (I), pp. 300-305.

Hayel, Yezekael	Univ. of Avignon
Zhu, Quanyan	New York Univ

11:00-11:20 TuA09.4

Minimum Number of Probes for Brain Dynamics Observability (I), pp. 306-311.

Pequito, Sergio	Univ. of Pennsylvania
Bogdan, Paul	Univ. of Southern California
Pappas, George J.	Univ. of Pennsylvania

11:20-11:40 TuA09.5

Growing Connected Networks under Privacy Constraint: Achieving Trade-Off between Performance and Security, pp. 312-317.

Gusrialdi, Azwirman	Univ. of Central Florida
Qu, Zhihua	Univ. of Central Florida

11:40-12:00 TuA09.6

Control with Random Access Wireless Sensors, pp. 318-323.

Gatsis, Konstantinos	Univ. of Pennsylvania
Ribeiro, Alejandro	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

TuA10 — 1004

Discrete-Event Systems I (Regular Session)

Chair: Seatzu, Carla	Univ. of Cagliari
Co-Chair: Li, Bin	Wuhan Univ. of Tech

10:00-10:20 TuA10.1

Collision Avoidance of Mobile Robots by Using Initial Time Delays, pp. 324-329.

Wang, Xu	Univ. De Zaragoza
Kloetzer, Marius	Tech. Univ. "Gheorghe Asachi" of Iasi
Mahulea, Cristian	Univ. of Zaragoza
Silva, Manuel	Univ. De Zaragoza

10:20-10:40 TuA10.2

Container Terminal Logistics Scheduling and Decision-Making within the Conceptual Framework of Computational Thinking, pp. 330-337.

Li, Bin	Fujian Univ. of Tech

10:40-11:00 TuA10.3

Adaptive Multicoset Sampling for Wideband Spectrum Sensing Based on POMDP Framework, pp. 338-343.

Jiang, Xiaofeng	Univ. of Science and Tech. of China
Ji, Zhe	Univ. of Science and Tech. of China
Xi, Hong-Sheng	Univ. of Science and Tech. of China
Wang, Weiping	Univ. of Science and Tech. of China
Liu, Falin	Univ. of Science and Tech. of China

11:00-11:20 TuA10.4

Verification of Initial-State Opacity in Petri Nets, pp. 344-349.

Tong, Yin	Xidian Univ
Li, Zhiwu	Martin-Luther Univ. of Halle and Weinberg
Seatzu, Carla	Univ. of Cagliari
Giua, Alessandro	Aix-Marseille Univ. France / Univ. of Cagliari, Italy

11:20-11:40 TuA10.5

A Multiobjective Formulation for Just-In-Time Control of Constrained Max-Plus Linear Systems in Infinite Horizon, pp. 350-355.

Gomes da Silva, Guilherme	UFMG
Maia, Carlos Andrey	Univ. Federal De Minas Gerais

11:40-12:00 TuA10.6

Complete Enumeration of Minimal Siphons in General Petri Nets Based on Problem Partitioning, pp. 356-361.

Wang, ShouGuang	Zhejiang Gongshang Univ
You, Dan	Zhejiang Gongshang Univ
Seatzu, Carla	Univ. of Cagliari
Giua, Alessandro	Aix-Marseille Univ. France / Univ. of Cagliari, Italy

TuA11 — 1005

Cooperative Control I (Regular Session)

Chair: Schwager, Mac	Boston Univ
Co-Chair: Shi, Yang	Univ. of Victoria

10:00-10:20 TuA11.1

Distributed Convex Optimization of Time-Varying Cost Functions with Swarm Tracking Behavior for Continuous-Time Dynamics, pp. 362-367.

Rahili, Salar	Univ. of California, Riverside
Ren, Wei	Univ. of California, Riverside
Ghapani, Sheida	Univ. of California, Riverside

10:20-10:40 TuA11.2

Observer-Based Robust Coordinated Tracking of Multi-Agent Systems with Input Saturation, pp. 368-373.

Wang, Xiaoling	Shanghai Jiao Tong Univ
Su, Housheng	Huazhong Univ. of Science and Tech
Wang, Xiaofan	Department of Automation, Shanghai Jiaotong Univ

10:40-11:00 TuA11.3

Leader-Following Consensus for Multi-Agent Systems with Switching Topologies and Time-Varying Delays: A Switched System Perspective, pp. 374-379.

Chen, Yuanye	Univ. of Victoria
Shi, Yang	Univ. of Victoria

11:00-11:20 TuA11.4

Multi-Robot Manipulation with No Communication Using Only Local Measurements, pp. 380-385.

Wang, Zijian	Boston Univ

Schwager, Mac	Boston Univ

11:20-11:40 TuA11.5

Fully Distributed Adaptive Consensus Control of Multi-Agent Systems with LQR Performance Index, pp. 386-391.

Li, Zhenhong	Univ. of Manchester
Ding, Zhengtao	The Univ. of Manchester

11:40-12:00 TuA11.6

Fundamental Dynamics Based Adaptive Energy Control for Cooperative Swinging of Complex Pendulum-Like Objects, pp. 392-399.

Donner, Philine	Tech. Univ. Muenchen
Christange, Franz	Tech. Univ. Muenchen
Buss, Martin	Tech. Univ. Muenchen

TuA12 1006

Randomized Algorithms for Distributed Computation Over Networks (Invited Session)

Chair: You, Keyou	Tsinghua Univ
Co-Chair: Tempo, Roberto	CNR-IEIIT, Pol. Di Torino
Organizer: You, Keyou	Tsinghua Univ
Organizer: Tempo, Roberto	CNR-IEIIT, Pol. Di Torino

10:00-10:20 TuA12.1

Distributed Stochastic Optimization under Imperfect Information (I), pp. 400-405.

Kannan, Aswin	Penn State
Nedich, Angelia	Univ. of Illinois, Urbana-Champaign
Shanbhag, Uday V.	Pennsylvania State Univ

10:20-10:40 TuA12.2

The Social System Identification Problem (I), pp. 406-411.

Wai, Hoi-To	Arizona State Univ
Scaglione, Anna	UC Davis
Leshem, Amir	Bar-Ilan Univ

10:40-11:00 TuA12.3

Critical Sampling Rate for Sampled-Data Consensus Over Random Networks (I), pp. 412-417.

Wu, Junfeng	Royal Inst. of Tech. (KTH)
Meng, Ziyang	Tech. Univ. Munchen,
Yang, Tao	Pacific Northwest National Labratory
Shi, Guodong	The Australian National Univ
Johansson, Karl H.	Royal Inst. of Tech

11:00-11:20 TuA12.4

Analysis of Newton-Raphson Consensus for Multi-Agent Convex Optimization under Asynchronous and Lossy Communications (I), pp. 418-424.

Carli, Ruggero	Univ. of Padova
Notarstefano, Giuseppe	Univ. Del Salento
Schenato, Luca	Univ. of Padova
Varagnolo, Damiano	LTU Luleå Univ. of Tech

11:20-11:40 TuA12.5

Distributed and Parallel Random Coordinate Descent Methods for Huge Convex Programming Over Networks (I), pp. 425-430.

Necoara, Ion	Univ. Pol. Bucharest

11:40-12:00 TuA12.6

Randomized Incremental Algorithms for the PageRank Computation (I), pp. 431-436.

You, Keyou	Tsinghua Univ
Tempo, Roberto	CNR-IEIIT, Pol. Di Torino
Qiu, Li	Hong Kong Univ. of Sci. & Tech

TuA13 1007

Estimation I (Regular Session)

Chair: Smith, Roy S.	ETH Zurich
Co-Chair: Ragnoli, Emanuele	NUI Maynooth

10:00-10:20 TuA13.1

Simultaneous Input and State Filtering: An Ensemble Approach, pp. 437-442.

Fang, Huazhen	Univ. of Kansas
de Callafon, Raymond A.	Univ. of California, San Diego

10:20-10:40 TuA13.2

Online Estimation of Robot Dynamic Parameters Using Causal Jacobi Differentiator, pp. 443-448.

Guo, Qi	Ec. Centrale De Lille
Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Perruquetti, Wilfrid	Ec. Centrale De Lille
Gautier, Maxime	Univ. of Nantes

10:40-11:00 TuA13.3

Localised Filters for Linear Advection-Diffusion Equations, pp. 449-454.

Ragnoli, Emanuele	NUI Maynooth
Zhuk, Sergiy	IBM
Zayats, Mykhaylo	NUI Galway

11:00-11:20 TuA13.4

Range-Inertial Estimation for Airborne Wind Energy, pp. 455-460.

Millane, Alexander	ETH Zurich
Hesse, Henrik	ETH Zurich
Wood, Tony A.	ETH Zurich
Smith, Roy S.	ETH Zurich

11:20-11:40 TuA13.5

Simultaneous Input and State Estimation of Linear Discrete-Time Stochastic Systems with Input Aggregate Information, pp. 461-467.

Yong, Sze Zheng	Massachusetts Inst. of Tech
Zhu, Minghui	Pennsylvania State Univ
Frazzoli, Emilio	Massachusetts Inst. of Tech

11:40-12:00 TuA13.6

Simultaneous Input and State Estimation with a Delay, pp. 468-475.

Yong, Sze Zheng	Massachusetts Inst. of Tech
Zhu, Minghui	Pennsylvania State Univ
Frazzoli, Emilio	Massachusetts Inst. of Tech

TuA14 1008

Lyapunov Methods I (Regular Session)

Chair: Wang, Zhanshan	Northeastern Univ
Co-Chair: Pack, Daniel J.	Univ. of Texas at San Antonio

10:00-10:20 TuA14.1

Controlling Unmanned Aerial Vehicles with a Pre-Existing Autopilot System in the Loop, pp. 476-481.

Sun, Liang	New Mexico State Univ
Pack, Daniel J.	Univ. of Texas at San Antonio

10:20-10:40 TuA14.2

Lyapunov Stability Analysis of a Mosquito-Inspired Swarm Model, pp. 482-488.

Shishika, Daigo — Univ. of Maryland
Paley, Derek A. — Univ. of Maryland

10:40-11:00 TuA14.3

Tracking Error Convergence for Multi–Input Multi–Output Model Reference Adaptive Control with Known Nonminimum Phase Zeros, pp. 489-494.

Hashemi, Kelley — The Univ. of Texas at Austin
Akella, Maruthi — The Univ. of Texas at Austin
Pak, Chan-gi — NASA Armstrong Flight Res. Center

11:00-11:20 TuA14.4

A Note on Input-To-State Stability of Linear and Bilinear Infinite-Dimensional Systems, pp. 495-500.

Mironchenko, Andrii — Univ. of Passau
Wirth, Fabian R. — Univ. of Passau

11:20-11:40 TuA14.5

Exponential State Estimation for Markovian Jumping Neural Networks with Discontinuous Activation Functions, pp. 501-506.

Wang, Zhanshan — Northeastern Univ
Ding, Sanbo — Northeastern Univ
Ye, Dan — Northeastern Univ
Zhang, Yingwei — Northeastern Univ

11:40-12:00 TuA14.6

Disturbance Rejection Via Control by Interconnection of Port-Hamiltonian Systems, pp. 507-512.

Ferguson, Joel — Univ. of Newcastle
Middleton, Richard — The Univ. of Newcastle
Donaire, Alejandro — The Univ. of Newcastle

TuA15 — 1009

Stochastic Systems I (Regular Session)

Chair: Sandberg, Henrik — KTH Royal Inst. of Tech
Co-Chair: Mukaidani, Hiroaki — Hiroshima Univ

10:00-10:20 TuA15.1

Finite Horizon H Infinity Control for Stochastic Systems with Multiple Decision Makers, pp. 513-518.

Mukaidani, Hiroaki — Hiroshima Univ
Ahmed, Mostak — Jagannath Univ
Xu, Hua — Univ. of Tsukuba

10:20-10:40 TuA15.2

Finite-Horizon Dynamic Games for a Class of Nonlinear Stochastic Systems, pp. 519-524.

Mukaidani, Hiroaki — Hiroshima Univ
Xu, Hua — Univ. of Tsukuba
Dragan, Vasile — Romanian Acad
Yamamoto, Toru — Hiroshima Univ

10:40-11:00 TuA15.3

Construction of Approximations of Stochastic Control Systems: A Compositional Approach, pp. 525-530.

Zamani, Majid — Tech. Univ. München
Rungger, Matthias — TUM
Mohajerin Esfahani, Peyman — ETH Zurich

11:00-11:20 TuA15.4

Individual and Systemic Risk Trade-Offs Induced by Diversification Barriers, pp. 531-536.

Katsargyri, Georgia-Evangelia — Massachusetts Inst. of Tech
Roozbehani, Mardavij — Massachusetts Inst. of Tech
Dahleh, Munther A. — Massachusetts Inst. of Tech

11:20-11:40 TuA15.5

Deriving Thermodynamics from Linear Dissipativity Theory, pp. 537-542.

Delvenne, Jean-Charles — Univ. Catholique De Louvain
Sandberg, Henrik — KTH Royal Inst. of Tech

11:40-12:00 TuA15.6

Stochastic Consensus of Continuous-Time Multi-Agent Systems with Additive Measurement Noises, pp. 543-548.

Zong, Xiaofeng — Acad. of Mathematics and Systems Science, Chinese Acad. Of
Li, Tao — Shanghai Univ
Zhang, Ji-Feng — Chinese Acad. of Sciences

TuA16 — 1010

Distributed Parameter Systems I (Invited Session)

Chair: Demetriou, Michael A. — Worcester Pol. Inst
Co-Chair: Djouadi, Seddik, M. — Univ. of Tennessee
Organizer: Demetriou, Michael A. — Worcester Pol. Inst
Organizer: Fahroo, Fariba — AFOSR

10:00-10:20 TuA16.1

On the Distributed Control of Spatially Invariant Systems (I), pp. 549-554.

Djouadi, Seddik, M. — Univ. of Tennessee
Dong, Jin — Univ. of Tennessee, Knoxville

10:20-10:40 TuA16.2

Leader Selection and Optimal Synchronization Gains in Synchronization Control of Networked Distributed Parameter Systems (I), pp. 555-560.

Demetriou, Michael A. — Worcester Pol. Inst

10:40-11:00 TuA16.3

The Effect of Viscosity in a Tracking Regulation Problem for a Counter-Flow Heat Exchanger (I), pp. 561-566.

Burns, John A — Virginia Tech
Gilliam, David S. — Texas Tech. Univ
Aulisa, Eugenio — Texas Tech. Univ

11:00-11:20 TuA16.4

Output Feedback Control of the Kuramoto-Sivashinsky Equation (I), pp. 567-571.

Al Jamal, Rasha — Univ. of Waterloo
Morris, Kirsten — Univ. of Waterloo

11:20-11:40 TuA16.5

Parameter Estimation for Euler Equations with Uncertain Inputs (I), pp. 572-577.

Zhuk, Sergiy — IBM
Tchrakian, Tigran — IBM

11:40-12:00 TuA16.6

Output Feedback Stabilization of Linear PDEs with Finite Dimensional Input-Output Maps and Kelvin-Voigt Damping (I), pp. 578-583.

Paranjape, Aditya A. — Indian Inst. of Tech. Bombay
Chung, Soon-Jo — Univ. of Illinois at

Urbana-Champaign

TuA17	Conference Hall
Biological Oscillators (Invited Session)	
Chair: Medvedev, Alexander V.	Uppsala Univ
Co-Chair: Cao, Ming	Univ. of Groningen
Organizer: Medvedev, Alexander V.	Uppsala Univ
Organizer: Cao, Ming	Univ. of Groningen

10:00-10:20	TuA17.1
Engineering Principles of Synthetic Biochemical Oscillators with Negative Cyclic Feedback (I), pp. 584-589.	
Hori, Yutaka	California Inst. of Tech
Murray, Richard M.	California Inst. of Tech

10:20-10:40	TuA17.2
Delay-Induced Dynamical Phenomena in Impulsive Goodwin's Oscillator: What We Know so Far (I), pp. 590-595.	
Churilov, Alexander	St.Petersburg State Marine Tech. Univ
Medvedev, Alexander V.	Uppsala Univ
Zhusubaliyev, Zhanybai	South West State Univ. (Kursk State Tech. Univ

10:40-11:00	TuA17.3
Analysis and Control of Andronov-Hopf Oscillators with Applications to Neuronal Populations (I), pp. 596-601.	
Panteley, Elena	Lab. Des Signaux Et Systemes, CNRS - SUPELEC
Loria, Antonio	CNRS
El Ati, Ali	Univ. Paris-Sud 11

11:00-11:20	TuA17.4
Nonlinear Identification of Biological Clock Dynamics (I), pp. 602-608.	
Wigren, Torbjorn	Uppsala Univ
Lötstedt, Per	Department of Information Tech. Uppsala Univ

11:20-11:40	TuA17.5
Structural Conditions for Oscillations and Multistationarity in Aggregate Monotone Systems (I), pp. 609-614.	
Blanchini, Franco	Univ. Degli Studi Di Udine
Franco, Elisa	Univ. of California at Riverside
Giordano, Giulia	Univ. of Udine

11:40-12:00	TuA17.6
Entrainment of Goodwin's Oscillators by Periodic Exogenous Signals (I), pp. 615-619.	
Proskurnikov, Anton V.	Univ. of Groningen
Cao, Ming	Univ. of Groningen
Zhang, Hai-Tao	Huazhong Univ. of Science and Tech

TuA18	1202
Optimal Control I (Regular Session)	
Chair: Sjoberg, Jonas E.	Chalmers Univ. of Tech
Co-Chair: Zanon, Mario	Albert Ludwigs Univ. Freiburg

10:00-10:20	TuA18.1
Baumgarte Stabilisation Over the SO(3) Rotation Group for Control, pp. 620-625.	
Gros, Sebastien	Chalmers Univ. of Tech
Zanon, Mario	Albert Ludwigs Univ. Freiburg
Diehl, Moritz	Katholieke Univ. Leuven

10:20-10:40	TuA18.2
Optimal Obstacle Avoidance Trajectory Generation Using the Root Locus Principle, pp. 626-631.	
Hyun, Nak-seung Patrick	Georgia Inst. of Tech
Verriest, Erik I.	Georgia Inst. of Tech
Vela, Patricio A.	Georgia Inst. of Tech

10:40-11:00	TuA18.3
Complete Vehicle Energy Management with Large Horizon Optimization, pp. 632-637.	
Romijn, T.C.J.	Eindhoven Univ. of Tech
Donkers, M.C.F.	Eindhoven Univ. of Tech
Kessels, J.T.B.A.	Tech. Univ. Eindhoven
Weiland, Siep	Eindhoven Univ. of Tech

11:00-11:20	TuA18.4
Least Costly Energy Management for Electric Vehicles with Plug-In Range Extenders, pp. 638-643.	
Guanetti, Jacopo	Pol. Di Milano
Formentin, Simone	Pol. Di Milano
Savaresi, Sergio M.	Pol. Di Milano

11:20-11:40	TuA18.5
Predictive Cruise Control with Autonomous Overtaking, pp. 644-649.	
Murgovski, Nikolce	Chalmers Univ. of Tech
Sjoberg, Jonas E.	Chalmers Univ. of Tech

11:40-12:00	TuA18.6
Approximate Optimal Online Continuous-Time Path-Planner with Static Obstacle Avoidance, pp. 650-655.	
Walters, Patrick	Univ. of Florida
Kamalapurkar, Rushikesh	Univ. of Florida
Dixon, Warren E.	Univ. of Florida

TuB01	Large Hall
Energy Systems I (Regular Session)	
Chair: Lymperopoulos, Ioannis	EPFL
Co-Chair: Peixoto, Alessandro Jacoud	Federal Univ. of Rio De Janeiro (UFRJ)

13:30-13:50	TuB01.1
Improved Path Following for Kites with Input Delay Compensation (I), pp. 656-663.	
Rontsis, Nikitas	Aristotle Univ. of Thessaloniki
Costello, Sean	EPFL
Lymperopoulos, Ioannis	EPFL
Jones, Colin N.	EPFL

13:50-14:10	TuB01.2
A Lyapunov Function for a PDE Model of a Supercapacitor, pp. 664-669.	
Drummond, Ross	Univ. of Oxford
Duncan, Stephen	Univ. of Oxford

14:10-14:30	TuB01.3
State of Charge Estimation and Battery Balancing Control, pp. 670-675.	
Figueiró, André	UFRJ/COPPE
Peixoto, Alessandro Jacoud	Federal Univ. of Rio De Janeiro (UFRJ)

Costa, Ramon R. — COPPE - Federal Univ. of Rio De Janeiro

14:30-14:50 — TuB01.4

Online State and Parameter Estimation of Battery-Double Layer Capacitor Hybrid Energy Storage System, pp. 676-681.

Dey, Satadru — Clemson Univ
Mohon, Sara — Clemson Univ
Pisu, Pierluigi — Clemson Univ
Ayalew, Beshah — Clemson Univ
Onori, Simona — Clemson Univ

14:50-15:10 — TuB01.5

Sensorless Fault-Tolerant Control of VS Wind Turbines Maximizing Efficiency in the Presence of Electrical Faults, pp. 682-687.

Corradini, Maria Letizia — Univ. Di Camerino
Ippoliti, Gianluca — Univ. Pol. Delle Marche
Orlando, Giuseppe — Univ. Pol. Delle Marche

15:10-15:30 — TuB01.6

Control of a Tethered Undersea Kite Energy System Using a Six Degree of Freedom Model (I), pp. 688-693.

Li, Haocheng — Worcester Pol. Inst
Olinger, David — Worcester Pol. Inst
Demetriou, Michael A. — Worcester Pol. Inst

TuB02 — Small Hall

Large-Scale Optimization I (Invited Session)

Chair: Nedich, Angelia — Univ. of Illinois, Urbana-Champaign
Co-Chair: Notarstefano, Giuseppe — Univ. Del Salento
Organizer: Nedich, Angelia — Univ. of Illinois, Urbana-Champaign
Organizer: Notarstefano, Giuseppe — Univ. Del Salento

13:30-13:50 — TuB02.1

Distributed Coordination for Separable Convex Optimization with Coupling Constraints (I), pp. 694-699.

Niederlaender, Simon — Univ. of Stuttgart
Cortes, Jorge — Univ. of California, San Diego

13:50-14:10 — TuB02.2

Cloud-Based Centralized/Decentralized Multi-Agent Optimization with Communication Delays (I), pp. 700-705.

Hale, Matthew — Georgia Inst. of Tech
Nedich, Angelia — Univ. of Illinois, Urbana-Champaign
Egerstedt, Magnus — Georgia Inst. of Tech

14:10-14:30 — TuB02.3

Fast, Accurate Second Order Methods for Network Optimization (I), pp. 706-711.

Tutunov, Rasul — Univ. of Pennsylvania
Bou Ammar, Haitham — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania

14:30-14:50 — TuB02.4

Randomized Dual Proximal Gradient for Large-Scale Distributed Optimization (I), pp. 712-717.

Notarnicola, Ivano — Univ. of Salento
Notarstefano, Giuseppe — Univ. Del Salento

14:50-15:10 — TuB02.5

Robust Principal Component Analysis Via Re-Weighted Minimization Algorithms (I), pp. 718-723.

Katselis, Dimitrios — Univ. of Illinois, Urbana-Champaign
Beck, Carolyn L. — Univ. of Illinois, Urbana-Champaign

15:10-15:30 — TuB02.6

Continuous-Time Distributed Convex Optimization on Time-Varying Directed Networks (I), pp. 724-729.

Touri, Behrouz — Univ. of Colorado Boulder
Gharesifard, Bahman — Queens Univ. Canada

TuB03 — 801

Linear Parameter-Varying Systems II (Regular Session)

Chair: Millerioux, Gilles — Lorraine Univ
Co-Chair: Hosoe, Yohei — Kyoto Univ

13:30-13:50 — TuB03.1

Gain-Scheduled Output Feedback Controllers for Discrete-Time LPV Systems Using Bounded Inexact Scheduling Parameters, pp. 730-735.

Sato, Masayuki — Japan Aerospace Exploration Agency

13:50-14:10 — TuB03.2

Damped Hill's Equation and Iso-Mu Curves of a Related Second Hill's Equation, pp. 736-740.

Franco, Carlos Alberto — CINVESTAV
Collado, Joaquin — CINVESTAV

14:10-14:30 — TuB03.3

Gain-Scheduled State Feedback Synthesis for Systems Characterized by Random Polytopes, pp. 741-746.

Nagira, Yuji — Kyoto Univ
Hosoe, Yohei — Kyoto Univ
Hagiwara, Tomomichi — Kyoto Univ

14:30-14:50 — TuB03.4

Detection and Quantification of Dynamic Dependence in Linear Parameter-Varying Differential Equations, pp. 747-752.

Goos, Jan — Vrije Univ. Brussel
Lataire, John — Vrije Univ. Brussel
Pintelon, Rik M. — Vrije Univ. Brussel

14:50-15:10 — TuB03.5

Passivity of Linear Parameter Varying Systems with Intermittent Non-Passive Behavior, pp. 753-758.

S, Sivaranjani — Univ. of Notre Dame
Gupta, Vijay — Univ. of Notre Dame
Seiler, Peter — Univ. of Minnesota

15:10-15:30 — TuB03.6

Characterization of Flat Outputs for LPV Discrete-Time Systems: A Graph-Oriented Approach, pp. 759-764.

Millerioux, Gilles — Lorraine Univ
Boukhobza, Taha — Univ. De Lorraine

TuB04 — 802

Identification I (Regular Session)

Chair: Meskin, Nader — Qatar Univ
Co-Chair: Welsh, James S. — Univ. of Newcastle

13:30-13:50 — TuB04.1

Thermal Diffusivity Identification Based on an Iterative Regularization Method, pp. 765-770.

Attar, Lamia	LARIS - Univ. of Angers
Perez, Laetitia	Univ. of Nantes IUT
Nouailletas, Rémy	Cea - Irfm
Moulay, Emmanuel	Univ. De Poitiers
Autrique, Laurent	ISTIA - Univ. of Angers

13:50-14:10 TuB04.2

Model Order Selection for Continuous Time Instrumental Variable Methods Using Regularization, pp. 771-776.

Ha, Huong	Univ. of Newcastle
Welsh, James S.	Univ. of Newcastle

14:10-14:30 TuB04.3

Generalized Eigenvector Method for Errors-In-Variables Models Identification, pp. 777-782.

Ikenoue, Masato	Ariake National Coll. of Tech
Wada, Kiyoshi	Kyushu Univ

14:30-14:50 TuB04.4

Reconstruction of Networks of Cyclostationary Processes, pp. 783-788.

Talukdar, Saurav	Univ. of Minnesota - Twin Cities
Prakash, Mangal	Univ. of Minnesota Twin Cities
Materassi, Donatello	Univ. of Tennessee, Knoxville
Salapaka, Murti V.	Univ. of Minnesota, Minneapolis

14:50-15:10 TuB04.5

A Bayesian Approach for Model Identification of LPV Systems with Uncertain Scheduling Variables, pp. 789-794.

Abbasi, Farshid	Univ. of Georgia
Mohammadpour, Javad	Univ. of Georgia
Tóth, Roland	Eindhoven Univ. of Tech
Meskin, Nader	Qatar Univ

15:10-15:30 TuB04.6

Identification of a Class of Generalized Autoregressive Conditional Heteroskedasticity (GARCH) Models with Applications to Covariance Propagation, pp. 795-800.

Wang, Yin	Northeastern Univ
Sznaier, Mario	Northeastern Univ
Camps, Octavia I.	Northeastern Univ
Pait, Felipe	Univ. Sao Paulo

TuB05 804

Robotics I (Regular Session)

Chair: Palopoli, Luigi	Univ. of Trento
Co-Chair: Markdahl, Johan	KTH Royal Inst. of Tech

13:30-13:50 TuB05.1

A Hybrid Control Approach to Task Priority Based Mobile Manipulation, pp. 801-806.

Markdahl, Johan	KTH Royal Inst. of Tech
Hu, Xiaoming	Royal Inst. of Tech
Kragic, Danica	Royal Inst. of Tech. (KTH)
Karayiannidis, Yiannis	Royal Inst. of Tech. KTH

13:50-14:10 TuB05.2

Optimal Sail Angle Computation for an Autonomous Sailboat Robot, pp. 807-813.

Saoud, Hadi	ISIR UPMC Univ. Paris 6
Hua, Minh-Duc	Inst. Des Systèmes Intelligents Et De Robotique (ISIR CNRS-UP
Plumet, Frédéric	UPMC Univ. Paris 6
Ben Amar, Faiz	Univ. Pierre Et Marie Curie

14:10-14:30 TuB05.3

Sampling-Based Minimum Risk Path Planning in Multiobjective Configuration Spaces, pp. 814-821.

Shan, Tixiao	Stevens Inst. of Tech
Englot, Brendan	Stevens Inst. of Tech

14:30-14:50 TuB05.4

Spline Deformation of Locally Optimal Trajectories: Feasibility and Upper Bound on Control Inputs, pp. 822-828.

Pekarovskiy, Alexander	Tech. Univ. Muenchen
Nierhoff, Thomas	TU München
Hirche, Sandra	Tech. Univ. München
Buss, Martin	Tech. Univ. Muenchen

14:50-15:10 TuB05.5

A Passive Guidance System for a Robotic Walking Assistant Using Brakes, pp. 829-834.

Palopoli, Luigi	Univ. of Trento
Fontanelli, Daniele	Univ. of Trento
Prattichizzo, Domenico	Univ. of Siena
Giannitrapani, Antonio	Univ. Di Siena

TuB06 805

Automotive Control II (Regular Session)

Chair: Pavone, Marco	Stanford Univ
Co-Chair: Albin, Thivaharan	RWTH Aachen Univ. Inst. of Automatic Control

13:30-13:50 TuB06.1

A Convex Optimization Approach to Smooth Trajectories for Motion Planning with Car-Like Robots, pp. 835-842.

Zhu, Zhijie	Stanford Univ
Schmerling, Edward	Stanford Univ
Pavone, Marco	Stanford Univ

13:50-14:10 TuB06.2

Driver Torque Estimation in Electric Power Steering System Using an H_infinity/H_2 Proportional Integral Observer, pp. 843-848.

Yamamoto, Kazusa	JTEKT
Koenig, Damien	Grenoble-INP
Sename, Olivier	Univ. Grenoble Alpes
Moulaire, Pascal	JTEKT

14:10-14:30 TuB06.3

Nonlinear MPC for a Two-Stage Turbocharged Gasoline Engine Airpath, pp. 849-856.

Albin, Thivaharan	RWTH Aachen Univ. Inst. of Automatic Control
Ritter, Dennis	Inst. of Automatic Control
Abel, Dirk	RWTH Aachen Univ
Liberda, Norman	RWTH Aachen Univ
Quirynen, Rien	KU Leuven
Diehl, Moritz	Katholieke Univ. Leuven

14:30-14:50 TuB06.4

Shared Lateral Control with On-Line Adaptation of the Automation Degree for Driver Steering Assist System: A Weighting Design Approach, pp. 857-862.

Nguyen, AnhTu	Univ. of Valenciennes

Sentouh, Chouki	Univ. of Valenciennes
Popieul, Jean-Christophe	CNRS-LAMIH, Univ. De Valenciennes
Soualmi, Boussaad	IRt SystemX

14:50-15:10 TuB06.5

Semi-Active Suspension Control Problem: Some New Results Using an LPV/Hinf State Feedback Input Constrained Control, pp. 863-868.

Nguyen, Manh Quan	Grenoble Univ
Gomes da Silva Jr, Joao Manoel	Univ. Federal Do Rio Grande Do Sul (UFRGS)
Sename, Olivier	Univ. Grenoble Alpes
Dugard, Luc	CNRS-Grenoble INP

15:10-15:30 TuB06.6

Optimal Energy Management in Series Hybrid Electric Bicycles, pp. 869-874.

Guanetti, Jacopo	Pol. Di Milano
Formentin, Simone	Pol. Di Milano
Corno, Matteo	Pol. Di Milano
Savaresi, Sergio M.	Pol. Di Milano

TuB07 1001

Network Semantics, Representations, Identification, and Control I (Invited Session)

Chair: Warnick, Sean	Brigham Young Univ
Co-Chair: Materassi, Donatello	Univ. of Tennessee, Knoxville
Organizer: Warnick, Sean	Brigham Young Univ
Organizer: Materassi, Donatello	Univ. of Tennessee, Knoxville

13:30-13:50 TuB07.1

Information Cost for the State Reconstruction of Linear Time Invariant Systems (I), pp. 875-880.

Pare, Philip	Univ. of Illinois at Urbana-Champaign
Warnick, Sean	Brigham Young Univ

13:50-14:10 TuB07.2

Global Network Identification from Reconstructed Dynamical Structure Subnetworks: Applications to Biochemical Reaction Networks (I), pp. 881-888.

Yeung, Enoch	California Inst. of Tech
Kim, Jongmin	Harvard Univ
Goncalves, Jorge	Univ. of Cambridge
Murray, Richard M.	California Inst. of Tech

14:10-14:30 TuB07.3

Dynamical Structure Function and Granger Causality: Similarities and Differences (I), pp. 889-894.

Yue, Zuogong	Univ. of Luxembourg
Thunberg, Anders, Johan	Univ. of Luxembourg
Yuan, Ye	UC Berkeley
Goncalves, Jorge	Univ. of Cambridge

14:30-14:50 TuB07.4

Network Cardinality Estimation Using Max Consensus: The Case of Bernoulli Trials, pp. 895-901.

Lucchese, Riccardo	LTU Luleå Univ. of Tech
Varagnolo, Damiano	LTU Luleå Univ. of Tech
Delvenne, Jean-Charles	Univ. Catholique De Louvain
Hendrickx, Julien M.	Univ. Catholique De Louvain

14:50-15:10 TuB07.5

A Two-Layer Transformation for Characterizing the Zeros of a Network Input-Output Dynamics (I), pp. 902-907.

Abad Torres, Jackeline	Escuela Pol. Nacional
Roy, Sandip	Washington State Univ

15:10-15:30 TuB07.6

Distributed Realization of Structured Transfer Function Matrices (I), pp. 908-913.

Elia, Nicola	Iowa State Univ

TuB08 1002

Hybrid Systems II (Regular Session)

Chair: Tarraf, Danielle C.	The Johns Hopkins Univ
Co-Chair: Julius, A. Agung	Rensselaer Pol. Inst

13:30-13:50 TuB08.1

Quadratic Dissipation Inequalities for Nonlinear Systems Using Event-Triggered Controllers, pp. 914-919.

Postoyan, Romain	CNRS-CRAN

13:50-14:10 TuB08.2

Trajectory Tracking of Mechanical Systems with Unilateral Constraints: Experimental Results of a Recently Introduced Hybrid PD Feedback Controller, pp. 920-925.

Incremona, Gian Paolo	Univ. of Pavia
Saccon, Alessandro	Eindhoven Univ. of Tech
Ferrara, Antonella	Univ. of Pavia
Nijmeijer, Hendrik	Eindhoven Univ. of Tech

14:10-14:30 TuB08.3

On Initialization of Finite State rho / Mu Approximations of Systems Over Finite Alphabets, pp. 926-933.

Fan, Donglei	The Johns Hopkins Univ
Tarraf, Danielle C.	The Johns Hopkins Univ

14:30-14:50 TuB08.4

On Existence and Construction of Finite Uniform Bisimulations for Linear Systems with Finite Input Alphabets, pp. 934-941.

Fan, Donglei	The Johns Hopkins Univ
Tarraf, Danielle C.	The Johns Hopkins Univ

14:50-15:10 TuB08.5

Trajectory-Based Observer for Hybrid Automata Fault Diagnosis, pp. 942-947.

Deng, Yi	Rensselaer Pol. Inst
D'Innocenzo, Alessandro	Univ
Julius, A. Agung	Rensselaer Pol. Inst

15:10-15:30 TuB08.6

Sensor-Based Hybrid Observer for Dynamic Positioning, pp. 948-953.

Brodtkorb, Astrid H.	Norwegian Univ. of Science and Tech. (NTNU)
Teel, Andrew R.	Univ. of California at Santa Barbara
Sorensen, Asgeir Johan	Norwegian Univ. of Sci and Tech

TuB09 1003

Controllability and Design of Networks (Invited Session)

Chair: Pequito, Sergio	Univ. of Pennsylvania
Co-Chair: Preciado, Victor M.	Univ. of Pennsylvania
Organizer: Pequito, Sergio	Univ. of Pennsylvania
Organizer: Preciado, Victor M.	Univ. of Pennsylvania
Organizer: Pappas, George J.	Univ. of Pennsylvania

13:30-13:50 TuB09.1

Input Selection for Disturbance Rejection in Networked Cyber-Physical Systems (I), pp. 954-961.

Clark, Andrew	Worcester Pol. Inst
Alomair, Basel	King Abdulaziz City for Science and Tech
Bushnell, Linda	Univ. of Washington
Poovendran, Radha	Univ. of Washington, Seattle

13:50-14:10 TuB09.2

Distributed Leader Selection (I), pp. 962-967.

Pequito, Sergio	Univ. of Pennsylvania
Preciado, Victor M.	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

14:10-14:30 TuB09.3

Coherence and Convergence Rate in Networked Dynamical Systems (I), pp. 968-973.

Pirani, Mohammad	Univ. of Waterloo
Moradi Shahrivar, Ebrahim	Univ. of Waterloo
Sundaram, Shreyas	Purdue Univ

14:30-14:50 TuB09.4

Closing the Gap between Controllability and Structural Controllability (I), pp. 974-979.

Ghosh, Supratim	Singapore Univ. of Tech. and Design
Ruths, Justin	Singapore Univ. of Tech. & Design

14:50-15:10 TuB09.5

The Role of Diameter in the Controllability of Complex Networks (I), pp. 980-985.

Bianchin, Gianluca	Univ. of California, Riverside
Pasqualetti, Fabio	Univ. of California, Riverside
Zampieri, Sandro	Univ. Di Padova

15:10-15:30 TuB09.6

On the Degree of Synchrony, pp. 986-991.

Shao, Haibin	Shanghai Jiao Tong Univ
Xi, Yugeng	Shanghai Jiao Tong Univ
Mesbahi, Mehran	Univ. of Washington

TuB10 1004

Discrete-Event Systems II (Regular Session)

Chair: Luna, Jose Marcio	Univ. of Pennsylvania
Co-Chair: Battistelli, Giorgio	Univ. of Florence

13:30-13:50 TuB10.1

Low-Latency Heading Feedback Control with Neuromorphic Vision Sensors Using Efficient Approximated Incremental Inference, pp. 992-999.

Mueller, Erich	Massachusetts Inst. of Tech
Censi, Andrea	MIT
Frazzoli, Emilio	Massachusetts Inst. of Tech

13:50-14:10 TuB10.2

Deadlock-Free Discrete Controller Synthesis for Infinite State Systems, pp. 1000-1007.

Berthier, Nicolas	INRIA Rennes - Bretagne Atlantique
Marchand, Herve	INRIA Rennes - Bretagne Atlantique

14:10-14:30 TuB10.3

Computing All Minimal Transition-Based Sensor Activation Policies for Centralized Supervisory Control, pp. 1008-1013.

Wang, Weilin	Monash Univ
Gong, Chaohui	Shanghai Univ. for Science & Tech

14:30-14:50 TuB10.4

Minimization of Sensor Activation in Decentralized Fault Diagnosis of Discrete Event Systems, pp. 1014-1019.

Yin, Xiang	Univ. of Michigan
Lafortune, Stephane	Univ. of Michigan

14:50-15:10 TuB10.5

Switching-Based Adaptive Disturbance Attenuation with Guaranteed Robust Stability, pp. 1020-1025.

Battistelli, Giorgio	Univ. of Florence
Selvi, Daniela	Univ. of Florence
Tesi, Alberto	Univ. Di Firenze

15:10-15:30 TuB10.6

Performance Optimization and Regulation for Multitier Servers, pp. 1026-1032.

Luna, Jose Marcio	Univ. of Pennsylvania
Abdallah, Chaouki T.	Univ. of New Mexico
Heileman, G.L.	Univ. of New Mexico

TuB11 1005

Cooperative Control II (Regular Session)

Chair: Pettersen, Kristin Y.	Norwegian Univ. of Science and Tech
Co-Chair: Aghdam, Amir G.	Concordia Univ

13:30-13:50 TuB11.1

Passivity-Based Bilateral Human-Swarm-Interactions for Cooperative Robotic Networks and Human Passivity Analysis, pp. 1033-1039.

Hatanaka, Takeshi	Tokyo Inst. of Tech
Chopra, Nikhil	Univ. of Maryland, Coll. Park
Fujita, Masayuki	Tokyo Inst. of Tech

13:50-14:10 TuB11.2

3D Coordinated Path Following with Disturbance Rejection for Formations of Under-Actuated Agents, pp. 1040-1047.

Belleter, Dennis	Norwegian Univ. of Science and Tech
Pettersen, Kristin Y.	Norwegian Univ. of Science and Tech

14:10-14:30 TuB11.3

Cooperative Control for Multi-Target Interception with Sensing and Communication Limitations: A Game-Theoretic Approach, pp. 1048-1053.

Khosravi, Mohammad	Concordia Univ
Khodadadi, Hossein	Concordia Univ
Rivaz, Hassan	Concordia Univ
Aghdam, Amir G.	Concordia Univ

14:30-14:50 TuB11.4

On the Leader-Follower Synchronization of Euler-Lagrange Systems, pp. 1054-1059.

Abdessameud, Abdelkader	Univ. of Western Ontarion
Tayebi, Abdelhamid	Lakehead Univ
Polushin, Ilia G.	Western Univ

14:50-15:10 TuB11.5

Projection-Based Consensus for Continuous-Time Multi-Agent

Systems with State Constraints, pp. 1060-1065.

Wang, Xiaofeng	Univ. of South Carolina
Zhou, Zheqing	Univ. of South Carolina

15:10-15:30 TuB11.6

Coordination Control for Generic Linear Multi-Agent Systems with Time Delay: A Semi-Discretization Approach, pp. 1066-1071.

Qin, Jiahu	Univ. of Science and Tech. of China
Sheng, Jie	Univ. of Science and Tech. of China
Gao, Huijun	Harbin Inst. of Tech
Zheng, Wei Xing	Univ. of Western Sydney

TuB12 1006

Computational Methods I (Regular Session)

Chair: Menini, Laura	Univ. Di Roma 'Tor Vergata'
Co-Chair: Li, Jr-Shin	Washington Univ. in St. Louis

13:30-13:50 TuB12.1

Exact Sum of Square Decomposition of Univariate Polynomials, pp. 1072-1077.

Menini, Laura	Univ. Di Roma 'Tor Vergata'
Tornambe, Antonio	Univ. Di Roma Tor Vergata

13:50-14:10 TuB12.2

Fixed-Endpoint Minimum-Energy Control of Bilinear Ensemble Systems, pp. 1078-1083.

Wang, Shuo	Washington Univ. in St. Louis
Li, Jr-Shin	Washington Univ. in St. Louis

14:10-14:30 TuB12.3

Low Latency Policy Iteration Via Parallel Processing and Randomization, pp. 1084-1091.

Master, Neal	Stanford Univ
Bambos, Nicholas	Stanford Univ

14:30-14:50 TuB12.4

Structured Linearization of Discrete Mechanical Systems on Lie Groups: A Synthesis of Analysis and Control, pp. 1092-1099.

Fan, Taosha	Northwestern Univ
Murphey, Todd D.	Northwestern Univ

14:50-15:10 TuB12.5

An Example of Solving HJB Equations Using Sparse Grid for Feedback Control, pp. 1100-1105.

Kang, Wei	Naval Postgraduate School
Wilcox, Lucas	Naval Postgraduate School

TuB13 1007

Estimation II (Regular Session)

Chair: Martins, Nuno C.	Univ. of Maryland
Co-Chair: Azuma, Shun-ichi	Kyoto Univ

13:30-13:50 TuB13.1

Convergence Analysis of Gaussian Belief Propagation for Distributed State Estimation, pp. 1106-1111.

Sui, Tianju	Zhejiang Univ
Marelli, Damian	Univ. of Newcastle
Fu, Minyue	Univ. of Newcastle

13:50-14:10 TuB13.2

Optimal Threshold Strategies for Remote Estimation Over the Collision Channel with Communication Costs, pp. 1112-1119.

Vasconcelos, Marcos M.	Univ. of Maryland
Martins, Nuno C.	Univ. of Maryland

14:10-14:30 TuB13.3

On the Estimation of Initial Conditions in Kernel-Based System Identification, pp. 1120-1125.

Risuleo, Riccardo Sven	KTH Royal Inst. of Tech
Bottegal, Giulio	KTH Royal Inst. of Tech
Hjalmarsson, Håkan	KTH Royal Inst. of Tech

14:30-14:50 TuB13.4

Prediction Governors: Optimal Solutions and Application to Electric Power Balancing Control, pp. 1126-1129.

Minami, Yuki	Nara Inst. of Science and Tech
Azuma, Shun-ichi	Kyoto Univ

14:50-15:10 TuB13.5

On the Generation of Conditional Densities in Nonlinear Filtering for McKean-Vlasov Systems, pp. 1130-1135.

Sen, Nevroz	McGill Univ
Caines, Peter E.	McGill Univ

15:10-15:30 TuB13.6

Comparison of Different Observer Designs for Heat Equation (I), pp. 1136-1141.

Afshar, Sepideh	Univ. of Waterloo
Morris, Kirsten	Univ. of Waterloo
Khajepour, Amir	Univ. of Waterloo

TuB14 1008

Lyapunov Methods II (Regular Session)

Chair: Nicotra, Marco M	Univ. Libre De Bruxelles
Co-Chair: Athalye, Chirayu D.	Indian Inst. of Tech. Bombay

13:30-13:50 TuB14.1

Plant Tuning: A Robust Lyapunov Approach, pp. 1142-1147.

Blanchini, Franco	Univ. Degli Studi Di Udine
Fenu, Gianfranco	Univ. of Trieste
Giordano, Giulia	Univ. of Udine
Pellegrino, Felice Andrea	Univ. of Trieste, Trieste (Italy)

13:50-14:10 TuB14.2

Feedback Stabilization Via Rational Control Lyapunov Functions, pp. 1148-1153.

Doban, Alina Ionela	Eindhoven Univ. of Tech
Lazar, Mircea	Eindhoven Univ. of Tech

14:10-14:30 TuB14.3

Control of Euler-Lagrange Systems Subject to Constraints: An Explicit Reference Governor Approach, pp. 1154-1159.

Nicotra, Marco M	Univ. Libre De Bruxelles
Garone, Emanuele	Univ. Libre De Bruxelles

14:30-14:50 TuB14.4

Control Synthesis for Non-Polynomial Systems: A Domain of Attraction Perspective, pp. 1160-1167.

Han, Dongkun	Tech. Univ. of Munich
Althoff, Matthias	Tech. Univ. München

14:50-15:10 TuB14.5

Necessary Condition on Lyapunov Functions Corresponding to the Globally Asymptotically Stable Equilibrium Point, pp. 1168-1173.

Athalye, Chirayu D.	Indian Inst. of Tech. Bombay

15:10-15:30 TuB14.6

Stability Analysis of Conewise Linear Systems with Sliding Modes, pp. 1174-1179.

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

TuB15 1009

Stochastic Systems II (Regular Session)

Chair: Solo, Victor	Univ. of New South Wales
Co-Chair: Yamada, Yuji	Univ. of Tsukuba

13:30-13:50 TuB15.1

On Equivalence Notions for Discrete-Time Stochastic Control Systems, pp. 1180-1185.

Pola, Giordano	Univ. of L'Aquila
Manes, Costanzo	Univ. Dell'aquila
Di Benedetto, M. Domenica	Univ. of L'Aquila
van der Schaft, Arjan J.	Univ. of Groningen

13:50-14:10 TuB15.2

Stochastic System Identification in SO(3), pp. 1186-1191.

Solo, Victor	Univ. of New South Wales

14:10-14:30 TuB15.3

Parameter Estimation for the Bivariate Wrapped Normal Distribution, pp. 1192-1198.

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

14:30-14:50 TuB15.4

Optimal Sensor Transmission Energy Allocation for Linear Control Over a Packet Dropping Link with Energy Harvesting, pp. 1199-1204.

Knorn, Steffi	Uppsala Univ
Dey, Subhrakanti	Uppsala Univ

14:50-15:10 TuB15.5

Optimal Hedging of Path-Dependent Basket Options with Additive Models, pp. 1205-1210.

Yamada, Yuji	Univ. of Tsukuba

15:10-15:30 TuB15.6

Stochastic Regularization and Stabilization of Hybrid Functional Differential Equations (I), pp. 1211-1216.

Zong, Xiaofeng	Acad. of Mathematics and Systems Science, Chinese Acad. Of
Wu, Fuke	Huazhong Univ. of Science and Tech
Yin, George	Wayne State Univ

TuB16 1010

Distributed Parameter Systems II (Regular Session)

Chair: Krstic, Miroslav	Univ. of California, San Diego
Co-Chair: Peet, Matthew M.	Arizona State Univ

13:30-13:50 TuB16.1

Output Feedback Control of Inhomogeneous Parabolic PDEs with Point Actuation and Point Measurement Using SOS and Semi-Separable Kernels, pp. 1217-1223.

Gahlawat, Aditya	Illinois Inst. of Tech
Peet, Matthew M.	Arizona State Univ

13:50-14:10 TuB16.2

Adaptive Compensation of Diffusion-Advection Actuator Dynamics Using Boundary Measurements (I), pp. 1224-1229.

Bresch-Pietri, Delphine	CNRS, GIPSA-Lab
Krstic, Miroslav	Univ. of California, San Diego

14:10-14:30 TuB16.3

Distributed Identification of Spatially-Distributed Systems Based on Finite Element Modelling, pp. 1230-1235.

Liu, Qin	Univ. of Georgia
Gross, Joseph	Hamburg Univ. of Tech
Werner, Herbert	Hamburg Univ. of Tech

14:30-14:50 TuB16.4

Boundary L2-Gain Stabilisation of a Distributed Port-Hamiltonian System with Rectangular Domain, pp. 1236-1241.

Macchelli, Alessandro	Univ. of Bologna - Italy
Le Gorrec, Yann	Ensmm, Femto-St / As2m
Ramirez, Hector	FEMTO-ST / Univ. De Franche-Comté

14:50-15:10 TuB16.5

Backstepping Stabilization of the Linearized Saint-Venant-Exner Model: Part I – State Feedback, pp. 1242-1247.

Diagne, Mamadou	UC San Diego
Diagne, Ababacar	Uppsala Univ
Tang, Shuxia	Univ. of California, San Diego
Krstic, Miroslav	Univ. of California, San Diego

15:10-15:30 TuB16.6

Backstepping Stabilization of the Linearized Saint-Venant-Exner Model: Part II– Output Feedback, pp. 1248-1253.

Diagne, Mamadou	UC San Diego
Diagne, Ababacar	Uppsala Univ
Tang, Shuxia	Univ. of California, San Diego
Krstic, Miroslav	Univ. of California, San Diego

TuB17 Conference Hall

Control and Optimization in Biological Systems (Invited Session)

Chair: Paschalidis, Ioannis Ch.	Boston Univ
Co-Chair: Vidyasagar, Mathukumalli	The Univ. of Texas at Dallas
Organizer: Paschalidis, Ioannis Ch.	Boston Univ
Organizer: Vidyasagar, Mathukumalli	The Univ. of Texas at Dallas

13:30-13:50 TuB17.1

Optimized Prediction of Extreme Treatment Outcomes in Ovarian Cancer (I), pp. 1254-1258.

Misganaw, Burook	The Univ. of Texas at Dallas
Ahsen, Mehmet Eren	Univ. of Texas at Dallas
Singh, Nitin	Univ. of Texas at Dallas
Unruh, Anna	M. D. Anderson Cancer Center
Baggerly, Keith	M. D. Anderson Cancer Center
White, Michael A	UT Southwestern Medical Center
Vidyasagar, Mathukumalli	The Univ. of Texas at Dallas

13:50-14:10 TuB17.2

On the Use of Hyperplane Methods to Compute the Reachable Set of Controlled Stochastic Biochemical Reaction Networks (I), pp. 1259-1264.

Parise, Francesca	ETH Zurich

Valcher, Maria Elena	Univ. Di Padova
Lygeros, John	ETH Zurich

14:10-14:30 TuB17.3

Adaptive Model Predictive Control of an Optogenetic System (I), pp. 1265-1270.

