2016 SICE International Symposium on Control Systems (ISCS 2016)

Nagoya, Japan
7 – 10 March 2016

Technical Program

Note on Paper Types and their Inclusion in the IEEE Xplore Digital Library

SICE ISCS 2016 accepted two types of paper submissions: Regular Papers and Position Papers.

Although a complete list of paper titles and authors who presented at SICE ISCS 2016 is shown in the following, the full PDF manuscripts are attached only for accepted regular papers.

Program at a Glance

Day 1: Monday March 7, 2016

Schedule	Room	
14:40-15:40	Flatten Hall	MSCS Plenary 1: CSS President Special Lecture
15:40-16:20	Flatten Hall	MSCS Plenary 2: Kimura-Award Commemorative Lecture

Day 2: Tuesday March 8, 2016

Schedule	Room	
10:00-11:40	A	Advanced and nonlinear control I
11:40-12:40		*Lunch break*
12:40-14:20	A	Power systems
14:40-16:20	A	Multi-agent and networked control systems
18:30-20:30		*Banquet*

Day 3: Wednesday March 9, 2016

Schedule	Room	
10:00-11:40	A	ISCS Invited Talks
11:40-12:40		*Lunch break*
12:40-14:20	A	Optimal control and model predictive control
14:40-16:20	A	Automotive and flight control
16:40-18:20	A	Advanced and nonlinear control II

Day 4: Thursday March 10, 2016

Schedule	Room	
9:00-10:40	A	Control applications
11:00-12:40	A	Modeling, system identification and estimation

Day 1: Monday March 7, 2016

MSCS Plenary 1: CSS President Special Lecture

Francis J. Doyle, III, Harvard University

Title: Model Predictive Control of the Artificial Pancreas

Monday, 14:40-15:40, Flatten Hall

MSCS Plenary 2: Kimura-Award Commemorative Lecture

Hiroshi Ito, Kyushu Institute of Technology

Title: Stability from modules with nonlinearity and saturation

Monday, 15:40-16:20, Flatten Hall

Day 2: Tuesday March 8, 2016

Advanced and nonlinear control I

Chair: Hiroshi Ito (Kyushu Institute of Technology)

Tuesday, 10:00-11:40, Room A

Schedule	No.	Title	Author(s)
10:00-10:20	43	Validated Discretization of a Nonlinear System: Extension for a Nonpolynomial System and Intersample Performance....N/A	Yasuaki Oishi (Nanzan Univ.)
10:20-10:40	10	Estimation of the Domain of Attraction for Nonlinear Autonomous Systems Using a Bezoutian Approach....37	Thomas Pursche (Univ. of Wuppertal), Robert Swiatlak (Univ. of Wuppertal), Bernd Tibken (Univ. of Wuppertal)
10:40-11:00	11	An Advanced Interval Arithmetic Approach for the Robust Domain of Attraction Estimation for Nonlinear Autonomous Systems with Nonlinear Uncertainties....N/A	Robert Swiatlak (Univ. of Wuppertal), Thomas Pursche (Univ. of Wuppertal), Bernd Tibken (Univ. of Wuppertal), Thomas Paradowski Bergische (Univ. of Wuppertal)
11:00-11:20	16	Simplified Single-Loop Full-Flatness Control of a Hybrid Power Plant....63	Warit Thammasiriroj (King Mongkut's Univ. of Technology North Bangkok), Viboon Chunkag (King Mongkut's Univ. of Technology North Bangkok), Matheepot Phattanasak (King Mongkut's Univ. of Technology North Bangkok), Serge Pierfederici (Université de Lorraine), Bernard Davat (Université de Lorraine), Phatiphat Thounthong (King Mongkut's Univ. of Technology North Bangkok)
11:20-11:40	22	Nonlinear Stochastic H-Infinity Control Using Local Quadratic Approximation....N/A	Satoshi Satoh (Hiroshima Univ.), Tokumo Kamiike (Hiroshima Univ.), Masami Saeki (Hiroshima Univ.)

Power systems

Chair: Toru Namerikawa (Keio Univ.)