Milias-Argeitis, Andreas	ETH Zurich
Khammash, Mustafa H.	ETH Zurich

14:30-14:50 TuB17.4

Learning Cellular Objectives from Fluxes by Inverse Optimization (I), pp. 1271-1276.

Zhao, Qi	Boston Univ
Stettner, Arion	Boston Univ
Reznik, Ed	Sloan Kettering Inst
Segre, Daniel	Boston Univ
Paschalidis, Ioannis Ch.	Boston Univ

14:50-15:10 TuB17.5

A Minimal Biomolecular Frequency Divider (I), pp. 1277-1282.

Cuba Samaniego, Christian	Univ. of California at Riverside
Franco, Elisa	Univ. of California at Riverside

15:10-15:30 TuB17.6

Optimal Control of an Inflammatory Immune Response Model, pp. 1283-1288.

Bara, Ouassim	Univ. of Tennessee
Day, Judy	Univ. of Tennessee
Djouadi, Seddik, M.	Univ. of Tennessee

TuB18 1202

Optimal Control II (Regular Session)

Chair: Hirata, Kenji	Nagaoka Univ. of Tech
Co-Chair: Mettler, Berenice	Univ. of Minnesota

13:30-13:50 TuB18.1

A Human-Inspired Subgoal-Based Approach to Constrained Optimal Control, pp. 1289-1296.

Feit, Andrew	Univ. of Minnesota
Verma, Abhishek	Univ. of Minnesota
Mettler, Berenice	Univ. of Minnesota

13:50-14:10 TuB18.2

Exact and Efficient Hamilton-Jacobi Reachability for Decoupled Systems, pp. 1297-1303.

Chen, Mo	Univ. of California, Berkeley
Tomlin, Claire J.	UC Berkeley

14:10-14:30 TuB18.3

Jacobson Type Necessary Optimality Conditions for General Control Systems, pp. 1304-1309.

Frankowska, Helene	CNRS and Univ. Pierre Et Marie Curie (Paris 6)
Hoehener, Daniel	Massachusetts Inst. of Tech

14:30-14:50 TuB18.4

Design of Optimal Coupling Gains for Synchronization of Nonlinear Oscillators, pp. 1310-1315.

Purba, Victor	Univ. of Minnesota
Wu, Xiaofan	Univ. of Minnesota
Sinha, Mohit	Univ. of Minnesota
Dhople, Sairaj	Univ. of Minnesota
Jovanovic, Mihailo	Univ. of Minnesota

14:50-15:10 TuB18.5

Generating 1-DOF Limit Cycle Walking at Target Walking Speed by Feedforward Limit Cycle Control, pp. 1316-1321.

Xiao, Xuan	Japan Advanced Inst. of Science and Tech
Asano, Fumihiko	Japan Advanced Inst. of Science and Tech

15:10-15:30 TuB18.6

Distributed Active and Reactive-Power Flow Management for Grid Voltage Maintenance Using Real-Time Pricing Strategy, pp. 1322-1327.

Ishii, Takaya	Nagaoka Univ. of Tech
Hirata, Kenji	Nagaoka Univ. of Tech
Ohori, Akihiro	DAIHEN Corp
Hattori, Nobuyuki	DAIHEN Corp
Ohta, Yoshito	Kyoto Univ

TuC01 Large Hall

Energy Systems II (Regular Session)

Chair: Susuki, Yoshihiko	Kyoto Univ
Co-Chair: Kvasnica, Michal	Slovak Univ. of Tech. in Bratislava

16:00-16:20 TuC01.1

PDE Battery Model Simplification for SOC and SOH Estimator Design, pp. 1328-1333.

Zou, Changfu	Univ. of Melbourne
Kallapur, Abhijit	UNSW Canberra, Australian Defence Force Acad
Manzie, Chris	The Univ. of Melbourne
Nesic, Dragan	Univ. of Melbourne

16:20-16:40 TuC01.2

MPC-Based Reference Governors for Thermostatically Controlled Residential Buildings, pp. 1334-1339.

Drgona, Jan	Slovak Univ. of Tech. in Bratislava
Klauco, Martin	Slovak Univ. of Tech. in Bratislava
Kvasnica, Michal	Slovak Univ. of Tech. in Bratislava

16:40-17:00 TuC01.3

Deterministic and Stochastic MPC Algorithms for Minimizing Mechanical Stresses in Wind Farms, pp. 1340-1345.

Riverso, Stefano	United Tech. Res. Center Ireland
Mancini, Simone	Univ. Degli Studi Di Pavia
Sarzo, Fabio	Univ. Degli Studi Di Pavia
Ferrari-Trecate, Giancarlo	Univ. Degli Studi Di Pavia

17:00-17:20 TuC01.4

A Systematic Approach to Constant Power Load Stabilization by Passive Damping, pp. 1346-1351.

Mayo-Maldonado, Jonathan Carlos	ITESM
Rapisarda, Paolo	Univ. of Southampton

17:20-17:40 TuC01.5

Passive Structural Vibration Control of a Monopile Wind Turbine Tower, pp. 1352-1357.

Tong, Xin	Univ. of Warwick
Zhao, Xiaowei	Univ. of Warwick
Zhao, Shi	Univ. of Oxford

17:40-18:00 TuC01.6

Graph-Based Modeling and Analysis of Dynamic Flows in Steam Supply Networks, pp. 1358-1363.

Hoshino, Hikaru	Kyoto Univ
Susuki, Yoshihiko	Kyoto Univ

TuC02 Small Hall

Large-Scale Optimization II (Invited Session)

Chair: Nedich, Angelia	Univ. of Illinois, Urbana-Champaign
Co-Chair: Notarstefano, Giuseppe	Univ. Del Salento
Organizer: Nedich, Angelia	Univ. of Illinois, Urbana-Champaign
Organizer: Notarstefano, Giuseppe	Univ. Del Salento

16:00-16:20 TuC02.1

Graph Balancing for Distributed Subgradient Methods Over Directed Graphs (I), pp. 1364-1371.

Makhdoumi, Ali	MIT
Ozdaglar, Asu	MIT

16:20-16:40 TuC02.2

A Core-Set Approach for Distributed Quadratic Programming in Big-Data Classification (I), pp. 1372-1377.

Notarstefano, Giuseppe	Univ. Del Salento

16:40-17:00 TuC02.3

On the Behavior of First-Order Penalty Methods for Conic Constrained Convex Programming When Lagrange Multipliers Do Not Exist (I), pp. 1378-1383.

Necoara, Ion	Univ. Pol. Bucharest
Patrascu, Andrei	Univ. Pol. Bucharest

17:00-17:20 TuC02.4

An Asynchronous Mini-Batch Algorithm for Regularized Stochastic Optimization (I), pp. 1384-1389.

Feyzmahdavian, Hamid Reza	Royal Inst. of Tech. (KTH)
Aytekin, Arda	KTH Royal Inst. of Tech
Johansson, Mikael	KTH - Royal Inst. of Tech

17:20-17:40 TuC02.5

Distributed and Robust Resource Allocation Algorithms for Multi-Agent Systems Via Discrete-Time Iterations (I), pp. 1390-1395.

Ramirez-Llanos, Eduardo	Univ. of California, San Diego
Martinez, Sonia	Univ. of California at San Diego

17:40-18:00 TuC02.6

Proximal Alternating Direction Method of Multipliers for Distributed Optimization on Weighted Graphs, pp. 1396-1401.

Meng, De	Univ. of Washington
Fazel, Maryam	Univ. of Washington
Mesbahi, Mehran	Univ. of Washington

TuC03 801

Sampled-Data Control (Regular Session)

Chair: Hayakawa, Tomohisa	Tokyo Inst. of Tech
Co-Chair: Schulze Darup, Moritz	Univ. of Oxford

16:00-16:20 TuC03.1

Efficient Constraint Adaptation for Sampled Linear Systems, pp. 1402-1408.

Schulze Darup, Moritz	Univ. of Oxford

16:20-16:40 TuC03.2

Sampled-Data Delayed Feedback Control for Stabilizing Unstable Periodic Orbits, pp. 1409-1414.

Cetinkaya, Ahmet	Tokyo Inst. of Tech
Hayakawa, Tomohisa	Tokyo Inst. of Tech

16:40-17:00 TuC03.3

Dual Rate Control for Security in Cyber-Physical Systems, pp. 1415-1420.

Naghnaeian, Mohammad	Univ. of Illinois Urbana-Champaign
Hirzallah, Nabil	Univ. of Illinois at Urbana-Champaign
Voulgaris, Petros G.	Univ. of Illinois, Urbana-Champaign

17:00-17:20 TuC03.4

Robust Performance Analysis of Aperiodic Sampled-Data Feedback Control Systems, pp. 1421-1426.

Kao, Chung-Yao	National Sun Yat-Sen Univ
Cantoni, Michael	Univ. of Melbourne

17:20-17:40 TuC03.5

Sampled-Data Output Feedback Control for a Class of Nonminimum-Phase Nonlinear Systems, pp. 1427-1432.

Lin, Wei	Case Western Res. Univ
Wei, Wei	Harbin Inst. of Tech. Shenzhen Graduate School
Ye, Guoqiang	Harbin Inst. of Tech

17:40-18:00 TuC03.6

Self-Triggered Pursuit of a Single Evader, pp. 1433-1440.

Aleem, Saad A.	Univ. of Pennsylvania
Nowzari, Cameron	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

TuC04 802

Identification II (Regular Session)

Chair: Cinquemani, Eugenio	INRIA Grenoble - Rhone-Alpes
Co-Chair: Csaji, Balazs	Mta Sztaki

16:00-16:20 TuC04.1

Closed-Loop Applicability of the Sign-Perturbed Sums Method, pp. 1441-1446.

Csaji, Balazs	Mta Sztaki
Weyer, Erik	Univ. of Melbourne

16:20-16:40 TuC04.2

On the Variance Analysis of Identified Linear MIMO Models, pp. 1447-1452.

Everitt, Niklas	KTH
Bottegal, Giulio	KTH Royal Inst. of Tech
Rojas, Cristian R.	KTH Royal Inst. of Tech
Hjalmarsson, Håkan	KTH Royal Inst. of Tech

16:40-17:00 TuC04.3

A Data-Driven Approach to Nonlinear Braking Control (I), pp. 1453-1458.

Novara, Carlo	Pol. Di Torino
Formentin, Simone	Pol. Di Milano
Savaresi, Sergio M.	Pol. Di Milano
Milanese, Mario	Modelway Srl

17:00-17:20 TuC04.4

Identification of LPV Systems with LFT Parametric Dependence Via

Convex Optimization, pp. 1459-1464.

Cheng, Yongfang	Northeastern Univ
Sznaier, Mario	Northeastern Univ

17:20-17:40 TuC04.5

Accurate Frequency Response Function Identification of LPV Systems: A 2D Local Parametric Modeling Approach, pp. 1465-1470.

van der Maas, Rick	Eindhoven Univ. of Tech
van der Maas, Annemiek	Eindhoven Univ. of Tech
Oomen, Tom	Eindhoven Univ. of Tech

17:40-18:00 TuC04.6

Reconstruction of Promoter Activity Statistics from Reporter Protein Population Snapshot Data (I), pp. 1471-1476.

Cinquemani, Eugenio	INRIA Grenoble - Rhone-Alpes

TuC05 804

Robotics II (Regular Session)

Chair: Xin, Xin	Okayama Prefectural Univ
Co-Chair: Lv, Ge	Univ. of Texas at Dallas

16:00-16:20 TuC05.1

On Controllability and Observability of an N-Link Planar Robot with a Single Actuator and a Single Encoder Having Different Configurations, pp. 1477-1482.

Liu, Yannian	Okayama Univ
Xin, Xin	Okayama Prefectural Univ

16:20-16:40 TuC05.2

Orthotic Body-Weight Support through Underactuated Potential Energy Shaping with Contact Constraints, pp. 1483-1490.

Lv, Ge	Univ. of Texas at Dallas
Gregg, Robert D.	Univ. of Texas at Dallas

16:40-17:00 TuC05.3

Nonlinear Control of Tendon Driven Robot Manipulators : Elimination of Actuator Side Position Measurements, pp. 1491-1496.

Okur, Beytullah	Gebze Inst. of Tech
Zergeroglu, Erkan	Gebze Inst. of Tech
Tatlicioglu, Enver	Izmir Inst. of Tech

17:00-17:20 TuC05.4

Landing of VTOL UAVs Using a Stationary Robot Manipulator: A New Approach for Coordinated Control, pp. 1497-1502.

Maier, Moritz	DLR
Kondak, Konstantin	German Aerospace Center (DLR)

17:20-17:40 TuC05.5

Joint Position Tracking with Prescribed Performance of Uncertain Robotic Manipulators Using Only Joint Position Measurements, pp. 1503-1508.

Papageorgiou, Dimitrios	Aristotle Univ. of Thessaloniki
Katsoukis, Ilias	Aristotle Univ. of Thessaloniki
Rovithakis, George A.	Aristotle Univ. of Thessaloniki
Doulgeri, Zoe	Aristotle Univ. of Thessaloniki

17:40-18:00 TuC05.6

A Two-Layer Architecture for Force-Reflecting Bilateral Teleoperation with Time Delays, pp. 1509-1514.

Heck, Dennis	Eindhoven Univ. of Tech
Saccon, Alessandro	Eindhoven Univ. of Tech
Nijmeijer, Hendrik	Eindhoven Univ. of Tech

TuC06 805

Automotive Systems (Regular Session)

Chair: Zhao, Dezong	Loughborough Univ
Co-Chair: Wang, Junmin	The Ohio State Univ

16:00-16:20 TuC06.1

Robust H_infty Output-Feedback Control for Path Following of Autonomous Ground Vehicles, pp. 1515-1520.

Jing, Hui	Southeast Univ
Hu, Chuan	McMaster Univ
Yan, Fengjun	McMaster Univ
Chadli, Mohammed	Univ. De Picardie-Jules Verne
Wang, Rongrong	Southeast Univ
Chen, Nan	Southeast Univ

16:20-16:40 TuC06.2

Robust H_infty Output-Feedback Yaw Control for In-Wheel-Motor Driven Electric Vehicles with Differential Steering, pp. 1521-1526.

Mi, Tian	Southeast Univ
Li, Cong	Guilin Univ. of Aerospace Tech
Hu, Chuan	McMaster Univ
Wang, Jinxiang	Southeast Univ
Chen, Nan	Southeast Univ
Wang, Rongrong	Southeast Univ

16:40-17:00 TuC06.3

Systematic Control on Energy Recovery of Electrified Turbocharged Diesel Engines, pp. 1527-1532.

Zhao, Dezong	Loughborough Univ
Stobart, Richard	Loughborough Univ

17:00-17:20 TuC06.4

Road Profile Classification for Vehicle Semi-Active Suspension System Based on Adaptive Neuro-Fuzzy Inference System, pp. 1533-1538.

Qin, Yechen	Bejing Inst. of Tech
Dong, Mingming	Bejing Inst. of Tech
Zhao, Feng	Bejing Inst. of Tech
Langari, Reza	Texas A&M Univ
Gu, Liang	Bejing Inst. of Tech

17:20-17:40 TuC06.5

Robust Fault Estimation for Time-Varying and High-Order Faults in Vehicle Electric Steering Systems, pp. 1539-1544.

Zhang, Guoguang	Ohio State Univ
Zhang, Hui	The Ohio State Univ
Wang, Junmin	The Ohio State Univ

17:40-18:00 TuC06.6

Joint State-Parameter Estimation for Active Vehicle Suspensions: A Takagi-Sugeno Kalman Filtering Approach (I), pp. 1545-1550.

Pletschen, Nils	Tech. Univ. München
Barthelmes, Stefan	German Aerospace Center
Lohmann, Boris	Tech. Univ. München

TuC07 1001

Network Semantics, Representations, Identification, and Control II (Invited Session)

Chair: Warnick, Sean	Brigham Young Univ
Co-Chair: Materassi, Donatello	Univ. of Tennessee, Knoxville
Organizer: Warnick, Sean	Brigham Young Univ
Organizer: Materassi,	Univ. of Tennessee, Knoxville

Donatello

16:00-16:20 TuC07.1

How Retroactivity Impacts the Robustness of Genetic Networks (I), pp. 1551-1556.

Mou, Shaoshuai — Purdue Univ
Del Vecchio, Domitilla — Massachusetts Inst. of Tech

16:20-16:40 TuC07.2

Network Semantics of Dynamical Systems (I), pp. 1557-1562.

Chetty, Vasu — Brigham Young Univ
Warnick, Sean — Brigham Young Univ

16:40-17:00 TuC07.3

Identification of Network Components in Presence of Unobserved Nodes (I), pp. 1563-1568.

Materassi, Donatello — Univ. of Tennessee, Knoxville
Salapaka, Murti V. — Univ. of Minnesota, Minneapolis

17:00-17:20 TuC07.4

Convex Analysis of Generalized Flow Networks, pp. 1569-1576.

Fattahi, Salar — Univ. of California, Berkeley
Lavaei, Javad — UC Berkeley

17:20-17:40 TuC07.5

On Consensus-Based Community Detection, pp. 1577-1582.

Fardad, Makan — Syracuse Univ

17:40-18:00 TuC07.6

Dynamic Management of Network Risk from Epidemic Phenomena, pp. 1583-1588.

Sinha, Aman — Stanford Univ
Duchi, John — Stanford Univ
Bambos, Nicholas — Stanford Univ

TuC08 — 1002

Hybrid Systems III (Regular Session)

Chair: Lee, Ji-Woong — Pennsylvania State Univ
Co-Chair: Zattoni, Elena — Univ. of Bologna

16:00-16:20 TuC08.1

The Disturbance Decoupling Problem for Jumping Hybrid Systems, pp. 1589-1594.

Conte, Giuseppe — Univ. Pol. Delle Marche
Perdon, Anna Maria — Univ. Pol. Delle Marche
Zattoni, Elena — Univ. of Bologna

16:20-16:40 TuC08.2

Feedback Scheduling of Sensor Network Activity Using a Hybrid Dynamical Systems Approach, pp. 1595-1600.

Mokrenko, Olesia — CEA, LETI, MINATEC Campus
Albea, Carolina — LAAS CNRS; Univ. De Toulouse 3
Zaccarian, Luca — LAAS-CNRS and Univ. of Trento
Lesecq, Suzanne — CEA

16:40-17:00 TuC08.3

Stabilization of Discrete-Time Piecewise Affine Systems with Quantized Signals, pp. 1601-1606.

Wakaiki, Masashi — Univ. of California, Santa Barbara
Yamamoto, Yutaka — Kyoto Univ

17:00-17:20 TuC08.4

A Hybrid Systems and Optimization-Based Control Approach to Realizing Multi-Contact Locomotion on Transfemoral Prostheses, pp. 1607-1612.

Zhao, Huihua — Texas A&M Univ
Horn, Jonathan — Texas A&M Univ
Reher, Jacob — Texas A&M Univ
Paredes, Victor — Texas A&M Univ
Ames, Aaron D. — Georgia Inst. of Tech

17:20-17:40 TuC08.5

Constrained Quadratic Control of Discrete-Time Piecewise Affine Systems, pp. 1613-1618.

Lee, Ji-Woong — Pennsylvania State Univ

17:40-18:00 TuC08.6

A New Approach to Adaptive Impulsive Observer Design for Nonlinear Systems, pp. 1619-1624.

Chen, W.-H. — Guangxi Univ
Yang, W. — Guangxi Univ
Zheng, Wei Xing — Univ. of Western Sydney

TuC09 — 1003

Communication Networks (Regular Session)

Chair: Finke, Jorge — Pontificia Univ. Javeriana
Co-Chair: Lestas, Ioannis — Univ. of Cambridge

16:00-16:20 TuC09.1

Transitivity of Reciprocal Networks, pp. 1625-1630.

Fernández, Isabel — The Ohio State Univ
Finke, Jorge — Pontificia Univ. Javeriana

16:20-16:40 TuC09.2

On the Modified AIMD Algorithm for Distributed Resource Management with Saturation of the User's Share, pp. 1631-1636.

Stuedli, Sonja — The Univ. of Newcastle
Corless, Martin — Purdue Univ
Middleton, Richard — The Univ. of Newcastle
Shorten, Robert — Nat. Univ. of Ireland

16:40-17:00 TuC09.3

Wireless Communications Games in Fixed and Random Environments, pp. 1637-1642.

Zhou, Zhengyuan — Stanford Univ
Bambos, Nicholas — Stanford Univ

17:00-17:20 TuC09.4

Dynamic User Association and Energy Control in Cellular Networks with Renewable Resources, pp. 1643-1650.

Yang, Yang — Ohio State Univ
Liu, Jiashang — The Ohio State Univ
Sinha, Prasun — Ohio State Univ
Shroff, Ness B. — The Ohio State Univ

17:20-17:40 TuC09.5

Stability and Instability in Primal-Dual Algorithms for Multi-Path Routing, pp. 1651-1656.

Holding, Thomas James — Univ. of Cambridge
Lestas, Ioannis — Univ. of Cambridge

17:40-18:00 TuC09.6

Energy-Efficient Cooperative Transmission in Wireless Networks with Limited Channel State Information, pp. 1657-1662.

Habibi, Jalal — Concordia Univ
Ghrayeb, Ali — Concordia Univ
Aghdam, Amir G. — Concordia Univ

TuC10 1004

Supervisory Control (Regular Session)

Chair: Lopes, Gabriel A. D. — Delft Univ. of Tech
Co-Chair: Haar, Stefan — INRIA

16:00-16:20 TuC10.1

Active Diagnosis with Observable Quiescence, pp. 1663-1668.

Böhm, Stanislav — IT4 Innovations National Supercomputing Center
Haar, Stefan — INRIA
Haddad, Serge — ENS De Cachan
Hofmann, Piotr — ENS Cachan
Schwoon, Stefan — ENS Cachan

16:20-16:40 TuC10.2

A Max-Plus Based Synchronization Controller for Multiple Spring-Mass Hoppers, pp. 1669-1674.

Shahbazi Aghbelagh, Mohammad — Delft Univ. of Tech
Lopes, Gabriel A. D. — Delft Univ. of Tech

16:40-17:00 TuC10.3

A Method to Verify the Controllability of Language Specifications in Petri Nets Based on Basis Marking Analysis, pp. 1675-1681.

Ma, Ziyue — Xidian Univ
Li, Zhiwu — Martin-Luther Univ. of Halle and Weinberg
Giua, Alessandro — Aix-Marseille Univ. France / Univ. of Cagliari, Italy

17:00-17:20 TuC10.4

MPC Based Supervisory Control Design for a Free Electron Laser, pp. 1682-1686.

Rezaeizadeh, Amin — ETH Zurich
Schilcher, Thomas — Paul Scherrer Inst
Smith, Roy S. — ETH Zurich

17:20-17:40 TuC10.5

Safety Analysis for a Class of Graph Constrained Scheduling Problems, pp. 1687-1692.

Saltik, Muhammed Bahadir — Eindhoven Univ. of Tech
Athanasopoulos, Nikolaos — Univ. Catholique De Louvain
Ozkan, Leyla — Eindhoven Univ. of Tech
Weiland, Siep — Eindhoven Univ. of Tech

17:40-18:00 TuC10.6

Hierarchical Interface-Based Decentralized Supervisory Control, pp. 1693-1700.

Liu, Huailiang — McMaster Univ
Leduc, Ryan — McMaster Univ
Ricker, S. Laurie — Mount Allison Univ

TuC11 1005

Cooperative Control III (Regular Session)

Chair: Khan, Usman A. — Tufts Univ
Co-Chair: Zhang, Hongwei — Southwest Jiaotong Univ

16:00-16:20 TuC11.1

Hybrid Control of Multi-Agent Systems under Local Temporal Tasks and Relative-Distance Constraints (I), pp. 1701-1706.

Guo, Meng — Royal Inst. of Tech. (KTH)
Tumova, Jana — Royal Inst. of Tech
Dimarogonas, Dimos V. — Royal Inst. of Tech

16:20-16:40 TuC11.2

Optimal and Least Restrictive Supervisory Control: Safety Verification Methods for Human-Driven Vehicles at Traffic Intersections, pp. 1707-1712.

Rodrigues De Campos, Gabriel — Pol. Di Milano
Della Rossa, Fabio — Pol. Di Milano
Colombo, Alessandro — Pol. Di Milano

16:40-17:00 TuC11.3

Cooperative Target Defense Differential Game with a Constrained-Maneuverable Defender, pp. 1713-1718.

Casbeer, David W. — Air Force Res. Lab
Garcia, Eloy — Infoscitex Corp
Fuchs, Zachariah E. — United States Air Force Res. Lab
Pachter, Meir — AFIT/ENG

17:00-17:20 TuC11.4

An~H_infty-Based Approach for Robust Sensor Localization, pp. 1719-1724.

Khan, Usman A. — Tufts Univ
Korniienko, Anton — Ec. Centrale De Lyon, Lab. Ampère
Johansson, Karl H. — Royal Inst. of Tech

17:20-17:40 TuC11.5

Sensor Scheduling for Distributed Filtering under Limited Communication Resources, pp. 1725-1730.

Yang, Wen — East China Univ. of Science and Tech
Yang, Chao — East China Univ. of Science and Tech
Shi, Hongbo — East China Univ. of Science and Tech

17:40-18:00 TuC11.6

Output Feedback Bipartite Consensus and Consensus of Linear Multi-Agent Systems, pp. 1731-1735.

Zhang, Hongwei — Southwest Jiaotong Univ

TuC12 1006

Computational Methods II (Regular Session)

Chair: El Hajjaji, Ahmed — Univ. of Picardie-Jules Verne
Co-Chair: Lavaei, Javad — UC Berkeley

16:00-16:20 TuC12.1

A Distributed Algorithm to Determine Lower and Upper Bounds in Branch and Bound for Hybrid Model Predictive Control, pp. 1736-1741.

Firooznia, Amir — Delft Univ. of Tech
Bourdais, Romain — SUPELEC
De Schutter, Bart — Delft Univ. of Tech

16:20-16:40 TuC12.2

A Fast Distributed Algorithm for Decomposable Semidefinite Programs, pp. 1742-1749.

Kalbat, Abdulrahman — Columbia Univ
Lavaei, Javad — UC Berkeley

16:40-17:00 TuC12.3

Computation of the Induced Norm from L2 to L∞ in SISO Sampled-Data Systems: Discretization Approach with Convergence Rate Analysis, pp. 1750-1755.

Kim, Jung Hoon — Korea Inst. of Science and Tech

Hagiwara, Tomomichi	Kyoto Univ

17:00-17:20 TuC12.4

Stability Analysis of Linear Systems with Time Varying Delay: An Input Output Approach, pp. 1756-1761.

Hmamed, Abdelaziz	Faculty of Science Dhar Elmhraz
El Aiss, Hicham	Univ. SMBA De FEZ
El Hajjaji, Ahmed	Univ. of Picardie-Jules Verne

17:20-17:40 TuC12.5

Computation of Linear Comparison Equations for Stability Analysis of Interconnected Systems, pp. 1762-1768.

Kundu, Soumya	Los Alamos National Lab. USA
Anghel, Marian	Los Alamos National Lab

17:40-18:00 TuC12.6

Center Manifold Method for the Orbit Design of the Restricted Three Body Problem, pp. 1769-1774.

Nagata, Keisuke	Nagoya Univ
Sakamoto, Noboru	Nanzan Univ
Habaguchi, Yuuta	Nagoya Univ

TuC13 1007

Estimation III (Regular Session)

Chair: Zenger, Kai	Aalto Univ. School of Electrical Engineering
Co-Chair: Rapp, Philipp	Univ. of Stuttgart

16:00-16:20 TuC13.1

Optimal Estimation with Limited Measurements and Noisy Communication, pp. 1775-1780.

Gao, Xiaobin	Univ. of Illinois, Urbana-Champaign
Akyol, Emrah	Univ. of Illinois at Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

16:20-16:40 TuC13.2

Nonparametric Approaches to Estimation Problems for Demand and Supply Functions in Power Exchange Markets, pp. 1781-1786.

Yamada, Yuji	Univ. of Tsukuba

16:40-17:00 TuC13.3

High-Pressure Recirculated Exhaust Gas Fraction Identification and Control in Marine Diesel Engines, pp. 1787-1792.

Samokhin, Sergey	Aalto Univ
Zenger, Kai	Aalto Univ. School of Electrical Engineering

17:00-17:20 TuC13.4

A Multi-Observer Approach for the State Estimation of Nonlinear Systems, pp. 1793-1798.

Postoyan, Romain	CNRS-CRAN
Hamid, Mohammed Hacene	Univ. De Lorraine
Daafouz, Jamal	Univ. De Lorraine, CRAN, CNRS

17:20-17:40 TuC13.5

Global Observability Analysis of the SR Motor under Sensorless Operation, pp. 1799-1804.

De La Guerra, Alejandra	UNAM
Maya-Ortiz, Paul	Univ. Nacional Autonoma De Mexico
Espinosa-Perez, Gerardo	Univ. Nacional Autonoma De Mexico

17:40-18:00 TuC13.6

Sensor Fusion for Planar Pose Estimation Using Immersion and Invariance, pp. 1805-1810.

Rapp, Philipp	Univ. of Stuttgart
Sawodny, Oliver	Univ. of Stuttgart
Tarin, Cristina	Univ. of Stuttgart

TuC14 1008

Lyapunov Tools for ISS and Stabilization (Invited Session)

Chair: Ito, Hiroshi	Kyushu Inst. of Tech
Co-Chair: Pepe, Pierdomenico	Univ. of L' Aquila
Organizer: Ito, Hiroshi	Kyushu Inst. of Tech
Organizer: Pepe, Pierdomenico	Univ. of L' Aquila

16:00-16:20 TuC14.1

Stability Analysis for Systems with Time-Varying Delay: Trajectory Based Approach (I), pp. 1811-1816.

Mazenc, Frederic	Epi Inria Disco
Malisoff, Michael	Louisiana State Univ
Niculescu, Silviu-Iulian	CNRS-Supelec

16:20-16:40 TuC14.2

Input-To-State Stability with Respect to Two Measurement Functions: Discrete-Time Systems (I), pp. 1817-1822.

Tran, Duc	The Univ. of Newcastle
Kellett, Christopher M.	Univ. of Newcastle
Dower, Peter M.	The Univ. of Melbourne

16:40-17:00 TuC14.3

Sum-Separable Lyapunov Functions for Networks of ISS Systems: A Gain Function Approach (I), pp. 1823-1828.

Rüffer, Björn S.	The Univ. of Newcastle
Ito, Hiroshi	Kyushu Inst. of Tech

17:00-17:20 TuC14.4

Linearizing and Stabilizing Discontinuous Feedbacks for Delay Systems As Stabilizers in the Sample-And-Hold Sense (I), pp. 1829-1834.

Pepe, Pierdomenico	Univ. of L' Aquila

17:20-17:40 TuC14.5

Integral Input-To-State Stabilization by Stochastic Noise Generated in Bounded Regions (I), pp. 1835-1840.

Ito, Hiroshi	Kyushu Inst. of Tech
Nishimura, Yuki	Kagoshima Univ

17:40-18:00 TuC14.6

Stabilization of a Chain of Exponential Integrators Using a Strict Lyapunov Function (I), pp. 1841-1845.

Malisoff, Michael	Louisiana State Univ
Krstic, Miroslav	Univ. of California, San Diego

TuC15 1009

Stochastic Systems III (Regular Session)

Chair: Kashima, Kenji	Kyoto Univ
Co-Chair: Leth, John	Aalborg Univ

16:00-16:20 TuC15.1

Minimized Coupling in Probability Sense for a Class of Multivariate Dynamic Stochastic Control Systems, pp. 1846-1851.

Zhang, Qichun	The Univ. of Manchester

Zhou, Jinglin	Beijing Univ. of Chemical Tech
Wang, Hong	The Univ. of Manchester
Chai, Tianyou	Northeastern Univ

16:20-16:40 TuC15.2

Modeling and Linearization of Systems under Heavy-Tailed Stochastic Noise with Application to Renewable Energy Assessment, pp. 1852-1857.

Kashima, Kenji	Kyoto Univ
Aoyama, Hiroki	Kyoto Univ
Ohta, Yoshito	Kyoto Univ

16:40-17:00 TuC15.3

A Framework for Acuity-Based, Individualized Patient Scheduling, pp. 1858-1863.

Sehr, Martin Arno	Univ. of California, San Diego
Bitmead, Robert	Univ. of California San Diego
Fontanesi, John	UC San Diego

17:00-17:20 TuC15.4

Stability of Stochastic Repetitive Processes, pp. 1864-1869.

Pakshin, Pavel	Nizhny Novgorod State Tech. Univ
Emelianova, Julia	Arzamas Pol. Inst. of R.E. Alekseev NizhnyNovgorod St
Emelianov, Mikhail	Arzamas Pol. Inst. of R.E. Alekseev NizhnyNovgorod St
Galkowski, Krzysztof	Univ. of Zielona Gora
Rogers, Eric	Univ. of Southampton

17:20-17:40 TuC15.5

Stochastic Stability of Diffusions with Semi-Markovian Switching, pp. 1870-1877.

Leth, John	Aalborg Univ
Schioler, Henrik	Associate Professor, M.Sc.EE, Ph.D
Simonsen, Maria	Aalborg Univ
Khan, Abdul Rauf	Aalborg Univ

17:40-18:00 TuC15.6

The Effect of Delayed Side Information on Fundamental Limitations of Disturbance Attenuation, pp. 1878-1883.

Zhao, Yingbo	Univ. of California, San Diego
Gupta, Vijay	Univ. of Notre Dame
Cortes, Jorge	Univ. of California, San Diego

TuC16 — 1010

Distributed Parameter Systems III (Regular Session)

Chair: Mohammadpour, Javad	Univ. of Georgia
Co-Chair: Guo, Bao-Zhu	The Chinese Acad. of Sciences

16:00-16:20 TuC16.1

Stability Analysis of Parabolic Linear PDEs with Two Spatial Dimensions Using Lyapunov Method and SOS (I), pp. 1884-1890.

Meyer, Evgeny	Arizona State Univ
Peet, Matthew M.	Arizona State Univ

16:20-16:40 TuC16.2

Desynchronization and Resynchronization of Networked Second Order Finite and Infinite Dimensional Systems (I), pp. 1891-1898.

Demetriou, Michael A.	Worcester Pol. Inst

16:40-17:00 TuC16.3

Networked Event-Triggered Control of Spatially Distributed Processes Using a Dual-Mode Communication Strategy (I), pp. 1899-1904.

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

17:00-17:20 TuC16.4

Distributed Fixed-Structure Control of Spatially Interconnected LTSV Systems, pp. 1905-1910.

Wollnack, Simon	Hamburg Univ. of Tech
Werner, Herbert	Hamburg Univ. of Tech

17:20-17:40 TuC16.5

Performance Output Tracking and Disturbance Rejection for One-Dimensional Wave Equation with Boundary Disturbance, pp. 1911-1916.

Guo, Wei	Univ. of International Business and Ec
Guo, Bao-Zhu	The Chinese Acad. of Sciences
Jin, Feng-Fei	Qingdao Univ

17:40-18:00 TuC16.6

Reduced Order Model-Based Sliding Mode Control of Dynamic Systems Governed by Burgers' Equation, pp. 1917-1922.

Abbasi, Farshid	Univ. of Georgia
Mohammadpour, Javad	Univ. of Georgia

TuC17 — Conference Hall

Neuronal Behaviors: A Control Perspective (Tutorial Session)

Chair: Sepulchre, Rodolphe	Univ. of Cambridge
Co-Chair: Drion, Guillaume	Univ. of Liege
Organizer: Sepulchre, Rodolphe	Univ. of Cambridge

16:00-18:00 TuC17.1

Neuronal Behaviors: A Control Perspective (I), pp. 1923-1944.

Drion, Guillaume	Univ. of Liege
O'Leary, Timothy	Brandeis Univ
Dethier, Julie	Univ. of Liege
Franci, Alessio	Univ. Nacional Autónoma De Mexico (UNAM)
Sepulchre, Rodolphe	Univ. of Cambridge

TuC18 — 1202

Optimal Control III (Regular Session)

Chair: Nobuyama, Eitaku	Kyushu Inst. of Tech
Co-Chair: Fontanelli, Daniele	Univ. of Trento

16:00-16:20 TuC18.1

L1 Distributed Networked Controller Design for Networked Systems, pp. 1945-1950.

Kucuksayacigil, Gulnihal	Iowa State Univ
Elia, Nicola	Iowa State Univ

16:20-16:40 TuC18.2

Distributed Planning of Optimal Reconfiguration with Collision Avoidance and Final Configuration Constraints, pp. 1951-1957.

Guo, Juan	Northwestern Pol. Univ
Chu, Jing	Delft Univ. of Tech
Yan, Jie	Northwestern Pol. Univ

16:40-17:00 TuC18.3

Optimal Mean Square Control Using the Continous Stream Model of Computation, pp. 1958-1965.

Fontanelli, Daniele	Univ. of Trento
Greco, Luca	Univ. Paris Sud 11

Palopoli, Luigi	Univ. of Trento

17:00-17:20 TuC18.4

Optimal Semi-Active Energy Harvesting from a Mechanical Oscillator with Variable Electromechanical Damping Coefficient: Some Preliminary Properties and Numerical Results, pp. 1966-1971.

Caruso, Giovanni	CNR
Galeani, Sergio	Univ. Di Roma Tor Vergata
Menini, Laura	Univ. Di Roma 'Tor Vergata'

17:20-17:40 TuC18.5

Path-Dependent Differential Games of Inf-Sup Type and Isaacs Partial Differential Equations, pp. 1972-1977.

Kaise, Hidehiro	Osaka Univ

17:40-18:00 TuC18.6

An Exterior-Point Approach to the Mixed H2/H-Infinity Control Problem, pp. 1978-1982.

Imanishi, Yuki	Kyoto Univ
Kami, Yasushi	Akashi National Coll. of Tech
Nobuyama, Eitaku	Kyushu Inst. of Tech

WePL	Large Hall
Network Systems in Science and Technology (Plenary Session)	
Chair: Sampei, Mitsuji	Tokyo Inst. of Tech
Co-Chair: Ohta, Yoshito	Kyoto Univ
08:30-09:30	WePL.1
*Network Systems in Science and Technology**.	
Bullo, Francesco	Univ. California at Santa Barbara

WeA01	Large Hall
Power Systems I (Regular Session)	
Chair: Hackl, Christoph M.	Tech. Univ. München
Co-Chair: Hadjicostis, Christoforos N.	Univ. of Cyprus
10:00-10:20	WeA01.1
Optimal Trajectory Control for Parallel Single Phase H-Bridge Inverters, pp. 1983-1990.	
Fork, David Kirtland	Google
You, Seungil	California Inst. of Tech
Koningstein, Ross	Google Inc
10:20-10:40	WeA01.2
Integral Sliding Mode Control for Type 2 STATCOM Systems Via Input-Output Linearization with Dynamic Extension, pp. 1991-1996.	
Gui, Yonghao	Hanyang Univ
Chung, Chung Choo	Hanyang Univ
10:40-11:00	WeA01.3
Current PI-Funnel Control with Anti-Windup for Synchronous Machines, pp. 1997-2004.	
Hackl, Christoph M.	Tech. Univ. München
11:00-11:20	WeA01.4
Speed Funnel Control with Disturbance Observer for Wind Turbine Systems with Elastic Shaft, pp. 2005-2012.	
Hackl, Christoph M.	Tech. Univ. München
11:20-11:40	WeA01.5
A Solvability Condition for Reactive Power Flow, pp. 2013-2017.	
Simpson-Porco, John W.	Univ. of California Santa Barbara
Dörfler, Florian	Swiss Federal Inst. of Tech. (ETH) Zurich
Bullo, Francesco	Univ. California at Santa Barbara
11:40-12:00	WeA01.6
Distributed Frequency Control of Inertia-Less AC Microgrids, pp. 2018-2023.	
Cady, Stanton	Univ. of Illinois at Urbana-Champaign
Hadjicostis, Christoforos N.	Univ. of Cyprus
Dominguez-Garcia, Alejandro D.	Univ. of Illinois at Urbana-Champaign

WeA02	Small Hall
Optimization Algorithms I (Regular Session)	
Chair: Necoara, Ion	Univ. Pol. Bucharest
Co-Chair: Han, Shuo	Univ. of Pennsylvania
10:00-10:20	WeA02.1
Demand Response for Aggregated Residential Consumers with Energy Storage Sharing (I), pp. 2024-2030.	
Paridari, Kaveh	Royal Inst. of Tech
Parisio, Alessandra	Royal Inst. of Tech. (KTH)
Sandberg, Henrik	KTH Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech
10:20-10:40	WeA02.2
Convex Programming on the L1-Ball and on the Simplex Via Isotonic Regression, pp. 2031-2036.	
Thai, Jerome	Univ. of California, Berkeley
Wu, Cathy	UC Berkeley
Pozdnoukhov, Alexei	UC Berkeley
Bayen, Alexandre	Univ. of California at Berkeley
10:40-11:00	WeA02.3
Quantization Design for Distributed Optimization with Time-Varying Parameters, pp. 2037-2042.	
Pu, Ye	École Pol. Fédérale De Lausanne
Zeilinger, Melanie N.	Max Planck Inst. for Intelligent Systems
Jones, Colin N.	EPFL
11:00-11:20	WeA02.4
DuQuad: A Toolbox for Solving Convex Quadratic Programs Using Dual (Augmented) First Order Algorithms, pp. 2043-2048.	
Necoara, Ion	Univ. Pol. Bucharest
Kvamme, Sverre	Norwegian Univ. of Science and Tech
11:20-11:40	WeA02.5
A Sublinear Algorithm for Barrier-Certificate-Based Data-Driven Model Validation of Dynamical Systems, pp. 2049-2054.	
Han, Shuo	Univ. of Pennsylvania
Topcu, Ufuk	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania
11:40-12:00	WeA02.6
Augmented Distributed Gradient Methods for Multi-Agent Optimization under Uncoordinated Constant Stepsizes, pp. 2055-2060.	
Xu, Jinming	Nanyang Tech. Univ
Zhu, Shanying	Nanyang Tech. Univ
Soh, Yeng Chai	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ

WeA03	801
Linear Systems I (Regular Session)	
Chair: Iwasaki, Tetsuya	UCLA
Co-Chair: Danielson, Claus	Mitsubishi Electric Res. Labs
10:00-10:20	WeA03.1
Numerical Decomposition of Symmetric Linear Systems, pp. 2061-2066.	
Danielson, Claus	Mitsubishi Electric Res. Labs
Bauer, Stefan	Swiss Federal Inst. of Tech. in Zurich
10:20-10:40	WeA03.2
Eigenstructure Assignment with Application to Consensus of Linear Heterogeneous Agents, pp. 2067-2072.	
Wu, Andy	Univ. of California, Los Angeles
Iwasaki, Tetsuya	UCLA
10:40-11:00	WeA03.3

When Is Preview Beneficial?, pp. 2073-2076.

Kristalny, Maxim	Tech
Mirkin, Leonid	Tech

11:00-11:20 WeA03.4

About Fractional Models Physical Consistency: Case of Implicit Differentiation Based Fractional Order Models (I), pp. 2077-2082.

Sabatier, Jocelyn	LAPS - Bordeaux 1 Univ
Farges, Christophe	Univ. of Bordeaux

11:20-11:40 WeA03.5

Structure Analysis of Matrix Fraction Descriptions for LTI Systems (I), pp. 2083-2089.

Mu, Biqiang	Chinese Acad. of Sciences
Chen, Han-Fu	Chinese Acad. of Sciences
Wang, Le Yi	Wayne State Univ
Yin, George	Wayne State Univ

11:40-12:00 WeA03.6

Low Order Solutions to the Perfect Regulation Problem with Bounded Peaking, pp. 2090-2095.

Wang, Zhaowei	Univ. of Toronto
Davison, Edward J.	Univ. of Toronto
Kwong, Raymond H.	Univ. of Toronto

WeA04 802

Identification III (Regular Session)

Chair: Chiuso, Alessandro	Univ. Di Padova
Co-Chair: Bottegal, Giulio	KTH Royal Inst. of Tech

10:00-10:20 WeA04.1

A Duality Perspective on Loewner Rational Interpolation and State-Space Modelling of Vector-Exponential Trajectories, pp. 2096-2100.

Antoulas, Athanasios C.	Rice Univ
Rapisarda, Paolo	Univ. of Southampton

10:20-10:40 WeA04.2

Fractional Algebraic Identification of the Distribution of Relaxation Times of Battery Cells, pp. 2101-2108.

Eckert, Marius	Karlsruhe Inst. of Tech. (KIT)
Koelsch, Lukas	Karlsruhe Inst. of Tech. (KIT)
Hohmann, Soeren	KIT

10:40-11:00 WeA04.3

Outlier Robust Kernel-Based System Identification Using L1-Laplace Techniques, pp. 2109-2114.

Bottegal, Giulio	KTH Royal Inst. of Tech
Hjalmarsson, Håkan	KTH Royal Inst. of Tech
Aravkin, Aleksandr Y.	IBM T.J. Watson Res. Center
Pillonetto, Gianluigi	Univ. of Padova

11:00-11:20 WeA04.4

Sign-Perturbed Sums (SPS) with Instrumental Variables for the Identification of ARX Systems, pp. 2115-2120.

Volpe, Valerio	Univ. of Brescia
Csaji, Balazs	Mta Sztaki
Carè, Algo	Univ. of Melbourne
Weyer, Erik	Univ. of Melbourne
Campi, M. C.	Univ. Di Brescia

11:20-11:40 WeA04.5

Model Reduction for Linear Bayesian System Identification, pp. 2121-2126.

Prando, Giulia	Univ. Di Padova
Chiuso, Alessandro	Univ. Di Padova

11:40-12:00 WeA04.6

Nuclear Norm Minimization for Blind Subspace Identification (N2BSID), pp. 2127-2132.

Scobee, Dexter	Univ. of California, Berkeley
Ratliff, Lillian J.	Univ. of California Berkeley
Dong, Roy	Univ. of California at Berkeley
Ohlsson, Henrik	Linköping Univ
Verhaegen, Michel	Delft Univ. of Tech
Sastry, S. Shankar	Univ. of California at Berkeley

WeA05 804

Attitude and Pose Estimation for Unmanned Vehicles (Invited Session)

Chair: Sanyal, Amit	New Mexico State Univ
Co-Chair: Beard, Randal W.	Brigham Young Univ
Organizer: Sanyal, Amit	Syracuse Univ
Organizer: Beard, Randal W.	Brigham Young Univ

10:00-10:20 WeA05.1

Invariant Filtering for Pose EKF-SLAM Aided by an IMU (I), pp. 2133-2138.

Barrau, Axel	Mines Paristech
Bonnabel, Silvere	Mines ParisTech

10:20-10:40 WeA05.2

Gradient-Like Observer Design on the Special Euclidean Group SE(3) with System Outputs on the Real Projective Space (I), pp. 2139-2145.

Hua, Minh-Duc	Inst. Des Systèmes Intelligents Et De Robotique (ISIR CNRS-UP
Hamel, Tarek	Univ. De Nice Sophia Antipolis
Mahony, Robert	Australian National Univ
Trumpf, Jochen	Australian National Univ

10:40-11:00 WeA05.3

Globally Convergent Relative Attitude Observers for Three-Platform Formations (I), pp. 2146-2151.

Batista, Pedro	Inst. Superior Técnico, Univ. De Lisboa
Silvestre, Carlos	Univ. of Macau
Oliveira, Paulo Jorge	Inst. Superior Técnico

11:00-11:20 WeA05.4

GPS-Denied Relative Motion Estimation for Fixed-Wing UAV Using the Variational Pose Estimator (I), pp. 2152-2157.

Izadi, Maziar	New Mexico State Univ
Sanyal, Amit	Syracuse Univ
Beard, Randal W.	Brigham Young Univ
Bai, He	Oklahoma State Univ

11:20-11:40 WeA05.5

An Intrinsic Cramèr-Rao Bound on SO(3) for (dynamic) Attitude Filtering, pp. 2158-2163.

Bonnabel, Silvere	Mines ParisTech
Barrau, Axel	Mines Paristech

11:40-12:00 WeA05.6

Globally Asymptotically Stable Attitude Observer on SO(3), pp. 2164-2168.

Wu, Tse-Huai	George Washington Univ
Kaufman, Evan	George Washington Univ

Lee, Taeyoung — George Washington Univ

WeA06 805

Analysis, Control and Estimation of Transportation Systems (Invited Session)

Chair: Savla, Ketan — Univ. of Southern California
Co-Chair: Como, Giacomo — Lund Univ
Organizer: Savla, Ketan — Univ. of Southern California
Organizer: Como, Giacomo — Lund Univ

10:00-10:20 WeA06.1

Further Study on Extended Back-Pressure Traffic Signal Control Algorithm (I), pp. 2169-2174.

Xiao, Nan — Singapore MIT Alliance for Res. and Tech. Centre
Frazzoli, Emilio — Massachusetts Inst. of Tech
Li, Yitong — Singapore-MIT Alliance for Res. and Tech
Luo, Yiwen — Singapore-MIT Alliance for Res. and Tech
Wang, Yu — Nanyang Tech. Univ
Wang, Danwei — Nanyang Tech. Univ

10:20-10:40 WeA06.2

Towards Scalable Optimal Traffic Control (I), pp. 2175-2180.

Grandinetti, Pietro — CNRS, Gipsa-Lab
Garin, Federica — INRIA
Canudas de Wit, Carlos — CNRS, GIPSA-Lab

10:40-11:00 WeA06.3

On Dynamical Analysis of a Horizontal Traffic Queue (I), pp. 2181-2186.

Motie, Mohammad — Univ. of Southern California
Savla, Ketan — Univ. of Southern California

11:00-11:20 WeA06.4

Offset Optimization for a Network of Signalized Intersections Via Semidefinite Relaxation (I), pp. 2187-2192.

Coogan, Samuel — Univ. of California, Berkeley
Gomes, Gabriel — Assistant Res. Engineer
Kim, Eric S. — Univ. of California, Berkeley
Arcak, Murat — Univ. of California, Berkeley
Varaiya, Pravin P. — Univ. of California at Berkeley

11:20-11:40 WeA06.5

Entropy-Like Lyapunov Functions for the Stability Analysis of Adaptive Traffic Signal Controls (I), pp. 2193-2198.

Nilsson, Gustav — Lund Univ
Hosseini, Pouyan — Univ. of Southern California
Como, Giacomo — Lund Univ
Savla, Ketan — Univ. of Southern California

WeA07 1001

Agents-Based Systems I (Regular Session)

Chair: Paley, Derek A. — Univ. of Maryland
Co-Chair: Ahn, Hyo-Sung — Gwangju Inst. of Science and Tech. (GIST)

10:00-10:20 WeA07.1

Distance-Based Control of Formations with Orientation Control, pp. 2199-2204.

Park, Myoung-Chul — Gwangju Inst. of Science and Tech. (GIST)
Ahn, Hyo-Sung — Gwangju Inst. of Science and Tech. (GIST)

10:20-10:40 WeA07.2

Synchronous Consensus of Double-Integrator Continuous-Time Multi-Agent Systems with Switching Topologies and Time-Varying Delays, pp. 2205-2210.

Atrianfar, Hajar — Sharif Univ. of Tech
Haeri, Mohammad — Sharif Univ. of Tech

10:40-11:00 WeA07.3

Optimal Convergence Speed with Constrained Damping of Double-Integrator Multi-Agent Systems with Undirected Topology, pp. 2211-2216.

Eichler, Annika — ETH Zurich
Werner, Herbert — Hamburg Univ. of Tech

11:00-11:20 WeA07.4

Touring Invariant-Set Boundaries of a Two-Vortex System Using Streamline Control, pp. 2217-2222.

Lagor, Francis D. — Univ. of Maryland
Ide, Kayo — Univ. of Maryland
Paley, Derek A. — Univ. of Maryland

11:20-11:40 WeA07.5

Opinion Formation under Bounded Confidence Via Gossip Algorithms, pp. 2223-2228.

Nguyen, Thi Hoai Linh — Osaka Univ
Wada, Takayuki — Osaka Univ
Masubuchi, Izumi — Kobe Univ
Asai, Toru — Nagoya Univ
Fujisaki, Yasumasa — Osaka Univ

11:40-12:00 WeA07.6

A Preliminary Result on Synchronization of Heterogeneous Agents Via Funnel Control, pp. 2229-2234.

Shim, Hyungbo — Seoul National Univ
Trenn, Stephan — Univ. of Kaiserslautern

WeA08 1002

Hybrid Systems IV (Regular Session)

Chair: Efimov, Denis — Inria - Lne
Co-Chair: Zhao, Guanglei — Shanghai Jiao Tong Univ

10:00-10:20 WeA08.1

Results on Stability and Robustness of Hybrid Limit Cycles for a Class of Hybrid Systems, pp. 2235-2240.

Lou, Xuyang — Jiangnan Univ
Li, Yuchun — Univ. of California, Santa Cruz
Sanfelice, Ricardo G. — Univ. of California at Santa Cruz

10:20-10:40 WeA08.2

Model-Based Reset Control for Overcoming Performance Limitations of Linear Feedback, pp. 2241-2246.

Zhao, Guanglei — Yanshan Univ

10:40-11:00 WeA08.3

Vector Lyapunov Function Based Stability for a Class of Impulsive Systems, pp. 2247-2251.

Ríos, Héctor — INRIA Lille-Nord Europe
Hetel, Laurentiu — CNRS
Efimov, Denis — Inria - Lne

11:00-11:20 WeA08.4

Constructing Distance Functions and Piecewise Quadratic Lyapunov Functions for Stability of Hybrid Trajectories, pp. 2252-2257.

Biemond, J. J. Benjamin	KU Leuven
Heemels, W.P.M.H.	Eindhoven Univ. of Tech
Sanfelice, Ricardo G.	Univ. of California at Santa Cruz
Van De Wouw, Nathan	Eindhoven Univ. of Tech

11:20-11:40 WeA08.5

A Topological Obstruction to Reach Control by Continuous State Feedback, pp. 2258-2263.

Ornik, Melkior	Univ. of Toronto
Broucke, Mireille E.	Univ. of Toronto

11:40-12:00 WeA08.6

Hybrid Dynamic Modeling and Control of Switched Affine Systems: Application to DC-DC Converters, pp. 2264-2269.

Albea, Carolina	LAAS CNRS; Univ. De Toulouse 3
Garcia, Germain	LAAS-CNRS
Zaccarian, Luca	LAAS-CNRS and Univ. of Trento

WeA09 1003

Incentive Design and Game Theory in Networked Systems (Invited Session)

Chair: Li, Na	Harvard Univ
Co-Chair: Kim, Hunmin	Pennsylvania State Univ
Organizer: Li, Na	Harvard Univ
Organizer: Zhu, Minghui	Pennsylvania State Univ

10:00-10:20 WeA09.1

Linear-Quadratic Stochastic Differential Stackelberg Games with a High Population of Followers (I), pp. 2270-2275.

Moon, Jun	Univ. of Illinois, Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

10:20-10:40 WeA09.2

A Market Mechanism for Electric Distribution Networks (I), pp. 2276-2282.

Li, Na	Harvard Univ

10:40-11:00 WeA09.3

Optimal Mechanisms for Robust Coordination in Congestion Games (I), pp. 2283-2288.

Brown, Philip N.	The Univ. of Colorado, Boulder
Marden, Jason R.	Univ. of Colorado at Boulder

11:00-11:20 WeA09.4

Optimal Incentive Design for Distributed Stabilizing Control of Nonlinear Dynamic Networks (I), pp. 2289-2294.

Kim, Hunmin	Pennsylvania State Univ
Zhu, Minghui	Pennsylvania State Univ

11:20-11:40 WeA09.5

Network Aggregative Games: Distributed Convergence to Nash Equilibria, pp. 2295-2300.

Parise, Francesca	ETH Zurich
Gentile, Basilio	ETH Zürich
Grammatico, Sergio	Eindhoven Univ. of Tech
Lygeros, John	ETH Zurich

11:40-12:00 WeA09.6

Understanding the Influence of Adversaries in Distributed Systems, pp. 2301-2306.

Borowski, Holly	Univ. of Colorado Boulder
Marden, Jason R.	Univ. of Colorado at Boulder

WeA10 1004

Switched Systems I (Regular Session)

Chair: Sassano, Mario	Univ. of Rome, Tor Vergata
Co-Chair: Zattoni, Elena	Univ. of Bologna

10:00-10:20 WeA10.1

Disturbance Compensation in Discrete-Time Switching Linear Systems Subject to a Dwell-Time Constraint, pp. 2307-2312.

Zattoni, Elena	Univ. of Bologna
Marro, Giovanni	Univ. of Bologna

10:20-10:40 WeA10.2

Switching Data-Processing Methods for Feedback Control: Breaking the Speed versus Accuracy Trade-Off, pp. 2313-2318.

van Horssen, Eelco Pascal	Eindhoven Univ. of Tech
Antunes, Duarte	Eindhoven Univ. of Tech. the Netherlands
Heemels, W.P.M.H.	Eindhoven Univ. of Tech

10:40-11:00 WeA10.3

Performance-Based Controller Switching: An Application to Plasma Current Control at FTU, pp. 2319-2324.

Ferrò, Giuseppe	Univ. Di Roma Tor Vergata, DICII
Gospodarczyk, Mateusz	Univ. Di Roma Tor Vergata, DICII
Galeani, Sergio	Univ. Di Roma Tor Vergata
Sassano, Mario	Univ. of Rome, Tor Vergata
Carnevale, Daniele	Univ. Di Roma
Boncagni, Luca	ENEA Euratom

11:00-11:20 WeA10.4

Filtering of Takagi-Sugeno Fuzzy Switched System with Application to Sensor Fault Detection, pp. 2325-2328.

Su, Xiaojie	Chongqing Univ
Shi, Peng	Univ. of Adelaide
Wu, Ligang	Harbin Inst. of Tech

11:20-11:40 WeA10.5

Connections between Stability Conditions for Slowly Time-Varying and Switched Linear Systems, pp. 2329-2334.

Gao, Xiaobin	Univ. of Illinois, Urbana-Champaign
Liberzon, Daniel	Univ. of Illinois, Urbana-Champaign
Liu, Ji	Univ. of Illinois at Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

11:40-12:00 WeA10.6

Model Matching by Output Dynamic Feedback in Discrete-Time Switching Linear Systems, pp. 2335-2340.

Zattoni, Elena	Univ. of Bologna

WeA11 1005

Cooperative Control IV (Regular Session)

Chair: Bai, He	UtopiaCompression
Co-Chair: Jafarian, Matin	Univ. of Groningen

10:00-10:20 WeA11.1

Consensus of a Class of Second-Order Nonlinear Heterogeneous

Multi-Agent Systems with Uniform Time Delay, pp. 2341-2346.

Meng, Haofei	Univ. of Newcastle
Chen, Zhiyong	The Univ. of Newcastle
Zhu, Lijun	The Univ. of Newcastle
Middleton, Richard	The Univ. of Newcastle

10:20-10:40 WeA11.2

Improving Cooperative Tracking of an Urban Target with Target Motion Model Learning, pp. 2347-2352.

Bai, He	Oklahoma State Univ
Cook, Kevin	Brigham Young Univ
Yu, Huili	Brigham Young Univ
Ingersoll, Kyle	Brigham Young Univ
Beard, Randal W.	Brigham Young Univ
Seppi, Kevin	Brigham Young Univ
Avadhanam, Sharath	UtopiaCompression

10:40-11:00 WeA11.3

Ternary and Hybrid Controllers for the Rendezvous of Unicycles, pp. 2353-2358.

Jafarian, Matin	Univ. of Groningen

11:00-11:20 WeA11.4

Optimal Dynamic Formation Control of Multi-Agent Systems in Environments with Obstacles, pp. 2359-2364.

Sun, Xinmiao	Boston Univ
Cassandras, Christos G.	Boston Univ

11:20-11:40 WeA11.5

Distributed Dynamic Economic Dispatch of Power Generators with Storage, pp. 2365-2370.

Cherukuri, Ashish	Univ. of California, San Diego
Cortes, Jorge	Univ. of California, San Diego

11:40-12:00 WeA11.6

Robust Output Feedback Consensus for Multiple Heterogeneous Negative-Imaginary Systems, pp. 2371-2376.

Wang, Jianan	Beijing Inst. of Tech
Lanzon, Alexander	Univ. of Manchester
Petersen, Ian R.	Univ. of New South Wales at the AustralianDefenceForceAcad

WeA12 1006

Predictive Control for Linear Systems I (Regular Session)

Chair: Tran-Cao, Tri	Nanyang Tech. Univ
Co-Chair: Chu, Bing	Univ. of Southampton

10:00-10:20 WeA12.1

Predictive Gradient Iterative Learning Control, pp. 2377-2382.

Chu, Bing	Univ. of Southampton
Owens, David H.	The Univ. of Sheffield
Freeman, Christopher T.	Univ. of Southampton

10:20-10:40 WeA12.2

Multiplexed Model Predictive Control of Interconnected Systems, pp. 2383-2388.

Tran-Cao, Tri	Nanyang Tech. Univ
Zhou, Dexiang	Dexiang Zhou
Ling, Keck-Voon	Nanyang Tech. Univ
Maciejowski, Jan M.	Univ. of Cambridge

10:40-11:00 WeA12.3

Explicit Model Predictive Control Accuracy Analysis, pp. 2389-2394.

Knyazev, Andrew	Mitsubishi Electric Res. Lab
Zhu, Peizhen	Missouri Univ. of Science and Tech
Di Cairano, Stefano	Mitsubishi Electric Res. Lab

11:00-11:20 WeA12.4

A Preliminary Result on Frequency-Shaped Model Predictive Control, pp. 2395-2399.

Yun, Hyeonjun	Seoul National Univ
Chang, H.J.	Kookmin Univ
Shim, Hyungbo	Seoul National Univ
Seo, Jin H.	Seoul National Univ

11:20-11:40 WeA12.5

Robust Approximate Symmetric Model Predictive Control, pp. 2400-2405.

Chuang, Frank Fu-Han	UC Berkeley
Danielson, Claus	Mitsubishi Electric Res. Labs
Borrelli, Francesco	Unversity of California at Berkeley

11:40-12:00 WeA12.6

A Parallel Dual Fast Gradient Method for MPC Applications, pp. 2406-2413.

Ferranti, Laura	Delft Univ. of Tech
Keviczky, Tamas	Delft Univ. of Tech

WeA13 1007

Estimation IV (Regular Session)

Chair: Battistelli, Giorgio	Univ. of Florence
Co-Chair: Kim, Jongrae	Univ. of Leeds

10:00-10:20 WeA13.1

Moving Horizon State Estimation for Discrete-Time Linear Systems with Binary Sensors, pp. 2414-2419.

Battistelli, Giorgio	Univ. of Florence
Chisci, Luigi	Univ. Di Firenze
Gherardini, Stefano	Univ

10:20-10:40 WeA13.2

On the Projective Geometry of Kalman Filter, pp. 2420-2425.

Carli, Francesca P.	Univ. of Liège/Univ. of Cambridge
Sepulchre, Rodolphe	Univ. of Cambridge

10:40-11:00 WeA13.3

A Bayesian Approach to Multiple Target Localization, pp. 2426-2431.

Bai, Er-Wei	Univ. of Iowa
Dasgupta, Soura	Univ. of Iowa
Mudumbai, Raghuraman	Univ. of Iowa

11:00-11:20 WeA13.4

Nonlinear Projection Filter with Parallel Algorithm and Parallel Sensors, pp. 2432-2437.

Single-Liertz, Tama Ray Klemens	Univ. of Leeds
Kim, Jongrae	Univ. of Leeds
Richardson, Robert	Univ. of Leeds

11:20-11:40 WeA13.5

Parallel MCMC Algorithm for Bayesian System Identification, pp. 2438-2443.

Tran, Khoa	The Univ. of Newcastle
Ninness, Brett	Univ. of Newcastle

11:40-12:00 WeA13.6

On the Interval Estimation for Nonlinear Singular System, pp. 2444-2449.

Zheng, Gang	INRIA
Efimov, Denis	Inria - Lne
Bejarano, Francisco Javier	Esime Ticoman
Perruquetti, Wilfrid	Ec. Centrale De Lille

WeA14 1008

Passivity-Based Control of Robots: Historical Perspective and Contemporary Issues (Tutorial Session)

Chair: Hatanaka, Takeshi	Tokyo Inst. of Tech
Co-Chair: Chopra, Nikhil	Univ. of Maryland, Coll. Park
Organizer: Hatanaka, Takeshi	Tokyo Inst. of Tech

10:00-10:05 WeA14.1

Passivity-Based Control of Robots: Historical Perspective and Contemporary Issues (I), pp. 2450-2452.

Hatanaka, Takeshi	Tokyo Inst. of Tech
Chopra, Nikhil	Univ. of Maryland, Coll. Park
Spong, Mark W.	Univ. of Texas at Dallas

10:05-10:45 WeA14.2

*Historical Perspective (I)**.

Spong, Mark W.	Univ. of Texas at Dallas

10:45-11:25 WeA14.3

*Distributed Synchronization of Networked Robotic Systems with Applications to Bilateral Teleoperation (I)**.

Chopra, Nikhil	Univ. of Maryland, Coll. Park

11:25-12:00 WeA14.4

*Passivity-Based 3-D Rigid Motion Coordination, Visual Feedback Estimation/Control and More Advanced Issues (I)**.

Hatanaka, Takeshi	Tokyo Inst. of Tech.

WeA15 1009

Stochastic Control for Networked Control Systems (Invited Session)

Chair: Fu, Minyue	Univ. of Newcastle
Co-Chair: Zhang, Huanshui	Shandong Univ
Organizer: Fu, Minyue	Univ. of Newcastle
Organizer: Zhang, Huanshui	Shandong Univ

10:00-10:20 WeA15.1

Identification of a Gain System with Binary Input and Output Measurements (I), pp. 2453-2458.

You, Keyou	Tsinghua Univ
Weyer, Erik	Univ. of Melbourne
Nair, Girish N.	Univ. of Melbourne

10:20-10:40 WeA15.2

Co-Design for Control and Scheduling Over Wireless Industrial Control Networks (I), pp. 2459-2464.

Peters, Edwin G.W.	Univ. of Newcastle
Quevedo, Daniel E.	The Univ. of Paderborn
Fu, Minyue	Univ. of Newcastle

10:40-11:00 WeA15.3

Mean Square Capacity of Power Constrained Fading Channels with Causal Encoders and Decoders (I), pp. 2465-2470.

Xu, Liang	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ
Xiao, Nan	Singapore MIT Alliance for Res. and Tech. Centre

11:00-11:20 WeA15.4

Necessary and Sufficient Stabilizing Conditions for Networked Control Systems with Simultaneous Transmission Delay and Packet Dropout (I), pp. 2471-2476.

Tan, Cheng	Shandong Univ
Zhang, Huanshui	Shandong Univ

11:20-11:40 WeA15.5

Optimal Control for Network Control Systems with State-Package Dropouts (I), pp. 2477-2482.

Qi, Qingyuan	Shandong Univ
Zhang, Huanshui	Shandong Univ

11:40-12:00 WeA15.6

Feasible Channel Capacity Region for MIMO Stabilization Via MIMO Communication (I), pp. 2483-2488.

Wang, Songbai	Hong Kong Univ. of Science and Tech
Chen, Wei	The Hong Kong Univ. of Science and Tech
Qiu, Li	Hong Kong Univ. of Sci. & Tech

WeA16 1010

Distributed Parameter Systems IV (Regular Session)

Chair: Macchelli, Alessandro	Univ. of Bologna - Italy
Co-Chair: Hasan, Agus	Norwegian Univ. of Science and Tech

10:00-10:20 WeA16.1

Control by Interconnection Beyond the Dissipation Obstacle of Finite and Infinite Dimensional Port-Hamiltonian Systems (I), pp. 2489-2494.

Macchelli, Alessandro	Univ. of Bologna - Italy

10:20-10:40 WeA16.2

Axial Vibrations Tracking Control in Resonant Sonic Tunnel Drilling System, pp. 2495-2500.

Latrach Khouloud, Khouloud	Univ. of Evry
Beji, Lotfi	Univ. of Evry

10:40-11:00 WeA16.3

Distributed Disturbance Estimator and Application to Stabilization of Multi-Dimensional Kirchhoff Equation, pp. 2501-2506.

Feng, Hongyinping	School of Mathmatical Sciences, Shanxi Univ
Guo, Bao-Zhu	The Chinese Acad. of Sciences

11:00-11:20 WeA16.4

Exact Observability of Semilinear Multidimensional Wave Equations: An LMI Approach, pp. 2507-2512.

Fridman, Emilia	Tel-Aviv Univ
Terushkin, Maria	Tel Aviv Univ

11:20-11:40 WeA16.5

Backstepping Boundary Control for Nonlinear Parabolic PDEs, pp. 2513-2518.

Hasan, Agus	Norwegian Univ. of Science and Tech

11:40-12:00 WeA16.6

Optimal Feedback Control of the Incompressible Navier-Stokes-Equations Using Reduced Order Models, pp. 2519-2524.

Pyta, Lorenz	RWTH Aachen Univ

Herty, Michael — RWTH Aachen Univ
Abel, Dirk — RWTH Aachen Univ

WeA17 — Conference Hall
Systems Biology (Regular Session)

Chair: Prempain, Emmanuel — Univ. of Leicester
Co-Chair: Meskin, Nader — Qatar Univ

10:00-10:20 — WeA17.1

Identifying Biochemical Reaction Networks from Heterogeneous Datasets (I), pp. 2525-2530.

Pan, Wei — Imperial Coll. London
Yuan, Ye — UC Berkeley
Ljung, Lennart — Linkoping Univ
Goncalves, Jorge — Univ. of Cambridge
Stan, Guy-Bart Vincent — Imperial Coll. London

10:20-10:40 — WeA17.2

Retrieving Common Dynamics of Gene Regulatory Network under Various Perturbations, pp. 2531-2536.

Chang, Young Hwan — Oregon Health and Science Univ
Dobbe, Roel — Univ. of California at Berkeley
Bhushan, Palak — Univ. of California Berkeley
Gray, Joe — Lawrence Berkeley Labs
Tomlin, Claire J. — UC Berkeley

10:40-11:00 — WeA17.3

Metabolic Noise Reduction for Enzymatic Reactions: The Role of a Negative Feedback, pp. 2537-2542.

Borri, Alessandro — IASI-CNR
Palumbo, Pasquale — IASI-CNR
Singh, Abhyudai — Univ. of Delaware

11:00-11:20 — WeA17.4

Cochlear Modelling and Analysis under Parameter Uncertainty, pp. 2543-2548.

Prempain, Emmanuel — Univ. of Leicester

11:20-11:40 — WeA17.5

A Mechanistic Neural Mean Field Theory of How Anesthesia Suppresses Consciousness: Synaptic Drive Dynamics, System Stability, Bifurcations, and Attractors, pp. 2549-2554.

Hou, Saing Paul — Singapore Inst. of Manufacturing Tech
Haddad, Wassim M. — Georgia Inst. of Tech
Meskin, Nader — Qatar Univ
Bailey, James M. — Northeast Georgia Medical Center

11:40-12:00 — WeA17.6

Partial Synchronization of Biological Neural Networks and the Anesthetic Cascade, pp. 2555-2560.

Hou, Saing Paul — Singapore Inst. of Manufacturing Tech
Haddad, Wassim M. — Georgia Inst. of Tech
Meskin, Nader — Qatar Univ
Bailey, James M. — Northeast Georgia Medical Center

WeA18 — 1202
Optimal Control IV (Regular Session)

Chair: Saccon, Alessandro — Eindhoven Univ. of Tech
Co-Chair: Sandberg, Henrik — KTH Royal Inst. of Tech

10:00-10:20 — WeA18.1

On Optimal Trajectory Tracking for Mechanical Systems with Unilateral Constraints, pp. 2561-2566.

Rijnen, Mark — Eindhoven Univ. of Tech
Saccon, Alessandro — Eindhoven Univ. of Tech
Nijmeijer, Hendrik — Eindhoven Univ. of Tech

10:20-10:40 — WeA18.2

On the Minimum Principle and Dynamic Programming for Hybrid Systems with Low Dimensional Switching Manifolds, pp. 2567-2573.

Pakniyat, Ali — McGill Univ
Caines, Peter E. — McGill Univ

10:40-11:00 — WeA18.3

Optimal Sampling-Based Motion Planning under Differential Constraints: The Drift Case with Linear Affine Dynamics, pp. 2574-2581.

Schmerling, Edward — Stanford Univ
Janson, Lucas — Stanford Univ
Pavone, Marco — Stanford Univ

11:00-11:20 — WeA18.4

Strategic Stealthy Attacks: The Output-To-Output L2-Gain, pp. 2582-2587.

Teixeira, André M. H. — KTH Royal Inst. of Tech
Sandberg, Henrik — KTH Royal Inst. of Tech
Johansson, Karl H. — Royal Inst. of Tech

11:20-11:40 — WeA18.5

On the Construction of Local Interaction Rules That Perform Global Linear Computation, pp. 2588-2593.

Costello, Zak — Georgia Inst. of Tech
Ruths, Justin — Singapore Univ. of Tech. & Design
Egerstedt, Magnus — Georgia Inst. of Tech

11:40-12:00 — WeA18.6

Symplectic Integration for Optimal Ergodic Control, pp. 2594-2600.

Prabhakar, Ahalya — Northwestern Univ
Flaßkamp, Kathrin — Northwestern Univ
Murphey, Todd D. — Northwestern Univ

WeB01 — Large Hall
Power Systems II (Regular Session)

Chair: Schuster, Eugenio — Lehigh Univ
Co-Chair: Lestas, Ioannis — Univ. of Cambridge

13:30-13:50 — WeB01.1

Current Profile Control for the Development of Consistent Discharges in DIII-D (I), pp. 2601-2606.

Wehner, William — Lehigh Univ
Barton, Justin — Lehigh Univ
Schuster, Eugenio — Lehigh Univ

13:50-14:10 — WeB01.2

Nonlinear Control of a Gas Turbine Using Backstepping, pp. 2607-2612.

Oland, Espen — Teknova AS
Kandepu, Rambabu — Elkem Res
Li, Xiangan — Carnegie Mellon Univ
Ydstie, B. Erik — Carnegie Mellon

14:10-14:30 — WeB01.3

Automated Vulnerability Analysis of AC State Estimation under Constrained False Data Injection in Electric Power Systems, pp.

2613-2620.

Gao, Sicun	MIT
Xie, Le	Texas A&M Univ
Solar-Lezama, Armando	MIT
Serpanos, Dimitrios	QCRI
Shrobe, Howard	MIT

14:30-14:50 WeB01.4

On the Stability and Optimality of Primary Frequency Regulation with Load-Side Participation, pp. 2621-2626.

Kasis, Andreas	Univ. of Cambridge
Devane, Eoin	Univ. of Cambridge
Lestas, Ioannis	Univ. of Cambridge

14:50-15:10 WeB01.5

Distributed Secondary Frequency Control through MTDC Transmission Systems, pp. 2627-2634.

Andreasson, Martin	KTH Royal Inst. of Tech
Wiget, Roger	ETH Zürich
Dimarogonas, Dimos V.	Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech
Andersson, Goran	Swiss Federal Inst. of Tech

15:10-15:30 WeB01.6

Application of Economic MPC to Frequency Control in a Single-Area Power System, pp. 2635-2642.

Sokoler, Leo Emil	Tech. Univ. of Denmark
Edlund, Kristian	DONG Energy
Jorgensen, John Bagterp	Tech. Univ. of Denmark

WeB02 Small Hall

Optimization Algorithms II (Regular Session)

Chair: Nair, Girish N.	Univ. of Melbourne
Co-Chair: Wakasa, Yuji	Yamaguchi Univ

13:30-13:50 WeB02.1

Optimal Control of Maintenance Instants and Intensities in Building Energy Efficiency Retrofitting Project, pp. 2643-2648.

Wang, Bo	Univ. of Pretoria
Wu, Zhou	Univ. of Pretoria
Zhu, Bing	Univ. of Pretoria
Xia, Xiaohua	Univ. of Pretoria

13:50-14:10 WeB02.2

Distributed Nonlinear Programming Methods for Optimization Problems with Inequality Constraints, pp. 2649-2654.

Matei, Ion	Palo Alto Res. Center
Baras, John S.	Univ. of Maryland

14:10-14:30 WeB02.3

Convergence Analysis of Quantized Primal-Dual Algorithm in Quadratic Network Utility Maximization Problems, pp. 2655-2660.

Nekouei, Ehsan	Univ. of Melbourne
Nair, Girish N.	Univ. of Melbourne
Alpcan, Tansu	The Univ. of Melbourne

14:30-14:50 WeB02.4

Distributed Particle Swarm Optimization Using an Average Consensus Algorithm, pp. 2661-2666.

Wakasa, Yuji	Yamaguchi Univ
Nakaya, Sosuke	Yamaguchi Univ

14:50-15:10 WeB02.5

On Distributed Optimization Using Generalized Gossip, pp. 2667-2672.

Jiang, Zhanhong	Iowa State Univ
Sarkar, Soumik	Iowa State Univ
Mukherjee, Kushal	United Tech. Res. Center, Ireland

15:10-15:30 WeB02.6

On the Convergence Time of the Drift-Plus-Penalty Algorithm for Strongly Convex Programs, pp. 2673-2679.

Yu, Hao	Univ. of Southern California
Neely, Michael J.	Univ. of Southern California

WeB03 801

Linear Systems II (Regular Session)

Chair: Asai, Toru	Nagoya Univ
Co-Chair: Mohsenizadeh, Daniel N.	Texas A&M Univ

13:30-13:50 WeB03.1

Multivariable Controller Synthesis Using SISO Design Methods, pp. 2680-2685.

Mohsenizadeh, Daniel N.	Texas A&M Univ
Keel, L. H.	Tennessee State Univ
Bhattacharyya, Shankar P.	Texas a & M Univ

13:50-14:10 WeB03.2

Stochastic $l_{infty }$ Performance Optimization for Markovian Linear Switched Systems, pp. 2686-2690.

Naghnaeian, Mohammad	Univ. of Illinois Urbana-Champaign
Voulgaris, Petros G.	Univ. of Illinois, Urbana-Champaign

14:10-14:30 WeB03.3

Characterization of Solutions of Non-Square Algebraic Riccati Equations, pp. 2691-2694.

Dilip, Sanand	IIT Bombay
Pillai, Harish K.	Indian Inst. of Tech. Bombay

14:30-14:50 WeB03.4

Cyclic Vectors of Associative Matrix Algebras and Reachability Criteria for Linear and Nonlinear Control Systems, pp. 2695-2701.

Baryshnikov, Yuliy	UIUC
Sarychev, Andrey	Univ. Di Firenze

14:50-15:10 WeB03.5

Disturbance Rejection Performance Limit for a Class of Disturbance Signals, pp. 2702-2706.

Okajima, Hiroshi	Kumamoto Univ
Asai, Toru	Nagoya Univ
Matsunaga, Nobutomo	Kumamoto Univ

15:10-15:30 WeB03.6

Descriptor Systems State-Space Conditions to Guarantee Negative Imaginary Properties without Minimality Restrictions, pp. 2707-2712.

Xiong, Junlin	Univ. of Science and Tech. of China
Lanzon, Alexander	Univ. of Manchester
Petersen, Ian R.	Univ. of New South Wales at the AustralianDefenceForceAcad

WeB04 802

Identification IV (Regular Session)

Chair: Inoue, Masaki — Keio Univ
Co-Chair: Yu, Chengpu — Delft Univ. of Tech

13:30-13:50 WeB04.1

Perspectives of Orthonormal Basis Functions Based Kernels in Bayesian System Identification, pp. 2713-2718.

Darwish, Mohamed — Eindhoven Univ. of Tech
Pillonetto, Gianluigi — Univ. of Padova
Tóth, Roland — Eindhoven Univ. of Tech

13:50-14:10 WeB04.2

An Identification Test Monitoring Procedure for MIMO Systems Based on Statistical Uncertainty Estimation, pp. 2719-2724.

Martin, Cesar A. — Arizona State Univ. (ASU), Escuela Superior Pol. Del
Rivera, Daniel E. — Arizona State Univ
Hekler, Eric — Arizona State Univ

14:10-14:30 WeB04.3

On Estimating Initial Conditions in Unstructured Models, pp. 2725-2730.

Galrinho, Miguel — Kungliga Tekniska Högskolan
Rojas, Cristian R. — KTH Royal Inst. of Tech
Hjalmarsson, Håkan — KTH Royal Inst. of Tech

14:30-14:50 WeB04.4

Moment-Constrained Subspace Identification Using a Priori Knowledge, pp. 2731-2736.

Inoue, Masaki — Keio Univ
Matsubayashi, Ayaka — Keio Univ
Adachi, Shuichi — Keio Univ

14:50-15:10 WeB04.5

Identification of Structured LTI MIMO State-Space Models, pp. 2737-2742.

Yu, Chengpu — Delft Univ. of Tech
Verhaegen, Michel — Delft Univ. of Tech
Kovalsky, Shahar — Weizmann Inst. of Science
Basri, Ronen — Weizmann Inst. of Science

15:10-15:30 WeB04.6

Neurofuzzy Based Temperature Prediction of an Industrial Polymerization Reactor in Real Time, pp. 2743-2748.

Aller, Fernando — Univ. of León
Blázquez, L. Felipe — Univ. of León
de Miguel, L. Javier — Univ. of Valladolid

WeB05 804

Autonomous Robots (Regular Session)

Chair: Marconi, Lorenzo — Univ. Di Bologna
Co-Chair: Panagou, Dimitra — Univ. of Michigan, Ann Arbor

13:30-13:50 WeB05.1

Geometric Controls for a Tethered Quadrotor UAV, pp. 2749-2754.

Lee, Taeyoung — George Washington Univ

13:50-14:10 WeB05.2

Avoiding Multiple Collisions through Trajectory Replanning Using Piecewise Bézier Curves, pp. 2755-2760.

Mehdi, Syed Bilal — Univ. of Illinois at Urbana-Champaign
Choe, Ronald — Univ. of Illinois at Urbana-Champaign
Hovakimyan, Naira — Univ. of Illinois, Urbana-Champaign

14:10-14:30 WeB05.3

Time-Sensitive, Sensor-Based, Joint Planning and Control of Mobile Robots in Cluttered Spaces: A Harmonic Potential Approach, pp. 2761-2766.

Masoud, Ahamd A. — KFUPM
Al-Shaikhi, Ali — King Fahad Univ. of Petroleum & Minerals, Dhahran, Saudi Ar

14:30-14:50 WeB05.4

A Combined Planning and Control Strategy for Mobile Robots Navigation in Populated Environments, pp. 2767-2772.

Furci, Michele — DEI Univ. of Bologna
Naldi, Roberto — Univ. Di Bologna
Karaman, Sertac — Massachusetts Inst. of Tech
Marconi, Lorenzo — Univ. Di Bologna

14:50-15:10 WeB05.5

Mobile Robot Navigation Amidst Humans with Intents and Uncertainties: A Time Scaled Collision Cone Approach, pp. 2773-2779.

Nagariya, Akhil — IIIT Hyderabad
Gopalakrishnan, Bharath — Iiit Hyderabad
Singh, Arun Kumar — IIIT-Hyderabad
Gupta, Krishnam — International Inst. of Information Tech. Hyderabad
Krishna, K. Madhava — IIIT-Hyderabad

15:10-15:30 WeB05.6

Distributed Coordination Protocols for Aggregation and Navigation in Multi-Agent Systems under Local Directed Interactions, pp. 2780-2785.

Panagou, Dimitra — Univ. of Michigan, Ann Arbor

WeB06 805

Transportation Networks (Regular Session)

Chair: Su, Rong — Nanyang Tech. Univ
Co-Chair: Canudas de Wit, Carlos — CNRS, GIPSA-Lab

13:30-13:50 WeB06.1

Optimal Sensor Placement in Road Transportation Networks Using Virtual Variances, pp. 2786-2791.

Lovisari, Enrico — CNRS
Canudas de Wit, Carlos — CNRS, GIPSA-Lab
Kibangou, Alain — Univ. Grenoble Alpes

13:50-14:10 WeB06.2

LPV Formation Control for a Class of Non-Holonomic Agents with Directed and Switching Communication Topologies, pp. 2792-2797.

Mendez Gonzalez, Antonio — Tech. Univ. Hamburg Harburg
Hoffmann, Christian — Univ. Zu Lübeck
Werner, Herbert — Hamburg Univ. of Tech

14:10-14:30 WeB06.3

Differential Privacy of Populations in Routing Games, pp. 2798-2803.

Dong, Roy — Univ. of California at Berkeley
Krichene, Walid — Univ. of California, Berkeley
Bayen, Alexandre — Univ. of California at Berkeley
Sastry, S. Shankar — Univ. of California at Berkeley

14:30-14:50 WeB06.4

Data Fusion Algorithms for Density Reconstruction in Road Transportation Networks, pp. 2804-2809.

Lovisari, Enrico	CNRS
Canudas de Wit, Carlos	CNRS, GIPSA-Lab
Kibangou, Alain	Univ. Grenoble Alpes

14:50-15:10 WeB06.5

Urban Road Traffic Light Real-Time Scheduling, pp. 2810-2815.

Zhang, Yicheng	Nanyang Tech. Univ
Su, Rong	Nanyang Tech. Univ
Gao, Kaizhou	Nanyang Tech. Univ

15:10-15:30 WeB06.6

Robust Taxi Dispatch under Model Uncertainties, pp. 2816-2821.

Miao, Fei	Univ. of Pennsylvania
Han, Shuo	Univ. of Pennsylvania
Lin, Shan	Stony Brook Univ
Pappas, George J.	Univ. of Pennsylvania

WeB07 1001

Agents-Based Systems II (Regular Session)

Chair: Egerstedt, Magnus	Georgia Inst. of Tech
Co-Chair: Belabbas, Mohamed Ali	Univ. of Illinois at Urbana-Champaign

13:30-13:50 WeB07.1

Building Coalitions of Heterogeneous Agents Using Weighted Bipartite Graphs, pp. 2822-2828.

Cruz, Patricio J.	Univ. of New Mexico
Fierro, Rafael	Univ. of New Mexico

13:50-14:10 WeB07.2

A Game-Theoretic Formulation of the Homogeneous Self-Reconfiguration Problem, pp. 2829-2834.

Pickem, Daniel	Georgia Tech
Egerstedt, Magnus	Georgia Inst. of Tech
Shamma, Jeff S.	KAUST

14:10-14:30 WeB07.3

Stability of Discrete-Time Altafini's Model: A Graphical Approach, pp. 2835-2840.

Liu, Ji	Univ. of Illinois at Urbana-Champaign
Chen, Xudong	Univ. of Illinois at Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign
Belabbas, Mohamed Ali	Univ. of Illinois at Urbana-Champaign

14:30-14:50 WeB07.4

H-Infinity Group Consensus for Clusters of Agents with Model Uncertainty and External Disturbance, pp. 2841-2846.

Qin, Jiahu	Univ. of Science and Tech. of China
Ma, Qichao	Univ. of Science and Tech. of China
Zheng, Wei Xing	Univ. of Western Sydney
Gao, Huijun	Harbin Inst. of Tech

14:50-15:10 WeB07.5

Consensus with Linear Objective Maps, pp. 2847-2852.

Chen, Xudong	Univ. of Illinois at Urbana-Champaign
Belabbas, Mohamed Ali	Univ. of Illinois at Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

15:10-15:30 WeB07.6

Output Cluster Synchronization of Heterogeneous Linear Multi-Agent Systems, pp. 2853-2858.

Liu, Zhongchang	The Chinese Univ. of Hong Kong
Wong, Wing Shing	Chinese Univ. of Hong Kong

WeB08 1002

Stability of Hybrid Systems (Regular Session)

Chair: Tarraf, Danielle C.	The Johns Hopkins Univ
Co-Chair: Jungers, Marc	CNRS - Univ. De Lorraine

13:30-13:50 WeB08.1

Relaxed Stabilizability Conditions for Hybrid Linear Systems on Periodic Time Domains, pp. 2859-2864.

Galeani, Sergio	Univ. Di Roma Tor Vergata
Sassano, Mario	Univ. of Rome, Tor Vergata
Valmórbida, Giórgio	Univ. of Oxford

13:50-14:10 WeB08.2

Structural Oscillatority Analysis of Boolean Networks, pp. 2865-2868.

Azuma, Shun-ichi	Kyoto Univ
Yoshida, Takahiro	Kyoto Univ
Sugie, Toshiharu	Kyoto Univ

14:10-14:30 WeB08.3

On Notions, Sufficient Conditions, and Feedback Control Design for Forward Invariance of Sets for Hybrid Dynamical Systems, pp. 2869-2874.

Chai, Jun	The Univ. of California at Santa Cruz
Sanfelice, Ricardo G.	Univ. of California at Santa Cruz

14:30-14:50 WeB08.4

Stabilizing Switched Linear Systems under Adversarial Switching, pp. 2875-2880.

Hu, Jianghai	Purdue Univ
Lee, Dong-Hwan	Purdue Univ
Shen, Jinglai	Univ. of Maryland Baltimore County

14:50-15:10 WeB08.5

Stabilization of Sampled-Data Lur'e Systems with Nonuniform Sampling, pp. 2881-2886.

Louis, Julien	Univ. De Lorraine, CNRS, CRAN UMR 7039
Jungers, Marc	CNRS - Univ. De Lorraine
Daafouz, Jamal	Univ. De Lorraine, CRAN, CNRS

15:10-15:30 WeB08.6

On Synchronizing Sampling and Quantization for rho/mu Approximation Based Stabilization of Second Order LTI Systems under Binary Sensing, pp. 2887-2894.

Zhang, Xinlei	Johns Hopkins Univ
Tarraf, Danielle C.	The Johns Hopkins Univ

WeB09 1003

Social and Economic Networks (Invited Session)

Chair: Ajorlou, Amir	Univ. of Pennsylvania
Co-Chair: Jadbabaie, Ali	Univ. of Pennsylvania
Organizer: Ajorlou, Amir	Univ. of Pennsylvania

Organizer: Jadbabaie, Ali — Univ. of Pennsylvania

13:30-13:50 — WeB09.1

Distributed Evaluation and Convergence of Self-Appraisals in Social Networks (I), pp. 2895-2900.

Chen, Xudong — Univ. of Illinois at Urbana-Champaign
Liu, Ji — Univ. of Illinois at Urbana-Champaign
Xu, Zhi — Massachusetts Inst. of Tech
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

13:50-14:10 — WeB09.2

Duopoly Budget Allocation in Social Networks: A Nash Analysis Approach (I), pp. 2901-2906.

Fazeli, Arastoo — Univ. of Pennsylvania
Ajorlou, Amir — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania

14:10-14:30 — WeB09.3

The Value of Temporal Data for Learning of Influence Networks: A Characterization Via Kullback-Leibler Divergence (I), pp. 2907-2912.

Dahleh, Munther A. — Massachusetts Inst. of Tech
Tsitsiklis, John — Massachusetts Inst. of Tech
Zoumpoulis, Spyros — INSEAD

14:30-14:50 — WeB09.4

Trust-Aware Crowdsourcing with Domain Knowledge (I), pp. 2913-2918.

Liu, Xiangyang — Univ. of Maryland Coll. Park
Baras, John S. — Univ. of Maryland

14:50-15:10 — WeB09.5

SIRS Epidemics on Complex Networks: Concurrence of Exact Markov Chain and Approximated Models (I), pp. 2919-2926.

Azizan Ruhi, Navid — Caltech
Hassibi, Babak — Caltech

15:10-15:30 — WeB09.6

Defensive Resource Allocation in Social Networks, pp. 2927-2932.

Masucci, Antonia Maria — INRIA
Silva, Alonso — Alcatel-Lucent Bell Labs France

WeB10 — 1004
Switched Systems II (Regular Session)

Chair: Battistelli, Giorgio — Univ. of Florence
Co-Chair: Tanwani, Aneel — Univ. of Kaiserslautern

13:30-13:50 — WeB10.1

A Sub-Optimal Solution for Optimal Control of Linear Systems with Unmeasurable Switching Delays, pp. 2933-2938.

Cicone, Antonio — Univ. Dell'aquila
D'Innocenzo, Alessandro — Univ. of L'Aquila
Guglielmi, Nicola — Univ. of L'Aquila
Laglia, Linda — Univ. of L'Aquila

13:50-14:10 — WeB10.2

Almost Regulated Output Synchronization for Heterogeneous Time-Varying Networks of Non-Introspective, Nonlinear Agents without Exchange of Controller States, pp. 2939-2944.

Zhang, Meirong — Washington State Univ
Saberi, Ali — Washington State Univ
Stoorvogel, Anton A. — Univ. of Twente
Grip, Håvard Fjær — Norwegian Univ. of Science and Tech

14:10-14:30 — WeB10.3

Switching Control for Parameter Identifiability of Uncertain Systems, pp. 2945-2950.

Battistelli, Giorgio — Univ. of Florence
Tesi, Pietro — Univ. of Groningen

14:30-14:50 — WeB10.4

Averaging for Non-Homogeneous Switched DAEs, pp. 2951-2956.

Mostacciuolo, Elisa — Univ. Degli Studi Del Sannio
Trenn, Stephan — Univ. of Kaiserslautern
Vasca, Francesco — Univ. of Sannio

14:50-15:10 — WeB10.5

On Detectability of Switched Linear Differential-Algebraic Equations, pp. 2957-2962.

Tanwani, Aneel — Univ. of Kaiserslautern
Trenn, Stephan — Univ. of Kaiserslautern

15:10-15:30 — WeB10.6

A Classification-Based Approach to the Optimal Control of Affine Switched Systems, pp. 2963-2968.

Manganini, Giorgio — Pol. Di Milano
Piroddi, Luigi — Pol. Di Milano
Prandini, Maria — Pol. Di Milano

WeB11 — 1005
Cooperative Control V (Regular Session)

Chair: Qian, Chunjiang — Univ. of Texas at San Antonio
Co-Chair: Hayashi, Naoki — Osaka Univ

13:30-13:50 — WeB11.1

A Cooperative Pursuit-Evasion Game of a High Speed Evader, pp. 2969-2974.

Makkapati, Venkata Ramana — Indian Inst. of Tech. Kanpur
Kothari, Mangal — Indian Inst. of Tech. Kanpur

13:50-14:10 — WeB11.2

Cooperative Target Tracking by 2-Level Hierarchical PTZ Camera Sensor Networks, pp. 2975-2980.

Segawa, Kohei — Osaka Univ
Hamada, Kenta — Osaka Univ
Hayashi, Naoki — Osaka Univ
Takai, Shigemasa — Osaka Univ

14:10-14:30 — WeB11.3

Necessary and Sufficient Condition for Local Exponential Synchronization of Nonlinear Systems, pp. 2981-2986.

Andrieu, Vincent — Univ. De Lyon
Jayawardhana, Bayu — Univ. of Groningen
Tarbouriech, Sophie — LAAS-CNRS

14:30-14:50 — WeB11.4

Decentralized Output Feedback Control of a Class of Nonlinear Systems with Unsynchronized Sampling Instants, pp. 2987-2992.

Liu, Rongjie — UTSA
Qian, Chunjiang — Univ. of Texas at San Antonio
Li, Shihua — Southeast Univ

14:50-15:10 — WeB11.5

Formation of Multiple Groups of Mobile Robots Using Sliding Mode Control, pp. 2993-2998.

Sarkar, Soumic — IIT Delhi

Kar, Indra Narayan	Indian Inst. of Tech. Delhi

15:10-15:30 WeB11.6

Collision-Free Consensus Via Order Preservation in Multi-Agent Networks, pp. 2999-3005.

Miao, Zhiqiang	Hunan Univ
Wang, Yaonan	Hunan Univ
Fierro, Rafael	Univ. of New Mexico

WeB12 1006

Predictive Control for Linear Systems II (Regular Session)

Chair: Baldea, Michael	The Univ. of Texas at Austin
Co-Chair: Tóth, Roland	Eindhoven Univ. of Tech

13:30-13:50 WeB12.1

Efficient Stochastic Model Predictive Control Based on Polynomial Chaos Expansions for Embedded Applications, pp. 3006-3012.

Lucia, Sergio	OvG Univ. of Magdeburg
Zometa, Pablo	OvG Univ. Magdeburg
Koegel, Markus	OVG Univ. Magdeburg
Findeisen, Rolf	OVG Univ. Magdeburg

13:50-14:10 WeB12.2

Deadlock-Free Scheduling for Manufacturing Systems Based on Timed Petri Nets and Model Predictive Control, pp. 3013-3018.

Lefebvre, Dimitri	Univ. Le Havre

14:10-14:30 WeB12.3

Inner-Loop Reference Governors: Placing Reference Governors Inside the Control Loop by Using Passivity, pp. 3019-3025.

Kalabic, Uros V.	Univ. of Michigan
Kolmanovsky, Ilya V.	The Univ. of Michigan

14:30-14:50 WeB12.4

Data Driven Predictive Control Based on Orthonormal Basis Functions, pp. 3026-3031.

Bachnas, Ahmad Alrianes	TU Eindhoven
Tóth, Roland	Eindhoven Univ. of Tech
Weiland, Siep	Eindhoven Univ. of Tech

14:50-15:10 WeB12.5

Autocovariance-Based MPC Model Mismatch Estimation for SISO Systems, pp. 3032-3037.

Wang, Siyun	Univ. of Texas at Austin
Baldea, Michael	The Univ. of Texas at Austin

15:10-15:30 WeB12.6

Convex Approximation of Chance-Constrained MPC through Piecewise Affine Policies Using Randomized and Robust Optimization, pp. 3038-3043.

Zhang, Xiaojing	ETH Zurich
Georghiou, Angelos	ETH Zurich
Lygeros, John	ETH Zurich

WeB13 1007

Estimation V (Regular Session)

Chair: Liu, Hugh Hong-Tao	Univ. of Toronto
Co-Chair: Yang, Wen	East China Univ. of Science and Tech

13:30-13:50 WeB13.1

Distributed Tracking of Extended Targets Using Random Matrices, pp. 3044-3049.

Li, Wenling	Beihang Univ
Jia, Yingmin	Beihang Univ
Meng, Deyuan	Beihang Univ
Du, Junping	Beijing Univ. of Posts and Telecommunications

13:50-14:10 WeB13.2

Iterative Distributed Outlier Detection for Wireless Sensor Networks: Equilibrium and Stability Analysis, pp. 3050-3056.

Li, Wenjie	Lab. Des Signaux Et Systèmes, CNRS-CentraleSupelec-Univ
Bassi, Francesca	ESME-Sudria and L2S, UMR CNRS 8506) CNRS-CentraleSupelec-Univ
Dardari, Davide	CNIT, DEI, Univ. of Bologna, Italy
Kieffer, Michel	CNRS-Supelec
Pasolini, Gianni	CNIT, DEI, Univ. of Bologna

14:10-14:30 WeB13.3

Stochastic Packet Scheduling for Optimal Parameter Estimation, pp. 3057-3062.

Han, Duo	Nanyang Tech. Univ
You, Keyou	Tsinghua Univ
Xie, Lihua	Nanyang Tech. Univ
Wu, Junfeng	Royal Inst. of Tech. (KTH)
Shi, Ling	Hong Kong Univ. of Science and Tech

14:30-14:50 WeB13.4

Majorization Theory in Sensor Scheduling, pp. 3063-3068.

Yang, Chao	East China Univ. of Science and Tech
Yang, Wen	East China Univ. of Science and Tech
Shi, Hongbo	East China Univ. of Science and Tech

14:50-15:10 WeB13.5

On the Consistency and Confidence of Distributed Dynamic State Estimation in Wireless Sensor Networks, pp. 3069-3074.

Wang, Shaocheng	Univ. of California, Riverside
Ren, Wei	Univ. of California, Riverside

15:10-15:30 WeB13.6

Enhanced Cooperative Filter for Wildfire Monitoring, pp. 3075-3080.

Lin, Zhongjie	Univ. of Toronto
Liu, Hugh Hong-Tao	Univ. of Toronto

WeB14 1008

Stability of Nonlinear Systems I (Regular Session)

Chair: Kaczorek, Tadeusz	Bialystok Univ. of Tech
Co-Chair: Forni, Fulvio	Univ. of Cambridge

13:30-13:50 WeB14.1

A Fuzzy Iterative Learning Control for Nonlinear Discrete-Time Systems with Unknown Control Directions, pp. 3081-3086.

Wang, Ying-Chung	Huafan Univ
Chien, Chiang-Ju	Huafan Univ

13:50-14:10 WeB14.2

Dynamic Linear Controller Design for a Class of High-Order Nonlinear Systems Via State-Feedback, pp. 3087-3092.

Zha, Wenting	Southeast Univ
Qian, Chunjiang	Univ. of Texas at San Antonio

Zhai, Junyong	Southeast Univ
Fei, Shumin	Southeast Univ

14:10-14:30 WeB14.3

Immersion and Invariance Stabilization of Nonlinear Systems: A Horizontal Contraction Approach, pp. 3093-3097.

Wang, Lei	Zhejiang Univ
Forni, Fulvio	Univ. of Cambridge
Ortega, Romeo	LSS-SUPELEC
Su, Hongye	Zhejiang Univ

14:30-14:50 WeB14.4

Positivity and Stability of a Class of Fractional Descriptor Continuous-Time Nonlinear Systems, pp. 3098-3103.

Kaczorek, Tadeusz	Bialystok Univ. of Tech

14:50-15:10 WeB14.5

Analytic Synchronization Conditions for a Network of Wilson and Cowan Oscillators, pp. 3104-3109.

Ahmadizadeh, Saeed	The Univ. of Melbourne
Nesic, Dragan	Univ. of Melbourne
Grayden, David Bruce	The Univ. of Melbourne
Freestone, Dean Robert	The Univ. of Melbourne

15:10-15:30 WeB14.6

Polyhedral Lyapunov Functions for Structural Stability of Biochemical Systems in Concentration and Reaction Coordinates, pp. 3110-3115.

Blanchini, Franco	Univ. Degli Studi Di Udine
Giordano, Giulia	Univ. of Udine

WeB15 — 1009

Stochastic Hybrid Systems (Tutorial Session)

Chair: Teel, Andrew R.	Univ. of California at Santa Barbara
Co-Chair: Hespanha, Joao P.	Univ. of California, Santa Barbara
Organizer: Teel, Andrew R.	Univ. of California at Santa Barbara

13:30-13:35 WeB15.1

Stochastic Hybrid Systems: A Modeling and Stability Theory Tutorial (I), pp. 3116-3136.

Teel, Andrew R.	Univ. of California at Santa Barbara
Hespanha, Joao P.	Univ. of California, Santa Barbara

13:35-14:30 WeB15.2

Stochastic Hybrid Systems: Time-Triggered and Event-Triggered Jumps (I).*

Hespanha, Joao P.	Univ. of California, Santa Barbara

14:30-15:30 WeB15.3

Stochastic Hybrid Inclusions (I).*

Teel, Andrew R.	Univ. of California at Santa Barbara

WeB16 — 1010

Scalable Design of Control and Monitoring Systems (Invited Session)

Chair: Ferrari-Trecate, Giancarlo	Univ. Degli Studi Di Pavia
Co-Chair: Parisini, Thomas	Imperial Coll. & Univ. of Trieste
Organizer: Ferrari-Trecate, Giancarlo	Univ. Degli Studi Di Pavia
Organizer: Parisini, Thomas	Imperial Coll. & Univ. of Trieste

13:30-13:50 WeB16.1

Stochastic Fault Detection in a Plug-And-Play Scenario (I), pp. 3137-3142.

Boem, Francesca	Imperial Coll. London
Riverso, Stefano	United Tech. Res. Center Ireland
Ferrari-Trecate, Giancarlo	Univ. Degli Studi Di Pavia
Parisini, Thomas	Imperial Coll. & Univ. of Trieste

13:50-14:10 WeB16.2

Distributed Adaptive Sensor Fault Tolerant Control for Smart Buildings (I), pp. 3143-3148.

Papadopoulos, Panayiotis	Univ. of Cyprus
Reppa, Vasso	Supelec
Polycarpou, Marios M.	Univ. of Cyprus
Panayiotou, Christos	Univ. of Cyprus

14:10-14:30 WeB16.3

Voltage Control of DC Islanded Microgrids: A Decentralized Scalable Approach (I), pp. 3149-3154.