Tuesday, 12:40-14:20, Room A

Schedule	No.	Title	Author(s)
12:40-13:00	18	Real-Time Price Optimization for Load Frequency Control in Electric Power Systems with Wind Farms....71	Koichiro Tomiyama (Kyoto Univ.), Yu Kawano (Kyoto Univ.), Tomoaki Hashimoto (Osaka Univ.), Toshiyuki Ohtsuka (Kyoto Univ.)
13:00-13:20	29	Control of Proclivity Toward Selling Electricity Using Persuasive Dialog System....95	Koji Kitagawa (Univ. of Electro-Communications), Kiminao Kogiso (Univ. of Electro-Communications)
13:20-13:40	13	Masking Method for Power Consumption on Negotiation-Based Real-Time Pricing....N/A	Kazuma Wada (Tottori Univ.), Masashi Miura (Tottori Univ.), Kazunori Sakurama (Tottori Univ.)
13:40-14:00	7	Model-Free Position Control of Solar Farms for Maximizing Power Generation....N/A	Taichi Kitao (Kyoto Univ.), Shun-ichi Azuma (Kyoto Univ.), Lotfi Mostefai (Univ. Tahar Moulay Saida), Ichiro Maruta (Kyoto Univ.), Toshiharu Sugie (Kyoto Univ.)
14:00-14:20	20	Power Generation Scheduling with Transmission Line Thermal Constraints: A Case Study....N/A	Yuya Tomisawa (Kyoto Univ.), Kentaro Ohki (Kyoto Univ.), Hideharu Sugihara (Osaka Univ.), Kenji Kashima (Kyoto Univ.), Yoshito Ohta (Kyoto Univ.)

Multi-agent and networked control systems

Chair: Shun-ichi Azuma (Kyoto Univ.)

Tuesday, 14:40-16:20, Room A

Schedule	No.	Title	Author(s)
14:40-15:00	37	Algebraic Connectivity of Multi-Agent Systems with Homogeneous Substructure....113	Hojin Lee (Osaka Univ.), Thi Hoai Linh Nguyen (Osaka Univ.), Yasumasa Fujisaki (Osaka Univ.)
15:00-15:20	17	Quantized Randomized Consensus Over Networks with Adversaries....N/A	Seyed Mehran Dibaji (Tokyo Institute of Technology), Hideaki Ishii (Tokyo Institute of Technology), Roberto Tempo (Politecnico di Torino)
15:20-15:40	39	A Bounded Confidence Gossip Algorithm Over Communication Graph for Clustering Opinions....N/A	Thi Hoai Linh Nguyen (Osaka Univ.), Takayuki Wada (Osaka Univ.), Izumi Masubuchi (Kobe Univ.), Toru Asai (Nagoya Univ.), Yasumasa Fujisaki (Osaka Univ.)
15:40-16:00	27	A Linear Programming Approach for Stability Analysis of Networked Control Systems....N/A	Ahmet Cetinkaya (Tokyo Institute of Technology), Hideaki Ishii (Tokyo Institute of Technology), Tomohisa Hayakawa (Tokyo Institute of Technology)
16:00-16:20	40	Hierarchical Transient Stability Diagnosis for Interconnected Loop Power Grids....N/A	Chiaki Kojima (Univ. of Tokyo), Yoshihiko Susuki (Kyoto Univ.), Koji Tsumura (Univ. of Tokyo), Shinji Hara (Univ. of Tokyo)

Day 3: Wednesday March 9, 2016

ISCS Invited Talks

Chair: Yasumasa Fujisaki (Osaka Univ.)

Wednesday, 10:00-11:40, Room A

Talk 1: 10:00-10:50

Patrizio Colaneri, Politecnico di Milano

Title: Improving performances via switching: theory and applications

Talk 2: 10:50-11:40

Satoshi Satoh, Hiroshima Univ.

Title: A unified framework for nonlinear stochastic control problems based on path integral analysis

Optimal control and model predictive control

Chair: Toshiyuki Ohtsuka (Kyoto Univ.)