Tucci, Michele	Univ. Degli Studi Di Pavia
Riverso, Stefano	United Tech. Res. Center Ireland
Vasquez, Juan C.	Univ. Pol. De Catalunya
Guerrero, J.M.	Univ. Pol. De Catalunya
Ferrari-Trecate, Giancarlo	Univ. Degli Studi Di Pavia

14:30-14:50 WeB16.4

Plug and Play Partition-Based State Estimation Based on Kalman Filter (I), pp. 3155-3160.

Farina, Marcello	Pol. Di Milano
Carli, Ruggero	Univ. of Padova

14:50-15:10 WeB16.5

Distributed Flexibility Characterization and Resource Allocation for Multi-Zone Commercial Buildings in the Smart Grid (I), pp. 3161-3168.

Hao, He	Pacific Northwest National Lab
Lian, Jianming	Pacific Northwest National Lab
Kalsi, Karanjit	Pacific Northwest National Lab
Stoustrup, Jakob	Pacific Northwest National Lab

15:10-15:30 WeB16.6

Detection of Drift Sensor Faults in a Class of Nonlinear Uncertain Systems, pp. 3169-3174.

Zhou, Yilun	Imperial Coll. London
Parisini, Thomas	Imperial Coll. & Univ. of Trieste
Polycarpou, Marios M.	Univ. of Cyprus

WeB17 — Conference Hall

Biological and Biomedical Systems I (Regular Session)

Chair: Rossi, Francesco	Aix-Marseille Univ
Co-Chair: di Bernardo, Mario	Univ. of Bristol

13:30-13:50 WeB17.1

A Model Predictive Approach to Control the Motion of a Virtual Player in the Mirror Game, pp. 3175-3180.

Zhai, Chao	Univ. of Bristol
Alderisio, Francesco	Univ. of Bristol
Tsaneva-Atanasova, Krasimira	Univ. of Exeter
di Bernardo, Mario	Univ. of Bristol

13:50-14:10 WeB17.2

Developmental Partial Differential Equations (I), pp. 3181-3186.

Pouradier Duteil, Nastassia	Rutgers Univ. Camden
Rossi, Francesco	Aix-Marseille Univ
Boscain, Ugo V.	CNRS
Piccoli, Benedetto	Rutgers Univ. - Camden

14:10-14:30 WeB17.3

Collision Avoidance in Pedestrian Dynamics, pp. 3187-3192.

Festa, Adriano	Austrian Acad. of Science
Wolfram, Marie-Therese	Marie-Therese.wolfram@univ

14:30-14:50 WeB17.4

Assessing the Effect of Unknown Widespread Perturbations in Complex Systems Using the v -Gap, pp. 3193-3198.

Carignano, Alberto	Univ. of Washington
Junyang, Jin	Univ. of Cambridge
Webb, Alex	Univ. of Cambridge
Goncalves, Jorge	Univ. of Cambridge

14:50-15:10 WeB17.5

A Stochastic Framework for the Design of Transient and Steady State Behavior of Biochemical Reaction Networks, pp. 3199-3205.

Baetica, Ania	Caltech
Yuan, Ye	UC Berkeley
Murray, Richard M.	California Inst. of Tech
Goncalves, Jorge	Univ. of Cambridge

15:10-15:30 WeB17.6

Global Stabilizing Feedback Law for a Problem of Biological Control of Mosquito-Borne Diseases, pp. 3206-3211.

Bliman, Pierre-Alexandre J	INRIA-Rocquencourt
Aronna, Maria Soledad	IMPA
Coelho, Flávio Codeço	Fundação Getulio Vargas
Silva, Moacyr Alvim	EMAp/FGV

WeB18 1202

Optimal Control V (Regular Session)

Chair: Fujimoto, Kenji	Kyoto Univ
Co-Chair: Li, Guang	Queen Mary, Univ. of London

13:30-13:50 WeB18.1

Lifted Implicit Integrators for Direct Optimal Control, pp. 3212-3217.

Quirynen, Rien	KU Leuven
Gros, Sebastien	Chalmers Univ. of Tech
Diehl, Moritz	Katholieke Univ. Leuven

13:50-14:10 WeB18.2

Numerical Approach for Nonlinear Optimal Control Problems Based on Double Generating Functions, pp. 3218-3223.

Hao, Zhiwei	Harbin Inst. of Tech
Zhang, Qiuhua	Harbin Inst. of Tech
Fujimoto, Kenji	Kyoto Univ

14:10-14:30 WeB18.3

A Port-Hamiltonian Approach to Optimal Frequency Regulation in Power Grids, pp. 3224-3229.

Stegink, Tjerk	Univ. of Groningen
De Persis, Claudio	Univ. of Groningen
van der Schaft, Arjan J.	Univ. of Groningen

14:30-14:50 WeB18.4

Predictive Control of a Wave Energy Converter with Wave Prediction Using Differential Flatness, pp. 3230-3235.

Li, Guang	Queen Mary, Univ. of London

14:50-15:10 WeB18.5

A New Framework of Robust LQ Optimal Control for Parameter Variation and Its Application to the Double Generating Functions Method, pp. 3236-3241.

Okura, Yuki	Kyoto Univ
Fujimoto, Kenji	Kyoto Univ

15:10-15:30 WeB18.6

Towards Uncertainty Optimization in Active SLAM, pp. 3242-3247.

Lourenço, Pedro	Inst. Superior Técnico / Univ. Técnica De Lisboa
Batista, Pedro	Inst. Superior Técnico, Univ. De Lisboa
Oliveira, Paulo Jorge	Inst. Superior Técnico
Silvestre, Carlos	Univ. of Macau

WeC01 Large Hall

Power Systems III (Regular Session)

Chair: Susuki, Yoshihiko	Kyoto Univ
Co-Chair: Hiskens, Ian A.	Univ. of Michigan

16:00-16:20 WeC01.1

Modelling the Aggregate Demand Response of a Population of Air Conditioners to Changes in Ambient Temperature, pp. 3248-3253.

Mahdavi, Nariman	CSIRO Energy Centre
Braslavsky, Julio H.	CSIRO
Perfumo, Cristian	CSIRO Energy Tech

16:20-16:40 WeC01.2

Static Voltage Stability Detection Using Local Measurement for Microgrids in a Power Distribution Network, pp. 3254-3259.

Wang, Zhao	Univ. of Notre Dame
Sun, Hongbo	Mitsubishi Electric Res. Lab
Nikovski, Daniel	Mitsubishi Electric Res. Lab

16:40-17:00 WeC01.3

Strategic Scheduling of Residential Energy Consumers, pp. 3260-3265.

Albert, Adrian	C3 Energy
Rajagopal, Ram	Stanford Univ

17:00-17:20 WeC01.4

Decomposition of Energy Function and Hierarchical Transient Stability Diagnosis for Power Networks, pp. 3266-3271.

Kojima, Chiaki	Univ. of Tokyo
Susuki, Yoshihiko	Kyoto Univ
Tsumura, Koji	The Univ. of Tokyo
Hara, Shinji	The Univ. of Tokyo

17:20-17:40 WeC01.5

Scenario-Based Model Predictive Operation Control of Islanded Microgrids, pp. 3272-3277.

Hans, Christian Andreas	TU Berlin
Sopasakis, Pantelis	IMT Inst. for Advanced Studies Lucca
Bemporad, Alberto	IMT Inst. for Advanced Studies Lucca
Raisch, Joerg	Tech. Univ. Berlin
Collon, Carsten	Saarland Univ

17:40-18:00 WeC01.6

Phase Boundary Computation for Fault Induced Delayed Voltage Recovery, pp. 3278-3284.

Fisher, Michael W — Univ. of Michigan
Hiskens, Ian A. — Univ. of Michigan

WeC02 — Small Hall
Optimization Algorithms III (Regular Session)

Chair: Findeisen, Rolf — OVG Univ. Magdeburg
Co-Chair: Giselsson, Pontus — Lund Univ

16:00-16:20 — WeC02.1

Distributed Optimization for Systems with Time-Varying Quadratic Objective Functions, pp. 3285-3290.

Ye, Maojiao — Nanyang Tech. Univ. Singapore
Hu, Guoqiang — Nanyang Tech. Univ

16:20-16:40 — WeC02.2

Efficient Bregman Projections Onto the Simplex, pp. 3291-3298.

Krichene, Walid — Univ. of California, Berkeley
Krichene, Syrine — ENSIMAG
Bayen, Alexandre — Univ. of California at Berkeley

16:40-17:00 — WeC02.3

Minimum Equivalent Precedence Relation Systems, pp. 3299-3304.

Sou, Kin Cheong — Chalmers Univ. of Tech

17:00-17:20 — WeC02.4

Tight Linear Convergence Rate Bounds for Douglas-Rachford Splitting and ADMM, pp. 3305-3310.

Giselsson, Pontus — Lund Univ

17:20-17:40 — WeC02.5

Rate of Convergence Analysis of a Dual Fast Gradient Method for General Convex Optimization, pp. 3311-3316.

Patrascu, Andrei — Univ. Pol. Bucharest
Necoara, Ion — Univ. Pol. Bucharest
Findeisen, Rolf — OVG Univ. Magdeburg

17:40-18:00 — WeC02.6

An Iterative Approach to Rank Minimization Problems, pp. 3317-3323.

Sun, Chuangchuang — Iowa State Univ
Dai, Ran — Iowa State Univ

WeC03 — 801
Large-Scale Systems (Regular Session)

Chair: Tesi, Pietro — Univ. of Groningen
Co-Chair: Sadamoto, Tomonori — Tokyo Inst. of Tech

16:00-16:20 — WeC03.1

On Robustness Properties in Empirical Centroid Fictitious Play, pp. 3324-3330.

Swenson, Brian — Carnegie Mellon Univ
Kar, Soummya — Carnegie Mellon Univ
Xavier, Joao — Inst. Sistemas E Robotica - Inst. Superior Tecnico

16:20-16:40 — WeC03.2

Static Anti-Windup Design for Discrete-Time Large-Scale Cross-Directional Saturated Linear Control Systems, pp. 3331-3336.

Queinnec, Isabelle — LAAS-CNRS
Tarbouriech, Sophie — LAAS-CNRS
Gayadeen, Sandira — Diamond Light Source Ltd
Zaccarian, Luca — LAAS-CNRS and Univ. of Trento

16:40-17:00 — WeC03.3

Hierarchical Distributed Design of Stabilizing Controllers for an Evolving Network System, pp. 3337-3342.

Sadamoto, Tomonori — Tokyo Inst. of Tech
Ishizaki, Takayuki — Tokyo Inst. of Tech
Imura, Jun-ichi — Tokyo Inst. of Tech

17:00-17:20 — WeC03.4

Structured Feedback Gain Design Via Stabilizable Dilation and LMIs, pp. 3343-3348.

Mori, Takuto — Osaka Univ
Wada, Takayuki — Osaka Univ
Fujisaki, Yasumasa — Osaka Univ

17:20-17:40 — WeC03.5

Detecting Topology Variations in Dynamical Networks, pp. 3349-3354.

Battistelli, Giorgio — Univ. of Florence
Tesi, Pietro — Univ. of Groningen

17:40-18:00 — WeC03.6

Privacy-Preserving Dual Splitting Distributed Optimization with Application to Load Flattening in California, pp. 3355-3360.

Belletti, Francois Walter Michel — Univ. of California, Berkeley
Le Floch, Caroline — Univ. of California, Berkeley
Moura, Scott — Univ. of California, Berkeley
Bayen, Alexandre — Univ. of California at Berkeley

WeC04 — 802
Identification V (Regular Session)

Chair: Solo, Victor — Univ. of New South Wales
Co-Chair: Pait, Felipe — Univ. Sao Paulo

16:00-16:20 — WeC04.1

An Algorithm Combining the Subspace Identification Methods ORT and CCA, pp. 3361-3366.

Bathelt, Andreas — Cologne Univ. of Applied Sciences
Söffker, Dirk — Univ. of Duisburg-Essen
Jelali, Mohieddine — Cologne Univ. of Applied Sciences

16:20-16:40 — WeC04.2

A New Recursive Least-Squares Method with Multiple Forgetting Schemes, pp. 3367-3372.

Fraccaroli, Francesco — Univ. of Padova
Peruffo, Andrea — Univ. of Padova
Zorzi, Mattia — Univ. Degli Studi Di Padova

16:40-17:00 — WeC04.3

Maximum Likelihood Identification of Hawkes-Pham Models with a Guaranteed Stability Condition, pp. 3373-3378.

Godoy, Boris I. — The Univ. of Newcastle
Solo, Victor — Univ. of New South Wales
Pasha, Syed Ahmed — Air Univ

17:00-17:20 — WeC04.4

Distributed Topology Identification for Sparse Point Process Dynamic Networks, pp. 3379-3384.

Pasha, Syed Ahmed — Air Univ
Solo, Victor — Univ. of New South Wales

17:20-17:40 — WeC04.5

Identification of Systems Using Binary Sensors Via Support Vector Machines, pp. 3385-3390.

Goudjil, Abdelhak — Univ. of Caen Lower Normandy

Pouliquen, Mathieu	Univ. De Caen
Pigeon, Eric	Univ. of CAEN
Gehan, Olivier	ENSICAEN
M'Saad, Mohammed	ENSICAEN

17:40-18:00 WeC04.6

Matchable--Observable Linear Models for Multivariable Identification: Structure Selection and Experimental Results, pp. 3391-3396.

Romano, Rodrigo Alvite	Inst. Mauá De Tecnologia
Pait, Felipe	Univ. Sao Paulo
Ferrão, Rafael Corsi	Inst. Mauá De Tecnologia

WeC05 804

Spacecraft Control (Regular Session)

Chair: Peaucelle, Dimitri	LAAS-CNRS, Univ. De Toulouse
Co-Chair: Sekiguchi, Kazuma	Tokyo City Univ

16:00-16:20 WeC05.1

Deterministic Drift Counteraction Optimal Control and Its Application to Satellite Life Extension, pp. 3397-3402.

Zidek, Robert A. E.	The Univ. of Michigan
Kolmanovsky, Ilya V.	The Univ. of Michigan

16:20-16:40 WeC05.2

LMI-Based Design of a Structured Direct Adaptive Satellite Attitude Control with Actuator Rate Feedback, pp. 3403-3408.

Leduc, Harmonie	Laas Cnrs
Peaucelle, Dimitri	LAAS-CNRS, Univ. De Toulouse
Pittet, Christelle	CNES

16:40-17:00 WeC05.3

Nonlinear H-Infinity Control of Relative Motion in Space Via the State-Dependent Riccati Equations, pp. 3409-3414.

Franzini, Giovanni	Univ. of Pisa
Innocenti, Mario	Univ. of Pisa

17:00-17:20 WeC05.4

Minimum Switching Control for Spacecraft Precision Pointing with On/off Actuators, pp. 3415-3420.

Leomanni, Mirko	Univ. Di Siena
Garulli, Andrea	Univ. Di Siena
Giannitrapani, Antonio	Univ. Di Siena
Scortecci, Fabrizio	Aerospazio Tecnologie S.r.l

17:20-17:40 WeC05.5

Attitude Controllability Analysis of an Underactuated Satellite with Two Reaction Wheels and Its Control, pp. 3421-3426.

Katsuyama, Yuki	Tokyo Inst. of Tech
Ibuki, Tatsuya	Tokyo Inst. of Tech
Sekiguchi, Kazuma	Tokyo City Univ
Sampei, Mitsuji	Tokyo Inst. of Tech

17:40-18:00 WeC05.6

Relative Position and Attitude Coupled Control with Finite-Time Convergence for Spacecraft Rendezvous and Docking, pp. 3427-3432.

Xu, Ranran	Univ. of Science and Tech. of China
Ji, Haibo	Univ. of Science and Tech. of China
Li, Kun	Univ. of Science and Tech. of China
Kang, Yu	Univ. of Science and Tech. of China
Yang, Kaihong	Univ. of Science and Tech. of China

WeC06 805

Traffic Control (Regular Session)

Chair: Kochenderfer, Mykel	Stanford Univ
Co-Chair: Panayiotou, Christos	Univ. of Cyprus

16:00-16:20 WeC06.1

Continous Time Autonomous Air Traffic Control for Non-Towered Airports, pp. 3433-3438.

Mahboubi, Zouhair	Stanford Univ
Kochenderfer, Mykel	Stanford Univ

16:20-16:40 WeC06.2

Localization of Disturbances in Transportation Systems, pp. 3439-3444.

S, Sivaranjani	Univ. of Notre Dame
Wang, Yuh-Shyang	California Inst. of Tech
Gupta, Vijay	Univ. of Notre Dame
Savla, Ketan	Univ. of Southern California

16:40-17:00 WeC06.3

Distributed Consensus-Based Switched Observers for Freeway Traffic Density Estimation, pp. 3445-3450.

Vivas, Carlos	Univ. De Sevilla
Siri, Silvia	Univ. of Genova
Ferrara, Antonella	Univ. of Pavia
Sacone, Simona	Univ. of Genova
Cavanna, Giulia	Department of Informatics, Bioengineering, Robotics and Systems
Rubio, Francisco R.	Univ. of Sevilla

17:00-17:20 WeC06.4

Moving Horizon Fault-Tolerant Traffic State Estimation for the Cell Transmission Model, pp. 3451-3456.

Timotheou, Stelios	Univ. of Cyprus
Panayiotou, Christos	Univ. of Cyprus
Polycarpou, Marios M.	Univ. of Cyprus

17:20-17:40 WeC06.5

Lane Pricing Via Decision–Theoretic Lane Changing Model of Driver Behavior, pp. 3457-3462.

Calderone, Daniel Joseph	Univ. of California, Berkeley
Ratliff, Lillian J.	Univ. of California Berkeley
Sastry, S. Shankar	Univ. of California at Berkeley

17:40-18:00 WeC06.6

Approximate Dynamic Programming with Recursive Least-Squares Temporal Difference Learning for Adaptive Traffic Signal Control, pp. 3463-3468.

Yin, Biao	Univ. De Tech. Belfort-Montbéliard
Dridi, Mahjoub	Univ. De Tech. De Belfort Montbéliard
El Moudni, Abdellah	UTBM

WeC07 1001

Agents-Based Systems III (Regular Session)

Chair: Tembine, Hamidou	NYU
Co-Chair: Hadjicostis, Christoforos N.	Univ. of Cyprus

16:00-16:20 WeC07.1

Self-Triggered Coordination Over a Shared Network under Denial-Of-Service, pp. 3469-3474.

Senejohnny, Danial	Univ. of Groningen
Tesi, Pietro	Univ. of Groningen
De Persis, Claudio	Univ. of Groningen

16:20-16:40 WeC07.2

A New Model of Opinion Dynamics for Social Actors with Multiple Interdependent Attitudes and Prejudices, pp. 3475-3480.

Parsegov, Sergey E.	Inst. of Control Sciences, Russian Acad. of Sciences
Proskurnikov, Anton V.	Univ. of Groningen
Tempo, Roberto	CNR-IEIIT, Pol. Di Torino
Friedkin, Noah E.	Univ. of California at Santa Barbara

16:40-17:00 WeC07.3

Distributed Massive MIMO Network Games: Risk and Altruism, pp. 3481-3486.

Tembine, Hamidou	NYU

17:00-17:20 WeC07.4

Non-Parametric Identification in Dynamic Networks (I), pp. 3487-3492.

Dankers, Arne	Univ. of Calgary
Van den Hof, Paul M.J.	Eindhoven Univ. of Tech

17:20-17:40 WeC07.5

Integer Weight Balancing in Directed Graphs in the Presence of Communication Delays, pp. 3493-3498.

Rikos, Apostolos	Univ. of Cyprus
Hadjicostis, Christoforos N.	Univ. of Cyprus

17:40-18:00 WeC07.6

Model-Independent Rendezvous of Euler-Lagrange Agents on Directed Networks, pp. 3499-3505.

Ye, Mengbin (Ben)	Australian National Univ
Yu, Changbin (Brad)	The Australian National Univ
Anderson, Brian D.O.	Australian National Univ

WeC08 1002

Progress on Discrete-Event System Theories: From Fault Diagnosis, Supervisory Control to Operation Routing and Scheduling (Invited Session)

Chair: Su, Rong	Nanyang Tech. Univ
Co-Chair: Jia, (Samuel) Qing-Shan	Tsinghua Univ
Organizer: Su, Rong	Nanyang Tech. Univ
Organizer: Lin, Hai	Univ. of Notre Dame
Organizer: Jia, (Samuel) Qing-Shan	Tsinghua Univ

16:00-16:20 WeC08.1

Synthesis of Opacity-Enforcing Insertion Functions That Can Be Publicly Known (I), pp. 3506-3513.

Wu, Yi-Chin	Univ. of Michigan, Ann Arbor
Lafortune, Stephane	Univ. of Michigan

16:20-16:40 WeC08.2

Designing Parsimonious Scheduling Policies for Complex Resource Allocation Systems through Concurrency Theory (I), pp. 3514-3521.

Li, Ran	Georgia Inst. of Tech
Reveliotis, Spyros	Georgia Inst. of Tech

16:40-17:00 WeC08.3

A Generalized Inference-Based Diagnosis Framework for Discrete Event Systems Capturing Both Disjunctive and Conjunctive Decision-Making (I), pp. 3522-3527.

Takai, Shigemasa	Osaka Univ
Kumar, Ratnesh	Iowa State Univ

17:00-17:20 WeC08.4

On Network Observability of Discrete Event Systems (I), pp. 3528-3533.

Wang, Fei	Tongji Univ
Shu, Shaolong	Tongji Univ
Lin, Feng	Wayne State Univ

17:20-17:40 WeC08.5

Synthesis of Discrete-Event Controllers from Sequence-Based Specifications (I), pp. 3534-3541.

Janssen, Thijs	Atlas Copco
van de Mortel-Fronczak, Joanna	Eindhoven Univ. of Tech
van Gerwen, Emile	FEI Company
Reniers, Michel	TU/e

17:40-18:00 WeC08.6

Progressive Time Optimal Control of Reactive Systems (I), pp. 3542-3547.

Ware, Simon	Nanyang Tech. Univ
Su, Rong	Nanyang Tech. Univ

WeC09 1003

Dynamics and Control of Human-Interaction Networks (Invited Session)

Chair: Beck, Carolyn L.	Univ. of Illinois, Urbana-Champaign
Co-Chair: Nedich, Angelia	Univ. of Illinois, Urbana-Champaign
Organizer: Beck, Carolyn L.	Univ. of Illinois, Urbana-Champaign
Organizer: Nedich, Angelia	Univ. of Illinois, Urbana-Champaign
Organizer: Pare, Philip	Univ. of Illinois at Urbana-Champaign

16:00-16:20 WeC09.1

Spreading Processes Over Socio-Technical Networks with Phase-Type Transmissions (I), pp. 3548-3553.

Ogura, Masaki	Univ. of Pennsylvania
Preciado, Victor M.	Univ. of Pennsylvania

16:20-16:40 WeC09.2

Stability Analysis and Control of Virus Spread Over Time-Varying Networks (I), pp. 3554-3559.

Pare, Philip	Univ. of Illinois at Urbana-Champaign
Beck, Carolyn L.	Univ. of Illinois, Urbana-Champaign
Nedich, Angelia	Univ. of Illinois, Urbana-Champaign

16:40-17:00 WeC09.3

A Lower Bound on the Performance of Dynamic Curing Policies for Epidemics on Graphs (I), pp. 3560-3567.

Drakopoulos, Kimon	MIT
Ozdaglar, Asu	MIT

Tsitsiklis, John	Massachusetts Inst. of Tech

17:00-17:20 WeC09.4

An Approximation Algorithm and Price of Anarchy for the Binary-Preference Capacitated Selfish Replication Game (I), pp. 3568-3573.

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

17:20-17:40 WeC09.5

Cost-Optimal Switching Protection Strategy in Adaptive Networks, pp. 3574-3579.

Ogura, Masaki	Univ. of Pennsylvania
Preciado, Victor M.	Univ. of Pennsylvania

17:40-18:00 WeC09.6

A Distributed Algorithm for Solving General Linear Equations Over Networks, pp. 3580-3585.

Yang, Mu	Univ. of Oklahoma
Tang, Choon Yik	Univ. of Oklahoma

WeC10 1004

Switched Systems III (Regular Session)

Chair: Trenn, Stephan	Univ. of Kaiserslautern
Co-Chair: Zhang, Wei	The Ohio State Univ

16:00-16:20 WeC10.1

Converse Control-Lyapunov Function Theorems for Continuous-Time Switched Linear Systems, pp. 3586-3591.

Lu, Yueyun	The Ohio State Univ
Zhang, Wei	The Ohio State Univ

16:20-16:40 WeC10.2

A New Approach for the H_infinity Control of Markov Jump Linear Systems with Partial Information, pp. 3592-3597.

Todorov, Marcos	LNCC
Fragoso, Marcelo	Lncc / Mct
Costa, Oswaldo Luiz V.	Univ. of Sao Paulo

16:40-17:00 WeC10.3

Cooperative Global Robust Output Regulation for Nonlinear Multi-Agent Systems in Output Feedback Form with Directed Switching Networks, pp. 3598-3603.

Liu, Wei	The Chineses Univ. of Hong Kong
Huang, Jie	The Chinese Univ. of Hong Kong

17:00-17:20 WeC10.4

Planning Methods for the Optimal Control and Performance Certification of General Nonlinear Switched Systems, pp. 3604-3609.

Busoniu, Lucian	Tech. Univ. of Cluj-Napoca
Bragagnolo, Marcos Cesar	Univ. De Lorraine
Daafouz, Jamal	Univ. De Lorraine, CRAN, CNRS
Morarescu, Irinel-Constantin	Cran Cnrs Umr 7039 - Ul

17:20-17:40 WeC10.5

A General Approach for Solving Dynamic Sensor Activation Problems for a Class of Properties, pp. 3610-3615.

Yin, Xiang	Univ. of Michigan
Lafortune, Stephane	Univ. of Michigan

17:40-18:00 WeC10.6

Distributional Averaging of Switched DAEs with Two Modes, pp. 3616-3620.

Trenn, Stephan	Univ. of Kaiserslautern

WeC11 1005

Cooperative and Distributed Control (Regular Session)

Chair: Narikiyo, Tatsuo	Toyota Tech. Inst
Co-Chair: Hoffmann, Christian	Univ. Zu Lübeck

16:00-16:20 WeC11.1

Products of Generalized Stochastic Sarymsakov Matrices, pp. 3621-3626.

Xia, Weiguo	Royal Inst. of Tech
Liu, Ji	Univ. of Illinois at Urbana-Champaign
Cao, Ming	Univ. of Groningen
Johansson, Karl H.	Royal Inst. of Tech
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

16:20-16:40 WeC11.2

Output Consensus Design for Heterogeneous Nonlinear Multi-Agent Systems with Application to Smart Grids, pp. 3627-3632.

Nguyen, Dinh Hoa	Toyota Tech. Inst
Narikiyo, Tatsuo	Toyota Tech. Inst
Kawanishi, Michihiro	Toyota Tech. Inst

16:40-17:00 WeC11.3

Control of Heterogeneous LPV Subsystems Interconnected through Arbitrary and Switching Directed Topologies, pp. 3633-3638.

Hoffmann, Christian	Univ. Zu Lübeck
Werner, Herbert	Hamburg Univ. of Tech

17:00-17:20 WeC11.4

Distributed Attitude Synchronization on SO(3) Using Inertial Vector Measurements, pp. 3639-3644.

Thakur, Divya	Air Force Res. Lab
Erwin, Richard Scott	Air Force Res. Lab

17:20-17:40 WeC11.5

Retraction Balancing and Formation Control, pp. 3645-3650.

Montenbruck, Jan Maximilian	Univ. of Stuttgart
Zelazo, Daniel	Tech. - Israel Inst. of Tech
Allgöwer, Frank	Univ. of Stuttgart

WeC12 1006

Predictive Control (Regular Session)

Chair: Kvasnica, Michal	Slovak Univ. of Tech. in Bratislava
Co-Chair: Monnigmann, Martin	Ruhr-Univ. Bochum

16:00-16:20 WeC12.1

Accelerating Tube-Based Model Predictive Control by Constraint Removal, pp. 3651-3656.

Jost, Michael	Ruhr-Univ. Bochum
Pannocchia, Gabriele	Univ. of Pisa
Monnigmann, Martin	Ruhr-Univ. Bochum

16:20-16:40 WeC12.2

Characterization of Switching Sequences on System with Dwell-Time Restriction for Model Predictive Control, pp. 3657-3662.

Ong, Chong-Jin	National Univ. of Singapore
Wang, Zheming	National Univ. of Singapore
Dehghan, Masood	National Univ. of Singapore

16:40-17:00 WeC12.3

Computationally Efficient Optimization Algorithms for Model Predictive Control of Linear Systems with Integer Inputs, pp. 3663-3668.

Karamanakos, Petros	Tech. Univ. of Munich
Geyer, Tobias	ABB Corp. Res
Kennel, Ralph	Tech. Univ. München

17:00-17:20 WeC12.4

On Region-Free Explicit Model Predictive Control, pp. 3669-3674.

Kvasnica, Michal	Slovak Univ. of Tech. in Bratislava
Takács, Bálint	Slovak Univ. of Tech. in Bratislava
Holaza, Juraj	Slovak Univ. of Tech. in Bratislava
Di Cairano, Stefano	Mitsubishi Electric Res. Lab

17:20-17:40 WeC12.5

An Energy Efficient Trajectory Tracking Controller for Car-Like Vehicles Using Model Predictive Control, pp. 3675-3680.

Salazar, Mauro	ETH Zurich
Alessandretti, Andrea	IST/EPFL
Aguiar, A. Pedro	Faculty of Engineering, Univ. of Porto
Jones, Colin N.	École Pol. Fédérale De Lausanne (EPFL)

17:40-18:00 WeC12.6

Nonlinear Model Predictive Control for Traction Motor Degradation Minimization, pp. 3681-3686.

Samaranayake, Lilantha	Cranfield Univ. United Kingdom
Longo, Stefano	Cranfield Univ

WeC13 1007

Estimation VI (Regular Session)

Chair: Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Co-Chair: Sanyal, Amit	New Mexico State Univ

16:00-16:20 WeC13.1

Adaptive Input and Parameter Estimation with Application to Engine Torque Estimation, pp. 3687-3692.

Na, Jing	Univ. of Bristol
Herrmann, Guido	Univ. of Bristol
Burke, Richard David	Univ. of Bath
Brace, Chris	Univ. of Bath

16:20-16:40 WeC13.2

Semi-Global Direct Estimation of Multiple Frequencies with an Adaptive Observer Having Minimal Parameterization, pp. 3693-3698.

Pin, Gilberto	Electrolux Professional S.p.A. (Italy)
Wang, Yang	Imperial Coll. London
Chen, Boli	Imperial Coll. London
Parisini, Thomas	Imperial Coll. & Univ. of Trieste

16:40-17:00 WeC13.3

Rigid Body Motion Estimation Based on the Lagrange-D'alembert Principle, pp. 3699-3704.

Izadi, Maziar	New Mexico State Univ
Sanyal, Amit	Syracuse Univ
Viswanathan, Sasi Prabhakaran	New Mexico State Univ
Barany, Ernest J.	New Mexico State Univ

17:00-17:20 WeC13.4

Multi-Room Occupancy Estimation through Adaptive Gray-Box Models, pp. 3705-3711.

Ebadat, Afrooz	Royal Inst. of Tech. (KTH)
Bottegal, Giulio	KTH Royal Inst. of Tech
Molinari, Marco	Royal Inst. of Tech
Varagnolo, Damiano	LTU Luleå Univ. of Tech
Wahlberg, Bo	KTH Royal Inst. of Tech
Hjalmarsson, Håkan	KTH Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech

17:20-17:40 WeC13.5

State Estimation of Finite-State Hidden Markov Models Subject to Stochastically Event-Triggered Measurements, pp. 3712-3717.

Chen, Wentao	Beijing Inst. of Tech
Wang, Junzheng	Beijing Inst. of Tech
Shi, Ling	Hong Kong Univ. of Science and Tech
Shi, Dawei	Beijing Inst. of Tech

17:40-18:00 WeC13.6

A New Model-Based Fractional Order Differentiator with Application to Fractional Order PID Controllers, pp. 3718-3723.

Wei, Xing	INSA Centre Val De Loire
Liu, Da-Yan	INSA Centre Val De Loire, Campus De Bourges
Boutat, Driss	INSA Centre Val De Loire

WeC14 1008

Stability of Nonlinear Systems II (Regular Session)

Chair: Angeli, David	Imperial Coll
Co-Chair: Touri, Behrouz	Univ. of Colorado Boulder

16:00-16:20 WeC14.1

On Synchronization of Networks of Coupled Oscillators, pp. 3724-3729.

Jones, Dalton	Univ. of Colorado
Touri, Behrouz	Univ. of Colorado Boulder

16:20-16:40 WeC14.2

Dynamics of a Driven Stirling Engine, pp. 3730-3735.

Hauser, John	Univ. of Colorado at Boulder
Bamieh, Bassam	Univ. of California at Santa Barbara

16:40-17:00 WeC14.3

Integral ISS for Systems with Multiple Invariant Sets, pp. 3736-3741.

Forni, Paolo	Imperial Coll. London
Angeli, David	Imperial Coll

17:00-17:20 WeC14.4

Input-To-State Stability for Cascade Systems with Decomposable Invariant Sets, pp. 3742-3747.

Forni, Paolo	Imperial Coll. London
Angeli, David	Imperial Coll

17:20-17:40 WeC14.5

Stability Analysis of Asymmetric Saturation Via Generalised Zames-Falb Multipliers, pp. 3748-3753.

Heath, William Paul	Univ. of Manchester
Carrasco, Joaquin	Univ. of Manchester
Altshuller, Dmitry	Dassault Systems

17:40-18:00 WeC14.6

Stabilization for Nonlinear Systems with Output Constraints by Adding a Power Integrator Approach, pp. 3754-3758.

Guo, Tianliang	Southeast Univ
Wang, Xiangyu	Southeast Univ
Li, Shihua	Southeast Univ

WeC15 1009

Developments in Stochastic Systems, Control and Their Applications (Invited Session)

Chair: Pasik-Duncan, Bozenna	Univ. of Kansas
Co-Chair: Prandini, Maria	Pol. Di Milano
Organizer: Pasik-Duncan, Bozenna	Univ. of Kansas
Organizer: Prandini, Maria	Pol. Di Milano

16:00-16:20 WeC15.1

Decentralized Throughput Maximizing Policies for Deadline-Constrained Wireless Networks (I), pp. 3759-3766.

Singh, Rahul	Texas A&M Univ
Kumar, P. R.	Texas A&M Univ

16:20-16:40 WeC15.2

Event Based Control for Control Affine Nonlinear Systems: A Lyapunov Function Based Approach (I), pp. 3767-3772.

Maity, Dipankar	Univ. of Maryland, Coll. Park
Baras, John S.	Univ. of Maryland

16:40-17:00 WeC15.3

Some Stochastic Differential Games with State Dependent Noise (I), pp. 3773-3777.

Duncan, Tyrone E.	Univ. of Kansas
Pasik-Duncan, Bozenna	Univ. of Kansas

17:00-17:20 WeC15.4

A Theory for the Economic Operation of a Smart Grid with Stochastic Renewables, Demand Response and Storage (I), pp. 3778-3785.

Singh, Rahul	Texas A&M Univ
Ma, Ke	Texas A&M Univ
Thatte, Anupam	Texas A&M Univ
Kumar, P. R.	Texas A&M Univ
Xie, Le	Texas A&M Univ

17:20-17:40 WeC15.5

Stochastic Control with Input and State Constraints: A Relaxation Technique to Ensure Feasibility (I), pp. 3786-3791.

Deori, Luca	Pol. Di Milano
Garatti, Simone	Pol. Di Milano
Prandini, Maria	Pol. Di Milano

17:40-18:00 WeC15.6

Stability Analysis and Controller Synthesis for Continuous-Time Linear Stochastic Systems, pp. 3792-3797.

Nandanoori, Sai Pushpak	Iowa State Univ
Diwadkar, Amit	Iowa State Univ
Vaidya, Umesh	Iowa State Univ

WeC16 1010

Fault Detection (Regular Session)

Chair: Tabuada, Paulo	Univ. of California at Los Angeles
Co-Chair: Paschalidis, Ioannis Ch.	Boston Univ

16:00-16:20 WeC16.1

Unsupervised Fault Detection Using Semidefinite Programming, pp. 3798-3803.

Lopez, Jose A.	Northeastern Univ
Sznaier, Mario	Northeastern Univ
Camps, Octavia I.	Northeastern Univ

16:20-16:40 WeC16.2

Secure State Reconstruction in Differentially Flat Systems under Sensor Attacks Using Satisfiability Modulo Theory Solving, pp. 3804-3809.

Shoukry, Yasser	Univ. of California, Los Angeles
Nuzzo, Pierluigi	Univ. of California at Berkeley
Bezzo, Nicola	Univ. of Pennsylvania
Sangiovanni-Vincentelli, Alberto	Univ. of California at Berkeley
Seshia, Sanjit A.	UC Berkeley
Tabuada, Paulo	Univ. of California at Los Angeles

16:40-17:00 WeC16.3

An Improved Composite Hypothesis Test for Markov Models with Applications in Network Anomaly Detection, pp. 3810-3815.

Zhang, Jing	Boston Univ
Paschalidis, Ioannis Ch.	Boston Univ

17:00-17:20 WeC16.4

Fault Detection and Isolation for Systems Defined Over Graphs, pp. 3816-3821.

Rapisarda, Paolo	Univ. of Southampton
Everts, Anneroos R.F.	Univ. of Groningen
Camlibel, M. Kanat	Univ. of Groningen

17:20-17:40 WeC16.5

NLGA-Based Detection and Isolation of Actuator and Sensor Faults for Quadrotors, pp. 3822-3827.

Castaldi, Paolo	Univ. Di Bologna
Mimmo, Nicola	Univ. of Bologna
Naldi, Roberto	Univ. Di Bologna
Marconi, Lorenzo	Univ. Di Bologna

17:40-18:00 WeC16.6

Distributed Fault Detection in Sensor Networks Via Clustering and Consensus, pp. 3828-3833.

Bianchin, Gianluca	Univ. of California, Riverside
Cenedese, Angelo	Univ. of Padova
Luvisotto, Michele	Department of Information Engineering, Univ. of Padova
Michieletto, Giulia	Univ. of Padova

WeC17 Conference Hall

Biological and Biomedical Systems II (Regular Session)

Chair: Franco, Elisa	Univ. of California at Riverside
Co-Chair: Tafreshi, Reza	TAMU Qatar

16:00-16:20 WeC17.1

Empirical Dynamic Model Identification for Blood-Glucose Dynamics in Response to Physical Activity, pp. 3834-3839.

Dasanayake, Isuru Sammana	Univ. of California Santa Barbara
Seborg, Dale E.	Univ. of California
Pinsker, Jordan E	William Sansum Diabetes Center
Doyle III, Francis J.	Univ. of California at Santa Barbara
Dassau, Eyal	Univ. of California at Santa Barbara

16:20-16:40 WeC17.2

Random Time Delays in Evolutionary Game Dynamics, pp.

3840-3845.

Ben Khalifa, Nesrine	Univ. of Avignon
El-Azouzi, Rachid	Univ. D'avignon
Hayel, Yezekael	Univ. of Avignon

16:40-17:00 WeC17.3

Electric Field Modeling and Spatial Control in Deep Brain Stimulation, pp. 3846-3851.

Cubo, Ruben	Uppsala Univ
Åström, Mattias	Linköping Univ
Medvedev, Alexander V.	Uppsala Univ

17:00-17:20 WeC17.4

Integrated Analysis of Multiple High-Dimensional Data Sets by Joint Rank-1 Matrix Approximations, pp. 3852-3857.

Zeinalzadeh, Ashkan	Univ. of Hawaii at Manoa
Tom, Wenska	Univ. of Hawaii at Manoa Cancer Center
Okimoto, Gordon	Univ. of Hawaii Cancer Center

17:20-17:40 WeC17.5

A Bistable Biomolecular Network Based on Monomeric Inhibition Reactions (I), pp. 3858-3863.

Mardanlou, Vahid	Univ. of California Riverside
Cuba Samaniego, Christian	Univ. of California at Riverside
Franco, Elisa	Univ. of California at Riverside

17:40-18:00 WeC17.6

Theoretical Predictions on the First-Passage Time for a Gene Expression Model, pp. 3864-3869.

Ghusinga, Khem Raj	Univ. of Delaware
Singh, Abhyudai	Univ. of Delaware

WeC18 1202

Optimal Control VI (Regular Session)

Chair: Hara, Naoyuki	Osaka Prefecture Univ
Co-Chair: Dower, Peter M.	The Univ. of Melbourne

16:00-16:20 WeC18.1

Stabilizing Uncertain Nonlinear Systems Via the Constrained Discrete-Time State-Dependent Riccati Equation Controller, pp. 3870-3875.

Chang, Insu	Univ. of Illinois at Urbana-Champaign
Bentsman, Joseph	Univ. of Illinois at Urbana-Champaign

16:20-16:40 WeC18.2

Singular Arcs in Optimal Control of Bimodal Switched Linear Systems and Approximate Switching Signals, pp. 3876-3881.

Hara, Naoyuki	Osaka Prefecture Univ
Konishi, Keiji	Osaka Prefecture Univ

16:40-17:00 WeC18.3

An Optimal Control Approach to the Approximation of Fundamental Solution Groups for Lossless Wave Equations, pp. 3882-3887.

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

17:00-17:20 WeC18.4

Time-Optimal Synthesis for Three Relevant Problems: The Brockett Integrator, the Grushin Plane and the Martinet Distribution, pp. 3888-3893.

Barilari, Davide	Univ. Paris Diderot
Boscain, Ugo V.	CNRS
Le Donne, Enrico	Univ. of Jyväskylä
Sigalotti, Mario	INRIA Saclay

17:20-17:40 WeC18.5

Double Generating Function Approach to Discrete-Time Nonlinear Optimal Control Problems, pp. 3894-3899.

Chen, Dijian	Nagoya Univ
Fujimoto, Kenji	Kyoto Univ
Suzuki, Tatsuya	Nagoya Univ

17:40-18:00 WeC18.6

Bounding the Greedy Strategy in Finite-Horizon String Optimization, pp. 3900-3905.

Liu, Yajing	Colorado State Univ
Chong, Edwin K. P.	Colorado State Univ
Pezeshki, Ali	Colorado State Univ

Technical Program for Thursday December 17, 2015

ThPL	Large Hall
Distributed Energy Management Systems Toward Smart Cities: International Research Collaboration (Plenary Session)	
Chair: Ohta, Yoshito	Kyoto Univ
Co-Chair: Sampei, Mitsuji	Tokyo Inst. of Tech
08:30-09:30	ThPL.1
*Distributed Energy Management Systems Toward Smart Cities: International Research Collaboration**.	
Fujita, Masayuki	Tokyo Inst. of Tech.

ThA01	Large Hall
Battery Modelling for Control and Estimation Problems (Tutorial Session)	
Chair: Moura, Scott	Univ. of California, Berkeley
Co-Chair: Canova, Marcello	The Ohio State Univ
Organizer: Moura, Scott	Univ. of California, Berkeley
Organizer: Canova, Marcello	The Ohio State Univ
Organizer: Klein, Reinhardt	Robert Bosch LLC
Organizer: Manzie, Chris	The Univ. of Melbourne
10:00-10:40	ThA01.1
Estimation and Control of Battery Electrochemistry Models: A Tutorial (I), pp. 3906-3912.	
Moura, Scott	Univ. of California, Berkeley
10:40-11:20	ThA01.2
Simplification Techniques for PDE-Based Li-Ion Battery Models (I), pp. 3913-3921.	
Manzie, Chris	The Univ. of Melbourne
Zou, Changfu	Univ. of Melbourne
Nesic, Dragan	Univ. of Melbourne
11:20-12:00	ThA01.3
A Comparison of Model Order Reduction Techniques for Electrochemical Characterization of Lithium-Ion Batteries (I), pp. 3922-3931.	
Canova, Marcello	The Ohio State Univ
Pan, Ke	Center for Automotive Res
Fan, Guodong	Center for Automotive Res

ThA02	Small Hall
Optimization Algorithms IV (Regular Session)	
Chair: Axehill, Daniel	Linköping Univ
Co-Chair: Carè, Algo	Univ. of Melbourne
10:00-10:20	ThA02.1
A Parallel Structure Exploiting Factorization Algorithm with Applications to Model Predictive Control, pp. 3932-3938.	
Nielsen, Isak	Linköping Univ
Axehill, Daniel	Linköping Univ
10:20-10:40	ThA02.2
A Randomised Approach to Flood Control Using Value-At-Risk, pp. 3939-3944.	
Nasir, Hasan	The Univ. of Melbourne
Carè, Algo	Univ. of Melbourne
Weyer, Erik	Univ. of Melbourne
10:40-11:00	ThA02.3
Algorithms for Placement and Sizing of Energy Storage Systems in Low Voltage Networks, pp. 3945-3950.	
Giannitrapani, Antonio	Univ. Di Siena
Paoletti, Simone	Univ. Di Siena
Vicino, Antonio	Univ. Di Siena
Zarrilli, Donato	Univ. Di Siena
11:00-11:20	ThA02.4
Online Learning of Optimal Strategies in Unknown Environments, pp. 3951-3958.	
Paternain, Santiago	Univ. of Pennsylvania
Ribeiro, Alejandro	Univ. of Pennsylvania
11:20-11:40	ThA02.5
A Regret-Based Approach to Non-Stationary Discrete Stochastic Optimization, pp. 3959-3964.	
Namvar Gharehshiran, Omid	Univ. of British Columbia
Krishnamurthy, Vikram	Univ. of British Columbia
Yin, George	Wayne State Univ
11:40-12:00	ThA02.6
Sparse Plus Low-Rank Autoregressive Identification in Neuroimaging Time Series, pp. 3965-3970.	
Liégeois, Raphaël	Univ. of Liège
Mishra, Bamdev	Univ. of Liège
Zorzi, Mattia	Univ. Degli Studi Di Padova
Sepulchre, Rodolphe	Univ. of Cambridge

ThA03	801
Stability of Linear Systems I (Regular Session)	
Chair: Pequito, Sergio	Univ. of Pennsylvania
Co-Chair: Pillai, Harish K.	Indian Inst. of Tech. Bombay
10:00-10:20	ThA03.1
Analysis of Control Systems on Symmetric Cones, pp. 3971-3976.	
Papusha, Ivan	California Inst. of Tech
Murray, Richard M.	California Inst. of Tech
10:20-10:40	ThA03.2
Stability Analysis of Discrete 2-D Autonomous Systems, pp. 3977-3982.	
Athalye, Chirayu D.	Indian Inst. of Tech. Bombay
Pal, Debasattam	Indian Inst. of Tech. Bombay
Pillai, Harish K.	Indian Inst. of Tech. Bombay
10:40-11:00	ThA03.3
Global Stabilization of Multiple Integrators by a Bounded Feedback with Constraints on Its Successive Derivatives, pp. 3983-3988.	
Laporte, Jonathan	L2S - Univ. Paris Sud 11 - CentraleSupélec
Chaillet, Antoine	Univ. Paris Sud 11
Chitour, Yacine	Univ. Paris-Sud, CNRS, Supelec
11:00-11:20	ThA03.4
Static Output Feedback: On Essential Feasible Information Patterns, pp. 3989-3994.	
Carvalho, Joao	Computer Science and Communication School, Royal Tech. Inst
Pequito, Sergio	Univ. of Pennsylvania
Aguiar, A. Pedro	Faculty of Engineering, Univ. of Porto
Kar, Soummya	Carnegie Mellon Univ
Pappas, George J.	Univ. of Pennsylvania

11:20-11:40 ThA03.5

Analysis on Stability for Linear Systems with Two Additive Time-Varying Delays, pp. 3995-3998.

Lee, Won Il — POSTECH
Park, PooGyeon — Pohang Univ. of Sci. & Tech

11:40-12:00 ThA03.6

A Convexity Embedded Necessary and Sufficient Condition for the Hurwitz Stability of a Real Matrix Using Its Elemental Sign Structure and Qualitative Determinant Concept, pp. 3999-4004.

Yedavalli, Rama K. — Ohio State Univ

ThA04 — 802

Developments in Systems Identification, Estimation, and Their Applications (Invited Session)

Chair: Bazanella, Alexandre S. — Univ. Federal Do Rio Grande Do Sul
Co-Chair: Ljung, Lennart — Linkoping Univ
Organizer: Pasik-Duncan, Bozenna — Univ. of Kansas
Organizer: Ljung, Lennart — Linkoping Univ

10:00-10:20 ThA04.1

Identification in Dynamic Networks: Identifiability and Experiment Design Issues (I), pp. 4005-4010.

Gevers, Michel — Univ. Catholique De Louvain, and Vrije Univ. Brussel
Bazanella, Alexandre S. — Univ. Federal Do Rio Grande Do Sul

10:20-10:40 ThA04.2

Recursive Identification of Chain Dynamics in Hidden Markov Models Using Non-Negative Matrix Factorization (I), pp. 4011-4016.

Mattila, Robert — KTH Royal Inst. of Tech
Krishnamurthy, Vikram — Univ. of British Columbia
Wahlberg, Bo — KTH Royal Inst. of Tech

10:40-11:00 ThA04.3

Spectral Analysis of the DC Kernel for Regularized System Identification (I), pp. 4017-4022.

Chen, Tianshi — Linköping Univ. Sweden
Pillonetto, Gianluigi — Univ. of Padova
Chiuso, Alessandro — Univ. Di Padova
Ljung, Lennart — Linkoping Univ

11:00-11:20 ThA04.4

Non-Convex Scenario Optimization with Application to System Identification (I), pp. 4023-4028.

Campi, M. C. — Univ. Di Brescia
Garatti, Simone — Pol. Di Milano
Ramponi, Federico Alessandro — Univ. of Brescia

11:20-11:40 ThA04.5

Low-Order Model Identification of MIMO Systems from Noisy and Incomplete Data, pp. 4029-4034.

Bekiroglu, Korkut — Pennsylvania State Univ
Lagoa, Constantino M. — Pennsylvania State Univ
Sznaier, Mario — Northeastern Univ

11:40-12:00 ThA04.6

Accuracy Improvement in Least-Squares Estimation with Harmonic Regressor: New Preconditioning and Correction Methods, pp. 4035-4040.

Stotsky, Alexander A. — Chalmers Univ. of Tech

ThA05 — 804

Nonholonomic Systems (Regular Session)

Chair: Van De Wouw, Nathan — Eindhoven Univ. of Tech
Co-Chair: Colombo, Leonardo Jesus — Univ. of Michigan

10:00-10:20 ThA05.1

Motion Analysis and Feedforward Control of a Tale-Slide Vehicle, pp. 4041-4046.

Morinaga, Akihiro — Kyushu Univ
Svinin, Mikhail — Kyushu Univ
Yamamoto, Motoji — Kyushu Univ

10:20-10:40 ThA05.2

Variational Discretization for Optimal Control Problems of Nonholonomic Mechanical Systems, pp. 4047-4052.

Colombo, Leonardo Jesus — Univ. of Michigan
Gupta, Rohit — Univ. of Michigan
Bloch, Anthony M. — Univ. of Michigan
Martin de Diego, David — High Council for Scientific Res

10:40-11:00 ThA05.3

Nonholonomic Virtual Constraints for Dynamic Walking, pp. 4053-4060.

Griffin, Brent — Univ. of Michigan
Grizzle, Jessy W. — Univ. of Michigan

11:00-11:20 ThA05.4

Configuration Tracking for Mechanical Systems by Kinematic Reduction and Fast Oscillating Controls, pp. 4061-4066.

Barbero-Linan, Maria — Icmat (csic-Uam-Uc3m-Ucm)
Sigalotti, Mario — INRIA Saclay

11:20-11:40 ThA05.5

Time Minimum Synthesis for a Kinematic Drone Model, pp. 4067-4072.

Lagache, Marc-Aurèle — Univ. De Toulon
Serres, Ulysse — Univ. Claude Bernard Lyon 1 - CNRS
Andrieu, Vincent — Univ. De Lyon

11:40-12:00 ThA05.6

Active Trailer Steering for Robotic Tractor-Trailer Combinations, pp. 4073-4079.

Van De Wouw, Nathan — Eindhoven Univ. of Tech
Ritzen, Paul — Eindhoven Univ. of Tech
Roebroek, Erik — Eindhoven Univ. of Tech
Jiang, Zhongping — New York Univ
Nijmeijer, Hendrik — Eindhoven Univ. of Tech

ThA06 — 805

Variable-Structure and Sliding-Mode Control I (Regular Session)

Chair: Edwards, Christopher — Univ. of Exeter
Co-Chair: Moreno, Jaime A. — Univ. Nacional Autonoma De Mexico-UNAM

10:00-10:20 ThA06.1

LPV Sliding Mode Observers for Sensor Fault Reconstruction with Erroneous Scheduling Parameter Measurements, pp. 4080-4085.

Chen, Lejun — Univ. of Exeter
Alwi, Halim — Univ. of Exeter
Edwards, Christopher — Univ. of Exeter

10:20-10:40 ThA06.2

Non-Linear Gradient Algorithm for Parameter Estimation, pp. 4086-4091.

Rueda-Escobedo, Juan G.	Univ. Nacional Autónoma De México
Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

10:40-11:00 ThA06.3

Generalized Order Integral Sliding Mode Control for Non-Differentiable Disturbance Rejection: A Comparative Study, pp. 4092-4097.

Muñoz Vázquez, Aldo Jonathan	CINVESTAV
Parra-Vega, Vicente	CINVESTAV
Sanchez-Orta, Anand	CINVESTAV
Castillo, Pedro	Univ. De Tech. De Compiegne
Lozano, Rogelio	Univ. De Tech

11:00-11:20 ThA06.4

On Finite-Time Stabilization Via Relay Feedback Control, pp. 4098-4102.

Polyakov, Andrey	Inria Lille Nord-Europe
Hetel, Laurentiu	CNRS

11:20-11:40 ThA06.5

Second Order Sliding Mode Control Using Nonlinear Dynamic Sliding Manifold: Lyapunov Approach, pp. 4103-4108.

Shtessel, Yuri B.	Univ. of Alabama at Huntsville
Chava, Bhargav	Univ. of Alabama in Huntsville
Edwards, Christopher	Univ. of Exeter

11:40-12:00 ThA06.6

Global Exact Differentiator Based on Higher-Order Sliding Modes and Dynamic Gains for Globally Stable Output-Feedback Control, pp. 4109-4114.

Oliveira, Tiago Roux	State Univ. of Rio De Janeiro
Estrada, Antonio	Dept. of Mech. & Aerosp. Eng., Univ. of California at San Diego,
Fridman, Leonid M.	National Autonomous Univ. of Mexico

ThA07 1001

Agents-Based Systems IV (Regular Session)

Chair: Werner, Herbert	Hamburg Univ. of Tech
Co-Chair: Kim, Hongkeun	Univ. of Groningen

10:00-10:20 ThA07.1

Formation Control with Triangulated Laman Graphs, pp. 4115-4120.

Chen, Xudong	Univ. of Illinois at Urbana-Champaign
Belabbas, Mohamed Ali	Univ. of Illinois at Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

10:20-10:40 ThA07.2

Decentralized State Estimation for Heterogeneous Multi-Agent Systems, pp. 4121-4126.

Boem, Francesca	Imperial Coll. London
Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia

10:40-11:00 ThA07.3

Leader-Follower Output Consensus of Linear Heterogeneous Multi Agent Systems Via Output Feedback, pp. 4127-4132.

Adib Yaghmaie, Farnaz	Nanyang Tech. Univ
Lewis, Frank L.	Univ. of Texas at Arlington
Su, Rong	Nanyang Tech. Univ

11:00-11:20 ThA07.4

Asymptotic Consensus without Self-Confidence, pp. 4133-4138.

Nowak, Thomas	Univ. Paris Sud

11:20-11:40 ThA07.5

Reachability of Consensus and Synchronizing Automata, pp. 4139-4144.

Chevalier, Pierre-Yves	Univ. of Louvain
Hendrickx, Julien M.	Univ. Catholique De Louvain
Jungers, Raphaël M.	Univ. of Louvain

11:40-12:00 ThA07.6

Output Synchronization of Lur'e-Type Nonlinear Systems in the Presence of Input Disturbances, pp. 4145-4150.

Kim, Hongkeun	Korea Univ. of Tech. and Education
De Persis, Claudio	Univ. of Groningen

ThA08 1002

Event-Triggered Control of Networked Systems (Invited Session)

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

10:00-10:20 ThA08.1

Periodic Event-Triggered Average Consensus Over Directed Graphs (I), pp. 4151-4156.

Meng, Xiangyu	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ
Soh, Yeng Chai	Nanyang Tech. Univ
Nowzari, Cameron	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

10:20-10:40 ThA08.2

Event-Triggered Anytime Control with Two Controllers (I), pp. 4157-4162.

Huang, Kuangqi	Nanyang Tech. Univ
Dang, Thuy V.	Nanyang Tech. Univ
Ling, Keck-Voon	Nanyang Tech. Univ
Quevedo, Daniel E.	The Univ. of Paderborn

10:40-11:00 ThA08.3

Innovations-Based Priority Assignment for Control Over CAN-Like Networks (I), pp. 4163-4169.

Molin, Adam	Royal Inst. of Tech
Ramesh, Chithrupa	KTH Royal Inst. of Tech
Esen, Hasan	DENSO Automotive Deutschland GmbH
Johansson, Karl H.	Royal Inst. of Tech

11:00-11:20 ThA08.4

The Stability of Try-Once-Discard for Stochastic Communication Channels: Theory and Validation (I), pp. 4170-4175.

Luu, Hoang Duc	Max Planck Inst. for Mathematics in the Sciences

Christmann, Dennis	Univ. of Kaiserslautern
Gotzhein, Reinhard	Univ. of Kaiserslautern
Siegmund, Stefan	TU Dresden
Wirth, Fabian R.	Univ. of Passau

11:20-11:40 ThA08.5

A Lifting Approach to L2-Gain Analysis of Periodic Event-Triggered and Switching Sampled-Data Control Systems (I), pp. 4176-4182.

Heemels, W.P.M.H.	Eindhoven Univ. of Tech
Dullerud, Geir E.	Univ. of Illinois, Urbana-Champaign
Teel, Andrew R.	Univ. of California at Santa Barbara

11:40-12:00 ThA08.6

Event-Based Data Scheduling for a Class of Interconnected Networked Control Systems (I), pp. 4183-4189.

Mamduhi, Mohammad Hossein	Tech. Univ. München
Deroo, Frederik	Tech. Univ. Muenchen
Hirche, Sandra	Tech. Univ. München

ThA09 — 1003

Control of Networks (Regular Session)

Chair: Roy, Sandip	Washington State Univ
Co-Chair: Kochenderfer, Mykel	Stanford Univ

10:00-10:20 ThA09.1

Diffusion Control in Multi-Agent Networks, pp. 4190-4195.

Chan, Wai Hong Ronald	Stanford Univ
Wildemeersch, Matthias	International Inst. for Applied Systems Analysis
Quek, Tony Q. S.	Singapore Univ. of Tech. and Design

10:20-10:40 ThA09.2

Output Agreement in Networks with Unmatched Disturbances and Algebraic Constraints, pp. 4196-4201.

Monshizadeh, Nima	Univ. of Groningen
De Persis, Claudio	Univ. of Groningen

10:40-11:00 ThA09.3

Control of Epidemics on Graphs, pp. 4202-4207.

Ho, Christopher	Stanford Univ
Kochenderfer, Mykel	Stanford Univ
Mehta, Vineet	MIT Lincoln Lab
Caceres, Rajmonda	MIT Lincoln Lab

11:00-11:20 ThA09.4

Dominant Eigenvalue Minimization with Trace Preserving Diagonal Perturbation: Subset Design Problem, pp. 4208-4213.

Abad Torres, Jackeline	Escuela Pol. Nacional
Roy, Sandip	Washington State Univ

11:20-11:40 ThA09.5

Using the Theories of Finite Automata and Formal Languages to Determine Observability of Switched Boolean Control Networks, pp. 4214-4219.

Zhang, Kuize	Harbin Engineering Univ
Zhang, Lijun	Tsinghua Univ
Xie, Lihua	Nanyang Tech. Univ
Jiang, Zhe	Shenyang Inst. of Automaiton

11:40-12:00 ThA09.6

Minimal Reachability Problems, pp. 4220-4225.

Tzoumas, Vasileios	Univ. of Pennsylvania
Jadbabaie, Ali	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

ThA10 — 1004

Switched Systems IV (Regular Session)

Chair: Dullerud, Geir E.	Univ. of Illinois, Urbana-Champaign
Co-Chair: Jungers, Raphaël M.	Univ. of Louvain

10:00-10:20 ThA10.1

A Bounded Real Lemma for Continuous-Time Linear Systems with Partial Information on the Markovian Jumping Parameters, pp. 4226-4231.

Graciani Rodrigues, Caio César	National Lab. for Scientific Computing - LNCC
Todorov, Marcos	LNCC
Fragoso, Marcelo	Lncc / Mct

10:20-10:40 ThA10.2

Counter-Example Guided Synthesis of Control Lyapunov Functions for Switched Systems, pp. 4232-4239.

Ravanbakhsh, Hadi	Univ. of Colorado - Boulder
Sankaranarayanan, Sriram	Univ. of Colorado, Boulder

10:40-11:00 ThA10.3

The Minimum Achievable Stability Radius of Switched Linear Systems with Feedback, pp. 4240-4245.

Essick, Ray	Univ. of Illinois, Urbana-Champaign
Philippe, Matthew	Univ. Catholique De Louvain
Dullerud, Geir E.	Univ. of Illinois, Urbana-Champaign
Jungers, Raphaël M.	Univ. of Louvain

11:00-11:20 ThA10.4

On the Stabilizability of Continuous-Time Compartmental Switched Systems, pp. 4246-4251.

Valcher, Maria Elena	Univ. Di Padova
Zorzan, Irene	Univ. of Padova

11:20-11:40 ThA10.5

Discovering Multiple Lyapunov Functions for Switched Hybrid Systems with Global Exponential Stability (I), pp. 4252-4259.

Lu, Junjie	Beihang Univ
She, Zhikun	Beihang Univ
Xue, Bai	Nanyang Tech. Univ

11:40-12:00 ThA10.6

Periodic Stabilization of Discrete-Time Switched Linear Systems, pp. 4260-4265.

Lee, Dong-Hwan	Purdue Univ
Hu, Jianghai	Purdue Univ

ThA11 — 1005

Distributed Control I (Regular Session)

Chair: Mei, Jie	Harbin Inst. of Tech. Shenzhen Graduate School
Co-Chair: Hu, Guoqiang	Nanyang Tech. Univ

10:00-10:20 ThA11.1

Robust Connectivity Preserving Rendezvous of Multi-Robot Systems under Unknown Dynamics and Disturbances, pp. 4266-4271.

Feng, Zhi	Nanyang Tech. Univ
Sun, Chao	NTU
Hu, Guoqiang	Nanyang Tech. Univ

10:20-10:40 ThA11.2

Integration of Resource Allocation Coordination and Branch-And-Bound, pp. 4272-4277.

Luo, Renshi	Delft Univ. of Tech
Bourdais, Romain	SUPELEC
van den Boom, Ton J. J.	Delft Univ. of Tech
De Schutter, Bart	Delft Univ. of Tech

10:40-11:00 ThA11.3

Formation Control on Lines, Circles and Ellipses: Genericity Results and Morse Theoretic Ideas (I), pp. 4278-4283.

Lageman, Christian	Univ. of Wuerzburg
Helmke, Uwe R.	Univ. of Wuerzburg
Anderson, Brian D.O.	Australian National Univ

11:00-11:20 ThA11.4

Distributed Parameter Estimation under Unreliable Directed Networks, pp. 4284-4289.

Mei, Jie	Harbin Inst. of Tech. Shenzhen Graduate School
Ren, Wei	Univ. of California, Riverside

11:20-11:40 ThA11.5

Resilient Consensus of Double-Integrator Multi-Agent Networks with Communication Delays, pp. 4290-4295.

Dibaji, Seyed Mehran	Tokyo Inst. of Tech
Ishii, Hideaki	Tokyo Inst. of Tech

11:40-12:00 ThA11.6

Controllability Is Not Sufficient for Pole Placement in Patterned Systems, pp. 4296-4301.

Sniderman, Adam C.	Univ. of Toronto
Broucke, Mireille E.	Univ. of Toronto
D'Eleuterio, Gabriele M. T.	Univ. of Toronto

ThA12 1006

Predictive Control for Nonlinear Systems (Regular Session)

Chair: Laila, Dina Shona	The Univ. of Southampton
Co-Chair: Longo, Stefano	Cranfield Univ

10:00-10:20 ThA12.1

Predictive Rear Wheel Torque Vectoring Control with Terminal Understeer Mitigation Using Nonlinear Estimation, pp. 4302-4307.

Siampis, Efstathios	Cranfield Univ
Velenis, Efstathios	Cranfield Univ
Longo, Stefano	Cranfield Univ

10:20-10:40 ThA12.2

Real-Time Approximate Explicit Nonlinear Model Predictive Control for the Swing-Up of a Reaction Wheel Pendulum, pp. 4308-4313.

Sowman, Jonathan	Univ. of Southampton
Laila, Dina Shona	The Univ. of Southampton
Longo, Stefano	Cranfield Univ

10:40-11:00 ThA12.3

Economic Model Predictive Control with Parameter-Varying Cost and Guaranteed Average Performance, pp. 4314-4319.

Angeli, David	Imperial Coll
Casavola, Alessandro	Univ. Della Calabria
Tedesco, Francesco	Univ. Della Calabria

11:00-11:20 ThA12.4

Model Predictive Control Approaches for Centrifugal Compression Systems, pp. 4320-4325.

Torrisi, Giampaolo	ETH Zurich
Grammatico, Sergio	ETH Zurich
Morari, Manfred	ETH Zurich
Smith, Roy S.	ETH Zurich

11:20-11:40 ThA12.5

Time-Constrained Event-Triggered Model Predictive Control for Nonlinear Continuous-Time Systems, pp. 4326-4331.

Hashimoto, Kazumune	Keio Univ
Adachi, Shuichi	Keio Univ
Dimarogonas, Dimos V.	Royal Inst. of Tech

11:40-12:00 ThA12.6

On Non-Averaged Performance of Economic MPC with Terminal Conditions, pp. 4332-4337.

Gruene, Lars	Univ. of Bayreuth
Panin, Anastasia	C/o Mathematical Inst. Univ. of Bayreuth

ThA13 1007

Filtering (Regular Session)

Chair: Monteriù, Andrea	Univ. Pol. Delle Marche
Co-Chair: Ohki, Kentaro	Kyoto Univ

10:00-10:20 ThA13.1

Gaussian Sum Resampling Filter, pp. 4338-4343.

Murata, Masaya	NTT Communication Science Lab. NTT Corp
Nagano, Hidehisa	NTT Communication Science Lab. NTT Corp
Kashino, Kunio	NTT Communication Science Lab. NTT Corp

10:20-10:40 ThA13.2

Gaussian Approximate Filter with Progressive Measurement Update, pp. 4344-4349.

Huang, Yulong	Harbin Engineering Univ
Zhang, Yonggang	Harbin Engineering Univ
Li, Ning	Harbin Engineering Univ
Zhao, Lin	Harbin Engineering Univ

10:40-11:00 ThA13.3

A Smoothing Theory for Open Quantum Systems: The Least Mean Square Approach, pp. 4350-4355.

Ohki, Kentaro	Kyoto Univ

11:00-11:20 ThA13.4

A Detection-Estimation Approach to Filtering with Intermittent Observations with Generally Correlated Packet Dropouts, pp. 4356-4361.

Fasano, Antonio	Univ. Campus Bio-Medico Di Roma
Monteriù, Andrea	Univ. Pol. Delle Marche
Villani, Valeria	Univ. Degli Studi Di Modena E Reggio Emilia

11:20-11:40 ThA13.5

Robust Dissipative Filtering for Discrete-Time Markov Jump Lur'e Systems with Uncertain Transition Probability Matrix, pp. 4362-4367.

Zhang, Yujie	Shenzhen Inst. of Advanced Tech. Chinese Acad. of S
Ou, Yongsheng	Shenzhen Inst. of Advanced Tech. Chinese Acad. of S
Wu, Xinyu	Shenzhen Inst. of Advanced Tech. Chinese Acad. of S
Feng, Wei	Shenzhen Inst. of Advanced Tech. Chinese Acad. of S

11:40-12:00 ThA13.6

Controllers As Filters: Noise-Driven Swing-Up Control Based on Maxwell's Demon, pp. 4368-4374.

Tzorakoleftherakis, Emmanouil	Northwestern Univ
Murphey, Todd D.	Northwestern Univ

ThA14 1008

Stability of Nonlinear Systems III (Regular Session)

Chair: Shiriaev, Anton	NTNU/Umea Univ
Co-Chair: Pakshin, Pavel	Nizhny Novgorod State Tech. Univ

10:00-10:20 ThA14.1

Exponential Stability and Stabilization of Nd Systems, pp. 4375-4380.

Pakshin, Pavel	Nizhny Novgorod State Tech. Univ
Emelianova, Julia	Arzamas Pol. Inst. of R.E. Alekseev NizhnyNovgorod St
Galkowski, Krzysztof	Univ. of Zielona Gora
Rogers, Eric	Univ. of Southampton

10:20-10:40 ThA14.2

Stabilizing Submanifolds with Passive Input-Output Relations, pp. 4381-4387.

Montenbruck, Jan Maximilian	Univ. of Stuttgart
Arcak, Murat	Univ. of California, Berkeley
Allgöwer, Frank	Univ. of Stuttgart

10:40-11:00 ThA14.3

Discrete IDA-PBC Control Law for Newtonian Mechanical Port-Hamiltonian Systems, pp. 4388-4393.

Aoues, Saïd	Univ. of Toulouse, ISAE
Eberard, Damien	Univ. LYON, INSA
Marquis-Favre, Wilfrid	Ampère Lab. - INSA of Lyon - Univ. De Lyon

11:00-11:20 ThA14.4

Sufficient Conditions for Dynamic Stabilization of 3-State Moore-Greitzer Compressor Model, pp. 4394-4399.

Shiriaev, Anton	NTNU/Umea Univ
Freidovich, Leonid B.	Umeå Univ
Robertsson, Anders	LTH, Lund Univ
Andersson, Alina	Lund Univ. LTH
Johansson, Rolf	Lund Univ

11:20-11:40 ThA14.5

Underwater Vehicle Depth and Attitude Regulation in Plane Progressive Waves, pp. 4400-4405.

Battista, Thomas	Virginia Tech
Woolsey, Craig	Virginia Tech
McCue-Weil, Leigh	Virginia Tech
Paterson, Eric	Virginia Pol. Inst. and State Univ
Valentinis, Francis	Defence Science and Tech. Group

11:40-12:00 ThA14.6

Existence, Uniqueness and Stability Properties of Positive Equilibria for a Class of Nonlinear Cooperative Systems, pp. 4406-4411.

Ugo Abara, Precious	Univ. of Padova
Ticozzi, Francesco	Univ. Di Padova
Altafini, Claudio	Linkoping Univ

ThA15 1009

Mean Field Games (Regular Session)

Chair: Huang, Minyi	Carleton Univ
Co-Chair: Tembine, Hamidou	NYU

10:00-10:20 ThA15.1

Constrained Linear Quadratic Deterministic Mean Field Control: Decentralized Convergence to Nash Equilibria in Large Populations of Heterogeneous Agents, pp. 4412-4417.

Grammatico, Sergio	Eindhoven Univ. of Tech
Parise, Francesca	ETH Zurich
Lygeros, John	ETH Zurich

10:20-10:40 ThA15.2

Uncertainty Quantification in Mean-Field-Type Teams and Games, pp. 4418-4423.

Tembine, Hamidou	NYU

10:40-11:00 ThA15.3

A Mean Field LQG Game with Soft-Constrained Disturbance As an Adversarial Player, pp. 4424-4429.

Huang, Jianhui	The Hong Kong Pol. Univ
Huang, Minyi	Carleton Univ

11:00-11:20 ThA15.4

Epsilon-Nash Equilibria for Partially Observed LQG Mean Field Games with Major Agent: Partial Observations by All Agents, pp. 4430-4437.

Firoozi, Dena	McGill Univ
Caines, Peter E.	McGill Univ

11:20-11:40 ThA15.5

Dynamic Production Output Adjustment with Sticky Prices: A Mean Field Game Approach, pp. 4438-4443.

Wang, Bing-Chang	Shandong Univ
Huang, Minyi	Carleton Univ

11:40-12:00 ThA15.6

A Dynamic Game Model of Collective Choice in Multi-Agent Systems, pp. 4444-4449.

Salhab, Rabih	Ec. Pol. De Montreal
Malhame, Roland P.	Ec. Pol. De Montreal
Le Ny, Jerome	Pol. Montreal

ThA16 1010

Fault Diagnosis (Regular Session)

Chair: Parisini, Thomas	Imperial Coll. & Univ. of Trieste
Co-Chair: Grastien, Alban	NICTA, Canberra, Australia

10:00-10:20 ThA16.1

Online Fault Diagnosis of Modular Discrete-Event Systems, pp. 4450-4455.

Cabral, Felipe Gomes de Oliveira	Federal Univ. of Rio De Janeiro
Moreira, Marcos Vicente	Univ. Federal Do Rio De Janeiro
Diene, Oumar	Federal Univ. of Rio De Janeiro

10:20-10:40 ThA16.2

Infinite Time Horizon Active Fault Diagnosis Based on Approximate Dynamic Programming, pp. 4456-4461.

Puncochar, Ivo	Univ. of West Bohemia
Skach, Jan	Univ. of West Bohemia
Simandl, Miroslav	Univ. of West Bohemia in Pilsen

10:40-11:00 ThA16.3

Formulating Event-Based Critical Observations in Diagnostic Problems, pp. 4462-4467.

Christopher, Cody James	NICTA; the Australian National Univ
Grastien, Alban	NICTA, Canberra, Australia

11:00-11:20 ThA16.4

A Bayesian Approach to Hybrid Fault Detection and Isolation, pp. 4468-4473.

Zhang, Shuo	United Tech. Res. Center
Baric, Miroslav	United Tech. Res. Center

11:20-11:40 ThA16.5

Distributed Model-Based Fault Diagnosis with Stochastic Uncertainties, pp. 4474-4479.

Boem, Francesca	Imperial Coll. London
Parisini, Thomas	Imperial Coll. & Univ. of Trieste

11:40-12:00 ThA16.6

Distributed Adaptive Fault-Tolerant Control of Nonlinear Uncertain Second-Order Multi-Agent Systems, pp. 4480-4485.

Khalili, Mohsen	Wright State Univ
Zhang, Xiaodong	Wright State Univ
Cao, Yongcan	Univ. of Texas, San Antonio
Polycarpou, Marios M.	Univ. of Cyprus
Parisini, Thomas	Imperial Coll. & Univ. of Trieste

ThA17 Conference Hall

Privacy in Complex Systems (Invited Session)

Chair: Farokhi, Farhad	The Univ. of Melbourne
Co-Chair: Shames, Iman	The Univ. of Melbroune
Organizer: Farokhi, Farhad	The Univ. of Melbourne
Organizer: Shames, Iman	The Univ. of Melbroune

10:00-10:20 ThA17.1

SDP-Based Joint Sensor and Controller Design for Information-Regularized Optimal LQG Control (I), pp. 4486-4491.

Tanaka, Takashi	Massachusetts Inst. of Tech
Sandberg, Henrik	KTH Royal Inst. of Tech

10:20-10:40 ThA17.2

Differentially Private State Estimation in Distribution Networks with Smart Meters (I), pp. 4492-4498.

Sandberg, Henrik	KTH Royal Inst. of Tech
Dán, György	KTH - Royal Inst. of Tech
Thobaben, Ragnar	KTH Royal Inst. of Tech

10:40-11:00 ThA17.3

Privacy-Preserving Nonlinear Observer Design Using Contraction Analysis (I), pp. 4499-4504.

Le Ny, Jerome	Pol. Montreal

11:00-11:20 ThA17.4

Quadratic Gaussian Privacy Games (I), pp. 4505-4510.

Farokhi, Farhad	The Univ. of Melbourne
Sandberg, Henrik	KTH Royal Inst. of Tech
Shames, Iman	The Univ. of Melbroune
Cantoni, Michael	Univ. of Melbourne

11:20-11:40 ThA17.5

Privacy Constrained Information Processing (I), pp. 4511-4516.

Akyol, Emrah	Univ. of Illinois at Urbana-Champaign
Langbort, Cedric	Univ. of Illinois, Urbana-Champaign
Basar, Tamer	Univ. of Illinois, Urbana-Champaign

11:40-12:00 ThA17.6

Privacy Preserving Maximum Consensus, pp. 4517-4522.

Duan, Xiaoming	Zhejiang Univ
He, Jianping	Univ. of Victoria
Cheng, Peng	Zhengjiang Univ
Mo, Yilin	Nanyang Tech. Univ
Chen, Jiming	Zhejiang Univ

ThA18 1202

Game Theory I (Regular Session)

Chair: Cao, Ming	Univ. of Groningen
Co-Chair: Summers, Tyler	ETH Zurich

10:00-10:20 ThA18.1

A Host Takeover Game Model for Competing Malware, pp. 4523-4530.

Lee, Phillip	Univ. of Washington
Clark, Andrew	Worcester Pol. Inst
Alomair, Basel	King Abdulaziz City for Science and Tech
Bushnell, Linda	Univ. of Washington
Poovendran, Radha	Univ. of Washington, Seattle

10:20-10:40 ThA18.2

Efficient Computation of Discounted Asymmetric Information Zero-Sum Stochastic Games, pp. 4531-4536.

Li, Lichun	Georgia Inst. of Tech
Shamma, Jeff S.	KAUST

10:40-11:00 ThA18.3

Analysis and Control of Strategic Interactions in Finite Heterogeneous Populations under Best-Response Update Rule, pp. 4537-4542.

Ramazi, Pouria	Univ. of Groningen
Cao, Ming	Univ. of Groningen

11:00-11:20 ThA18.4

Impact of Information in a Simple Multiagent Collaborative Task, pp. 4543-4548.

Marden, Jason R.	Univ. of Colorado at Boulder
Touri, Behrouz	Univ. of Colorado Boulder
Gopalakrishnan, Ragavendran	Xerox Res. Centre India (XRCI)
O'Brien, James Patrick	Univ. of Colorado

11:20-11:40 ThA18.5

The Pursuit-Evasion-Defense Differential Game in Dynamic Constrained Environments, pp. 4549-4556.

Fisac, Jaime F.	Univ. of California at Berkeley
Sastry, S. Shankar	Univ. of California at Berkeley

11:40-12:00 ThA18.6

Quadratic Two-Team Games, pp. 4557-4562.

Colombino, Marcello	ETH Zurich
Summers, Tyler	ETH Zurich
Smith, Roy S.	ETH Zurich

ThB01 Large Hall

Modeling, Control, and Optimization of Natural Gas Pipeline Networks (Invited Session)

Chair: Chertkov, Michael	Los Alamos National Lab
Co-Chair: Zlotnik, Anatoly	Los Alamos National Lab
Organizer: Chertkov, Michael	Los Alamos National Lab
Organizer: Misra, Sidhant	MIT
Organizer: Prieur, Christophe	CNRS
Organizer: Grundel, Sara	Max Planck Inst. for Dynamics of Complex Tech. Systems
Organizer: Herty, Michael	RWTH Aachen Univ
Organizer: Zlotnik, Anatoly	Los Alamos National Lab

13:30-13:50 ThB01.1

Optimal Control of Transient Flow in Natural Gas Networks (I), pp. 4563-4570.

Zlotnik, Anatoly	Los Alamos National Lab
Chertkov, Michael	Los Alamos National Lab
Backhaus, Scott	Los Alamos National Lab

13:50-14:10 ThB01.2

Monotonicity of Dissipative Flow Networks Renders Robust Maximum Profit Problem Tractable: General Analysis and Application to Natural Gas Flows (I), pp. 4571-4578.

Vuffray, Marc	Los Alamos National Lab
Misra, Sidhant	MIT
Chertkov, Michael	Los Alamos National Lab

14:10-14:30 ThB01.3

Efficient Simulation of Transient Gas Networks Using IMEX Integration Schemes and MOR Methods (I), pp. 4579-4584.

Grundel, Sara	Max Planck Inst. for Dynamics of Complex Tech. Systems
Jansen, Lennart	Heinrich-Heine-Univ. Düsseldorf

14:30-14:50 ThB01.4

Multi--Scale Modeling and Nodal Control for Gas Transportation Networks (I), pp. 4585-4590.

Herty, Michael	RWTH Aachen Univ

14:50-15:10 ThB01.5

Stability Analysis of a Singularly Perturbed Coupled ODE-PDE System (I), pp. 4591-4596.

Tang, Ying	Grenoble Univ
Prieur, Christophe	CNRS
Girard, Antoine	Univ. Joseph Fourier

ThB02 Small Hall

Real-Time Optimization with Current and Future Computer Architectures (Tutorial Session)

Chair: Kerrigan, Eric C.	Imperial Coll. London
Co-Chair: Zavala, Victor	Argonne National Lab
Organizer: Kerrigan, Eric C.	Imperial Coll. London

13:30-13:35 ThB02.1

Computer Architectures to Close the Loop in Real-Time Optimization (I), pp. 4597-4611.

Kerrigan, Eric C.	Imperial Coll. London
Constantinides, George A.	Imperial Coll. London
Suardi, Andrea	Imperial Coll. London
Picciau, Andrea	Imperial Coll. London
Khusainov, Bulat	Imperial Coll. London

13:35-13:50 ThB02.2

*Real-Time Optimization (I)**.

Kerrigan, Eric C.	Imperial Coll. London

13:50-14:10 ThB02.3

*Current Computer Architectures (I)**.

Suardi, Andrea	Imperial Coll. London

14:10-14:30 ThB02.4

*Co-Design of Algorithms and Hardware (I)**.

Khusainov, Bulat	Imperial Coll. London

14:30-15:10 ThB02.5

Nonlinear Programming Strategies on High-Performance Computers (I), pp. 4612-4620.

Kang, Jia	Texas A&M Univ
Chiang, Naiyuan	Argonne National Lab
Laird, Carl Damon	Purdue Univ
Zavala, Victor	Univ. of Wisconsin-Madison

15:10-15:30 ThB02.6

*Future Computer Architectures (I)**.

Kerrigan, Eric C.	Imperial Coll. London

ThB03 801

Stability of Linear Systems II (Regular Session)

Chair: Efimov, Denis	Inria - Lne
Co-Chair: Roos, Clément	ONERA

13:30-13:50 ThB03.1

Efficient Computation of the Multiplier Based μ Upper Bound on Large Frequency Intervals, pp. 4621-4626.

Lesprier, Jérémy	ONERA
Roos, Clément	ONERA
Biannic, Jean-Marc	ONERA

13:50-14:10 ThB03.2

On the Stability of Multivariable Feedback Systems, pp. 4627-4631.

Keel, L. H.	Tennessee State Univ
Bhattacharyya, Shankar P.	Texas a & M Univ

14:10-14:30 ThB03.3

Lyapunov Stability Bounds in the Controller Parameter Space, pp. 4632-4636.

Schroedel, Frank	RWTH Aachen
Almodaresi, Elham	Yazd Univ
Stump, Andreas	RWTH Aachen Univ
Bajcinca, Naim	Max-Planck Inst. for Dynamics of ComplexTechnicalSystems
Abel, Dirk	RWTH Aachen Univ

14:30-14:50 ThB03.4

Stabilization of Chain of Integrators with Arbitrary Order in Finite-Time, pp. 4637-4641.

Zimenko, Konstantin	ITMO Univ
Polyakov, Andrey	Inria Lille Nord-Europe
Efimov, Denis	Inria - Lne

14:50-15:10 ThB03.5

On the Delay Bounds of Linear Systems under Delay Independent Truncated Predictor Feedback, pp. 4642-4647.

Wei, Yusheng	Univ. of Virginia
Lin, Zongli	Univ. of Virginia

ThB04 802

Model and Controller Reduction I (Regular Session)

Chair: Kotsalis, Georgios	Georgia Tech
Co-Chair: Kawano, Yu	Kyoto Univ

13:30-13:50 ThB04.1

Riemannian Trust-Region Methods for H^2 Optimal Model Reduction, pp. 4648-4655.

Sato, Hiroyuki	Tokyo Univ. of Science
Sato, Kazuhiro	Kyoto Univ

13:50-14:10 ThB04.2

Sufficient Condition for Minimal Realization of Incrementally Stable Nonlinear Systems Based on Differential Energy Functions, pp. 4656-4661.

Kawano, Yu	Kyoto Univ
Scherpen, Jacquelien M.A.	Univ. of Groningen

14:10-14:30 ThB04.3

Realization Independent Single Time-Delay Dynamical Model Interpolation and $mathcal{H}_2$-Optimal Approximation, pp. 4662-4667.

Pontes Duff Pereira, Igor	ISAE/ONERA
Poussot-Vassal, Charles	ONERA
Seren, Cedric	ONERA the French Aerospace Lab

14:30-14:50 ThB04.4

Hankel Model Reduction for Descriptor Systems, pp. 4668-4673.

Cao, Xingang	Eindhoven Univ. of Tech
Saltik, Muhammed Bahadir	Eindhoven Univ. of Tech
Weiland, Siep	Eindhoven Univ. of Tech

14:50-15:10 ThB04.5

Limits of Performance for the Model Reduction Problem of Hidden Markov Models, pp. 4674-4679.

Kotsalis, Georgios	Georgia Tech
Shamma, Jeff S.	KAUST

15:10-15:30 ThB04.6

Feedback Control of Semi-Linear Distributed Parameter Systems Using Advanced POD Method (I), pp. 4680-4687.

Yang, Manda	Penn State
Armaou, Antonios	The Pennsylvania State Univ

ThB05 804

Multivehicle Systems (Regular Session)

Chair: Ono, Masahiro	Jet Propulsion Lab. California Inst. of Tech
Co-Chair: Zhang, Xiaojing	ETH Zurich

13:30-13:50 ThB05.1

Towards Provably Safe Mixed Transportation Systems with Human-Driven and Automated Vehicles, pp. 4688-4694.

Liu, Xi	Texas A&M Univ
Ma, Ke	Texas A&M Univ
Kumar, P. R.	Texas A&M Univ

13:50-14:10 ThB05.2

Safe Platooning of Unmanned Aerial Vehicles Via Reachability, pp. 4695-4701.

Chen, Mo	Univ. of California, Berkeley
Hu, Qie	Univ. of California Berkeley
Mackin, Casey	UC Berkeley
Fisac, Jaime F.	Univ. of California at Berkeley
Tomlin, Claire J.	UC Berkeley

14:10-14:30 ThB05.3

Distributed Localization of Heterogeneous Agents with Uncertain Relative Measurements and Communications, pp. 4702-4707.

Zamani, Mohammad	Univ. of Porto
Aguiar, A. Pedro	Faculty of Engineering, Univ. of Porto

14:30-14:50 ThB05.4

Convex Modeling of Conflict Resolution at Traffic Intersections, pp. 4708-4713.

Murgovski, Nikolce	Chalmers Univ. of Tech
Rodrigues De Campos, Gabriel	Pol. Di Milano
Sjoberg, Jonas E.	Chalmers Univ. of Tech

14:50-15:10 ThB05.5

Road-Following Formation Control of Autonomous Ground Vehicles, pp. 4714-4721.

Ono, Masahiro	Jet Propulsion Lab. California Inst. of Tech
Droge, Greg Nathanael	SPAWAR-PAC
Rahmani, Amir	Jet Propulsion Lab
Grip, Håvard Fjær	Norwegian Univ. of Science and Tech
Toupet, Olivier	Jet Propulsion Lab
Scrapper, Chris	SPAWAR System Center Pacific

15:10-15:30 ThB05.6

Balancing Bike Sharing Systems through Customer Cooperation – a Case Study on London's Barclays Cycle Hire, pp. 4722-4727.

Aeschbach, Philipp Reto	ETH Zürich
Zhang, Xiaojing	ETH Zurich
Georghiou, Angelos	ETH Zurich
Lygeros, John	ETH Zurich

ThB06 805

Variable-Structure and Sliding-Mode Control II (Regular Session)

Chair: Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM
Co-Chair: El Hajjaji, Ahmed	Univ. of Picardie-Jules Verne

13:30-13:50 ThB06.1

Dissipative Approach to Design Sliding-Mode Observers for Uncertain Unstable Mechanical Systems, pp. 4728-4733.

Apaza-Perez, W. Alejandro	National Autonomous Univ. of Mexico
Fridman, Leonid M.	National Autonomous Univ. of Mexico
Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

13:50-14:10 ThB06.2

Smart Buck-Boost Converter Unit Operations for Aeronautical Applications, pp. 4734-4739.

Cavallo, Alberto	Seconda Univ. Degli Studi Di Napoli
Guida, Beniamino	Seconda Univ. Degli Studi Di Napoli
Buonanno, Assunta	Seconda Univ. Di Napoli
Sparaco, Elena	Seconda Univ. Di Napoli

14:10-14:30 ThB06.3

Sliding Mode Control for Discrete-Time Uncertain Descriptor Systems with Time-Varying Delay, pp. 4740-4745.

Mourad, Kchaou — ENIS Sfax
El Hajjaji, Ahmed — Univ. of Picardie-Jules Verne

14:30-14:50 ThB06.4

Sliding Mode Control for a Class of Nonlinear Systems with Application to a Wheeled Mobile Robot, pp. 4746-4751.

Mu, Jianqiu — Univ. of Kent
Yan, Xing-Gang — Univ. of Kent
Jiang, Bin — Nanjing Univ. of Aeronautics & Astronautics
Spurgeon, Sarah K. — Univ. of Kent
Mao, Zehui — Nanjing Univ. of Aeronautics and Astronautics

14:50-15:10 ThB06.5

New Families of High-Order Sliding-Mode Controllers, pp. 4752-4757.

Ding, Shihong — Jiangsu Univ
Levant, Arie — Tel - Aviv Univ
Li, Shihua — Southeast Univ

15:10-15:30 ThB06.6

Frequency Domain Analysis of HOSM Systems, pp. 4758-4763.

Rosales Martínez, José Antonio — The Univ. of Alabama in Huntsville
Shtessel, Yuri B. — Univ. of Alabama at Huntsville
Fridman, Leonid M. — National Autonomous Univ. of Mexico
Panathula, Chandrasekhara Bharath — Univ. of Alabama in Huntsville

ThB07 — 1001

Controllability, Stabilizability, and Robustness in Networked Multi-Agent Control Systems (Invited Session)

Chair: Aguilar, Cesar O — California State Univ. Bakersfield
Co-Chair: Gharesifard, Bahman — Queens Univ. Canada
Organizer: Aguilar, Cesar O — California State Univ. Bakersfield
Organizer: Belabbas, Mohamed Ali — Univ. of Illinois at Urbana-Champaign
Organizer: Gharesifard, Bahman — Queens Univ. Canada

13:30-13:50 ThB07.1

Controllability of Formations Over Directed Graphs (I), pp. 4764-4769.

Chen, Xudong — Univ. of Illinois at Urbana-Champaign
Belabbas, Mohamed Ali — Univ. of Illinois at Urbana-Champaign
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

13:50-14:10 ThB07.2

Controllability of Prosumer-Based Networks in the Presence of Communication Failures (I), pp. 4770-4775.

Ramachandran, Thiagarajan — Georgia Inst. of Tech
Nazari, Masoud — Georgia Inst. of Tech
Egerstedt, Magnus — Georgia Inst. of Tech

14:10-14:30 ThB07.3

State Controllability, Output Controllability and Stabilizability of Networks: A Symmetry Perspective (I), pp. 4776-4781.

Chapman, Airlie — Univ. of Washington
Mesbahi, Mehran — Univ. of Washington

14:30-14:50 ThB07.4

Strong Targeted Controllability of Dynamical Networks (I), pp. 4782-4787.

Monshizadeh, Nima — Univ. of Groningen
Camlibel, M. Kanat — Univ. of Groningen
Trentelman, Harry L. — Univ. of Groningen

14:50-15:10 ThB07.5

Reachability Metrics for Bilinear Complex Networks (I), pp. 4788-4793.

Zhao, Yingbo — Univ. of California, San Diego
Cortes, Jorge — Univ. of California, San Diego

15:10-15:30 ThB07.6

Efficient Model Order Reduction for Multi-Agent Systems Using QR Decomposition-Based Clustering, pp. 4794-4799.

Mlinaric, Petar — Max Planck Inst. for Dynamics of Complex Tech. Systems
Grundel, Sara — Max Planck Inst. for Dynamics of Complex Tech. Systems
Benner, Peter — Max Planck Inst. for Dynamics of Complex Tech. Systems

ThB08 — 1002

Event-Triggered Control Based on Unreliable and Quantized Information (Invited Session)

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

13:30-13:50 ThB08.1

Quasi-Optimality of Event-Based Encoders (I), pp. 4800-4805.

Pearson, Justin — Univ. of California, Santa Barbara
Hespanha, Joao P. — Univ. of California, Santa Barbara
Liberzon, Daniel — Univ. of Illinois, Urbana-Champaign

13:50-14:10 ThB08.2

Quantized Event-Based Control of Nonlinear Systems (I), pp. 4806-4811.

Liu, Tengfei — Northeastern Univ
Jiang, Zhongping — New York Univ

14:10-14:30 ThB08.3

Triggering Mechanism Using Freely Selected Sensors for Linear Time-Invariant Systems (I), pp. 4812-4817.

Postoyan, Romain — CNRS-CRAN
Girard, Antoine — Univ. Joseph Fourier

14:30-14:50 ThB08.4

Event-Triggered Control Over Unreliable Networks Subject to Jamming Attacks (I), pp. 4818-4823.

Cetinkaya, Ahmet — Tokyo Inst. of Tech
Ishii, Hideaki — Tokyo Inst. of Tech
Hayakawa, Tomohisa — Tokyo Inst. of Tech

14:50-15:10 ThB08.5

Output-Based Event-Triggered Control Systems under Denial-Of-Service Attacks (I), pp. 4824-4829.

Dolk, Victor Sebastiaan	Eindhoven Univ. of Tech
Tesi, Pietro	Univ. of Groningen
De Persis, Claudio	Univ. of Groningen
Heemels, W.P.M.H.	Eindhoven Univ. of Tech

15:10-15:30 ThB08.6

An Event-Triggered Policy for Remote Sensing and Control with Performance Guarantees, pp. 4830-4835.

Asadi Khashooei, Behnam	Eindhoven Univ. of Tech
Antunes, Duarte	Eindhoven Univ. of Tech. the Netherlands
Heemels, W.P.M.H.	Eindhoven Univ. of Tech

ThB09 1003

Network Analysis and Control I (Regular Session)

Chair: Cenedese, Angelo	Univ. of Padova
Co-Chair: Ishizaki, Takayuki	Tokyo Inst. of Tech

13:30-13:50 ThB09.1

On the Synchronization of Spatially Coupled Oscillators, pp. 4836-4841.

Cenedese, Angelo	Univ. of Padova
Favaretto, Chiara	Department of Information Engineering, Univ. of Padova

13:50-14:10 ThB09.2

Utility-Optimal Dynamic Rate Allocation under Average End-To-End Delay Requirements, pp. 4842-4847.

Hajiesmaili, Mohammad Hassan	Inst. of Network Coding, the Chinese Univ. of Hong Kong
Talebi, Mohammad Sadegh	School of Electrical Engineering, the Royal Inst. of Tech
Khosnari, Ahmad	School of Electrical and Computer Engineering, Coll. of Engine

14:10-14:30 ThB09.3

Consensus of Time-Varying Nonlinear Non-Autonomous Networks with Application to Field Sampling by Mobile Robots, pp. 4848-4853.

Manfredi, Sabato	Univ. of Naples Federico II
Angeli, David	Imperial Coll

14:30-14:50 ThB09.4

Multilayer Proportional-Integral Consensus of Heterogeneous Multi-Agent Systems, pp. 4854-4859.

Burbano Lombana, Daniel Alberto	Univ. of Naples Federico II
di Bernardo, Mario	Univ. of Bristol

14:50-15:10 ThB09.5

Distributed Estimation of Closeness Centrality, pp. 4860-4865.

Wang, Wei	Univ. of Oklahoma
Tang, Choon Yik	Univ. of Oklahoma

15:10-15:30 ThB09.6

Multiresolved Control of Discrete-Time Linear Systems Based on Redundant Realization Via Wedderburn Rank Reduction, pp. 4866-4871.

Ishizaki, Takayuki	Tokyo Inst. of Tech
Koike, Masakazu	Tokyo Inst. of Tech
Kato, Takuro	Tokyo Inst. of Tech
Imura, Jun-ichi	Tokyo Inst. of Tech

ThB10 1004

Switched Systems V (Regular Session)

Chair: Trenn, Stephan	Univ. of Kaiserslautern
Co-Chair: Secchi, Cristian	Univ. of Modena & Reggio Emilia

13:30-13:50 ThB10.1

A Piecewise-Polynomial Approach to the Stability Analysis of Non-Linear Switching Controllers in Presence of Sliding Modes with Application to Pneumatic Systems, pp. 4872-4878.

Ameur, Omar	Ec. Centrale Lyon - Univ. De Lyon
Massioni, Paolo	INSA De Lyon
Scorletti, Gerard	Ec. Centrale De Lyon
Brun, Xavier	Insa De Lyon
Smaoui, Mohamed	INSA De Lyon

13:50-14:10 ThB10.2

Duality of Switched ODEs with Jumps, pp. 4879-4884.

Küsters, Ferdinand	Fraunhofer ITWM, Kaiserslautern
Trenn, Stephan	Univ. of Kaiserslautern

14:10-14:30 ThB10.3

Eigenvalue Placement for Asymptotic Stability in Piecewise Linear Switched Systems, pp. 4885-4890.

Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia
Fantuzzi, Cesare	Univ. of Modena and Reggio Emilia

14:30-14:50 ThB10.4

Output-Input Dependent Switching Function Design for Switched Affine Systems with Hoo Performance, pp. 4891-4896.

Deaecto, Grace S.	FEM/UNICAMP

14:50-15:10 ThB10.5

Stabilizing Discrete-Time Switched Systems with Inputs, pp. 4897-4902.

Kundu, Atreyee	TU Eindhoven
Mishra, Prabhat Kumar	India Inst. of Tech. Bombay
Chatterjee, Debasish	Indian Inst. of Tech. Bombay

15:10-15:30 ThB10.6

Quasi-Barabanov Semigroups and Finiteness of the L_2-Induced Gain for Switched Linear Control Systems: Case of Full-State Observation, pp. 4903-4908.

Chitour, Yacine	Univ. Paris-Sud, CNRS, Supelec
Mason, Paolo	CNRS, Lab. Des Signaux Et Systèmes, Supélec
Sigalotti, Mario	INRIA Saclay

ThB11 1005

Distributed Control II (Regular Session)

Chair: Takaba, Kiyotsugu	Ritsumeikan Univ
Co-Chair: Iannelli, Luigi	Univ. of Sannio in Benevento

13:30-13:50 ThB11.1

Observer-Based Bilinear Control of First-Order Hyperbolic PDEs: Application to the Solar Collector, pp. 4909-4914.

Mechhoud, Sarah	King Abdullah Univ. of Science and Tech
Laleg Kirati, Taous Meriem	King Abdullah Univ. of Science and Tech. (KAUST)

13:50-14:10 ThB11.2

Transformation of Optimal Centralized Controllers into Near-Global Static Distributed Controllers, pp. 4915-4922.

Fattahi, Salar — Univ. of California, Berkeley
Fazelnia, Ghazal — Columbia Univ
Lavaei, Javad — UC Berkeley

14:10-14:30 — ThB11.3

A Dynamic Protocol for Local Synchronization of Linear Multi-Agent Systems Subject to Input Saturation, pp. 4923-4927.

Takaba, Kiyotsugu — Ritsumeikan Univ

14:30-14:50 — ThB11.4

A Distributed Extremum Seeking Scheme for Networked Optimization, pp. 4928-4933.

Ye, Maojiao — Nanyang Tech. Univ. Singapore
Hu, Guoqiang — Nanyang Tech. Univ

14:50-15:10 — ThB11.5

A Colored Gauss-Seidel Approach for the Distributed Network Flow Problem, pp. 4934-4939.

Maffei, Alessio — Univ. of Sannio
Iannelli, Luigi — Univ. of Sannio in Benevento
Glielmo, Luigi — Univ. of Sannio

15:10-15:30 — ThB11.6

Target-Rate Driven Resource Sharing in Queueing Systems, pp. 4940-4945.

Zhou, Zhengyuan — Stanford Univ
Bambos, Nicholas — Stanford Univ

ThB12 — 1006

Advances in Model Predictive Control and Moving Horizon Estimation (Invited Session)

Chair: Mesbah, Ali — Univ. of California, Berkeley
Co-Chair: Findeisen, Rolf — OVG Univ. Magdeburg
Organizer: Mesbah, Ali — Univ. of California, Berkeley
Organizer: Findeisen, Rolf — OVG Univ. Magdeburg

13:30-13:50 — ThB12.1

Economic Model Predictive Control without Terminal Constraints: Optimal Periodic Operation (I), pp. 4946-4951.

Muller, Matthias A. — Univ. of Stuttgart
Gruene, Lars — Univ. of Bayreuth

13:50-14:10 — ThB12.2

Minimum Energy Estimation and Moving Horizon Estimation (I), pp. 4952-4957.

Krener, Arthur J — Naval Postgraduate School

14:10-14:30 — ThB12.3

Scenario-Based Stochastic MPC with Guaranteed Recursive Feasibility (I), pp. 4958-4963.

Lorenzen, Matthias — Univ. of Stuttgart
Allgöwer, Frank — Univ. of Stuttgart
Dabbene, Fabrizio — CNR-IEIIT
Tempo, Roberto — CNR-IEIIT, Pol. Di Torino

14:30-14:50 — ThB12.4

On the Design of Economic NMPC Based on Approximate Turnpike Properties (I), pp. 4964-4970.

Faulwasser, Timm — Ec. Pol. Fédérale De Lausanne
Bonvin, Dominique — EPFL

14:50-15:10 — ThB12.5

Unconstrained Nonlinear MPC: Performance Estimates for Sampled-Data Systems with Zero Order Hold (I), pp. 4971-4976.

Worthmann, Karl — Tech. Univ. Ilmenau
Reble, Marcus — Univ. of Stuttgart
Gruene, Lars — Univ. of Bayreuth
Allgöwer, Frank — Univ. of Stuttgart

15:10-15:30 — ThB12.6

A Missing Link between Nonlinear MPC Schemes with Guaranteed Stability, pp. 4977-4983.

Schulze Darup, Moritz — Univ. of Oxford
Cannon, Mark — Univ. of Oxford

ThB13 — 1007

Kalman Filtering (Regular Session)

Chair: Sanfelice, Ricardo G. — Univ. of California at Santa Cruz
Co-Chair: Paulen, Radoslav — Tech. Univ. Dortmund

13:30-13:50 — ThB13.1

Point Source Estimation Via Finite Element Multiple-Model Kalman Filtering, pp. 4984-4989.

Battistelli, Giorgio — Univ. of Florence
Chisci, Luigi — Univ. Di Firenze
Forti, Nicola — DINFO, Univ. Di Firenze
Pelosi, Giuseppe — DINFO, Univ. Di Firenze
Selleri, Stefano — DINFO, Univ. Di Firenze

13:50-14:10 — ThB13.2

On the Convergence of a Risk Sensitive Like Filter, pp. 4990-4995.

Zorzi, Mattia — Univ. Degli Studi Di Padova
Levy, Bernard C. — Univ. of California at Davis

14:10-14:30 — ThB13.3

Solution of a Riccati Equation for the Design of an Observer Contracting a Riemannian Distance, pp. 4996-5001.

Sanfelice, Ricardo G. — Univ. of California at Santa Cruz
Praly, Laurent — MINES ParisTech

14:30-14:50 — ThB13.4

Sensor Selection for Optimal Filtering of Linear Dynamical Systems: Complexity and Approximation, pp. 5002-5007.

Zhang, Haotian — Univ. of Waterloo
Ayoub, Raid — Strategic CAD Labs, Intel Corp
Sundaram, Shreyas — Purdue Univ

14:50-15:10 — ThB13.5

Comparison of Kalman Filters Formulated As the Statistics of the Normal-Inverse-Wishart Distribution, pp. 5008-5013.