Wednesday, 12:40-14:20, Room A

Schedule	No.	Title	Author(s)
12:40-13:00	25	Computation of Maximum Hands-Off Control....83	Takuya Ikeda (Kyoto Univ.), Masaaki Nagahara (Kyoto Univ.)
13:00-13:20	24	Risk and Deviation Measures for a Class of Optimal Control Problems with Random Time Horizon....77	Ekaterina Gromova (St. Petersburg State Univ.), Anastasia Malakhova (St. Petersburg State Univ.), Dmitry Gromov (St. Petersburg State Univ.)
13:20-13:40	41	Distributed Optimization Over Directed Unbalanced Networks....N/A	Takayuki Wada (Osaka Univ.), Yasumasa Fujisaki (Osaka Univ.)
13:40-14:00	26	A Model-Free Predictive Control Method Based on Polynomial Regression....89	Hongran Li (Kanazawa Univ.), Shigeru Yamamoto (Kanazawa Univ.)
14:00-14:20	36	Model Predictive Control for Dispatching and Conflict-Free Routing Problems Based on Model Reformulation....N/A	Kenji Sawada (Univ. of Electro-Communications), Ryosuke Nakamura (Univ. of Electro -Communications), Seiichi Shin (Univ. of Electro -Communications)

Automotive and flight control

Chair: Kazunori Sakurama (Tottori Univ.)

Wednesday, 14:40-16:20, Room A

Schedule	No.	Title	Author(s)
14:40-15:00	2	Study on Structural Deflection of Flexible Satellite During Attitude....1	Setyamartana Parman (Universiti Teknologi Petronas)

Schedule	No.	Title	Author(s)
		Maneuver Using Fuel-Efficient Input Shaper	
15:00-15:20	5	A Glocal Motion Control System of In-Wheel-Motor Electric Vehicles Based on Driving Force Distribution....15	Binh Minh Nguyen (Univ. of Tokyo), Hiroshi Fujimoto (Univ. of Tokyo), Shinji Hara (Univ. of Tokyo)
15:20-15:40	12	Landmark Recognition Based on Image Characterization by Segmentation Points for Autonomous Driving....43	Alex Masuo Kaneko (Hitachi Ltd.), Kenjiro Yamamoto (Hitachi Ltd.)
15:40-16:00	30	Development of Firing-On-The-Move Technology Using Active Front Wheel Steering System for Wheeled Armored Vehicle....N/A	Khisbullah Hudha (National Defence Univ. of Malaysia), Vimal Rau Aparow (National Defence Univ. of Malaysia), Zulkiffli Abd Kadir (National Defence Univ. of Malaysia), Noor Hafizah Amer (National Defense Univ. of Malaysia), Shohaimi Abdulah (National Defence Univ. of Malaysia)
16:00-16:20	32	Modelling and Trajectory Following of an Armoured Vehicle....101	Noor Hafizah Amer (National Defense Univ. of Malaysia), Hairi Zamzuri (Malaysia-Japan International Institute of Technology Univ.), Khisbullah Hudha (National Defence Univ. of Malaysia), Vimal Rau Aparow (National Defence Univ. of Malaysia), Amar Faiz Zainal Abidin (Universiti Teknologi MARA), Zulkiffli Abd Kadir (National Defence Univ. of Malaysia)

Advanced and nonlinear control II

Chair: Jun-ichi Imura (Tokyo Institute of Technology)

Wednesday, 16:40-18:00, Room A

Schedule	No.	Title	Author(s)
16:40-17:00	8	Sliding Mode Control with a Linear Sliding Surface That Varies Along a Smooth Trajectory....31	Taichi Mizoshiri (Tokyo Metropolitan Univ.), Yasuchika Mori (Tokyo Metropolitan Univ.)
17:00-17:20	4	Interval Observers for Nonlinear Systems with Appropriate Output Feedback....9	Hiroshi Ito (Kyushu Institute of Technology), Thach Ngoc Dinh (Japan Society for the Promotion of Science)
17:20-17:40	35	Improved Results on Discrete-Time Gain-Scheduled Controller Synthesis Via Parameter-Dependent LMIs....N/A	Izumi Masubuchi (Kobe Univ.), Yuta Yabuki (Kobe Univ.)
17:40-18:00	33	On the Casimir Based Position and Total Pressure Control of Hydraulic Arms....N/A	Takumi Nishiwaki (Shinshu Univ.), Toshinori Shintani (Shinshu Univ.), Satoru Sakai (Shinshu Univ.)