Dokoupil, Jakub — CEIT, Brno Univ. of Tech
Papež, Milan — Brno Univ. of Tech. CEITEC
Vaclavek, Pavel — Brno Univ. of Tech

15:10-15:30 — ThB13.6

On the Design of a Guaranteed Extended Kalman Filter Using Set Inversion Techniques, pp. 5014-5019.

Paulen, Radoslav — Tech. Univ. Dortmund

ThB14 — 1008

Stability of Nonlinear Systems IV (Regular Session)

Chair: Quevedo, Daniel — The Univ. of Paderborn
Co-Chair: Valmórbida, Giórgio — Univ. of Oxford

13:30-13:50 — ThB14.1

Uniform Global Asymptotic Stability of Networked Control Systems Affected with Packet Dropouts and Scheduling Issues, pp. 5020-5025.

Ljesnjanin, Merid	The Univ. of Melbourne
Nesic, Dragan	Univ. of Melbourne
Quevedo, Daniel E.	The Univ. of Paderborn

13:50-14:10 ThB14.2

Linear Filter Design for Continuous-Time Polynomial Systems with L2-Gain Guaranteed Bound, pp. 5026-5030.

Lacerda, Marcio J.	Univ. of Campinas, Brazil
Valmórbida, Giórgio	Univ. of Oxford
Peres, Pedro L. D.	Univ. of Campinas

14:10-14:30 ThB14.3

Stability Analysis of the Discrete-Time Cubature Kalman Filter, pp. 5031-5036.

Wanasinghe Arachchige, Thumeera Ruwansiri	Memorial Univ. of Newfoundland
Mann, George K. I.	Memorial Univ. of Newfoundland
Gosine, Raymond G.	Memorial Univ. of Newfoundland

14:30-14:50 ThB14.4

Trajectory Tracking of a Class of Port Hamiltonian Systems Using Timed IDA-PBC Technique, pp. 5037-5042.

Yaghmaei, Abolfazl	Univ. of Tehran
Yazdanpanah, Mohammad Javad	Univ. of Tehran

14:50-15:10 ThB14.5

Nonlinear Design and Stability Analysis with Experimental Validation of Cascaded PI Controlled Dc/dc Boost Converters, pp. 5043-5048.

Krommydas, Konstantinos	Univ. of Patras
Alexandridis, Antonio	Univ. of Patras

15:10-15:30 ThB14.6

Immersion and Invariance Stabilization of Nonlinear Discrete-Time Dynamics with Delays, pp. 5049-5054.

Monaco, Salvatore	Univ. Di Roma
Normand-Cyrot, Dorothée	CNRS-Supélec

ThB15 1009

Markov Processes (Regular Session)

Chair: Terra, Marco Henrique	Univ. of São Paulo at São Carlos
Co-Chair: Ogura, Masaki	Univ. of Pennsylvania

13:30-13:50 ThB15.1

Regional Pole Placement of a Markovian Jump Model for Wind Turbine Generator System, pp. 5055-5060.

Lin, Zhongwei	North China Electric Power Univ
Liu, Jizhen	North China Electric Power Univ
Niu, Yuguang	North China Electric Power Univ

13:50-14:10 ThB15.2

Derivation of a Markovian Controller for an Exoskeleton by Overcome the Benchmarks of a Single and Double Inverted Pendulum, pp. 5061-5066.

Mitschka, Christoph, Michael	Univ. of São Paulo - USP
Terra, Marco Henrique	Univ. of São Paulo at São Carlos
Siqueira, Adriano A G	Univ. of Sao Paulo

14:10-14:30 ThB15.3

On the Solvability and Almost Sure Stability of Discrete-Time Markov Jump Linear Singular Systems, pp. 5067-5072.

Chávez Fuentes, Jorge R.	Pontificia Univ. Católica Del Perú
Mayta, Jorge	Pontifical Catholic Univ. of Peru
Costa, Eduardo F.	Univ. Sao Paulo, Inst. De Ciencias Matematicas E Decomputaçã
Terra, Marco Henrique	Univ. of São Paulo at São Carlos

14:30-14:50 ThB15.4

A General Class of Spreading Processes with Non-Markovian Dynamics, pp. 5073-5078.

Nowzari, Cameron	Univ. of Pennsylvania
Ogura, Masaki	Univ. of Pennsylvania
Preciado, Victor M.	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

14:50-15:10 ThB15.5

An Empirical Algorithm for Relative Value Iteration for Average-Cost MDPs, pp. 5079-5084.

Gupta, Abhishek	The Ohio State Univ
Jain, Rahul	Univ. of Southern California
Glynn, Peter	Stanford Univ

15:10-15:30 ThB15.6

Finite-State Approximation of Markov Decision Processes with Unbounded Costs and Borel Spaces, pp. 5085-5090.

Saldi, Naci	Queens U
Yuksel, Serdar	Queen's Univ
Linder, Tamas	Queen's Univ

ThB16 1010

Fault-Tolerant Systems (Regular Session)

Chair: Vey, Daniel	Ruhr Univ. Bochum
Co-Chair: Akar, Mehmet	Bogazici Univ

13:30-13:50 ThB16.1

Multiple Stuck Positions Actuator Faults: A Model Predictive Based Reconfigurable Control Scheme, pp. 5091-5096.

Famularo, Domenico	Univ. Degli Studi Della Calabria
Franze', Giuseppe	Univ. Della Calabria
Lucia, Walter	Univ. of Calabria (UNICAL)

13:50-14:10 ThB16.2

Structural Reconfigurability Analysis of Multirotor UAVs after Actuator Failures, pp. 5097-5104.

Vey, Daniel	Ruhr Univ. Bochum
Lunze, Jan	Ruhr-Univ. Bochum

14:10-14:30 ThB16.3

Integrated Design of Robust Fault Estimation and Fault-Tolerant Control for Linear Systems, pp. 5105-5110.

Lan, Jianglin	Univ. of Hull
Patton, Ron J.	Univ. of Hull

14:30-14:50 ThB16.4

Convergence Rate Analysis of a Fault-Tolerant Distributed Consensus Algorithm, pp. 5111-5116.

Haseltalab, Ali	Bogazici Univ
Akar, Mehmet	Bogazici Univ

14:50-15:10 ThB16.5

Fault Diagnosis and Fault-Tolerant Control Allocation for a Class of Nonlinear Systems with Redundant Inputs, pp. 5117-5123.

Cristofaro, Andrea	NTNU
Polycarpou, Marios M.	Univ. of Cyprus
Johansen, Tor Arne	Norweigian Univ. of Science & Tech

15:10-15:30 ThB16.6

Integrated LPV Controller/Estimator Scheme Using Sliding Modes,

pp. 5124-5129.

Chen, Lejun	Univ. of Exeter
Alwi, Halim	Univ. of Exeter
Edwards, Christopher	Univ. of Exeter

ThB17 Conference Hall

Systems and Control Methods for Smart Cities As Cyber-Physical Systems (Invited Session)

Chair: Cassandras, Christos G.	Boston Univ
Co-Chair: Paschalidis, Ioannis Ch.	Boston Univ
Organizer: Cassandras, Christos G.	Boston Univ
Organizer: Paschalidis, Ioannis Ch.	Boston Univ

13:30-13:50 ThB17.1

Quadrotor Deployment for Emergency Response in Smart Cities: A Robust MPC Approach (I), pp. 5130-5135.

Ataei, Armin	Boston Univ
Paschalidis, Ioannis Ch.	Boston Univ

13:50-14:10 ThB17.2

An Optimal Control Approach for the Data Harvesting Problem (I), pp. 5136-5141.

Khazaeni, Yasaman	Boston Univ
Cassandras, Christos G.	Boston Univ

14:10-14:30 ThB17.3

Arterial Bandwidth Maximization Via Signal Offsets and Variable Speed Limits Control (I), pp. 5142-5148.

De Nunzio, Giovanni	IFP Energies Nouvelles
Gomes, Gabriel	Assistant Res. Engineer
Canudas de Wit, Carlos	CNRS, GIPSA-Lab
Horowitz, Roberto	Univ. of California at Berkeley
Moulin, Philippe	IFP Energies Nouvelles

14:30-14:50 ThB17.4

An Efficiency Measure for Road Transportation Networks with Application to Two Case Studies (I), pp. 5149-5155.

Terelius, Håkan	Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech

14:50-15:10 ThB17.5

A Cyber-Physical Game Framework for Secure and Resilient Multi-Agent Autonomous Systems, pp. 5156-5161.

Xu, Zhiheng	New York Univ
Zhu, Quanyan	New York Univ

15:10-15:30 ThB17.6

Resilient State Estimation against Switching Attacks on Stochastic Cyber-Physical Systems, pp. 5162-5169.

Yong, Sze Zheng	Massachusetts Inst. of Tech
Zhu, Minghui	Pennsylvania State Univ
Frazzoli, Emilio	Massachusetts Inst. of Tech

ThB18 1202

Game Theory II (Regular Session)

Chair: Sassano, Mario	Univ. of Rome, Tor Vergata
Co-Chair: Shima, Tal	Tech. - Israel Inst. of Tech

13:30-13:50 ThB18.1

Max-Min Fairness of Generalized AGV Mechanisms (I), pp. 5170-5177.

Wang, Tao	Singapore Univ. of Tech. and Design
Xu, Yunjian	Singapore Univ. of Tech. and Design
Ahipasaoglu, Selin	Singapore Univ. of Tech. and Design
Courcoubetis, Costas	Singapore Univ. of Tech. and Design

13:50-14:10 ThB18.2

On Robust One-Leader Multi-Followers Linear Quadratic Dynamic Games, pp. 5178-5183.

Saffar, Mohsen	Univ. of Tehran
Kebriaei, Hamed	Univ. of Tehran
Iannelli, Luigi	Univ. of Sannio in Benevento

14:10-14:30 ThB18.3

Game Theoretic Modelling of the Integrated Production and Preventive Maintenance Scheduling Problem in Permutation Flowshops, pp. 5184-5189.

Benbouzid-Si Tayeb, Fatima	Ec. Nationale Supérieure D'informatique (ESI)
Messiaid, Abdessalam	Ec. Nationale Supérieure D'informatique (ESI)
Benatchba, Karima	Ec. Nationale Supérieure D'informatique (ESI)

14:30-14:50 ThB18.4

Distributed Fictitious Play in Potential Games of Incomplete Information, pp. 5190-5196.

Eksin, Ceyhun	Univ. of Pennsylvania
Ribeiro, Alejandro	Univ. of Pennsylvania

14:50-15:10 ThB18.5

An Algebraic Geometry Approach for the Computation of All Linear Feedback Nash Equilibria in LQ Differential Games, pp. 5197-5202.

Possieri, Corrado	Univ. Di Roma Tor Vergata
Sassano, Mario	Univ. of Rome, Tor Vergata

15:10-15:30 ThB18.6

A Mixed L2/L∞ Differential Game Approach to Pursuit-Evasion Guidance, pp. 5203-5208.

Hayoun, Shmuel Yonatan	Tech. - Israel Inst. of Tech
Weiss, Martin	Tech. Univ
Shima, Tal	Tech. - Israel Inst. of Tech

ThC01 Large Hall

Smart Grid I (Regular Session)

Chair: Neglia, Giovanni	INRIA Sophia Antipolis Méditerranée
Co-Chair: Cardenas, Alvaro	Univ. of Texas at Dallas

16:00-16:20 ThC01.1

Detecting Fraud in Demand Response Programs, pp. 5209-5214.

Barreto, Carlos	Univ. of Texas at Dallas
Cardenas, Alvaro	Univ. of Texas at Dallas

16:20-16:40 ThC01.2

A Synchronized Output Regulation Strategy for Seamless Transfer of Single-Phase Utility Interactive Inverters, pp. 5215-5220.

Xiang, Ji	Zhejiang Univ. Yuquan Campus
Ji, Feifan	ZheJiang Univ
Nian, Heng	Zhejiang Univ

Zhang, Junming	Zhejiang Univ

16:40-17:00 ThC01.3

Ultimate Bounds and Regions of Attraction for Two-Inverter Microgrids with Primary and Secondary Frequency Control Loops, pp. 5221-5226.

Heidari, Rahmat	The Univ. of Newcastle
Seron, Maria M.	The Univ. of Newcastle
Braslavsky, Julio H.	CSIRO

17:00-17:20 ThC01.4

An Iterative Scheme to Hierarchically Structured Optimal Energy Management of a Microgrid, pp. 5227-5232.

Ioli, Daniele	Pol. Di Milano
Falsone, Alessandro	Pol. Di Milano
Prandini, Maria	Pol. Di Milano

17:20-17:40 ThC01.5

Scalable and Privacy-Preserving Admission Control for Smart Grids, pp. 5233-5238.

Neglia, Giovanni	INRIA Sophia Antipolis Méditerranée
Di Bella, Giuseppe	Univ. Di Palermo
Giarré, Laura	Univ. Di Palermo
Tinnirello, Ilenia	Univ. Di Palermo

17:40-18:00 ThC01.6

Distributed Asynchronous Supply Coordination for Energy Producers Embedded in the Energy Grids, pp. 5239-5244.

Alkano, Desti	Univ. of Groningen
Scherpen, Jacquelien M.A.	Univ. of Groningen
Cao, Ming	Univ. of Groningen

ThC02 Small Hall

Optimization I (Regular Session)

Chair: Yin, Liping	Najing Univ. of Information Science & Tech
Co-Chair: Fooladivanda, Dariush	Univ. of Toronto

16:00-16:20 ThC02.1

A Virtual Target Approach for Trajectory Optimization of a General Class of Constrained Vehicles, pp. 5245-5250.

Rucco, Alessandro	Faculty of Engineering, Univ. of Porto (FEUP)
Aguiar, A. Pedro	Faculty of Engineering, Univ. of Porto
Hauser, John	Univ. of Colorado at Boulder

16:20-16:40 ThC02.2

Disturbance Observer Based Optimal Setting Control for Complex Industrial Processes, pp. 5251-5256.

Yin, Liping	Najing Univ. of Information Science & Tech
Zhang, Hongyan	Nanjing Univ. of Information Science & Tech
Wang, Aiping	Anhui Univ
Wang, Hong	The Univ. of Manchester

16:40-17:00 ThC02.3

Distributed Optimal Steady-State Control Using Reverse and Forward-Engineering, pp. 5257-5264.

Zhang, Xuan	Univ. of Oxford
Papachristodoulou, Antonis	Univ. of Oxford
Li, Na	Harvard Univ

17:00-17:20 ThC02.4

Optimal Pump Scheduling and Water Flow in Water Distribution Networks, pp. 5265-5271.

Fooladivanda, Dariush	Univ. of Toronto
Taylor, Joshua	Univ. of Toronto

17:20-17:40 ThC02.5

A Necessary Optimality Condition for Constrained Optimal Control of Hybrid Systems, pp. 5272-5277.

Hempel, Andreas Berndt	ETH Zurich
Goulart, Paul J.	Univ. of Oxford
Lygeros, John	ETH Zurich

17:40-18:00 ThC02.6

On Optimal Low-Rank Approximation of Non-Negative Matrices, pp. 5278-5283.

Grussler, Christian	Lund Univ
Rantzer, Anders	Lund Univ

ThC03 801

Decentralized Control (Regular Session)

Chair: Behera, Laxmidhar	Indian Inst. of Tech. Kanpur
Co-Chair: Maestre, J.M.	Univ. of Seville

16:00-16:20 ThC03.1

On Computing Optimal Thresholds in Decentralized Sequential Hypothesis Testing, pp. 5284-5289.

Cui, Can	McGill Univ
Mahajan, Aditya	McGill Univ

16:20-16:40 ThC03.2

Weak Sufficient Statistics for Team Decision Problems, pp. 5290-5295.

Lall, Sanjay	Stanford Univ
Lemon, Alex	Stanford Univ

16:40-17:00 ThC03.3

Multi-Objective Model-Free Control Based on Population Dynamics and Cooperative Games, pp. 5296-5301.

Barreiro-Gomez, Julian	Univ. De Los Andes - Univ. Pol. De Catalunya
Ocampo-Martinez, Carlos	Tech. Univ. of Catalonia (UPC)
Maestre, J.M.	Univ. of Seville
Quijano, Nicanor	Univ. De Los Andes

17:00-17:20 ThC03.4

Decentralized Control Problems with Substitutable Actions, pp. 5302-5307.

Asghari, Seyed Mohammad	Univ. of Southern California
Nayyar, Ashutosh	Univ. of Southern California

17:20-17:40 ThC03.5

Team-Optimal Solution of Finite Number of Mean-Field Coupled LQG Subsystems, pp. 5308-5313.

Arabneydi, Jalal	McGill Univ
Mahajan, Aditya	McGill Univ

17:40-18:00 ThC03.6

Robust Adaptive Gain Nonsingular Fast Terminal Sliding Mode Control for Spacecraft Formation Flying, pp. 5314-5319.

Ravindranathan Nair, Ranjith	Indian Inst. of Tech. Kanpur
Behera, Laxmidhar	Indian Inst. of Tech. Kanpur

ThC04 802

Model and Controller Reduction II (Regular Session)

Chair: Sawodny, Oliver	Univ. of Stuttgart
Co-Chair: Karlsson, Johan	KTH Royal Inst. of Tech

16:00-16:20 ThC04.1

The Multidimensional Circulant Rational Covariance Extension Problem: Solutions and Applications in Image Compression, pp. 5320-5327.

Ringh, Axel	KTH Royal Inst. of Tech
Karlsson, Johan	KTH Royal Inst. of Tech
Lindquist, Anders	Royal Inst. of Tech

16:20-16:40 ThC04.2

LFT-LPV Modeling and Control of a Control Moment Gyroscope, pp. 5328-5333.

Hoffmann, Christian	Univ. Zu Lübeck
Werner, Herbert	Hamburg Univ. of Tech

16:40-17:00 ThC04.3

Moment Matching Based Model Reduction for LPV State-Space Models, pp. 5334-5339.

Bastug, Mert	Aalborg Univ. Ec. Des Mines De Douai
Petreczky, Mihaly	Ec. Des Mines De Douai
Tóth, Roland	Eindhoven Univ. of Tech
Wisniewski, Rafal	Aalborg Univ
Leth, John	Aalborg Univ
Efimov, Denis	Inria - Lne

17:00-17:20 ThC04.4

Model Reduction of Consensus Networks by Graph Simplification, pp. 5340-5345.

Jongsma, Hidde-Jan	Univ. of Groningen
Trentelman, Harry L.	Univ. of Groningen
Camlibel, M. Kanat	Univ. of Groningen

17:20-17:40 ThC04.5

Balanced Truncation of Linear Systems Interconnected Over Arbitrary Graphs with Communication Latency, pp. 5346-5351.

Abou Jaoude, Dany	Virginia Tech
Farhood, Mazen	Virginia Tech

17:40-18:00 ThC04.6

Parametric Modal Analysis and Model Order Reduction of Systems with Second Order Structure and Non-Vanishing First Order Term, pp. 5352-5357.

Wittmuess, Philipp	Univ. of Stuttgart
Tarin, Cristina	Univ. of Stuttgart
Sawodny, Oliver	Univ. of Stuttgart

ThC05 804

Emerging Control Applications (Regular Session)

Chair: Zhang, Fumin	Georgia Inst. of Tech
Co-Chair: Kellett, Christopher M.	Univ. of Newcastle

16:00-16:20 ThC05.1

Scheduling Rigid Demands on Continuous-Time Linear Shift-Invariant Systems, pp. 5358-5363.

Farokhi, Farhad	The Univ. of Melbourne
Cantoni, Michael	Univ. of Melbourne
Shames, Iman	The Univ. of Melbroune

16:20-16:40 ThC05.2

Characteristics of Human Pointing Motions with Acceleration, pp. 5364-5369.

Varnell, Paul	Georgia Inst. of Tech
Zhang, Fumin	Georgia Inst. of Tech

16:40-17:00 ThC05.3

Enhancing Current Density Profile Control in Tokamak Experiments Using Iterative Learning Control (I), pp. 5370-5377.

Felici, Federico	Eindhoven Univ. of Tech
Oomen, Tom	Eindhoven Univ. of Tech

17:00-17:20 ThC05.4

Predicting and Controlling the Dynamics of Infectious Diseases, pp. 5378-5383.

Evans, Rob	Univ. of Melbourne
Mammadov, Musa	Federation Univ. Australia

17:20-17:40 ThC05.5

A Receding Horizon Control Approach to Estimating the Social Cost of Carbon in the Presence of Emissions and Temperature Uncertainty, pp. 5384-5390.

Weller, Steven R.	Univ. of Newcastle
Hafeez, Salman	Univ. of Newcastle
Kellett, Christopher M.	Univ. of Newcastle

17:40-18:00 ThC05.6

Optimal Control Strategies for Efficient Energy Harvesting from Ambient Vibration, pp. 5391-5396.

Haji Hosseinloo, Ashkan	Massachusetts Inst. of Tech
Vu, Thanh Long	Massachusetts Inst. of Tech
Turitsyn, Konstantin	Massachusetts Inst. of Tech

ThC06 805

Continuous Higher-Order Sliding Modes Controllers (Invited Session)

Chair: Fridman, Leonid M.	National Autonomous Univ. of Mexico
Co-Chair: Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM
Organizer: Fridman, Leonid M.	National Autonomous Univ. of Mexico
Organizer: Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

16:00-16:20 ThC06.1

Continuous Twisting Algorithm (I), pp. 5397-5401.

Torres-González, Víctor	Univ. Nacional Autónoma De México
Fridman, Leonid M.	National Autonomous Univ. of Mexico
Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

16:20-16:40 ThC06.2

Smooth Lyapunov Function and Gain Design for a Second Order Differentiator (I), pp. 5402-5407.

Ortiz-Ricardez, Fernando A.	Univ. Nacional Autonoma De Mexico-UNAM
Sanchez Ramirez, Tonametl	Univ. Nacional Autonoma De Mexico-UNAM
Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

16:40-17:00 ThC06.3

Continuous Second-Order Sliding Mode Control: Convergence Time Estimation (I), pp. 5408-5413.

Basin, Michael V.	Autonomous Univ. of Nuevo Leon
Panathula, Chandrasekhara Bharath	Univ. of Alabama in Huntsville
Shtessel, Yuri B.	Univ. of Alabama at Huntsville

17:00-17:20 ThC06.4

Qualitative Differences of Two Classes of Multivariable Super-Twisting Algorithms (I), pp. 5414-5419.

López-Caamal, Fernando	Univ. Nacional Autonoma De Mexico
Moreno, Jaime A.	Univ. Nacional Autonoma De Mexico-UNAM

17:20-17:40 ThC06.5

Continuous Higher Order Sliding Mode Control with Impulsive Action, pp. 5420-5425.

Aldukali, Fathi Muhammad	Univ. of Alabama in Huntsville
Shtessel, Yuri B.	Univ. of Alabama at Huntsville

17:40-18:00 ThC06.6

Globally Stable Implicit Euler Time-Discretization of a Nonlinear Single-Input Sliding-Mode Control System, pp. 5426-5431.

Brogliato, Bernard	INRIA
Polyakov, Andrey	Inria Lille Nord-Europe

ThC07 1001

Distributed Control of Complex Multi-Agent Systems (Invited Session)

Chair: Lin, Zongli	Univ. of Virginia
Co-Chair: Huang, Jie	The Chinese Univ. of Hong Kong
Organizer: Lin, Zongli	Univ. of Virginia
Organizer: Huang, Jie	The Chinese Univ. of Hong Kong

16:00-16:20 ThC07.1

Cooperative Output Regulation of Linear Multi-Agent Systems by the Adaptive Distributed Observer (I), pp. 5432-5437.

Cai, He	Nanyang Tech. Univ
Lewis, Frank L.	Univ. of Texas at Arlington
Hu, Guoqiang	Nanyang Tech. Univ
Huang, Jie	The Chinese Univ. of Hong Kong

16:20-16:40 ThC07.2

Global Output Feedback Control for Multiple Robotic Manipulators (I), pp. 5438-5443.

Yang, Qingkai	Beijing Inst. of Tech
Fang, Hao	Beijing Inst. of Tech
Chen, Jie	Beijing Inst. of Tech
Jiang, Zhong-Ping	New York Univ
Gu, Xiaodan	Beijing Inst. of Tech

16:40-17:00 ThC07.3

Distributed Synchronization Control of Multi-Agent Systems with Switching Directed Communication Topologies and Unknown Nonlinearities (I), pp. 5444-5449.

Su, Shize	Univ. of Virginia
Lin, Zongli	Univ. of Virginia

17:00-17:20 ThC07.4

Consensus Based Constrained Optimization for Multi-Agent Systems (I), pp. 5450-5455.

Liu, Shuai	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ
Liu, Cheng-Lin	Jiangnan Univ

17:20-17:40 ThC07.5

Strategy Synchronization of Multi-Player Systems (I), pp. 5456-5461.

Liu, Ting	Chinese Acad. of Sciences
Cheng, Daizhan	Chinese Acad. of Sciences

17:40-18:00 ThC07.6

Distributed Subgradient Methods for Saddle-Point Problems, pp. 5462-5467.

Mateos, David	UC San Diego
Cortes, Jorge	Univ. of California, San Diego

ThC08 1002

Event-Triggered and Self-Triggered Control and Estimation (Invited Session)

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

16:00-16:20 ThC08.1

A Switching Approach to Event-Triggered Control (I), pp. 5468-5473.

Selivanov, Anton	Tel Aviv Univ
Fridman, Emilia	Tel-Aviv Univ

16:20-16:40 ThC08.2

Event-Triggered Based On-Line Optimization for a Class of Nonlinear Systems (I), pp. 5474-5479.

Poveda, J. Iván	Univ. of California at Santa Barbara
Teel, Andrew R.	Univ. of California at Santa Barbara

16:40-17:00 ThC08.3

Resource-Aware Set-Valued Estimation for Discrete-Time Linear Systems (I), pp. 5480-5486.

Brunner, Florian David	Univ. of Stuttgart
Gommans, T.M.P.	Eindhoven Univ. of Tech
Heemels, W.P.M.H.	Eindhoven Univ. of Tech
Allgöwer, Frank	Univ. of Stuttgart

17:00-17:20 ThC08.4

Robust Output Feedback Predictive Control with Self-Triggered Measurements (I), pp. 5487-5493.

Koegel, Markus	OVG Univ. Magdeburg
Findeisen, Rolf	OVG Univ. Magdeburg

17:20-17:40 ThC08.5

Event-Triggered Dynamic Feedback Controllers for Nonlinear Systems with Asynchronous Transmissions (I), pp. 5494-5499.

Abdelrahim, Mahmoud	Univ. De Lorraine
Postoyan, Romain	CNRS-CRAN
Daafouz, Jamal	Univ. De Lorraine, CRAN, CNRS
Nesic, Dragan	Univ. of Melbourne

17:40-18:00 ThC08.6

On Using Norm Estimators for Event-Triggered Control with Dynamic Output Feedback (I), pp. 5500-5505.

Tanwani, Aneel	Univ. of Kaiserslautern
Teel, Andrew R.	Univ. of California at Santa Barbara

Prieur, Christophe — CNRS

ThC09 — 1003

Network Analysis and Control II (Regular Session)

Chair: Jovanovic, Mihailo — Univ. of Minnesota
Co-Chair: Huang, Longbo — Tsinghua Univ

16:00-16:20 — ThC09.1

On the Asymptotics of Degree Distributions, pp. 5506-5511.

Pal, Siddharth — Univ. of Maryland Coll. Park
Makowski, Armand M. — Univ. of Maryland

16:20-16:40 — ThC09.2

Network Entropy: A System-Theoretic Perspective, pp. 5512-5517.

Hudoba de Badyn, Mathias — Univ. of Washington
Chapman, Airlie — Univ. of Washington
Mesbahi, Mehran — Univ. of Washington

16:40-17:00 — ThC09.3

Fast-Convergent Learning-Aided Control in Energy Harvesting Networks, pp. 5518-5525.

Huang, Longbo — Tsinghua Univ

17:00-17:20 — ThC09.4

Conditions on Cycles for the Stability of Networks, pp. 5526-5531.

Ong, Wilson — Univ. of Cambridge
Vinnicombe, Glenn — Univ. of Cambridge

17:20-17:40 — ThC09.5

Decentralized Optimal Control of Inter-Area Oscillations in Bulk Power Systems, pp. 5532-5537.

Wu, Xiaofan — Univ. of Minnesota
Dörfler, Florian — Swiss Federal Inst. of Tech. (ETH) Zurich
Jovanovic, Mihailo — Univ. of Minnesota

17:40-18:00 — ThC09.6

Learning without Recall by Random Walks on Directed Graphs, pp. 5538-5543.

Rahimian, Mohammad Amin — Univ. of Pennsylvania
Shahrampour, Shahin — Univ. of Pennsylvania
Jadbabaie, Ali — Univ. of Pennsylvania

ThC10 — 1004

Incremental Stability, Contraction and Convergence of Hybrid and Switched Systems (Invited Session)

Chair: Lu, Wenlian — Fudan Univ
Co-Chair: di Bernardo, Mario — Univ. of Bristol
Organizer: Van De Wouw, Nathan — Eindhoven Univ. of Tech
Organizer: di Bernardo, Mario — Univ. of Bristol

16:00-16:20 — ThC10.1

Definitions of Incremental Stability for Hybrid Systems (I), pp. 5544-5549.

Postoyan, Romain — CNRS-CRAN
Biemond, J. J. Benjamin — KU Leuven
Heemels, W.P.M.H. — Eindhoven Univ. of Tech
Van De Wouw, Nathan — Eindhoven Univ. of Tech

16:20-16:40 — ThC10.2

Switched Adaptive Strategies for Contraction and Incremental Stability of Caratheodory Systems Using Multiple Norms (I), pp. 5550-5555.

Lu, Wenlian — Fudan Univ
di Bernardo, Mario — Univ. of Bristol

16:40-17:00 — ThC10.3

Synchronization-Based State Observer Including Position Jumps for Impacting Multibody Systems (I), pp. 5556-5562.

Baumann, Michael — ETH Zürich, Inst. of Mechanical Systems
Leine, Remco. I. — Univ. of Stuttgart

17:00-17:20 — ThC10.4

Input-Dependent Incremental Stability Criterion for Piece-Wise Linear Analogs of Van Der Pol Systems (I), pp. 5563-5568.

Pogromsky, A. Yu. — Eindhoven Univ. of Tech
Matveev, Alexey S. — St.Petersburg Univ

17:20-17:40 — ThC10.5

Robust Synchronization of Two Linear Systems Over Intermittent Communication Networks (I), pp. 5569-5574.

Phillips, Sean — Univ. of California, Santa Cruz
Sanfelice, Ricardo G. — Univ. of California at Santa Cruz

17:40-18:00 — ThC10.6

On Necessary and Sufficient Conditions for Incremental Stability of Hybrid Systems Using the Graphical Distance between Solutions (I), pp. 5575-5580.

Li, Yuchun — Univ. of California, Santa Cruz
Sanfelice, Ricardo G. — Univ. of California at Santa Cruz

ThC11 — 1005

Distributed Control III (Regular Session)

Chair: Sakurama, Kazunori — Tottori Univ
Co-Chair: Listmann, Kim Daniel — Abb Ag

16:00-16:20 — ThC11.1

Output Consensus Control for Multi-Agent Systems in the Presence of Gap Metric Uncertainties, pp. 5581-5586.

Alvergue, Luis — Louisiana State Univ
Gu, Guoxiang — Louisiana State Univ
Qiu, Li — Hong Kong Univ. of Sci. & Tech

16:20-16:40 — ThC11.2

Analysis of Nash Equilibria in Energy Markets with Large Populations of Price-Responsive Flexible Appliances, pp. 5587-5592.

De Paola, Antonio — Imperial Coll. London
Angeli, David — Imperial Coll
Strbac, Goran — Imperial Coll. London

16:40-17:00 — ThC11.3

Predictive Control of a Smart Grid: A Distributed Optimization Algorithm with Centralized Performance Properties, pp. 5593-5598.

Braun, Philipp — Univ. of Bayreuth
Gruene, Lars — Univ. of Bayreuth
Kellett, Christopher M. — Univ. of Newcastle
Weller, Steven R. — Univ. of Newcastle
Worthmann, Karl — Tech. Univ. Ilmenau

17:00-17:20 — ThC11.4

Distributed Control for Intrinsic Reduced Attitude Formation with Ring Inter-Agent Graph, pp. 5599-5604.

Song, Wenjun — Royal Inst. of Tech. (KTH)
Markdahl, Johan — KTH Royal Inst. of Tech

Hu, Xiaoming	Royal Inst. of Tech
Hong, Yiguang	Chinese Acad. of Sciences

17:20-17:40 ThC11.5

Novel Conditions for the Synchronization of Linear Systems, pp. 5605-5612.

Listmann, Kim Daniel	Abb Ag

17:40-18:00 ThC11.6

Distributed Control of Networked Multi-Agent Systems for High-Dimensional Coordination, pp. 5613-5616.

Sakurama, Kazunori	Tottori Univ
Azuma, Shun-ichi	Kyoto Univ
Sugie, Toshiharu	Kyoto Univ

ThC12 1006

Adaptive Control I (Regular Session)

Chair: Miyasato, Yoshihiko	Inst. of Statistical Mathematics
Co-Chair: Pomprapa, Anake	RWTH Aachen Univ

16:00-16:20 ThC12.1

Periodic Funnel-Based Control for Peak Inspiratory Pressure, pp. 5617-5622.

Pomprapa, Anake	RWTH Aachen Univ
Weyer, Sören	RWTH Aachen Univ
Leonhardt, Steffen	RWTH Aachen Univ
Walter, Marian	RWTH Aachen Univ
Misgeld, Berno Johannes Engelbert	MedIT, RWTH Aachen Univ

16:20-16:40 ThC12.2

Adaptive Control for Anesthesia Based on a Simple Fractional-Order Model, pp. 5623-5628.

Navarro Guerrero, Gerardo	UNAM
Tang, Yu	National Univ. of Mexico

16:40-17:00 ThC12.3

Extremum Seeking Control with Fractional-Order Switching Technique Design for Maximum Power Point Tracking in Photovoltaic Systems (I), pp. 5629-5634.

Yin, Chun	Univ. of California, Merced
Chen, YangQuan	Univ. of California, Merced
Stark, Brandon	Univ. of California, Merced
Zhong, Shou-ming	Univ. Ofelectronicscience and Tech. of China, Chengdu

17:00-17:20 ThC12.4

Extremum Seeking Subject to Multiple and Distinct Input Delays, pp. 5635-5641.

Oliveira, Tiago Roux	State Univ. of Rio De Janeiro
Krstic, Miroslav	Univ. of California, San Diego
Tsubakino, Daisuke	Hokkaido Univ

17:20-17:40 ThC12.5

Performance Guarantees and Performance Optimization of MRAC for Non-Minimum Phase Systems, pp. 5642-5647.

Allerhand, Liron I.	Stuttgart Univ
Schwarzmann, Dieter	Automotive Engineering IAV GmbH
Missler, Jonas	Univ. of Stuttgart

17:40-18:00 ThC12.6

Maximizing Higher Derivatives of Unknown Maps with Extremum Seeking, pp. 5648-5653.

Mills, Greg	Univ. of California, San Diego
Krstic, Miroslav	Univ. of California, San Diego

ThC13 1007

Observers for Linear Systems (Regular Session)

Chair: Cacace, Filippo	Univ. Campus Biomedico Di Roma
Co-Chair: Zeng, Shen	Univ. of Stuttgart

16:00-16:20 ThC13.1

A Hybrid Observer with a Continuous Intersample Injection in the Presence of Sporadic Measurements, pp. 5654-5659.

Ferrante, Francesco	LAAS-CNRS, Univ. De Toulouse
Gouaisbaut, Frederic	Univ. of Toulouse, LAAS CNRS
Sanfelice, Ricardo G.	Univ. of California at Santa Cruz
Tarbouriech, Sophie	LAAS-CNRS

16:20-16:40 ThC13.2

State Observation with Guaranteed Confidence Regions through Sign Perturbed Sums, pp. 5660-5665.

Polterauer, Philipp	Johannes Kepler Univ. Linz
Kirchsteiger, Harald	Johannes Kepler Univ. Linz
Del Re, Luigi	Johannes Kepler Univ. Linz

16:40-17:00 ThC13.3

A New Method for the Simultaneous Estimation of State and Delay in Time Delay Systems, pp. 5666-5670.

Cacace, Filippo	Univ. Campus Biomedico Di Roma
Conte, Francesco	Univ. of Genova
Germani, Alfredo	Univ. Dell'aquila
Palombo, Giovanni	Univ. Degli Studi Dell'aquila

17:00-17:20 ThC13.4

Robust Output-Feedback Discrete-Time Sliding Mode Control Utilizing Disturbance Observer, pp. 5671-5676.

Argha, Ahmadreza	Univ. of Tech. Sydney
Li, Li	Univ. of Tech. Sydney
Su, Steven W.	Univ. of Tech. Sydney
Nguyen, Hung	Univ. of Tech. Sydney

17:20-17:40 ThC13.5

Adaptive Identification of Continuous-Time MIMO State-Space Models, pp. 5677-5682.

Afri, Chouaib	Univ. Claude Bernard Lyon1
Bako, Laurent	Ec. Centrale De Lyon
Andrieu, Vincent	Univ. De Lyon
Dufour, Pascal	Univ. De Lyon, Univ. Claude Bernard Lyon 1, CNRS

17:40-18:00 ThC13.6

Sampled Observability of Discrete Heterogeneous Ensembles from Anonymized Output Measurements, pp. 5683-5688.

Zeng, Shen	Univ. of Stuttgart
Ishii, Hideaki	Tokyo Inst. of Tech
Allgöwer, Frank	Univ. of Stuttgart

ThC14 1008

Stability of Nonlinear Systems V (Regular Session)

Chair: Carrasco, Joaquin	Univ. of Manchester
Co-Chair: Normand-Cyrot, Dorothée	CNRS-Supélec

16:00-16:20 ThC14.1

Robust Finite-Time Stabilization and Observation of a Planar System Revisited, pp. 5689-5694.

Polyakov, Andrey	Inria Lille Nord-Europe
Orlov, Yury	CICESE
Oza, Harshal B.	Ahmedabad Univ
Spurgeon, Sarah K.	Univ. of Kent

16:20-16:40 ThC14.2

Sampled-Data Stabilisation of a Class of State-Delayed Nonlinear Dynamics, pp. 5695-5700.

Mattioni, Mattia	La Sapienza
Monaco, Salvatore	Univ. Di Roma
Normand-Cyrot, Dorothée	CNRS-Supélec

16:40-17:00 ThC14.3

Integral Quadratic Constraint Theorem: A Topological Separation Approach, pp. 5701-5706.

Carrasco, Joaquin	Univ. of Manchester
Seiler, Peter	Univ. of Minnesota

17:00-17:20 ThC14.4

Phase Limitations of Discrete-Time Zames-Falb Multipliers, pp. 5707-5712.

Wang, Shuai	Univ. of Manchester
Carrasco, Joaquin	Univ. of Manchester
Heath, William Paul	Univ. of Manchester

17:20-17:40 ThC14.5

Shaping the Energy of Port--Hamiltonian Systems without Solving PDE's, pp. 5713-5718.

Borja, Pablo	L2S CentraleSupélec
Cisneros, Rafael	L2S-Supelec
Ortega, Romeo	LSS-SUPELEC

17:40-18:00 ThC14.6

Robust Stability of Slowly Varying Nonlinear Systems Having a Continuum of Equilibria, pp. 5719-5724.

Lee, Seung-Ju	GIST
Ahn, Hyo-Sung	Gwangju Inst. of Science and Tech. (GIST)

ThC15 1009

Information Theory and Control (Regular Session)

Chair: Tanaka, Takashi	Massachusetts Inst. of Tech
Co-Chair: Kulkarni, Ankur A.	Indian Inst. of Tech. Bombay

16:00-16:20 ThC15.1

Zero-Delay Rate-Distortion Optimization for Partially Observable Gauss-Markov Processes, pp. 5725-5730.

Tanaka, Takashi	Massachusetts Inst. of Tech

16:20-16:40 ThC15.2

Formalism for Information Transfer in Dynamical Network, pp. 5731-5736.

Sinha, Subhrajit	Iowa State Univ
Vaidya, Umesh	Iowa State Univ

16:40-17:00 ThC15.3

Past-Future Information Bottleneck for Linear Feedback Systems, pp. 5737-5742.

Amir, Nadav	Hebrew Univ. of Jerusalem
Tiomkin, Stas	Hebrew Univ. of Jerusalem
Tishby, Naftali	Hebrew Uni

17:00-17:20 ThC15.4

A Linear Programming Relaxation for Stochastic Control Problems with Non-Classical Information Patterns, pp. 5743-5748.

Jose, Sharu Theresa	Indian Inst. of Tech. Bombay
Kulkarni, Ankur A.	Indian Inst. of Tech. Bombay

17:20-17:40 ThC15.5

Optimal Solutions for Classes of Adaptive Search Problems, pp. 5749-5754.

Castanon, David	Boston Univ
Ding, Huanyu	Boston Univ

17:40-18:00 ThC15.6

Exploitation by Informed Exploration between Isolated Operatives for Information-Theoretic Data Harvesting, pp. 5755-5760.

Axelrod, Allan	Oklahoma State Univ
Chowdhary, Girish	Oklahoma State Univ
Karaman, Sertac	Massachusetts Inst. of Tech

ThC16 1010

Developments in Quantum Control and Quantum Cybernetics (Invited Session)

Chair: Dong, Daoyi	Univ. of New South Wales
Co-Chair: Yamamoto, Naoki	Keio Univ
Organizer: Dong, Daoyi	Univ. of New South Wales
Organizer: Yamamoto, Naoki	Keio Univ
Organizer: Li, Jr-Shin	Washington Univ. in St. Louis
Organizer: James, Matthew R.	Australian National Univ

16:00-16:20 ThC16.1

Learning Control of Charge Transfer in Molecular Systems (I), pp. 5761-5765.

Zhang, Wei	Univ. of New South Wales
Dong, Daoyi	Univ. of New South Wales
Petersen, Ian R.	Univ. of New South Wales at the AustralianDefenceForceAcad

16:20-16:40 ThC16.2

Uniform and Selective Excitations of Spin Ensembles with RF Inhomogeneity (I), pp. 5766-5771.

Zhang, Wei	Washington Univ. in St. Louis
Li, Jr-Shin	Washington Univ. in St. Louis

16:40-17:00 ThC16.3

Error Bounds on Finite-Dimensional Approximations of Input-Output Open Quantum Systems (I), pp. 5772-5777.

Techakesari, Onvaree	UNSW Australia
Nurdin, Hendra I	UNSW Australia

17:00-17:20 ThC16.4

Quantum Linear Feedback Control with Entanglement Assistance (I), pp. 5778-5783.

Yamamoto, Naoki	Keio Univ
Mikami, Tomoaki	Keio Univ

17:20-17:40 ThC16.5

Pole Placement Design for Quantum Systems Via Coherent Observers (I), pp. 5784-5789.

Miao, Zibo	The Univ. of Melbourne
James, Matthew R.	Australian National Univ
Ugrinovskii, Valery	Univ. of New South Wales

17:40-18:00 ThC16.6

Coherent Robust H-Infinity Control of Uncertain Linear Quantum Stochastic Systems (I), pp. 5790-5794.

Xiang, Chengdi	Univ. of New South Wales
Petersen, Ian R.	Univ. of New South Wales at the AustralianDefenceForceAcad
Dong, Daoyi	Univ. of New South Wales

ThC17 Conference Hall

Security in Cyber-Physical Systems (Invited Session)

Chair: Mo, Yilin	Nanyang Tech. Univ
Co-Chair: Sinopoli, Bruno	Carnegie Mellon Univ
Organizer: Mo, Yilin	Nanyang Tech. Univ
Organizer: Sinopoli, Bruno	Carnegie Mellon Univ

16:00-16:20 ThC17.1

Fake-Acknowledgment Attack on ACK-Based Sensor Power Schedule for Remote State Estimation (I), pp. 5795-5800.

Li, Yuzhe	Hong Kong Univ. of Science and Tech
Quevedo, Daniel E.	The Univ. of Paderborn
Dey, Subhrakanti	Uppsala Univ
Shi, Ling	Hong Kong Univ. of Science and Tech

16:20-16:40 ThC17.2

A Divide-And-Conquer Approach to Distributed Attack Identification (I), pp. 5801-5807.

Pasqualetti, Fabio	Univ. of California, Riverside
Dörfler, Florian	Swiss Federal Inst. of Tech. (ETH) Zurich
Bullo, Francesco	Univ. California at Santa Barbara

16:40-17:00 ThC17.3

Dynamic State Estimation in the Presence of Compromised Sensory Data (I), pp. 5808-5813.

Nakahira, Yorie	California Inst. of Tech
Mo, Yilin	Nanyang Tech. Univ

17:00-17:20 ThC17.4

Security in Cyber-Physical Systems: Controller Design against Known-Plaintext Attack (I), pp. 5814-5819.

Yuan, Ye	UC Berkeley
Mo, Yilin	Nanyang Tech. Univ

17:20-17:40 ThC17.5

Detecting Integrity Attacks on Control Systems Using a Moving Target Approach (I), pp. 5820-5826.

Weerakkody, Sean	Carnegie Mellon Univ
Sinopoli, Bruno	Carnegie Mellon Univ

17:40-18:00 ThC17.6

Attack-Resilient State Estimation in the Presence of Noise (I), pp. 5827-5832.

Pajic, Miroslav	Duke Univ
Tabuada, Paulo	Univ. of California at Los Angeles
Lee, Insup	Univ. of Pennsylvania
Pappas, George J.	Univ. of Pennsylvania

ThC18 1202

Game Theory III (Regular Session)

Chair: Jain, Rahul	Univ. of Southern California
Co-Chair: Touri, Behrouz	Univ. of Colorado Boulder

16:00-16:20 ThC18.1

Equilibria in Two-Stage Electricity Markets, pp. 5833-5838.

Gupta, Abhishek	The Ohio State Univ
Jain, Rahul	Univ. of Southern California
Poolla, Kameshwar	Univ. of California at Berkeley
Varaiya, Pravin P.	Univ. of California at Berkeley

16:20-16:40 ThC18.2

Control of Microgrids Using a Differential Game Theoretic Framework, pp. 5839-5844.

Mylvaganam, Thulasi	Imperial Coll. London
Astolfi, Alessandro	Imperial Coll. & Univ. of Rome

16:40-17:00 ThC18.3

Hypergraph Conditions for the Solvability of the Ergodic Equation for Zero-Sum Games, pp. 5845-5850.

Hochart, Antoine	Ec. Pol
Gaubert, Stephane	INRIA and Ec. Pol
Akian, Marianne	INRIA and CMAP, Ec. Pol

17:00-17:20 ThC18.4

Dynamic Oligopoly Games with Private Markovian Dynamics, pp. 5851-5858.

Ouyang, Yi	Univ. of Michigan
Tavafoghi, Hamidreza	Univ. of Michigan
Teneketzis, Demosthenis	Univ. of Michigan

17:20-17:40 ThC18.5

Dominance in Pursuit-Evasion Games with Uncertainty, pp. 5859-5864.

Oyler, Dave W.	Univ. of Michigan
Kabamba, Pierre	Univ. of Michigan
Girard, Anouck R.	Univ. of Michigan, Ann Arbor

17:40-18:00 ThC18.6

Threshold Policy for Global Games with Noisy Information Sharing, pp. 5865-5870.

Mahdavifar, Hessam	UC San Diego
Beirami, Ahmad	Duke Univ. & MIT
Touri, Behrouz	Univ. of Colorado Boulder
Shamma, Jeff S.	KAUST

FrA01	Large Hall
Smart Grid II (Regular Session)	
Chair: Dotoli, Mariagrazia	Pol. Di Bari
Co-Chair: Shi, Yang	Univ. of Victoria

08:30-08:50 FrA01.1

Optimal Control of Aggregated Heterogeneous Thermostatically Controlled Loads for Regulation Services, pp. 5871-5876.

Liu, Mingxi — Univ. of Victoria
Shi, Yang — Univ. of Victoria

08:50-09:10 FrA01.2

Decentralized Coordination for Large-Scale Plug-In Electric Vehicles in Smart Grid: An Efficient Real-Time Price Approach, pp. 5877-5882.

Ma, Zhongjing — Beijing Inst. of Tech
Zou, Suli — Beijing Inst. of Tech
Ran, Long — Beijing Inst. of Tech
Shi, Xingyu — Beijing Inst. of Tecnology
Hiskens, Ian A. — Univ. of Michigan

09:10-09:30 FrA01.3

On the Range of Feasible Power Trajectories for a Population of Thermostatically Controlled Loads, pp. 5883-5888.

Paccagnan, Dario — ETH Zurich
Kamgarpour, Maryam — Swiss Federal Inst. of Tech
Lygeros, John — ETH Zurich

09:30-09:50 FrA01.4

A Stackelberg Game for Multi-Period Demand Response Management in the Smart Grid, pp. 5889-5894.

Alshehri, Khaled — Univ. of Illinois at Urbana-Champaign
Liu, Ji — Univ. of Illinois at Urbana-Champaign
Chen, Xudong — Univ. of Illinois at Urbana-Champaign
Basar, Tamer — Univ. of Illinois, Urbana-Champaign

09:50-10:10 FrA01.5

Load Frequency Control of a Microgrid Based on H-Infinity Control Considering Response Speed of Generators, pp. 5895-5902.

Masui, Kenji — Keio Univ
Namerikawa, Toru — Keio Univ

10:10-10:30 FrA01.6

A Decentralized Resource Allocation Approach for Sharing Renewable Energy among Interconnected Smart Homes, pp. 5903-5908.

Carli, Raffaele — DEI-Pol. Di Bari
Dotoli, Mariagrazia — Pol. Di Bari

FrA02	Small Hall
Optimization II (Regular Session)	
Chair: Olaru, Sorin	SUPELEC
Co-Chair: Lavaei, Javad	UC Berkeley

08:30-08:50 FrA02.1

Sparse Sum-Of-Squares Certificates on Finite Abelian Groups, pp. 5909-5914.

Fawzi, Hamza — Massachusetts Inst. of Tech
Saunderson, James — Massachusetts Inst. of Tech
Parrilo, Pablo A. — Massachusetts Inst. of Tech

08:50-09:10 FrA02.2

Robust-To-Dynamics Linear Programming, pp. 5915-5919.

Ahmadi, Amir Ali — Princeton Univ
Gunluk, Oktay — IBM Res

09:10-09:30 FrA02.3

Inverse Parametric Linear/quadratic Programming Problem for Continuous PWA Functions Defined on Polyhedral Partitions of Polyhedra, pp. 5920-5925.

Nguyen, Ngoc Anh — CentraleSupelec
Olaru, Sorin — SUPELEC
Rodriguez-Ayerbe, Pedro — Supelec

09:30-09:50 FrA02.4

Any Discontinuous PWA Function Is Optimal Solution to a Parametric Linear Programming Problem, pp. 5926-5931.

Nguyen, Ngoc Anh — CentraleSupelec
Olaru, Sorin — SUPELEC
Rodriguez-Ayerbe, Pedro — Supelec

09:50-10:10 FrA02.5

ADMM for Sparse Semidefinite Programming with Applications to Optimal Power Flow Problem, pp. 5932-5939.

Madani, Ramtin — Columbia Univ
Kalbat, Abdulrahman — Columbia Univ
Lavaei, Javad — UC Berkeley

10:10-10:30 FrA02.6

Effects of Rotational Inertia on Power System Damping and Frequency Transients, pp. 5940-5946.

Borsche, Theodor Sebastian — ETH Zurich
Liu, Tao — The Univ. of Hong Kong
Hill, David J. — The Univ. of Sydney

FrA03	801
Uncertain Systems (Regular Session)	
Chair: Korniienko, Anton	Ec. Centrale De Lyon, Lab. Ampère
Co-Chair: Gustafsson, Thomas	Luleå Univ. of Tech

08:30-08:50 FrA03.1

Reachable Set Approach to Collision Avoidance for UAVs, pp. 5947-5952.

Zhou, Yuchen — Univ. of Maryland
Baras, John S. — Univ. of Maryland

08:50-09:10 FrA03.2

Phase IQC for the Hierarchical Performance Analysis of Uncertain Large Scale Systems, pp. 5953-5958.