Day 4: Thursday March 10, 2016

Control applications

Chair: Kiyotsugu Takaba (Ritsumeikan Univ.)

Thursday, 9:00-10:40, Room A

Schedule	No.	Title	Author(s)
9:00- 9:20	14	DSP-Based Neural-Network Control System with Finite Time Convergence Method....51	Jeng-Dao Lee (National Formosa Univ.), Jyun-Han Shen (National Formosa Univ.), Ching-Wei Chuang (National Formosa Univ.), Yi-Cheng Lee (National Formosa Univ.), Wei Tang (National Formosa Univ.), Li-Yin Chen (National Formosa Univ.)
9:20- 9:40	15	Intelligent LPCM Control System with More Efficient Convergence Property....57	Jeng-Dao Lee (National Formosa Univ.), Ching-Wei Chuang (National Formosa Univ.), Jyun-Han Shen (National Formosa Univ.), Yi-Cheng Lee (National Formosa Univ.), Wei Tang (National Formosa Univ.), Li-Yin Chen (National Formosa Univ.)
9:40-10:00	34	Model-In-The-Loop Simulation of Electronically Controlled Pitman Arm Steering Mechanism for Armored Vehicle....107	Vimal Rau Aparow (National Defence Univ. of Malaysia), Khisbullah Hudha (National Defence Univ. of Malaysia), Zulkiffli Abd Kadir (National Defence Univ. of Malaysia), Mazuan Mansur (National Defence Univ. of Malaysia) Noor Hafizah Amer (National Defense Univ. of Malaysia)
10:00-10:20	38	Steady-State Analysis of Autonomous System in Equilibrium Assessment of Bayesian Game....117	Takashi Suzuki (Univ. of Electro-Communications), Kiminao Kogiso (Univ. of Electro-Communications)
10:20-10:40	48	Tracking Control of Robot Manipulators under Torque Constraints....N/A	Ollin Peñaloza-Mejía (ITSON), Carlos Paul Ojeda Perez (Instituto Tecnologico de Sonora), Hector Javier Estrada García (Universidad de Guanajuato)

Modeling, system identification and estimation

Chair: Toshiharu Sugie (Kyoto Univ.)

Thursday, 11:00-12:40, Room A

Schedule	No.	Title	Author(s)
11:00-11:20	44	Invariant-Length PAM Model Considering Virtual Weight and PI Compensation....122	Rieko Kadoya (Univ. of Electro-Communications), Kiminao Kogiso (Univ. of Electro-Communications)
11:20-11:40	23	A Hierarchical Representation of Power Grid Dynamics Using Singular Perturbation....N/A	Yoshihiko Susuki (Kyoto Univ.), Chiaki Kojima (Univ. of Tokyo), Shinji Hara (Univ. of Tokyo)
11:40-12:00	42	A New Prior Distribution for Bayesian Approach in LPV System Identification....N/A	Yuma Okabe (Kyoto Univ.), Yoshito Ohta (Kyoto Univ.)
12:00-12:20	3	Faster-Than-Nyquist Signaling by Sum-Of-Absolute-Values Optimization....7	Hampei Sasahara (Kyoto Univ.), Kazunori Hayashi (Kyoto Univ.), Masaaki Nagahara (Kyoto Univ.)
12:20-12:40	6	A Nonlinear Attitude Estimator for Attitude and Heading Reference Systems Based on MEMS Sensors....23	Yunlong Wang (Aalborg Univ.), Esbjerg Mohsen Soltani (Aalborg Univ.), Akbar Hussain (Aalborg Univ.)