Laib, Khaled — Ec. Centrale De Lyon
Korniienko, Anton — Ec. Centrale De Lyon, Lab. Ampère
Scorletti, Gerard — Ec. Centrale De Lyon
Morel, Florent — Lab. Ampère Ec. Centrale De Lyon

09:10-09:30 FrA03.3

Relative Gain Array Variation for Norm Bounded Uncertain Systems, pp. 5959-5965.

Kadhim, Ali — Luleå Univ. of Tech

Birk, Wolfgang — Luleå Univ. of Tech
Gustafsson, Thomas — Luleå Univ. of Tech

09:30-09:50 FrA03.4

Uncertainty Propagation with Semidefinite Programming, pp. 5966-5971.

Choi, Hyungjin — Univ. of Minnesota
Seiler, Peter — Univ. of Minnesota
Dhople, Sairaj — Univ. of Minnesota

09:50-10:10 FrA03.5

Finite Time Boundedness and Stability Analysis of Discrete Time Uncertain Systems, pp. 5972-5977.

Kussaba, Hugo Tadashi — Univ. of Brasília
Ishihara, Joao Yoshiyuki — Univ. of Brasília
Borges, Renato A. — Univ. of Brasilia

10:10-10:30 FrA03.6

On the Robust Asymptotical Stability of Uncertain Complex Matrices Over the Complex Unit Circumference, pp. 5978-5983.

Chesi, Graziano — The Univ. of Hong Kong

FrA04 — 802

Modeling I (Regular Session)

Chair: Lino, Paolo — Pol. Di Bari
Co-Chair: Kogiso, Kiminao — The Univ. of Electro-Communications

08:30-08:50 FrA04.1

Modeling and Numerical Analysis of Fractional-Order Dynamics in Electro-Injectors Pipes (I), pp. 5984-5989.

Garrappa, Roberto — Univ. Degli Studi Di Bari
Lino, Paolo — Pol. Di Bari
Maione, Guido — Pol. Di Bari
Saponaro, Fabrizio — Pol. Di Bari

08:50-09:10 FrA04.2

Selection and Mutation Effects on Equilibrium and Stability of X-Linked Recessive Diseases, pp. 5990-5995.

Verrilli, Francesca — Univ. of Sannio
Kebriaei, Hamed — Univ. of Tehran
Glielmo, Luigi — Univ. of Sannio
Corless, Martin — Purdue Univ
Del Vecchio, Carmen — Univ. Del Sannio

09:10-09:30 FrA04.3

Transition Models of Equilibrium Assessment in Bayesian Game, pp. 5996-6003.

Kogiso, Kiminao — The Univ. of Electro-Communications

09:30-09:50 FrA04.4

Supply and Demand in Smart Grid: A Closed-Loop Pricing Strategy, pp. 6004-6009.

He, Jianping — Univ. of Victoria
Zhao, Chengcheng — Zhejiang Univ
Cai, Lin — Univ. of Victoria
Cheng, Peng — Zhengjiang Univ
Shi, Ling — Hong Kong Univ. of Science and Tech

09:50-10:10 FrA04.5

Global Formulations of Lagrangian and Hamiltonian Mechanics on Two-Spheres, pp. 6010-6015.

Lee, Taeyoung — George Washington Univ
Leok, Melvin — Univ. of California, San Diego
McClamroch, N. Harris — Univ. of Michigan

10:10-10:30 FrA04.6

A Comparison of Gaussian and Fourier Methods for Degenerate Diffusions on SE(2), pp. 6016-6022.

Dong, Hui — Harbin Inst. of Tech
Chirikjian, Gregory — Johns Hopkins Univ

FrA05 — 804

Control Applications I (Regular Session)

Chair: Laila, Dina Shona — The Univ. of Southampton
Co-Chair: Wang, Yue — Clemson Univ

08:30-08:50 FrA05.1

FES Based Tremor Suppression Using Repetitive Control, pp. 6023-6028.

Copur, Engin Hasan — Univ. OF SOUTHAMPTON
Freeman, Christopher T. — Univ. of Southampton
Chu, Bing — Univ. of Southampton
Laila, Dina Shona — The Univ. of Southampton

08:50-09:10 FrA05.2

Design of a Robust Controller for Vibration Control of a Piezoelectric Tube Scanner, pp. 6029-6034.

Habibullah, Habibullah — UNSW, Canberra, Australia
Rehman, Obaid Ur — Univ. of New South Wales , Canberra
Pota, Hemanshu R. — The Univ. of New South Wales
Petersen, Ian R. — Univ. of New South Wales at the AustralianDefenceForceAcad

09:10-09:30 FrA05.3

Scaled Control Performance Benchmarks and Maneuvers for Small-Scale Unmanned Helicopters, pp. 6035-6042.

Alvarenga, Jessica — Univ. of Denver
Vitzilaios, Nikolaos — Univ. of Denver
Rutherford, Matthew — Univ. of Denver
Valavanis, Kimon — Univ. of Denver

09:30-09:50 FrA05.4

A Novel Disturbance Observer Based Robust Current-Control for a PMSM Drive System, pp. 6043-6046.

Kim, Yonghun — KAIST
Kim, Kyung-Soo — KAIST (Korea Adv. Inst. of Sci. & Tech
Kim, Soohyun — KAIST

09:50-10:10 FrA05.5

Nonlinear Discrete-Time Control of Vehicle Slip Ratio, pp. 6047-6051.

Ikeda, Yuichi — Shinshu Univ
Kamijo, Tomokazu — Shinshu Univ

10:10-10:30 FrA05.6

Trust and Self-Confidence Based Autonomy Allocation for Robotic Systems, pp. 6052-6057.

Saeidi, Hamed — Clemson Univ
Wang, Yue — Clemson Univ

FrA06 — 805

Advances in Iterative Learning Control (Invited Session)

Chair: Chu, Bing	Univ. of Southampton
Co-Chair: Freeman, Christopher T.	Univ. of Southampton
Organizer: Chu, Bing	Univ. of Southampton
Organizer: Freeman, Christopher T.	Univ. of Southampton
Organizer: Barton, Kira	Univ. of Michigan, Ann Arbor
Organizer: Oomen, Tom	Eindhoven Univ. of Tech

08:30-08:50 FrA06.1

Optimal Estimation of Rational Feedforward Controllers: An Instrumental Variable Approach (I), pp. 6058-6063.

Boeren, Frank	Eindhoven Univ. of Tech
Blanken, Lennart	Eindhoven Univ. of Tech
Bruijnen, Dennis	Philips Innovation Services
Oomen, Tom	Eindhoven Univ. of Tech

08:50-09:10 FrA06.2

On Linearized Stability of Differential Repetitive Processes and Iterative Learning Control (I), pp. 6064-6069.

Altin, Berk	Univ. of Michigan, Ann Arbor
Barton, Kira	Univ. of Michigan, Ann Arbor

09:10-09:30 FrA06.3

Estimation Based Multiple Model Iterative Learning Control (I), pp. 6070-6075.

Freeman, Christopher T.	Univ. of Southampton
French, Mark	Univ. of Southampton

09:30-09:50 FrA06.4

Matrix Factorization for Design of Q-Filter in Iterative Learning Control (I), pp. 6076-6082.

Lin, Chung-Yen	Univ. of California, Berkeley
Sun, Liting	Univ. of California, Berkeley
Tomizuka, Masayoshi	Univ. of California, Berkeley

09:50-10:10 FrA06.5

Design of Iterative Learning Control Schemes for Systems with Zero Markov Parameters (I), pp. 6083-6088.

Paszke, Wojciech	Univ. of Zielona Gora
Rogers, Eric	Univ. of Southampton
Galkowski, Krzysztof	Univ. of Zielona Gora

10:10-10:30 FrA06.6

Point-To-Point Iterative Learning Control with Optimal Tracking Time Allocation (I), pp. 6089-6094.

Chen, Yiyang	Univ. of Southampton
Chu, Bing	Univ. of Southampton
Freeman, Christopher T.	Univ. of Southampton

FrA07 1001

Rigidity Theory for Problems in Multi-Agent Coordination (Invited Session)

Chair: Zelazo, Daniel	Tech. - Israel Inst. of Tech
Co-Chair: Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
Organizer: Zelazo, Daniel	Tech. - Israel Inst. of Tech
Organizer: Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
Organizer: Franchi, Antonio	LAAS-CNRS

08:30-08:50 FrA07.1

Rigid Formation Shape Control in General Dimensions: An Invariance Principle and Open Problems (I), pp. 6095-6100.

Sun, Zhiyong	Australian National Univ
Helmke, Uwe R.	Univ. of Wuerzburg
Anderson, Brian D.O.	Australian National Univ

08:50-09:10 FrA07.2

Redundantly Rigid Topologies in Decentralized Multi-Agent Networks (I), pp. 6101-6108.

Williams, Ryan	Univ. of Southern California
Gasparri, Andrea	Univ. of "Roma Tre"
Soffietti, Matteo	Roma Tre Univ
Sukhatme, Gaurav	USC

09:10-09:30 FrA07.3

Combinatorial Measures of Rigidity in Wireless Sensor and Robot Networks (I), pp. 6109-6114.

Eren, Tolga	Kirikkale Univ

09:30-09:50 FrA07.4

Bearing-Based Formation Stabilization with Directed Interaction Topologies (I), pp. 6115-6120.

Zhao, Shiyu	Tech. - Israel Inst. of Tech
Zelazo, Daniel	Tech. - Israel Inst. of Tech

09:50-10:10 FrA07.5

Bearing-Only Formation Control Using an SE(2) Rigidity Theory (I), pp. 6121-6126.

Zelazo, Daniel	Tech. - Israel Inst. of Tech
Robuffo Giordano, Paolo	Centre National De La Recherche Scientifique (CNRS)
Franchi, Antonio	LAAS-CNRS

10:10-10:30 FrA07.6

Conditions and Strategies for Uniqueness of the Solutions to Cooperative Localization and Mapping Problems Using Rigidity Theory (I), pp. 6127-6132.

Shames, Iman	The Univ. of Melbroune
Summers, Tyler	ETH Zurich
Farokhi, Farhad	The Univ. of Melbourne
Shekhar, Rohan C.	The Univ. of Melbourne

FrA08 1002

Formal Methods and Control Theory (Invited Session)

Chair: Reissig, Gunther	Univ. of the Federal Armed Forces Munich
Co-Chair: Rungger, Matthias	TUM
Organizer: Reissig, Gunther	Univ. of the Federal Armed Forces Munich
Organizer: Rungger, Matthias	TUM

08:30-08:50 FrA08.1

On Compositional Symbolic Controller Synthesis Inspired by Small-Gain Theorems (I), pp. 6133-6138.

Dallal, Eric	Univ. of California in Los Angeles
Tabuada, Paulo	Univ. of California at Los Angeles

08:50-09:10 FrA08.2

State Space Grids for Low Complexity Abstractions (I), pp. 6139-6146.

Rungger, Matthias	TUM
Weber, Alexander	Univ. of the Federal Armed Forces Munich
Reissig, Gunther	Univ. of the Federal Armed Forces Munich

09:10-09:30 FrA08.3

An Iterative Abstraction Algorithm for Reactive Correct-By-Construction Controller Synthesis (I), pp. 6147-6152.

Mattila, Robert	KTH Royal Inst. of Tech
Mo, Yilin	Nanyang Tech. Univ
Murray, Richard M.	California Inst. of Tech

09:30-09:50 FrA08.4

Symbolic Abstractions for the Scheduling of Event-Triggered Control Systems (I), pp. 6153-6158.

Sharifi Kolarijani, Arman	Delft Univ. of Tech
Adzkiya, Dieky	TU Delft
Mazo Jr., Manuel	Delft Univ. of Tech

09:50-10:10 FrA08.5

Correct-By-Design Output Feedback of LTI Systems (I), pp. 6159-6164.

Haesaert, Sofie	Eindhoven Univ. of Tech
Abate, Alessandro	Univ. of Oxford
Van den Hof, Paul M.J.	Eindhoven Univ. of Tech

10:10-10:30 FrA08.6

Compositional Controller Synthesis for Vehicular Traffic Networks (I), pp. 6165-6171.

Kim, Eric S.	Univ. of California, Berkeley
Arcak, Murat	Univ. of California, Berkeley
Seshia, Sanjit A.	UC Berkeley

FrA09 — 1003

Networked Control Systems I (Regular Session)

Chair: De Persis, Claudio	Univ. of Groningen
Co-Chair: Ishii, Hideaki	Tokyo Inst. of Tech

08:30-08:50 FrA09.1

Time-Scale Separation on Networks: Consensus, Tracking, and State-Dependent Interactions, pp. 6172-6177.

Awad, Armand	Univ. of Washington
Chapman, Airlie	Univ. of Washington
Schoof, Eric	Univ. of Washington
Narang-Siddarth, Anshu	Univ. of Washington
Mesbahi, Mehran	Univ. of Washington

08:50-09:10 FrA09.2

Trade-Offs in Information-Limited Feedback Systems: MIMO Bode-Type Integrals and Power Allocation, pp. 6178-6183.

Fang, Song	City Univ. of Hong Kong
Ishii, Hideaki	Tokyo Inst. of Tech
Chen, Jie	City Univ. of Hong Kong

09:10-09:30 FrA09.3

Synchronization of Nonlinear Oscillators Over Networks with Dynamic Links, pp. 6184-6189.

Casadei, Giacomo	CASY-DEI
Marconi, Lorenzo	Univ. Di Bologna
De Persis, Claudio	Univ. of Groningen

09:30-09:50 FrA09.4

Coordinated Dynamic Behaviors in Multi-Robot Systems with Time-Varying Topologies, pp. 6190-6195.

Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia
Levratti, Alessio	Univ. of Modena and Reggio Emilia
Cocetti, Matteo	Univ. of Trento
Fantuzzi, Cesare	Univ. of Modena and Reggio Emilia

09:50-10:10 FrA09.5

Stabilizing Transmission Intervals for Networked Control Systems with Nonlinear Delay Dynamics, pp. 6196-6201.

Tolic, Domagoj	Univ. of Zagreb
Hirche, Sandra	Tech. Univ. München

10:10-10:30 FrA09.6

Distributed Dynamic Decoupling-Based Output Synchronization for Networks of Linear Heterogeneous MIMO Agents, pp. 6202-6208.

Khodaverdian, Saman	Tech. Univ. Darmstadt
Adamy, Jürgen	Tech. Univ. Darmstadt

FrA10 — 1004

Robust Control I (Regular Session)

Chair: Zergeroglu, Erkan	Gebze Inst. of Tech
Co-Chair: Gattami, Ather	Ericsson Inc

08:30-08:50 FrA10.1

A Continuous Asymptotic Tracking Control Strategy for a Class of Uncertain MIMO Nonlinear Systems, pp. 6209-6214.

Zhang, Kun	UCF
Wang, Zhao	Univ. of Central Florida
Behal, A.	Univ. of Central Florida

08:50-09:10 FrA10.2

Nonlinear Robust Control of a Levitation System with Hybrid Electromagnets, pp. 6215-6220.

Okur, Beytullah	Gebze Inst. of Tech
Zergeroglu, Erkan	Gebze Inst. of Tech
Erkan, Kadir	Yildiz Tech. Univ

09:10-09:30 FrA10.3

Generic Nonsmooth H-Infinity Output Synthesis: Tracking Control with Application to a Coal-Fired Boiler/Turbine Unit with Input Dead Zone, pp. 6221-6226.

Aguilar, Luis T.	Inst. Pol. Nacional
Ponce, Israel Ulises	CICESE
Orlov, Yury	CICESE
Bentsman, Joseph	Univ. of Illinois at Urbana-Champaign

09:30-09:50 FrA10.4

Primal Robustness and Semidefinite Cones, pp. 6227-6232.

You, Seungil	California Inst. of Tech
Gattami, Ather	Bitynamics Res
Doyle, John C.	California Inst. of Tech

09:50-10:10 FrA10.5

The Computation of Full-Complexity Polytopic Robust Control Invariant Sets, pp. 6233-6238.

Liu, Chengyuan	Imperial Coll. London
Jaimoukha, Imad M.	Imperial Coll. London

10:10-10:30 FrA10.6

Robust MPC Based on Nominal System Optimization and Weighted Control Input Saturation, pp. 6239-6244.

Oravec, Juraj	Slovak Univ. of Tech. in Bratislava
Bakosova, Monika	Slovak Univ. of Tech. in Bratislava

FrA11 1005

Distributed Control and Optimization of Complex Networked Systems (Invited Session)

Chair: Liu, Shuai	Nanyang Tech. Univ
Co-Chair: Cao, Ming	Univ. of Groningen
Organizer: Liu, Shuai	Nanyang Tech. Univ
Organizer: Cao, Ming	Univ. of Groningen

08:30-08:50 FrA11.1

Averaging Based Distributed Estimation Algorithm for Rate-Constrained Sensor Networks with Additive Quantization Model (I), pp. 6245-6250.

Zhu, Shanying	Nanyang Tech. Univ
Liu, Shuai	Nanyang Tech. Univ
Xu, Jinming	Nanyang Tech. Univ
Soh, Yeng Chai	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ

08:50-09:10 FrA11.2

Distributed Filtering Based on Weighted Average Strategy in Unreliable Sensor Networks (I), pp. 6251-6256.

Zhang, Ya	Southeast Univ
Tian, Yu-Ping	Southeast Univ
Chen, Yang-Yang	Southeast Univ

09:10-09:30 FrA11.3

Optimal Defensive Resource Allocation for a Centrality-Based Security Game on Multi-Hop Networks (I), pp. 6257-6262.

Riehl, James Robert	Rijksuniversiteit Groningen
Cao, Ming	Univ. of Groningen

09:30-09:50 FrA11.4

A Barycentric Coordinate Based Approach to Formation Control of Multi-Agent Systems under Directed and Switching Topologies (I), pp. 6263-6268.

Han, Tingrui	Zhejang Univ
Zheng, Ronghao	City Univ. of Hong Kong
Lin, Zhiyun	Zhejiang Univ
Fu, Minyue	Univ. of Newcastle

09:50-10:10 FrA11.5

Design of Robust Dynamic Average Consensus Estimators, pp. 6269-6275.

Van Scoy, Bryan	Northwestern Univ
Freeman, Randy	Northwestern Univ
Lynch, Kevin M.	Northwestern Univ

10:10-10:30 FrA11.6

A Loopshaping Approach to Controller Design in Networks of Linear Systems, pp. 6276-6281.

Pates, Richard	Univ. of Cambridge

FrA12 1006

Adaptive Control II (Regular Session)

Chair: Chang, Yeong-Hwa	Chang Gung Univ
Co-Chair: Ma, Jianjun	National Univ. of Defense Tech

08:30-08:50 FrA12.1

An Adaptive Actuator Failure Compensation Scheme for a Cooperative Manipulator System with Parameter Uncertainties, pp. 6282-6287.

Rugthum, Thummaros	Univ. of Virginia
Tao, Gang	Univ. of Virginia

08:50-09:10 FrA12.2

Multivariable Adaptive Output Tracking Control of T-S Fuzzy Systems, pp. 6288-6293.

Zhang, Yanjun	Nanjing Univ. of Aeronautics and Astronautics
Tao, Gang	Univ. of Virginia
Chen, Mou	Nanjing Univ. of Aeronautics and Astronautics

09:10-09:30 FrA12.3

Adaptive Finite-Time Tracking Control for a Robotic Manipulator with Unknown Deadzone, pp. 6294-6299.

Ma, Jianjun	National Univ. of Defense Tech
Li, Peng	National Univ. of Defense Tech
Geng, Lina	National Univ. of Defense Tech
Zheng, Zhiqiang	National Univ. of Defense Tech

09:30-09:50 FrA12.4

Chattering-Free Sliding Mode Control for MIMO Nonlinear Manipulator Systems Based on Adaptive Neural Networks, pp. 6300-6305.

Yan, Xiaomo	The Univ. of Manchester
Zuo, Zongyu	Beihang Univ. (aka Beijing Univ. of Aeronautics and As
Yin, Liping	Najing Univ. of Information Science & Tech
Wang, Aiping	Anhui Univ
Wang, Hong	The Univ. of Manchester

09:50-10:10 FrA12.5

Adaptive Output-Feedback Fault-Tolerant Tracking Control for Mobile Robots under Partial Loss of Actuator Effectiveness, pp. 6306-6311.

Chang, Yeong-Hwa	Chang Gung Univ
Wu, Chun-I	Chang Gung Univ
Yang, Cheng-Yuan	Chang Gung Univ

10:10-10:30 FrA12.6

A New Control Scheme for Non-Affine Nonlinear Discrete-Time Systems, pp. 6312-6317.

Zhang, Yajun	Northeastern Univ
Chai, Tianyou	Northeastern Univ
Chen, Xinkai	Shibaura Inst. of Tech
Fu, Jun	Northeastern Univ

FrA13 1007

Observers for Nonlinear Systems I (Regular Session)

Chair: Powel, Nathan D.	Univ. of Washington
Co-Chair: Trumpf, Jochen	Australian National Univ

08:30-08:50 FrA13.1

On the Ensemble Observability Problem for Nonlinear Systems, pp. 6318-6323.

Zeng, Shen	Univ. of Stuttgart
Allgöwer, Frank	Univ. of Stuttgart

08:50-09:10 FrA13.2

Tools for Observers Based on Coordinate Augmentation, pp. 6324-6329.

Bernard, Pauline	MINES ParisTech
Praly, Laurent	MINES ParisTech
Andrieu, Vincent	Univ. De Lyon

09:10-09:30 FrA13.3

State Estimation for Nonlinear Systems with Delayed Output Measurements, pp. 6330-6335.

Khosravian, Alireza	Australian National Univ
Trumpf, Jochen	Australian National Univ
Mahony, Robert	Australian National Univ

09:30-09:50 FrA13.4

A Parameter Estimation Approach to State Observation of Nonlinear Systems, pp. 6336-6341.

Ortega, Romeo	LSS-SUPELEC
Bobtsov, Alexey	ITMO Univ
Pyrkin, Anton	ITMO Univ
Aranovskiy, Stanislav	ITMO Univ

09:50-10:10 FrA13.5

Empirical Observability Gramian Rank Condition for Weak Observability of Nonlinear Systems with Control, pp. 6342-6348.

Powel, Nathan D.	Univ. of Washington
Morgansen, Kristi A.	Univ. of Washington

10:10-10:30 FrA13.6

Unknown Input Estimation for Nonlinear Descriptor Systems Via LMIs and Takagi-Sugeno Models, pp. 6349-6354.

Estrada-Manzo, Victor	Univ. of Valenciennes and Hainaut-Cambresis
Lendek, Zsofia	Tech. Univ. of Cluj-Napoca
Guerra, Thierry Marie	Univ. of Valenciennes and Hainaut Cambresis

FrA14 1008

Analysis and Control of Monotone Systems (Invited Session)

Chair: Khong, Sei Zhen	Lund Univ
Co-Chair: Forni, Fulvio	Univ. of Cambridge
Organizer: Khong, Sei Zhen	Univ. of Minnesota
Organizer: Rantzer, Anders	Lund Univ

08:30-08:50 FrA14.1

Differential Positivity on Compact Sets (I), pp. 6355-6360.

Forni, Fulvio	Univ. of Cambridge

08:50-09:10 FrA14.2

Delay-Independent Stability of Cone-Invariant Monotone Systems (I), pp. 6361-6366.

Feyzmahdavian, Hamid Reza	Royal Inst. of Tech. (KTH)
Charalambous, Themistoklis	Chalmers Univ. of Tech
Johansson, Mikael	KTH - Royal Inst. of Tech

09:10-09:30 FrA14.3

Analysis and Synthesis of Delay Interconnected Positive Systems with External Inputs and Formation Control of Moving Objects (I), pp. 6367-6372.

Ebihara, Yoshio	Kyoto Univ

09:30-09:50 FrA14.4

Positive Systems Analysis Via Integral Linear Constraints (I), pp. 6373-6378.

Khong, Sei Zhen	Univ. of Minnesota
Briat, Corentin	ETH Zürich
Rantzer, Anders	Lund Univ

09:50-10:10 FrA14.5

Positive Nonlinear Systems, Response Maps and Realizations, pp. 6379-6384.

Bartosiewicz, Zbigniew	Bialystok Univ. of Tech

10:10-10:30 FrA14.6

Representing Externally Positive Systems through Minimal Eventually Positive Realizations, pp. 6385-6390.

Altafini, Claudio	Linkoping Univ

FrA15 1009

Infinite Dimensional Systems: Analysis and Control of Systems with Time Delays (Invited Session)

Chair: Demetriou, Michael A.	Worcester Pol. Inst
Co-Chair: Ozbay, Hitay	Bilkent Univ
Organizer: Demetriou, Michael A.	Worcester Pol. Inst
Organizer: Ozbay, Hitay	Bilkent Univ

08:30-08:50 FrA15.1

Stability of a Class of Delayed Port-Hamiltonian Systems with Application to Droop-Controlled Microgrids (I), pp. 6391-6396.

Schiffer, Johannes	Tech. Univ. Berlin
Fridman, Emilia	Tel-Aviv Univ
Ortega, Romeo	LSS-SUPELEC

08:50-09:10 FrA15.2

Disturbance Attenuation Limitations for Systems with Input Delays (I), pp. 6397-6402.

Karafyllis, Iasson	National Tech. Univ. of Athens
Krstic, Miroslav	Univ. of California, San Diego

09:10-09:30 FrA15.3

Prediction-Based Control for Nonlinear State and Input-Delay Systems with the Aim of Delay-Robustness Analysis (I), pp. 6403-6409.

Bresch-Pietri, Delphine	CNRS, GIPSA-Lab
Petit, Nicolas	MINES ParisTech
Krstic, Miroslav	Univ. of California, San Diego

09:30-09:50 FrA15.4

Migration of Double Imaginary Characteristic Roots under Small Deviation of Two Delay Parameters (I), pp. 6410-6415.

Gu, Keqin	Southern Illinois Univ. Edwardsville
Irofti, Dina Alina	Lab. Des Signaux Et Systèmes, Supélec
Boussaada, Islam	IPSA & L2S, CNRS-Supelec-Univ. Paris Sud
Niculescu, Silviu-Iulian	CNRS-Supelec

09:50-10:10 FrA15.5

H-Infinity-Stability Analysis of Various Classes of Neutral Systems with Commensurate Delays and with Chains of Poles Approching the Imaginary Axis (I), pp. 6416-6421.

Nguyen, Le Ha Vy	Univ. of Namur
Bonnet, Catherine	INRIA Saclay-Ile-De-France

10:10-10:30 FrA15.6

Model Reduction for a Class of Nonlinear Delay Differential Equations with Time-Varying Delays (I), pp. 6422-6428.

Van De Wouw, Nathan	Eindhoven Univ. of Tech
Michiels, Wim	K.U. Leuven
Besselink, Bart	KTH Royal Inst. of Tech

FrA16 1010

Efficient Modeling and Control of Quantum Systems (Invited Session)

Chair: Ticozzi, Francesco — Univ. Di Padova
Co-Chair: Sarlette, Alain — INRIA Rocquencourt
Organizer: Ticozzi, Francesco — Univ. Di Padova
Organizer: Sarlette, Alain — INRIA Rocquencourt

08:30-08:50 FrA16.1

Single Photon Inverting Pulse for an Atom in a Cavity (I), pp. 6429-6433.

Pan, Yu — Unsw, Adfa
Zhang, Guofeng — The Hong Kong Pol. Univ
Cui, Wei — Inst. of Physics and Chemical Res. (RIKEN)
James, Matthew R. — Australian National Univ

08:50-09:10 FrA16.2

Switching Quantum Dynamics for Fast Preparation of Pure States (I), pp. 6434-6440.

Ticozzi, Francesco — Univ. Di Padova
Scaramuzza, Pierre — Univ. Fo Padua

09:10-09:30 FrA16.3

Variable Structure Control of Quantum Systems (I), pp. 6441-6446.

Cui, Wei — Inst. of Physics and Chemical Res. (RIKEN)
Pan, Yu — Unsw, Adfa
Dong, Daoyi — Univ. of New South Wales

09:30-09:50 FrA16.4

Convergence and Adiabatic Elimination for a Driven Dissipative Quantum Harmonic Oscillator (I), pp. 6447-6453.

Azouit, Rémi — Mines ParisTech
Sarlette, Alain — INRIA Rocquencourt
Rouchon, Pierre — Mines ParisTech

09:50-10:10 FrA16.5

Time Optimal Information Transfer in Spintronics Networks (I), pp. 6454-6459.

Langbein, Frank Curd — Cardiff Univ
Schirmer, Sophie (Sonia) G. — Swansea Univ
Jonckheere, Edmond A. — Univ. of Southern California

10:10-10:30 FrA16.6

Control of Open Quantum Systems in a Bosonic Bath, pp. 6460-6465.

D'Alessandro, Domenico — Iowa State Univ
Jonckheere, Edmond A. — Univ. of Southern California
Romano, Raffaele — Univ. Di Trieste

FrA17 — Conference Hall

Algebraic and Geometric Methods I (Regular Session)

Chair: Carravetta, Francesco — IASI-CNR
Co-Chair: Gray, W. Steven — Old Dominion Univ

08:30-08:50 FrA17.1

How Friends and Non-Determinism Affect Opinion Dynamics, pp. 6466-6471.

Bhattacharyya, Arnab — Indian Inst. of Science
Shiragur, Kirankumar — Indian Inst. of Science

08:50-09:10 FrA17.2

Analytic Left Inversion of Multivariable Lotka-Volterra Models, pp. 6472-6477.

Gray, W. Steven — Old Dominion Univ
Duffaut Espinosa, Luis Augusto — George Mason Univ
Ebrahimi-Fard, Kurusch — Inst. De Ciencias Matemáticas - CSIC

09:10-09:30 FrA17.3

Formal Power Series Method for Nonlinear Time Delay Systems with Analytic Initial Data, pp. 6478-6483.

Thitsa, Makhin — Mercer Univ
Williams, Stephen — Mercer Univ
Verriest, Erik I. — Georgia Inst. of Tech

09:30-09:50 FrA17.4

On Testing the Strong Accessibility of a Nonlinear Control System, pp. 6484-6489.

Carravetta, Francesco — IASI-CNR

09:50-10:10 FrA17.5

Sufficient Lie Algebraic Conditions for Sampled-Data Feedback Stabilization, pp. 6490-6495.

Theodosis, Dionysios — National Tech. Univ. of Athens
Tsinias, John — National Tech. Univ. of Athens

10:10-10:30 FrA17.6

Patterned Dynamics of Delay-Coupled Swarms with Random Communication Graphs, pp. 6496-6501.

Szwaykowska, Klementyna — US Naval Res. Lab
Mier-y-Teran-Romero, Luis — Nonlinear Dynamics Section, Plasma Physics Div. Naval Res
Schwartz, Ira — US Naval Res. Lab

FrA18 — 1202

Stochastic Optimal Control I (Regular Session)

Chair: Fujimoto, Kenji — Kyoto Univ
Co-Chair: Georgiou, Tryphon T. — Univ. of Minnesota

08:30-08:50 FrA18.1

Steering State Statistics with Output Feedback, pp. 6502-6507.

Chen, Yongxin — Univ. of Minnesota
Georgiou, Tryphon T. — Univ. of Minnesota
Pavon, Michele — Univ. Di Padova

08:50-09:10 FrA18.2

Optimal Control of the State Statistics for a Linear Stochastic System, pp. 6508-6515.

Chen, Yongxin — Univ. of Minnesota
Georgiou, Tryphon T. — Univ. of Minnesota
Pavon, Michele — Univ. Di Padova

09:10-09:30 FrA18.3

On Linear Solutions to a Class of Risk Sensitive Control for Linear Systems with Stochastic Parameters, pp. 6516-6523.

Ito, Yuji — Toyota Central R&d Labs., Inc
Fujimoto, Kenji — Kyoto Univ
Tadokoro, Yukihiro — TOYOTA Central R&D Lab., Inc
Yoshimura, Takayoshi — TOYOTA Central R&D Lab., Inc

09:30-09:50 FrA18.4

On Finite Time Optimal Control for Discrete-Time Linear Systems with Parameter Variation, pp. 6524-6529.

Fujimoto, Kenji — Kyoto Univ
Inoue, Teppei — Kyoto Univ
Maruyama, Shun — Kyoto Univ

09:50-10:10 FrA18.5

Scenario-Based MPC with Gradual Relaxation of Output Constraints,

pp. 6530-6534.

Hanssen, Kristian G.	Norwegian Univ. of Science & Tech
Foss, Bjarne A.	Norwegian Univ. of Science & Tech

10:10-10:30 FrA18.6

Control of Sensors of a Gaussian Stochastic Control System, pp. 6535-6541.

Boel, Rene K.	Univ. of Ghent
van Schuppen, Jan H.	Van Schuppen Control Res

FrPL Large Hall

Bode Lecture: High-Gain Observers in Nonlinear Feedback Control (Plenary Session)

Chair: Farrell, Jay A.	Univ. of California Riverside
Co-Chair: Valcher, Maria Elena	Univ. Di Padova

11:00-12:00 FrPL.1

*Bode Lecture: High-Gain Observers in Nonlinear Feedback Control**.

Khalil, Hassan K.	Michigan State Univ.

FrB01 Large Hall

Smart Grid III (Regular Session)

Chair: Grammatico, Sergio	ETH Zurich
Co-Chair: Meyn, Sean	Univ. of Florida

13:30-13:50 FrB01.1

On the Price of Being Selfish in Large Populations of Plug-In Electric Vehicles, pp. 6542-6547.

Gonzalez Vaya, Marina	ETH Zurich
Grammatico, Sergio	Eindhoven Univ. of Tech
Andersson, Goran	Swiss Federal Inst. of Tech
Lygeros, John	ETH Zurich

13:50-14:10 FrB01.2

State Estimation and Mean Field Control with Application to Demand Dispatch, pp. 6548-6555.

Chen, Yue	Univ. of Florida
Busic, Ana	Inria and École Normale Supérieure
Meyn, Sean	Univ. of Florida

14:10-14:30 FrB01.3

The Kirchhoff-Braess Paradox and Its Implications for Smart Microgrids, pp. 6556-6563.

Baillieul, John	Boston Univ
Zhang, Bowen	Boston Univ
Wang, Shuai	Boston Univ

14:30-14:50 FrB01.4

Aggregation of Energetic Flexibility Using Zonotopes, pp. 6564-6569.

Mueller, Fabian Lukas	ETH Zurich
Sundstroem, Olle	IBM Res
Szabo, Jacint	IBM Res. Zurich
Lygeros, John	ETH Zurich

14:50-15:10 FrB01.5

Distributed Optimal Charging of Electric Vehicles for Demand Response and Load Shaping, pp. 6570-6576.

Le Floch, Caroline	Univ. of California, Berkeley
Belletti, Francois Walter Michel	Univ. of California, Berkeley
Saxena, Samveg	Lawrence Berkeley National Lab
Bayen, Alexandre	Univ. of California at Berkeley
Moura, Scott	Univ. of California, Berkeley

15:10-15:30 FrB01.6

Distributed Solution of the Economic Dispatch Problem in Smart Grid Power Systems Framework with Delays, pp. 6577-6582.

Somarakis, Christoforos	Univ. of Maryland
Baras, John S.	Univ. of Maryland

FrB02 Small Hall

Optimization III (Regular Session)

Chair: Kishida, Masako	Univ. of Canterbury
Co-Chair: Teixeira, André M. H.	KTH Royal Inst. of Tech

13:30-13:50 FrB02.1

Relative Influence Maximization in Competitive Dynamics on Complex Networks, pp. 6583-6588.

Zhao, Jiuhua	Shanghai Jiao Tong Univ
Liu, Qipeng	Qingdao Univ
Wang, Lin	Shanghai Jiao Tong Univ
Wang, Xiaofan	Department of Automation, Shanghai Jiaotong Univ

13:50-14:10 FrB02.2

Inverse Function Theorem for Polynomial Equations Using Semidefinite Programming, pp. 6589-6596.

Ashraphijuo, Morteza	Columbia Univ
Madani, Ramtin	Columbia Univ
Lavaei, Javad	UC Berkeley

14:10-14:30 FrB02.3

Optimization-Based State Estimation under Bounded Disturbances, pp. 6597-6602.

Hu, Wuhua	Nanyang Tech. Univ
Xie, Lihua	Nanyang Tech. Univ
You, Keyou	Tsinghua Univ

14:30-14:50 FrB02.4

μ -Based Approaches to Determining Guaranteed Consistent and Inconsistent Parameter Sets, pp. 6603-6608.

Kishida, Masako	Univ. of Canterbury
Findeisen, Rolf	OVG Univ. Magdeburg

14:50-15:10 FrB02.5

Method of Hill Tunneling Via Simplex Centroid for Continuous Piecewise Linear Programming, pp. 6609-6616.

Xu, Zhiming	Tsinghua Univ
Liu, Kuangyu	Tsinghua Univ
Xi, Xiangming	Tsinghua Univ
Wang, Shuning	Tsinghua Univ

FrB03 801

H-Infinity Control (Regular Session)

Chair: Kojima, Akira	Tokyo Metropolitan Univ
Co-Chair: Karimi, Alireza	EPFL

13:30-13:50 FrB03.1

Analysis and Use of Several Generalized H-Infinity Mixed Sensitivity Frameworks for Stable Multivariable Plants Subject to Simultaneous Output and Input Loop Breaking Specifications, pp. 6617-6622.

Puttannaiah, Karan	Arizona State Univ

Echols, Justin A.	Arizona State Univ
Mondal, Kaustav	Arizona State Univ
Rodriguez, Armando A.	Arizona State Univ

13:50-14:10 FrB03.2

On a Convex Characterisation of Stability and Performance for Hybrid Linear Systems, pp. 6623-6628.

Souza, Matheus	FEEC - Unicamp
Geromel, Jose C.	UNICAMP

14:10-14:30 FrB03.3

H-Infinity Performance Limitations Analysis for SISO Systems: A Dual LMI Approach, pp. 6629-6634.

Ebihara, Yoshio	Kyoto Univ
Waki, Hayato	Inst. of Mathematics for Industry, Kyushu Univ
Sebe, Noboru	Kyushu Inst. of Tech

14:30-14:50 FrB03.4

A Convex Approach to Sparse H-Infinity Analysis & Synthesis, pp. 6635-6642.

You, Seungil	California Inst. of Tech
Matni, Nikolai	California Inst. of Tech

14:50-15:10 FrB03.5

H-Infinity Preview Control with Uncertain Information, pp. 6643-6649.

Kojima, Akira	Tokyo Metropolitan Univ

15:10-15:30 FrB03.6

A Data-Driven Approach in Designing RST Controllers with H_∞ Performance Via Convex Optimization, pp. 6650-6655.

Nicoletti, Achille	EPFL
Emedi, Zlatko	Ec. Pol. Federale De Lausanne
Karimi, Alireza	EPFL

FrB04 802

Modeling II (Regular Session)

Chair: Maruta, Ichiro	Kyoto Univ
Co-Chair: You, Fengqi	Northwestern Univ

13:30-13:50 FrB04.1

Stochastic Programming Approach to Optimal Design and Operations of Shale Gas Supply Chain under Uncertainty, pp. 6656-6661.

Gao, Jiyao	Northwestern Univ
You, Fengqi	Northwestern Univ

13:50-14:10 FrB04.2

Uses and Abuses of the Swing Equation Model, pp. 6662-6667.

Caliskan, Sina Y.	Univ. of California at Los Angeles
Tabuada, Paulo	Univ. of California at Los Angeles

14:10-14:30 FrB04.3

A Unified Stochastic Hybrid System Approach to Aggregated Load Modeling for Demand Response, pp. 6668-6673.

Zhao, Lin	The Ohio State Univ
Zhang, Wei	The Ohio State Univ

14:30-14:50 FrB04.4

Modelling, Optimization and Control of a Multi-Stage Flash Evaporator by Means of Motion-Planning, pp. 6674-6679.

Nguyen, Philipp	Aalto Univ. School of Electrical Engineering
Tenno, Robert	Aalto Univ. School of Electrical Engineereing

14:50-15:10 FrB04.5

Modeling and Simulation of Hydraulic Automatic Transmission for Mining Vehicles, pp. 6680-6685.

Sun, Liang	Beijing Inst. of Tech
Wang, Weida	Beijing Inst. of Tech
Wei, Wei	Beijing Inst. of Tech
Yan, Qingdong	Beijing Inst. of Tech
Pan, Qinxue	Beijing Inst. of Tech

15:10-15:30 FrB04.6

Analysis of Difficulty in Estimating Physically-Meaningful Model Parameters Based on Normalized Parameter Sensitivity Plot, pp. 6686-6691.

Maruta, Ichiro	Kyoto Univ
Baba, Atsushi	Calsonic Kansei Corp
Adachi, Shuichi	Keio Univ

FrB05 804

Control Applications II (Regular Session)

Chair: Jimenez-Triana, Alexander	Univ. Distrital Francisco José De Caldas
Co-Chair: Papadopoulos, Alessandro Vittorio	Lund Univ

13:30-13:50 FrB05.1

A Parametric Perturbation Method for Controlling Discrete Hyperchaotic Systems, pp. 6692-6697.

Jimenez-Triana, Alexander	Univ. Distrital Francisco José De Caldas
Gonzalez-Cotrino, Carolina	Univ. Distrital Francisco Jose De Caldas
Chen, Guanrong	City Univ. of Hong Kong

13:50-14:10 FrB05.2

Virtual Machine Migration in Cloud Infrastructures: Problem Formalization and Policies Proposal, pp. 6698-6705.

Papadopoulos, Alessandro Vittorio	Lund Univ
Maggio, Martina	Lund Univ

14:10-14:30 FrB05.3

Robust Modification to Fast Adaptive Attitude Tracking Control with External Disturbances, pp. 6706-6711.

Seo, Dongeun	Embry-Riddle Aeronautical Univ

14:30-14:50 FrB05.4

Model-Based Flight Path Planning and Tracking for Tethered Wings (I), pp. 6712-6717.

Wood, Tony A.	ETH Zurich
Hesse, Henrik	ETH Zurich
Zgraggen, Aldo Urban	ETH Zurich
Smith, Roy S.	ETH Zurich

14:50-15:10 FrB05.5

Passivity Based Control for a Quadrotor UAV Transporting a Cable-Suspended Payload with Minimum Swing, pp. 6718-6723.

Guerrero Sanchez, Maria Eusebia	CENIDET
Mercado Ravell, Diego Alberto	UTC
Lozano, Rogelio	Univ. De Tech
Garcia Beltran, Carlos Daniel	CENIDET

15:10-15:30 FrB05.6

Unified ILC Framework for Repeating and Varying Tasks: A

Frequency Domain Approach with Application to a Wire-Bonder (I), pp. 6724-6729.

Boeren, Frank	Eindhoven Univ. of Tech
Bareja, Abhishek	NXP Semiconductors
Kok, Tom	NXP Semiconductors
Oomen, Tom	Eindhoven Univ. of Tech

FrB06 — 805

Learning (Regular Session)

Chair: Li, Na	Harvard Univ
Co-Chair: Tatarenko, Tatiana	TU Darmstadt

13:30-13:50 — FrB06.1

Online Convex Optimization with Ramp Constraints, pp. 6730-6736.

Badiei Khuzani, Masoud	Harvard Univ
Li, Na	Harvard Univ
Wierman, Adam	California Inst. of Tech

13:50-14:10 — FrB06.2

A Learning Strategy Based Partial Feedback Linearization Control Method for an Offshore Boom Crane, pp. 6737-6742.

Qian, Yuzhe	Coll. of Computer and Control Engineering
Fang, Yongchun	Nankai Univ

14:10-14:30 — FrB06.3

Decentralized Q-Learning for Weakly Acyclic Stochastic Dynamic Games, pp. 6743-6748.

Arslan, Gurdal	Univ. of Hawaii at Manoa
Yuksel, Serdar	Queen's Univ

14:30-14:50 — FrB06.4

1-Recall Reinforcement Learning Leading to an Optimal Equilibrium in Potential Games with Discrete and Continuous Actions, pp. 6749-6754.

Tatarenko, Tatiana	TU Darmstadt

14:50-15:10 — FrB06.5

Whittle Index Policy for Crawling Ephemeral Content, pp. 6755-6760.

Avrachenkov, Konstantin E.	INRIA Sophia Antipolis
Borkar, Vivek S.	Indian Inst. of Tech

FrB07 — 1001

Autonomous Systems (Regular Session)

Chair: Stipanovic, Dusan M.	Univ. of Illinois, Urbana-Champaign
Co-Chair: Hovakimyan, Naira	Univ. of Illinois, Urbana-Champaign

13:30-13:50 — FrB07.1

Family of Controllers for Attitude Synchronization in S^2, pp. 6761-6766.

Ótão Pereira, Pedro Miguel	KTH, Royal Inst. of Tech
Dimarogonas, Dimos V.	Royal Inst. of Tech

13:50-14:10 — FrB07.2

Robust Connectivity Analysis for Multi-Agent Systems, pp. 6767-6772.

Boskos, Dimitris	KTH
Dimarogonas, Dimos V.	Royal Inst. of Tech

14:10-14:30 — FrB07.3

Analysis of Undirected Formation Shape Control with Directional Mismatch, pp. 6773-6778.

Meng, Ziyang	Tech. Univ. Munchen,
Anderson, Brian D.O.	Australian National Univ
Hirche, Sandra	Tech. Univ. München

14:30-14:50 — FrB07.4

Collision Avoidance Based on Line-Of-Sight Angle, pp. 6779-6784.

Cichella, Venanzio	Univ. of Illinois Urbana Champaign
Marinho, Thiago	Univ. of Illinois at Urbana Champaign
Stipanovic, Dusan M.	Univ. of Illinois, Urbana-Champaign
Hovakimyan, Naira	Univ. of Illinois, Urbana-Champaign
Kaminer, Isaac	Naval Postgraduate School
Trujillo, Anna	NASA Langley

14:50-15:10 — FrB07.5

Convergence Rate of Optimal Periodic Gossiping on Ring Graphs, pp. 6785-6790.

Mou, Shaoshuai	Purdue Univ
Morse, A. Stephen	Yale Univ
Anderson, Brian D.O.	Australian National Univ

15:10-15:30 — FrB07.6

A Distributed Algorithm for Efficiently Solving Linear Equations, pp. 6791-6796.

Mou, Shaoshuai	Purdue Univ
Morse, A. Stephen	Yale Univ
Lin, Zhiyun	Zhejiang Univ
Wang, Lili	Yale Univ
Fullmer, Daniel	Brigham Young Univ

FrB08 — 1002

Formal Verification and Synthesis I (Regular Session)

Chair: Wisniewski, Rafal	Aalborg Univ
Co-Chair: Livingston, Scott C.	California Inst. of Tech

13:30-13:50 — FrB08.1

Time-Annotated Game Graphs for Synthesis from Abstracted Systems, pp. 6797-6802.

Livingston, Scott C.	California Inst. of Tech

13:50-14:10 — FrB08.2

Distributed Information Gathering Policies under Temporal Logic Constraints, pp. 6803-6808.

Leahy, Kevin	Boston Univ
Jones, Austin	Boston Univ
Schwager, Mac	Boston Univ
Belta, Calin	Boston Univ

14:10-14:30 — FrB08.3

Linking Spatial and Dynamic Models for Traffic Maneuvers, pp. 6809-6816.

Olderog, Ernst-Ruediger	Univ. of Oldenburg
Ravn, Anders P.	Aalborg Univ
Wisniewski, Rafal	Aalborg Univ

14:30-14:50 — FrB08.4

Passivity Degradation in Discrete Control Implementations: An Approximate Bisimulation Approach (I), pp. 6817-6822.

Xu, Xiangru	Univ. of Michigan
Ozay, Necmiye	Univ. of Michigan
Gupta, Vijay	Univ. of Notre Dame

14:50-15:10 FrB08.5

Comparing Asynchronous L-Complete Approximations and Quotient Based Abstractions, pp. 6823-6829.

Schmuck, Anne-Kathrin	Max-Planck-Inst. for Software Systems
Tabuada, Paulo	Univ. of California at Los Angeles
Raisch, Joerg	Tech. Univ. Berlin

15:10-15:30 FrB08.6

Data-Driven and Model-Based Verification: A Bayesian Identification Approach, pp. 6830-6835.

Haesaert, Sofie	Eindhoven Univ. of Tech
Abate, Alessandro	Univ. of Oxford
Van den Hof, Paul M.J.	Eindhoven Univ. of Tech

FrB09 1003

Networked Control Systems II (Regular Session)

Chair: Kogiso, Kiminao	The Univ. of Electro-Communications
Co-Chair: Cheng, Peng	Zhengjiang Univ

13:30-13:50 FrB09.1

Cyber-Security Enhancement of Networked Control Systems Using Homomorphic Encryption, pp. 6836-6843.

Kogiso, Kiminao	The Univ. of Electro-Communications
Fujita, Takahiro	Nara Inst. of Science and Tech

13:50-14:10 FrB09.2

Event-Based Attack against Remote State Estimation, pp. 6844-6849.

Qi, Yifei	Zhejiang Univ
Cheng, Peng	Zhengjiang Univ
Shi, Ling	Hong Kong Univ. of Science and Tech
Chen, Jiming	Zhejiang Univ

14:10-14:30 FrB09.3

Moving Horizon Estimation for Multi-Rate Systems, pp. 6850-6855.

Liu, Andong	Zhejiang Univ. of Tech
Zhang, Wen-An	Zhejiang Univ. of Tech
Yu, Li	Zhejiang Univ. of Tech
Chen, Jie	City Univ. of Hong Kong

14:30-14:50 FrB09.4

Robust H-Infinity Control for a Class of Networked Uncertain Systems with Multiple Channels Subject to Markovian Switching, pp. 6856-6861.

Li, Zhaojian	The Univ. of Michigan
Yin, Xunyuan	Univ. of Alberta
Kolmanovsky, Ilya V.	The Univ. of Michigan
Lu, Jianbo	Ford Motor Company
Filev, Dimitre P.	Ford Motor Company
Atkins, Ella	Univ. of Michigan

14:50-15:10 FrB09.5

Switching Control Resource Allocation in Networked Control Systems, pp. 6862-6867.

de Sousa, Thais Tóssoli	Feec - Unicamp
Geromel, Jose C.	UNICAMP
Deaecto, Grace S.	FEM/UNICAMP

15:10-15:30 FrB09.6

Global Bounded Consensus of General Nonidentical Networks with Distributed Time-Delays, pp. 6868-6873.

Li, Xiuxian	The Univ. of Hong Kong
Su, Housheng	Huazhong Univ. of Science and Tech
Li, Chanying	Chines Acad. of Sciences
Wang, Zheng	The Univ. of Hong Kong
Chen, Michael Z. Q.	The Univ. of Hong Kong

FrB10 1004

Robust Control II (Regular Session)

Chair: Hilhorst, Gijs	KU Leuven
Co-Chair: Polyakov, Andrey	Inria Lille Nord-Europe

13:30-13:50 FrB10.1

$varepsilon$-Invariant Output Stabilization: Homogeneous Approach and Dead Zone Compensation, pp. 6874-6879.

Guerra, Matteo	Ec. Centrale De Lille
Vázquez, Carlos	Umeå Univ
Efimov, Denis	Inria - Lne
Zheng, Gang	INRIA
Freidovich, Leonid B.	Umeå Univ
Perruquetti, Wilfrid	Ec. Centrale De Lille

13:50-14:10 FrB10.2

An Iterative Convex Approach for Fixed-Order Robust H-2/H-Infinity Control of Discrete-Time Linear Systems with Parametric Uncertainty, pp. 6880-6885.

Hilhorst, Gijs	KU Leuven
Pipeleers, Goele	Katholieke Univ. Leuven
Michiels, Wim	K.U. Leuven
Oliveira, Ricardo C. L. F.	Univ. of Campinas - UNICAMP
Peres, Pedro L. D.	Univ. of Campinas
Swevers, Jan	K. U. Leuven

14:10-14:30 FrB10.3

Control under Clock Offsets and Actuator Saturation, pp. 6886-6891.

Wakaiki, Masashi	Univ. of California, Santa Barbara
Okano, Kunihisa	Univ. of California at Santa Barbara
Hespanha, Joao P.	Univ. of California, Santa Barbara

14:30-14:50 FrB10.4

Finite-Time Attractive Ellipsoid Method Using Implicit Lyapunov Functions, pp. 6892-6896.

Mera, Manuel	UPIBI-IPN
Polyakov, Andrey	Inria Lille Nord-Europe
Perruquetti, Wilfrid	Ec. Centrale De Lille
Zheng, Gang	INRIA

14:50-15:10 FrB10.5

Robust Output Regulation of Linear Passive Systems Using Maximally Monotone Controls, pp. 6897-6902.

Miranda, Felix Alfredo	Cinvestav
Castaños, Fernando	CINVESTAV

15:10-15:30 FrB10.6

Robust Regional Eigenvalue Assignment by Dynamic State-Feedback Control for Nonlinear Continuous-Time Systems, pp. 6903-6908.

Baker, Alex	Marquette Univ
Schneider, Susan	Marquette Univ
Yaz, Edwin	Marquette Univ

FrB11 1005

Distributed Control and Optimization of Physical Networks (Invited Session)

Chair: Como, Giacomo	Lund Univ
Co-Chair: Savla, Ketan	Univ. of Southern California
Organizer: Como, Giacomo	Lund Univ
Organizer: Savla, Ketan	Univ. of Southern California

13:30-13:50 FrB11.1

Fairness Considerations in Network Flow Problems (I), pp. 6909-6914.

Wei, Ermin	Northwestern Univ
Bandi, Chaithanya	Northwestern Univ

13:50-14:10 FrB11.2

Distributed Algorithm for Optimal Power Flow on an Unbalanced Radial Network (I), pp. 6915-6920.

Peng, Qiuyu	California Inst. of Tech
Low, Steven H.	California Inst. of Tech

14:10-14:30 FrB11.3

Optimal Voltage Support and Stress Minimization in Power Networks (I), pp. 6921-6926.

Todescato, Marco	Univ. of Padova
Simpson-Porco, John W.	Univ. of California Santa Barbara
Dörfler, Florian	Swiss Federal Inst. of Tech. (ETH) Zurich
Carli, Ruggero	Univ. of Padova
Bullo, Francesco	Univ. California at Santa Barbara

14:30-14:50 FrB11.4

Optimal Power Flow with Weighted Chance Constraints and General Policies for Generation Control (I), pp. 6927-6933.

Roald, Line	ETH Zurich
Misra, Sidhant	MIT
Chertkov, Michael	Los Alamos National Lab
Andersson, Goran	Swiss Federal Inst. of Tech

14:50-15:10 FrB11.5

A Distributed Strategy for Electricity Distribution Network Control in the Face of DER Compromises (I), pp. 6934-6941.

Shelar, Devendra	Massachusetts Inst. of Tech
Giraldo, Jairo	Univ. De Los Andes
Amin, Saurabh	Massachusetts Inst. of Tech

15:10-15:30 FrB11.6

Distributed Optimal Equilibrium Selection for Traffic Flow Over Networks (I), pp. 6942-6947.

Ba, Qin	Univ. of Southern California
Savla, Ketan	Univ. of Southern California
Como, Giacomo	Lund Univ

FrB12 1006

Adaptive Control III (Regular Session)

Chair: Guay, Martin	Queen's Univ
Co-Chair: Loria, Antonio	CNRS

13:30-13:50 FrB12.1

A Proportional Integral Extremum-Seeking Control Approach for Discrete-Time Nonlinear System, pp. 6948-6953.

Guay, Martin	Queen's Univ
Burns, Daniel	Mitsubishi Electric Res. Labs

13:50-14:10 FrB12.2

Output Tracking Control of Discrete-Time Nonlinear Systems by Output Feedback Passivity Based Adaptive PID, pp. 6954-6959.

Mizumoto, Ikuro	Kumamoto Univ
Takagi, Taro	National Inst. of Tech. Maizuru Coll

14:10-14:30 FrB12.3

Model-Based Extremum-Seeking Control for Unstable Systems with Time-Varying Extremum, pp. 6960-6965.

Moshksar, Ehsan	Queen's Univ
Dougherty, Sean	Queen's Univ
Guay, Martin	Queen's Univ

14:30-14:50 FrB12.4

Closed-Loop Identification and Tracking Control of Lagrangian Systems under Input Constraints, pp. 6966-6971.

Lopez Araujo, Daniela Juanita	Lab. Des Signaux Et Systemes
Loria, Antonio	CNRS

14:50-15:10 FrB12.5

Homography Based Visual Servo Control with Scene Reconstruction, pp. 6972-6977.

Parikh, Anup	Univ. of Florida
Kamalapurkar, Rushikesh	Univ. of Florida
Chen, Hsi-Yuan	Univ. of Florida
Dixon, Warren E.	Univ. of Florida

15:10-15:30 FrB12.6

Neural Programming: Towards Adaptive Control in Cyber-Physical Systems, pp. 6978-6985.

Selyunin, Konstantin	Vienna Univ. of Tech
Ratasich, Denise	Vienna Univ. of Tech
Bartocci, Ezio	Vienna Univ. of Tech
Islam, Md. Ariful	Stony Brook Univ. Department of Computer Science
Smolka, Scott	Stony Brook Univ. Department of Computer Science
Grosu, Radu	Vienna Univ. of Tech

FrB13 1007

Observers for Nonlinear Systems II (Regular Session)

Chair: Rajamani, Rajesh	Univ. of Minnesota
Co-Chair: Cacace, Filippo	Univ. Campus Biomedico Di Roma

13:30-13:50 FrB13.1

Nonlinear Observer Design for a Magnetic Position Estimation Technique, pp. 6986-6991.

Wang, Yan	Univ. of Minnesota
Madson, Ryan	Univ. of Minnesota
Rajamani, Rajesh	Univ. of Minnesota

13:50-14:10 FrB13.2

H-Infinity Property of the Discrete-Time Extended Kalman Filter with Stochastic L_2 Disturbances, pp. 6992-6997.

Bonniwell, Jennifer	Marquette Univ
Schneider, Susan	Marquette Univ
Yaz, Edwin	Marquette Univ

14:10-14:30 FrB13.3

H_infty Observer-Based Control for Discrete-Time One-Sided Lipschitz Systems with Unknown Inputs (I), pp. 6998-7003.

Benallouch, Mohamed	Ec. Lyon (École Catholique D'arts

Et Métiers)

Boutayeb, Mohamed — Univ. of Henri Poincaré Nancy

Trinh, Hieu — Deakin Univ

14:30-14:50 FrB13.4

Adaptive State Estimation for Nonlinear Systems Based on the Increasing-Gain Observer, pp. 7004-7009.

Alessandri, Angelo — Univ. of Genoa

Rossi, Anna — Univ. of Genoa

14:50-15:10 FrB13.5

A State Observer for Nonlinear Systems with Large and Variable Measurement Delays (I), pp. 7010-7015.

Cacace, Filippo — Univ. Campus Biomedico Di Roma

Germani, Alfredo — Univ. Dell'aquila

Manes, Costanzo — Univ. Dell'aquila

15:10-15:30 FrB13.6

LMI Conditions for Designing Rational Nonlinear Observers with ${cal H}_infty$ Performance, pp. 7016-7021.

May Dezuo, Tiago Jackson — Federal Univ. of Santa Catarina

Trofino, Alexandre — Federal Univ. of Santa Catarina

FrB14 — 1008

Operator-Theoretic Approach to Analysis of Nonlinear Systems: Koopman and Perron-Frobenius Operators (Invited Session)

Chair: Susuki, Yoshihiko — Kyoto Univ

Co-Chair: Mauroy, Alexandre — Univ. of Liege

Organizer: Susuki, Yoshihiko — Kyoto Univ

Organizer: Mauroy, Alexandre — Univ. of Liege

Organizer: Mezic, Igor — Univ. of California, Santa Barbara

13:30-13:50 FrB14.1

A Prony Approximation of Koopman Mode Decomposition (I), pp. 7022-7027.

Susuki, Yoshihiko — Kyoto Univ

Mezic, Igor — Univ. of California, Santa Barbara

13:50-14:10 FrB14.2

An Operator-Theoretic Approach to Differential Positivity (I), pp. 7028-7033.

Mauroy, Alexandre — Univ. of Liege

Forni, Fulvio — Univ. of Cambridge

Sepulchre, Rodolphe — Univ. of Cambridge

14:10-14:30 FrB14.3

On Applications of the Spectral Theory of the Koopman Operator in Dynamical Systems and Control Theory (I), pp. 7034-7041.

Mezic, Igor — Univ. of California, Santa Barbara

14:30-14:50 FrB14.4

Computation of the Lyapunov Measure for Almost Everywhere Stochastic Stability (I), pp. 7042-7047.

Vaidya, Umesh — Iowa State Univ

Chinde, Venkatesh — Iowa State Univ

14:50-15:10 FrB14.5

Backstepping PDE Design, Volterra and Fredholm Operators: A Convex Optimization Approach, pp. 7048-7053.

Ascencio, Pedro — Imperial Coll. London

Astolfi, Alessandro — Imperial Coll. & Univ. of Rome

Parisini, Thomas — Imperial Coll. & Univ. of Trieste

FrB15 — 1009

Delay Systems I (Regular Session)

Chair: Pepe, Pierdomenico — Univ. of L' Aquila

Co-Chair: Rabah, Rabah — Ec. Des Mines De Nantes

13:30-13:50 FrB15.1

Synchronization in a Network of Identical Discrete-Time Agents with Unknown, Nonuniform Constant Input Delay, pp. 7054-7059.

Zhang, Meirong — Washington State Univ

Saberi, Ali — Washington State Univ

Stoorvogel, Anton A. — Univ. of Twente

13:50-14:10 FrB15.2

On Spectral Assignment for Systems of Neutral Type and Vector Moment Problems, pp. 7060-7065.

Sklyar, Katerina — Univ. of Szczecin, Inst. of Mathematics

Rabah, Rabah — Ec. Des Mines De Nantes

Sklyar, Grigory — Szczecin Univ

14:10-14:30 FrB15.3

Quaternion-Based H^∞ Kinematic Attitude Control Subjected to Input Time-Varying Delays, pp. 7066-7071.

Vilela, João Vitor Cavalcanti — Univ. of Brasilia

Figueredo, Luis Felipe da Cruz — Univ. of Brasília

Ishihara, Joao Yoshiyuki — Univ. of Brasília

Borges, Geovany A. — Univ. De Brasilia

14:30-14:50 FrB15.4

Stabilization in the Sample-And-Hold Sense of Nonlinear Retarded Systems: Further Insights and Perspectives (I), pp. 7072-7077.

Pepe, Pierdomenico — Univ. of L' Aquila

14:50-15:10 FrB15.5

Predictor-Feedback Stabilization of Multi-Input Nonlinear Systems, pp. 7078-7083.

Bekiaris-Liberis, Nikolaos — Tech. Univ. of Crete

Krstic, Miroslav — Univ. of California, San Diego

15:10-15:30 FrB15.6

Controllers for Interconnected Systems with Communication Delays, pp. 7084-7089.

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

Chow, Liansing — Univ. of California, Davis

FrB16 — 1010

Quantum Information and Control I (Regular Session)

Chair: Petersen, Ian R. — Univ. of New South Wales at the AustralianDefenceForceAcad

Co-Chair: Xue, Shibei — UNSW Canberra at ADFA

13:30-13:50 FrB16.1

Control of a Quantum Model for Two Trapped Ions, pp. 7090-7095.

Paduro, Esteban — Univ. Federico Santa Maria, Valparaiso

Sigalotti, Mario — INRIA Saclay

13:50-14:10 FrB16.2

Quantum Filter for a Class of Non-Markovian Quantum Systems, pp. 7096-7100.

Xue, Shibei — UNSW Canberra

James, Matthew R. — Australian National Univ

Shabani, Alireza — Univ. of Southern California

Ugrinovskii, Valery — Univ. of New South Wales

Petersen, Ian R. — Univ. of New South Wales at the AustralianDefenceForceAcad

14:10-14:30 FrB16.3

Surface Code Continuous Quantum Error Correction Using Feedback, pp. 7101-7106.

Nguyen, Thien — The Australian National Univ
Hill, Charles — Univ. of Melbourne
Hollenberg, Lloyd — Univ. of Melbourne
James, Matthew R. — Australian National Univ

14:30-14:50 FrB16.4

Covariance Dynamics and Entanglement in Translation Invariant Linear Quantum Stochastic Networks, pp. 7107-7112.

Khodaparastsichani, Arash — UNSW Canberra
Vladimirov, Igor G. — UNSW Canberra
Petersen, Ian R. — Univ. of New South Wales at the AustralianDefenceForceAcad

14:50-15:10 FrB16.5

Stabilization of Photon-Number States Via Single-Photon Corrections: A First Convergence Analysis under an Ideal Set-Up, pp. 7113-7118.

Silveira, Hector Bessa — Federal Univ. of Santa Catarina - UFSC
Pereira da Silva, Paulo Sergio — Univ. De Sao Paulo
Rouchon, Pierre — Mines ParisTech

15:10-15:30 FrB16.6

Quantum Control Modeling Beyond Semiclassical Approximation, pp. 7119-7124.

Wu, Re-Bing — Tsinghua Univ
Zhang, Jing — Tsinghua Univ
Tarn, Tzyh-Jong — Washington Univ

FrB17 Conference Hall

Algebraic and Geometric Methods II (Regular Session)

Chair: Kotta, Ülle — Inst. of Cybernetics at TUT
Co-Chair: Ohtsuka, Toshiyuki — Kyoto Univ

13:30-13:50 FrB17.1

Local Realization of Vector Field by State Feedback, pp. 7125-7130.

Yuno, Tsuyoshi — Kyushu Univ
Ohtsuka, Toshiyuki — Kyoto Univ

13:50-14:10 FrB17.2

Transforming a Set of Nonlinear Input-Ouput Equations into Popov Form, pp. 7131-7136.

Bartosiewicz, Zbigniew — Bialystok Univ. of Tech
Kotta, Ülle — Inst. of Cybernetics at TUT
Pawluszewicz, Ewa — Bialystok Tech. Univ
Tonso, Maris — Inst. of Cybernetics, Tallinn Univ. of Tech
Wyrwas, Malgorzata — Bialystok Univ. of Tech

14:10-14:30 FrB17.3

On Integrability of Observable Space for Discrete-Time Analytic Systems, pp. 7137-7142.

Kawano, Yu — Kyoto Univ
Kotta, Ülle — Inst. of Cybernetics at TUT

14:30-14:50 FrB17.4

A Simple Approach to Numerical Methods for Stochastic Differential Equations in Lie Groups, pp. 7143-7150.

Marjanovic, Goran — Univ. of New South Wales
Piggott, Marc James — Univ. of New South Wales
Solo, Victor — Univ. of New South Wales

14:50-15:10 FrB17.5

A Geometric Approach to Differential Hamiltonian Systems and Differential Riccati Equations, pp. 7151-7156.

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

15:10-15:30 FrB17.6

Suboptimal Stabilizing Controllers for Linearly Solvable System, pp. 7157-7164.

Leong, Yoke Peng — California Inst. of Tech
Horowitz, Matanya B. — California Inst. of Tech
Burdick, Joel W. — California Inst. of Tech

FrB18 1202

Stochastic Optimal Control II (Regular Session)

Chair: Charalambous, Charalambos D. — Univ. of Cyprus
Co-Chair: Kulkarni, Ankur A. — Indian Inst. of Tech. Bombay

13:30-13:50 FrB18.1

Mean Square Stability and H2-Control of Continuous-Time Jump Linear Systems with Partial Information on the Markov Parameter, pp. 7165-7170.

Stadtmann, Frederik — Univ. De Sao Paulo
Costa, Oswaldo Luiz V. — Univ. of Sao Paulo

13:50-14:10 FrB18.2

Infinite Horizon Average Cost Dynamic Programming Subject to Ambiguity on Conditional Distribution, pp. 7171-7176.

Tzortzis, Ioannis — Univ. of Cyprus
Charalambous, Charalambos D. — Univ. of Cyprus
Charalambous, Themistoklis — Chalmers Univ. of Tech

14:10-14:30 FrB18.3

Approximately Optimal Linear Strategies for Static Teams with `Big' Non-Gaussian Noise, pp. 7177-7182.

Kulkarni, Ankur A. — Indian Inst. of Tech. Bombay

14:30-14:50 FrB18.4

Distributed Solution of Stochastic Optimal Control Problems on GPUs, pp. 7183-7188.

Sampathirao, Ajay Kumar — IMT Lucca, Inst. for Advanced Studies Lucca
Sopasakis, Pantelis — IMT Inst. for Advanced Studies Lucca
Bemporad, Alberto — IMT Inst. for Advanced Studies Lucca
Patrinos, Panagiotis — IMT Inst. for Advanced Studies Lucca

14:50-15:10 FrB18.5

Chance-Constrained Model Predictive Control Based on Box Approximations, pp. 7189-7194.

Dolgov, Maxim — Karlsruhe Inst. of Tech. (KIT)
Kurz, Gerhard — Karlsruhe Inst. of Tech. (KIT)
Hanebeck, Uwe D. — Karlsruhe Inst. of Tech. (KIT)

15:10-15:30 FrB18.6

Optimizing Quality of Experience of Dynamic Video Streaming Over Fading Wireless Networks, pp. 7195-7200.

Singh, Rahul — Texas A&M Univ
Kumar, P. R. — Texas A&M Univ

FrC01	Large Hall
Smart Grid IV (Regular Session)	
Chair: Namerikawa, Toru	Keio Univ
Co-Chair: Ghorbani, Reza	Univ. of Hawaii
16:00-16:20	FrC01.1
Regional Demand-Supply Management Based on Dynamic Pricing in Multi-Period Energy Market, pp. 7201-7206.	
Okawa, Yoshihiro	Keio Univ
Namerikawa, Toru	Keio Univ
16:20-16:40	FrC01.2
Data Center Optimal Regulation Service Reserve Provision with Explicit Modeling of Quality of Service Dynamics, pp. 7207-7213.	
Chen, Hao	Boston Univ
Zhang, Bowen	Boston Univ
Caramanis, Michael C.	Boston Univ
Coskun, Ayse K.	Boston Univ
16:40-17:00	FrC01.3
Bayesian Quickest Short-Term Voltage Instability Detection in Power Systems, pp. 7214-7219.	
Vakili, Sattar	Cornell Univ
Zhao, Qing	Cornell Univ
Tong, Lang	Cornell Univ
17:00-17:20	FrC01.4
Duration-Deadline Jointly Differentiated Energy Services, pp. 7220-7225.	
Chen, Wei	The Hong Kong Univ. of Science and Tech
Qiu, Li	Hong Kong Univ. of Sci. & Tech
Varaiya, Pravin P.	Univ. of California at Berkeley
17:20-17:40	FrC01.5
Coordination of Wind Power and Flexible Load through Demand Response Options, pp. 7226-7231.	
Wang, Dai	Xi'an Jiaotong Univ
Kalathil, Dileep	Univ. of California, Berkeley
Poolla, Kameshwar	Univ. of California at Berkeley
Guan, Xiaohong	Xian Jiaotong Univ

FrC02	Small Hall
Optimization IV (Regular Session)	
Chair: Nagahara, Masaaki	Kyoto Univ
Co-Chair: Barabanov, Nikita E.	North Dakota State Univ
16:00-16:20	FrC02.1
A SVD Approach to Multivariate Polynomial Optimization Problems, pp. 7232-7237.	
Vandermeersch, Antoine	KU Leuven
De Moor, Bart L.R.	Katholieke Univ. Leuven
16:20-16:40	FrC02.2
Stability Analysis of Multi-Objective Planning Problems for Unmanned Aircraft, pp. 7238-7243.	
Niendorf, Moritz	Univ. of Michigan
Kabamba, Pierre	Univ. of Michigan
Girard, Anouck R.	Univ. of Michigan, Ann Arbor
16:40-17:00	FrC02.3
Sampled-Data H-Infinity Optimization for Self-Interference Suppression in Baseband Signal Subspaces, pp. 7244-7249.	
Sasahara, Hampei	Kyoto Univ
Nagahara, Masaaki	Kyoto Univ
Hayashi, Kazunori	Kyoto Univ
Yamamoto, Yutaka	Kyoto Univ
17:00-17:20	FrC02.4
Optimization Problems Arising in Stability Analysis of Discrete Time Nonlinear Systems, pp. 7250-7255.	
Barabanov, Nikita E.	North Dakota State Univ
Singh, Jayant	North Dakota State Univ
17:20-17:40	FrC02.5
Coordination of Blind Agents on Lie Groups, pp. 7256-7261.	
Taringoo, Farzin	The Univ. of Melbourne
Nesic, Dragan	Univ. of Melbourne
Dower, Peter M.	The Univ. of Melbourne
Tan, Ying	The Univ. of Melbourne

FrC03	801
LMI's (Regular Session)	
Chair: Oishi, Yasuaki	Nanzan Univ
Co-Chair: Permenter, Frank	MIT
16:00-16:20	FrC03.1
A Convex Approach to Hydrodynamic Analysis, pp. 7262-7267.	
Ahmadi, Mohamadreza	Univ. of Oxford
Valmórbida, Giórgio	Univ. of Oxford
Papachristodoulou, Antonis	Univ. of Oxford
16:20-16:40	FrC03.2
Convex Solutions to Integral Inequalities in Two-Dimensional Domains, pp. 7268-7273.	
Valmórbida, Giórgio	Univ. of Oxford
Ahmadi, Mohamadreza	Univ. of Oxford
Papachristodoulou, Antonis	Univ. of Oxford
16:40-17:00	FrC03.3
Finding Sparse, Equivalent SDPs Using Minimal Coordinate Projections, pp. 7274-7279.	
Permenter, Frank	MIT
Parrilo, Pablo A.	Massachusetts Inst. of Tech
17:00-17:20	FrC03.4
Validated Discretization and Robust Controller Design for Nonlinear Sampled-Data Control, pp. 7280-7285.	
Oishi, Yasuaki	Nanzan Univ
17:20-17:40	FrC03.5
Observer-Based Stabilization Via LMIs for Linear Uncertain Systems, pp. 7286-7291.	
Zemouche, Ali	Univ. of Lorraine
Rajamani, Rajesh	Univ. of Minnesota
Kheloufi, Houria	Univ. of Mouloud Mammeri
Bedouhene, Fazia	Univ. of Mouloud Mammeri, Tizi-Ouzou
17:40-18:00	FrC03.6
Uniform Versions of Finsler's Lemma, pp. 7292-7297.	
Kussaba, Hugo Tadashi	Univ. of Brasília
Ishihara, Joao Yoshiyuki	Univ. of Brasília
Borges, Renato A.	Univ. of Brasilia

FrC04 802

Reduced-Order Modeling (Regular Session)

Chair: Albin, Thivaharan — RWTH Aachen Univ. Inst. of Automatic Control

Co-Chair: You, Fengqi — Northwestern Univ

16:00-16:20 FrC04.1

Model Reduction for Nonlinear Systems and Nonlinear Time-Delay Systems from Input/output Data, pp. 7298-7303.

Scarciotti, Giordano — Imperial Coll. London

Astolfi, Alessandro — Imperial Coll. & Univ. of Rome

16:20-16:40 FrC04.2

Adaptive Surrogate-Based Algorithm for Integrated Scheduling and Dynamic Optimization of Sequential Batch Processes, pp. 7304-7309.

Shi, Hanyu — Northwestern Univ

You, Fengqi — Northwestern Univ

16:40-17:00 FrC04.3

Model Reduction by Moment Matching for Linear Singular Systems, pp. 7310-7315.

Scarciotti, Giordano — Imperial Coll. London

17:00-17:20 FrC04.4

Model Based Control of the Incompressible Navier-Stokes-Equations Using Interpolatory Model Reduction, pp. 7316-7321.

Pyta, Lorenz — RWTH Aachen Univ

Abel, Dirk — RWTH Aachen Univ

17:20-17:40 FrC04.5

Control-Oriented Modeling and Adaptive Parameter Estimation of a Lithium Ion Intercalation Cell, pp. 7322-7328.

Bi, Pierre — Massachusetts Inst. of Tech

Annaswamy, Anuradha M. — Massachusetts Inst. of Tech

Kojic, Aleksandar — Robert Bosch Res. and Tech. Center

FrC05 804

Control Applications III (Regular Session)

Chair: Li, Donghai — Tsinghua Univ

Co-Chair: Besancon, Gildas — GIPSA-Lab, Grenoble INP

16:00-16:20 FrC05.1

Simulation-Based Work Load and Job Release Control for Semiconductor Manufacturing, pp. 7329-7334.

Urayama, Keiichiro — Toshiba Corp

Fu, Michael C. — Univ. of Maryland

Marcus, Steven — Univ. of Maryland

16:20-16:40 FrC05.2

A Real-Time Inverse-Based Hysteresis Compensation with Adaptation, pp. 7335-7340.

Ryba, Lukasz — Grenoble INP, GIPSA-Lab

Dokoupil, Jakub — CEIT, Brno Univ. of Tech

Voda, Alina — Grenoble Univ

Besancon, Gildas — GIPSA-Lab, Grenoble INP

16:40-17:00 FrC05.3

An Optimized Design of a Large Stroke Beam Flexure-Based Parallel Nano Manipulator, pp. 7341-7346.

Wang, Peng — Tsinghua Univ

Zhang, Zhen — Tsinghua Univ

Yan, Peng — Beihang Univ

17:00-17:20 FrC05.4

Design and Operation of Fast Model Predictive Controller for Stabilization of Magnetohydrodynamic Modes in a Fusion Device, pp. 7347-7352.

Setiadi, Agung Chris — KTH Royal Inst. of Tech

Brunsell, Per — Royal Inst. of Tech

Frassinetti, Lorenzo — School of Electrical Engineering, Royal Inst. of Tech

17:20-17:40 FrC05.5

Inverted Decoupling Based Active Disturbance Rejection Control for Multivariable Systems, pp. 7353-7358.

Dong, Junyi — Tsinghua Univ

Sun, Li — Tsinghua Univ

Li, Donghai — Tsinghua Univ

Lee, Kwang Y. — Baylor Univ

Wu, Zhenlong — Tsinghua Univ

17:40-18:00 FrC05.6

Improved 3D Imaging Performance of MPC, pp. 7359-7364.

Rana, Md. Sohel — UNSW, Canberra

Pota, Hemanshu R. — The Univ. of New South Wales

Petersen, Ian R. — Univ. of New South Wales at the AustralianDefenceForceAcad

FrC06 805

Machine Learning (Regular Session)

Chair: Zorzi, Mattia — Univ. Degli Studi Di Padova

Co-Chair: Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

16:00-16:20 FrC06.1

Kernel Controllers: A Systems-Theoretic Approach for Data-Driven Modeling and Control of Spatiotemporally Evolving Processes, pp. 7365-7370.

Kingravi, Hassan — Georgia Inst. of Tech

Maske, Harshal — Oklahoma State Univ

Chowdhary, Girish — Oklahoma State Univ

16:20-16:40 FrC06.2

A Landmark Selection Method for L-Isomap Based on Greedy Algorithm and Its Application, pp. 7371-7376.

Shi, Hao — Univ. of Science and Tech. of China

Yin, Bao-Qun — Univ. of Science and Tech. of China

Zhang, Xiaofeng — Univ. of Science and Tech. of China

Kang, Yu — Univ. of Science and Tech. of China

Lei, Yingke — Electronic Engineering Inst

16:40-17:00 FrC06.3

An Approach to One-Bit Compressed Sensing Based on Probably Approximately Correct Learning Theory, pp. 7377-7379.

Ahsen, Mehmet Eren — Univ. of Texas at Dallas

Vidyasagar, Mathukumalli — The Univ. of Texas at Dallas

17:00-17:20 FrC06.4

An IV-SVM-Based Approach for Identification of State-Space LPV Models under Generic Noise Conditions, pp. 7380-7385.

Rizvi, Syed Z. — Univ. of Georgia

Mohammadpour, Javad — Univ. of Georgia

Tóth, Roland — Eindhoven Univ. of Tech

Meskin, Nader — Qatar Univ

17:20-17:40 FrC06.5

A Bayesian Approach to Sparse Plus Low Rank Network Identification, pp. 7386-7391.

Zorzi, Mattia — Univ. Degli Studi Di Padova
Chiuso, Alessandro — Univ. Di Padova

17:40-18:00 FrC06.6

Incorporating Best Linear Approximation within LS-SVM-Based Hammerstein System Identification, pp. 7392-7397.

Castro-Garcia, Ricardo — KU Leuven
Tiels, Koen — Vrije Univ. Brussel
Schoukens, Johan — Vrije Univ. Brussels
Suykens, J.A.K. — Katholieke Univ. Leuven

FrC07 — 1001

Sensor Networks (Regular Session)

Chair: Solo, Victor — Univ. of New South Wales
Co-Chair: Tian, Yu-Ping — Southeast Univ

16:00-16:20 FrC07.1

Lifetime Maximization of Wireless Sensor Networks with a Mobile Source Node, pp. 7398-7403.

Pourazarm, Sepideh — Boston Univ
Cassandras, Christos G. — Boston Univ

16:20-16:40 FrC07.2

LSTS: A New Time Synchronization Protocol for Networks with Random Communication Delays, pp. 7404-7409.

Tian, Yu-Ping — Southeast Univ

16:40-17:00 FrC07.3

Distributed H-Infinity Filtering Over Multiple-Channel Sensor Networks with Markovian Channel Switching and Time-Varying Delays, pp. 7410-7415.

Li, Zhaojian — The Univ. of Michigan
Yin, Xunyuan — Univ. of Alberta
Yin, Xiang — Univ. of Michigan
Wang, Changhong — Dept. of Control Science and Engineering, Harbin Inst
Xie, Yi — Jiangsu Civil Aviation Bureau of Air Traffic Management

17:00-17:20 FrC07.4

Resilient Observation Selection in Adversarial Settings, pp. 7416-7421.

Laszka, Aron — Vanderbilt Univ
Vorobeychik, Yevgeniy — Vanderbilt Univ
Koutsoukos, Xenofon — Vanderbilt Univ

17:20-17:40 FrC07.5

Stability of Distributed Adaptive Algorithms I: Consensus Algorithms, pp. 7422-7427.

Solo, Victor — Univ. of New South Wales

17:40-18:00 FrC07.6

Stability of Distributed Adaptive Algorithms II: Diffusion Algorithms, pp. 7428-7433.

Piggott, Marc James — Univ. of New South Wales
Solo, Victor — Univ. of New South Wales

FrC08 — 1002

Formal Verification and Synthesis II (Regular Session)

Chair: Frehse, Goran — VERIMAG
Co-Chair: Fu, Jie — Univ. of Pennsylvania

16:00-16:20 FrC08.1

Controller Synthesis with Inductive Proofs for Piecewise Linear Systems: An SMT-Based Algorithm, pp. 7434-7439.

Huang, Zhenqi — Univ. of Illinois at Urbana-Champaign
Wang, Yu — Univ. of Illinois at Urbana-Champaign
Mitra, Sayan — Univ. of Illinois
Dullerud, Geir E. — Univ. of Illinois, Urbana-Champaign
Chaudhuri, Swarat — Rice Univ

16:20-16:40 FrC08.2

Computational Methods for Stochastic Control with Metric Interval Temporal Logic Specifications (I), pp. 7440-7447.

Fu, Jie — Univ. of Pennsylvania
Topcu, Ufuk — Univ. of Pennsylvania

16:40-17:00 FrC08.3

Decomposition of Multi-Agent Planning under Distributed Motion and Task LTL Specifications, pp. 7448-7453.

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

17:00-17:20 FrC08.4

Computing Maximizer Trajectories of Affine Dynamics for Reachability, pp. 7454-7461.

Frehse, Goran — VERIMAG

17:20-17:40 FrC08.5

Optimal Control in Markov Decision Processes Via Distributed Optimization, pp. 7462-7469.

Fu, Jie — Univ. of Pennsylvania
Han, Shuo — Univ. of Pennsylvania
Topcu, Ufuk — Univ. of Pennsylvania

17:40-18:00 FrC08.6

Learning Based Supervisor Synthesis of POMDP for PCTL Specifications (I), pp. 7470-7475.

Zhang, Xiaobin — Univ. of Notre Dame
Wu, Bo — Univ. of Notre Dame
Lin, Hai — Univ. of Notre Dame

FrC09 — 1003

Networked Control Systems III (Regular Session)

Chair: Kia, Solmaz — Univ. of California Irvine (UCI)
Co-Chair: Sawada, Kenji — Univ. of Electro-Communications

16:00-16:20 FrC09.1

Stability Analysis for Networked Control Systems under Denial-Of-Service Attacks, pp. 7476-7481.

Cao, Rui — Shanghai JiaoTong Univ
Wu, Jing — Shanghai Jiao Tong Univ
Long, Chengnian — Shanghai Jiao Tong Univ
Li, Shaoyuan — Shanghai Jiao Tong Univ

16:20-16:40 FrC09.2

A Distributed Dynamical Solver for an Optimal Resource Allocation Problem Over Networked Systems, pp. 7482-7487.

Kia, Solmaz — Univ. of California Irvine (UCI)

16:40-17:00 FrC09.3

Sampled-Data Model Following Output Feedback Control for

Discrete-Valued Input Systems, pp. 7488-7493.

Sawada, Kenji	Univ. of Electro-Communications
Shin, Seiichi	Univ. of Electro-Communciations

17:00-17:20 FrC09.4

Consistency-Preserving Event-Triggered Estimation in Sensor Networks, pp. 7494-7501.

Molin, Adam	Royal Inst. of Tech
Sandberg, Henrik	KTH Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech

17:20-17:40 FrC09.5

Performance Metrics for Droop-Controlled Microgrids with Variable Voltage Dynamics, pp. 7502-7509.

Tegling, Emma	KTH Royal Inst. of Tech
Gayme, Dennice	The Johns Hopkins Univ
Sandberg, Henrik	KTH Royal Inst. of Tech

17:40-18:00 FrC09.6

Towards Networked Control Systems with Guaranteed Stability: Using Weakly Hard Real-Time Constraints to Model the Loss Process, pp. 7510-7515.

Blind, Rainer	Univ. of Stuttgart
Allgöwer, Frank	Univ. of Stuttgart

FrC10 1004

Robust Control III (Regular Session)

Chair: Shim, Hyungbo	Seoul National Univ
Co-Chair: Lessard, Laurent	Univ. of California, Berkeley

16:00-16:20 FrC10.1

Exponential Convergence Bounds Using Integral Quadratic Constraints, pp. 7516-7521.

Boczar, Ross	Univ. of California, Berkeley
Lessard, Laurent	Univ. of Wisconsin-Madison
Recht, Benjamin	California Inst. of Tech

16:20-16:40 FrC10.2

Hard Limits on Robust Control Over Delayed and Quantized Communication Channels with Applications to Sensorimotor Control, pp. 7522-7529.

Nakahira, Yorie	California Inst. of Tech
Matni, Nikolai	California Inst. of Tech
Doyle, John C.	California Inst. of Tech

16:40-17:00 FrC10.3

An Active Disturbance Rejection Approach Based on Signal Processing, pp. 7530-7535.

Cortés-Romero, John	Univ. Nacional De Colombia
Arcos-Legarda, Jaime	Univ. Nacional De Colombia
Ramos, Germán Andrés	Univ. Nacional De Colombia

17:00-17:20 FrC10.4

On Robust Stability of Disturbance Observer for Sampled-Data Systems under Fast Sampling: An Almost Necessary and Sufficient Condition, pp. 7536-7541.

Park, Gyunghoon	Seoul National Univ
Joo, Youngjun	Hanyang Univ
Lee, Chanhwa	Seoul National Univ
Shim, Hyungbo	Seoul National Univ

17:20-17:40 FrC10.5

Risk Management in Oil Reservoir Water-Flooding under Economic Uncertainty, pp. 7542-7547.

Siraj, Muhammad Mohsin	Eindhoven Univ. of Tech
Van den Hof, Paul M.J.	Eindhoven Univ. of Tech
Jansen, Jan Dirk	Delft Univ. of Tech

17:40-18:00 FrC10.6

A Robust Predictor for Nonlinear Systems with Dead Time, pp. 7548-7553.

Lima, Daniel Martins	Univ. Federal De Santa Catarina
Santos, Tito Luís Maia	Federal Univ. of Bahia
Normey-Rico, Julio Elias	Federal Univ. of Santa Catarina

FrC11 1005

Constrained Control (Regular Session)

Chair: Ibuki, Tatsuya	Tokyo Inst. of Tech
Co-Chair: Schaich, Rainer Manuel	Univ. of Oxford

16:00-16:20 FrC11.1

Revived Transformation for Nonlinear Systems Subject to State Constraints, pp. 7554-7559.

Kimura, Shunsuke	Tokyo Inst. of Tech
Nakamura, Hisakazu	Tokyo Univ. of Science
Ibuki, Tatsuya	Tokyo Inst. of Tech
Sampei, Mitsuji	Tokyo Inst. of Tech

16:20-16:40 FrC11.2

Robust Positively Invariant Sets for State Dependent and Scaled Disturbances, pp. 7560-7565.

Schaich, Rainer Manuel	Univ. of Oxford
Cannon, Mark	Univ. of Oxford

16:40-17:00 FrC11.3

Output to Input Saturation Transformation: Demonstration and Application to Disturbed Linear Systems, pp. 7566-7571.

Chambon, Emmanuel	ONERA - the French Aerospace Lab
Burlion, Laurent	Onera
Apkarian, Pierre	ONERA - the French Aerospace Lab

17:00-17:20 FrC11.4

Adaptive NN Control for Uncertain Pure-Feedback Nonlinear Systems with State Constraints Subject to Unknown Disturbances, pp. 7572-7577.

Tang, Zhong-Liang	Univ. of Electronic Science and Tech. of China
Ge, Shuzhi Sam	National Univ. of Singapore
Tee, Keng Peng	Inst. for Infocomm Res

17:20-17:40 FrC11.5

An Explicit Design Method of Robust Periodic MPC with Application to Charge-Level Control of Photovoltaic Battery, pp. 7578-7585.

Hashikura, Kotaro	Tokyo Metropolitan Univ
Koura, Hiroyuki	Tokyo Metropolitan Univ
Umeda, Katsuya	Tokyo Metropolitan Univ
Kojima, Akira	Tokyo Metropolitan Univ

17:40-18:00 FrC11.6

Anti-Windup Design for Systems with Input Quantization, pp. 7586-7591.

Sofrony, Jorge Ivan	Univ. Nacional De Colombia
Turner, Matthew C.	Univ. of Leicester

FrC12 1006

Adaptive Control IV (Regular Session)

Chair: Miyasato, Yoshihiko — Inst. of Statistical Mathematics
Co-Chair: Oliveira, Tiago Roux — State Univ. of Rio De Janeiro

16:00-16:20 FrC12.1

Adaptive H-Infinity Consensus Control of Multi-Agent Systems on Directed Graph, pp. 7592-7597.

Miyasato, Yoshihiko — Inst. of Statistical Mathematics

16:20-16:40 FrC12.2

Adaptive Output-Feedback Control for Relative Degree Two Systems Based on Closed-Loop Reference Models, pp. 7598-7603.

Qu, Zheng — MIT
Annaswamy, Anuradha M. — Massachusetts Inst. of Tech
Lavretsky, Eugene — The Boeing Co

16:40-17:00 FrC12.3

Removing Erroneous History Stack Elements in Concurrent Learning, pp. 7604-7609.

Kersting, Stefan — Tech. Univ. München
Buss, Martin — Tech. Univ. Muenchen

17:00-17:20 FrC12.4

Data-Driven Robust Optimal Control Design for Uncertain Cascaded Systems Using Value Iteration, pp. 7610-7615.

Bian, Tao — Pol. School of Engineering, New York Univ
Jiang, Zhongping — New York Univ

17:20-17:40 FrC12.5

Fractional Order Adaptive Backstepping Control Based on Frequency Distributed Model, pp. 7616-7621.

Wei, Yiheng — Univ. of Science and Tech. of China
Cheng, Songsong — Univ. of Science and Tech. of China
Hu, Yangsheng — Univ. of Science and Tech. of China
Wang, Yong — Univ. of Science and Tech. of China

17:40-18:00 FrC12.6

Adaptive Trajectory Tracking and Rejection of Sinusoidal Disturbances with Unknown Frequencies for Uncertain Mechanical Systems, pp. 7622-7627.

Forni, Paolo — Imperial Coll. London
Lopes, Gabriel A. D. — Delft Univ. of Tech
Jeltsema, Dimitri — Delft Univ. of Tech

FrC13 1007

Observers for Nonlinear Systems III (Regular Session)

Chair: Chung, Chung Choo — Hanyang Univ
Co-Chair: Batista, Pedro — Inst. Superior Técnico, Univ. De Lisboa

16:00-16:20 FrC13.1

Modeling, Observer Design and Robust Control of the Particle Density Profile in Tokamak Plasmas (I), pp. 7628-7635.

Blanken, Thomas Cornelis — Eindhoven Univ. of Tech
Felici, Federico — Eindhoven Univ. of Tech
De Baar, Marco — FOM
Heemels, W.P.M.H. — Eindhoven Univ. of Tech

16:20-16:40 FrC13.2

Pseudo-Range Navigation with Clock Offset and Propagation Speed Estimation, pp. 7636-7641.

Batista, Pedro — Inst. Superior Técnico, Univ. De Lisboa
Silvestre, Carlos — Univ. of Macau
Oliveira, Paulo Jorge — Inst. Superior Técnico

16:40-17:00 FrC13.3

Inverse Optimal Adaptive Output Feedback Control of Euler-Lagrange Systems: A Variable Structure Observer Based Approach, pp. 7642-7647.

Aksoy, Orhan — Havelsan, Istanbul Turkey
Zergeroglu, Erkan — Gebze Inst. of Tech
Tatlicioglu, Enver — Izmir Inst. of Tech

17:00-17:20 FrC13.4

Observer Design for Position and Velocity Bias Estimation from a Single Direction Output, pp. 7648-7653.

Le Bras, Florent — Delegation Generale De L'armement
Hamel, Tarek — Univ. De Nice Sophia Antipolis
Mahony, Robert — Australian National Univ
Samson, Claude — INRIA Sophia-Antipolis

17:20-17:40 FrC13.5

Multi-Output Partial Nonlinear Observer Normal Form, pp. 7654-7658.

Saadi, Wided — ENIG
Boutat, Driss — INSA Centre Val De Loire
Zheng, Gang — INRIA
Sbita, Lassaad — Ec. Nationale D'ingenieurs De Gabes (ENIG)

17:40-18:00 FrC13.6

Nonlinear Damping Control for Interconnected Nonlinear Systems, pp. 7659-7664.

Shin, Donghoon — Hanyang Univ. Seoul, Korea
Kim, Wonhee — Dong-A Univ
Lee, Youngwoo — Hanyang Univ
Chung, Chung Choo — Hanyang Univ

FrC14 1008

Output Regulation (Regular Session)

Chair: Galeani, Sergio — Univ. Di Roma Tor Vergata
Co-Chair: Chiang, Ming-Li — National Taiwan Univ

16:00-16:20 FrC14.1

Approximate Regulation for Nonlinear Systems in Presence of Periodic Disturbances, pp. 7665-7670.

Astolfi, Daniele — Univ. Alma Mater of Bologna
Praly, Laurent — MINES ParisTech
Marconi, Lorenzo — Univ. Di Bologna

16:20-16:40 FrC14.2

Cooperative Robust Output Regulation of Heterogeneous Lur'e Networks, pp. 7671-7676.

Zhang, Fan — Univ. of Groningen
Trentelman, Harry L. — Univ. of Groningen
Scherpen, Jacquelien M.A. — Univ. of Groningen
Zhang, Yingchun — Harbin Inst. of Tech

16:40-17:00 FrC14.3

Nonlinear Output Regulation with Saturated Control for a Class of Non-Minimum Phase Systems, pp. 7677-7682.

Chiang, Ming-Li — Univ. of Rome, La Sapienza

Isidori, Alberto	Univ. Di Roma

17:00-17:20 FrC14.4

On Hybrid Output Regulation for Nonlinear Systems with Periodic Jumps: Alternative Formulations of the Solution and a Receding Horizon Approach, pp. 7683-7688.

Galeani, Sergio	Univ. Di Roma Tor Vergata
Sassano, Mario	Univ. of Rome, Tor Vergata

17:20-17:40 FrC14.5

A Contraction Approach to Input Tracking Via High Gain Feedback, pp. 7689-7694.

Hamadeh, Abdullah Omar	Massachusetts Inst. of Tech
Sontag, Eduardo D.	Rutgers Univ
Del Vecchio, Domitilla	Massachusetts Inst. of Tech

17:40-18:00 FrC14.6

Global Cooperative Output Regulation for Nonlinear Multi-Agent Systems with Unknown Control Directions, pp. 7695-7700.

Guo, Meichen	City Univ. of Hong Kong
Liu, Lu	City Univ. of Hong Kong
Xu, Dabo	Nanjing Univ. of Science and Tech
Feng, Gang	City Univ. of Hong Kong

FrC15 1009

Delay Systems II (Regular Session)

Chair: Lin, Wei	Case Western Res. Univ
Co-Chair: Hashimoto, Tomoaki	Osaka Univ

16:00-16:20 FrC15.1

Stabilization of Reaction-Diffusion Equations with State Delay Using Boundary Control Input, pp. 7701-7706.

Hashimoto, Tomoaki	Osaka Inst. of Tech
Krstic, Miroslav	Univ. of California, San Diego

16:20-16:40 FrC15.2

Conditions for Input-Output Stability of Discrete-Time Lur'e Systems with Time-Varying Delays, pp. 7707-7714.

Nygren, Johannes	Uppsala Univ
Pelckmans, Kristiaan	Uppsala Univ

16:40-17:00 FrC15.3

Nonsmooth Control of Time-Delay Nonlinear Systems by Dynamic State Feedback, pp. 7715-7722.

Lin, Wei	Case Western Res. Univ
Zhang, Xu	Beijing Univ. of Aeronautics and Astronautics
Lin, Yan	Beijing Univ. of Aeronautics and Astronautics

17:00-17:20 FrC15.4

Reduction Model Approach for Systems with a Time-Varying Delay, pp. 7723-7727.

Mazenc, Frederic	Epi Inria Disco
Malisoff, Michael	Louisiana State Univ

17:20-17:40 FrC15.5

Prediction-Based Boundary Control of Linear Delayed Systems without Restriction on Relative Degree, pp. 7728-7735.

Zhu, Yang	Zhejiang Univ
Krstic, Miroslav	Univ. of California, San Diego
Su, Hongye	Zhejiang Univ

17:40-18:00 FrC15.6

Stability Analysis of Discrete-Time Systems with Poisson-Distributed Delays, pp. 7736-7741.

Liu, Kun	KTH Royal Inst. of Tech
Johansson, Karl H.	Royal Inst. of Tech
Fridman, Emilia	Tel-Aviv Univ
Xia, Yuanqing	Beijing Inst. of Tech

FrC16 1010

Quantum Information and Control II (Regular Session)

Chair: Sigalotti, Mario	INRIA Saclay
Co-Chair: Chittaro, Francesca	LSIS

16:00-16:20 FrC16.1

Parameter Estimation from Measurements Along Quantum Trajectories, pp. 7742-7748.

Six, Pierre	Centre Automatique Et Systèmes - Mines ParisTech
Campagne-Ibarcq, Philippe	Lab. Pierre Aigrain-Ec. Normale Supérieure Paris
Bretheau, Landry	Lab. Pierre Aigrain, Ec. Normale Supérieure-PSL Res
Huard, Benjamin	Ec. Normale Superieure, CNRS
Rouchon, Pierre	Mines ParisTech

16:20-16:40 FrC16.2

Coupling Lyapunov Functions Approach for Quantum Control, pp. 7749-7754.

Vu, Thanh Long	Massachusetts Inst. of Tech
Ge, Shuzhi Sam	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore

16:40-17:00 FrC16.3

Local Optimality of a Coherent Feedback Scheme for Distributed Entanglement Generation: The Idealized Infinite Bandwidth Limit, pp. 7755-7760.

Shi, Zhan	UNSW Australia
Nurdin, Hendra I	UNSW Australia

17:00-17:20 FrC16.4

Equivalence between Exact and Approximate Controllability for Finite-Dimensional Quantum Systems, pp. 7761-7764.

Boscain, Ugo V.	CNRS
Gauthier, Jean-Paul	Univ
Rossi, Francesco	Aix-Marseille Univ
Sigalotti, Mario	INRIA Saclay

17:20-17:40 FrC16.5

Tangential Interpolatory Projection for Model Reduction of Completely Passive Linear Quantum Stochastic Systems, pp. 7765-7770.

Techakesari, Onvaree	UNSW Australia
Nurdin, Hendra I	UNSW Australia

17:40-18:00 FrC16.6

Approximate Controllability by Adiabatic Methods of the Schrodinger Equation with Nonlinear Hamiltonian, pp. 7771-7776.

Chittaro, Francesca	LSIS
Mason, Paolo	CNRS, Lab. Des Signaux Et Systèmes, Supélec

FrC17 Conference Hall

Feedback Linearization (Regular Session)

Chair: Nielsen, Christopher	Univ. of Waterloo
Co-Chair: Sekiguchi, Kazuma	Tokyo City Univ

16:00-16:20 FrC17.1

Adaptive Feedback Linearization of a Hypersonic Vehicle Using ES-MRAC, pp. 7777-7782.

Haghi, Poorya — Purdue Univ
Black, William — Purdue Univ
Ariyur, Kartik B. — Purdue Univ

16:20-16:40 FrC17.2

Local Transverse Feedback Linearization for Nested Sets (I), pp. 7783-7788.

Doosthoseini, Alireza — Univ. of Waterloo
Nielsen, Christopher — Univ. of Waterloo

16:40-17:00 FrC17.3

Closed-Loop Control of Tumor Growth by Means of Anti-Angiogenic Administration, pp. 7789-7794.

Cusimano, Valerio — Univ. Campus Bio-Medico Di Roma
Palumbo, Pasquale — IASI-CNR
Papa, Federico — IASI-CNR

17:00-17:20 FrC17.4

CoM Control for Underactuated 2D Hopping Robots with Series-Elastic Actuation Via Higher Order Partial Feedback Linearization, pp. 7795-7801.

Terry, Patrick — Univ. of California Santa Barbara
Byl, Katie — Univ. of California at Santa Barbara

17:20-17:40 FrC17.5

Feedback Linearization of the Transverse Dynamics for a Class of One Degree Underactuated Systems, pp. 7802-7807.

Finet, Sylvain — Mines ParisTech / Wandercraft
Praly, Laurent — MINES ParisTech

17:40-18:00 FrC17.6

Stabilization of Three-Link Acrobot Via Hierarchical Linearization, pp. 7808-7813.

Sekiguchi, Kazuma — Tokyo City Univ

FrC18 — 1202

Stochastic Optimal Control III (Regular Session)

Chair: Dragan, Vasile — Romanian Acad
Co-Chair: Charalambous, Charalambos D. — Univ. of Cyprus

16:00-16:20 FrC18.1

A Stochastic Optimization Approach to Cooperative Building Energy Management Via an Energy Hub, pp. 7814-7819.

Darivianakis, Georgios — ETH Zurich
Georghiou, Angelos — ETH Zurich
Smith, Roy S. — ETH Zurich
Lygeros, John — ETH Zurich

16:20-16:40 FrC18.2

A Restless Bandit with No Observable States for Recommendation Systems and Communication Link Scheduling, pp. 7820-7825.

Meshram, Rahul — INDIAN Inst. Tech. BOMBAY
Manjunath, D — IIT Bombay, India
Gopalan, Aditya — Tech. - Israel Inst. of Tech
Kumar, Atul — IIT Bombay
Veeraruna, Kavitha — IIT Bombay, India
Hemachandra, Nandyala — Indian Inst. of Tech. Bombay

16:40-17:00 FrC18.3

Finite Horizon Risk Sensitive MDP and Linear Programming, pp. 7826-7831.

17:00-17:20 FrC18.4

A Sufficient Condition for Decentralized Non-Cooperative Stochastic Differential Games and Relations to Mean Field Games, pp. 7832-7837.

Charalambous, Charalambos D. — Univ. of Cyprus

17:20-17:40 FrC18.5

Near Optimal Linear Quadratic Regulator for a Singularly Perturbed Linear Stochastic System with Multiplicative White Noise Perturbations and Markovian Jumping, pp. 7838-7843.

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

17:40-18:00 FrC18.6

The Classical Solutions and the Regularity of the Free Boundaries in Multi-Dimensional Singular Stochastic Control (I), pp. 7844-7849.

Yang, Yipeng — Univ. of Houston - Clear Lake