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Day 1: Thursday March 7, 2019

Control Applications

Chair: Kiminao Kogiso (University of Electro-Communication, Japan)

9:30-11:10, Room H (Room 231)

Schedule	No.	Title	Authors
9:30-9:50	16	Energy Management Strategy with Deep Reinforcement learning for HEVs N/A	Shota Inuzuka (University of Sophia, Japan), Fuguo Xu (University of Sophia, Japan), Tielong Shen (University of Sophia, Japan)
9:50-10:10	3	Control and Optimization of Energy Efficiency in Small-Footprint Embedded Systems: A Coupled Hybrid Systems Model 1	Paul Flikkema (Northern Arizona University, USA), Christopher Porter (Northern Arizona University, USA), Kenji Yamamoto (Northern Arizona University, USA)
10:10-10:30	20	Short-Term Load Forecast for Energy Management System Using Neural Networks with Mutual Information Method of Input Selection 9	Tanwalai Panapongpakorn (Chulalongkorn University, Thailand) David Banjerdpongchai (Chulalongkorn University, Thailand)
10:30-10:50	30	Sound Source Localization and Interaction based Human Searching Robot under Disaster Environment 16	Bin Zhang (Kanagawa University, Japan), Masahide Kaneko (The University of Electro-Communications, Japan), Lim Hunok (Kanagawa University, Japan)
10:50-11:10	41	Development of a Hardware-In-The-Loop Simulator for Analyzing Motion of Multi-DoF Robots without Modeling Complex Joint Parts 21	Yusuke Noda (Tokyo City University, Japan), Tetsuya Kimura (Shibaura Institute of Technology, Japan), Satoko Abiko (Shibaura Institute of Technology, Japan), Tepei Tsujita (National Defense Academy of Japan, Japan), Daisuke Sato (Tokyo City University, Japan), Dragomir Nenchev (Tokyo City University, Japan)

Nonlinear Systems

Chair: Daisuke Tsubakino (Nagoya University, Japan)

9:30-11:10, Room I (Room 232)

Schedule	No.	Title	Authors
9:30-9:50	39	Precise Rendezvous Guidance in Low Earth Orbit via Machine Learning 27	Satoshi Ueda (JAXA, Japan), Ai Noumi (JAXA, Japan)
9:50-10:10	26	Simplified Dynamics Model for Estimating Energy Consumption of Quadrupe Robots N/A	Ryosuke Horio (Toyohashi University of Technology, Japan), Naoki Uchiyama (Toyohashi University of Technology, Japan)
10:10-10:30	29	Structural Analysis of a Controlled Compartmental Model of Disease Propagation 33	Dmitry Gromov (St. Petersburg State University, Russia)
10:30-10:50	34	Backstepping Control for Satellite Attitude Control Using Spherical Control Moment Gyro 39	Ayaka Mino (Nihon University, Japan), Kenji Uchiyama (Nihon University, Japan), Kai Masuda (Nihon University, Japan)
10:50-11:10	19	Extreme Learning Machine-Based Estimation for Combustion Control of Spark Ignition Engines N/A	Huanyu Di (Sophia University, Japan), Yahui Zhang (Sophia University, Japan), Tielong Shen (Sophia University, Japan)

Robust Control and Optimal Control

Chair: Takayuki Wada (Osaka University, Japan)

13:20-15:00, Room I (Room 232)

Schedule	No.	Title	Authors
13:20-13:40	7	Impact Time Control Guidance Law for Guided Projectile Considering Time-Varying Velocity 43	Shuai Ma (Nanjing University of Science and Technology, China), Xugang Wang (Nanjing University of Science and Technology, China), Zhongyuan Wang (Nanjing University of Science and Technology, China)
13:40-14:00	9	Design of Sub-Optimal Leader-Follower Consensus for Heterogeneous Multi-Agent Systems with Parametric Uncertainty N/A	Van Tuynh (Chulalongkorn University, Thailand), Pham Dinh (Kyushu University, Japan), Hoa Nguyen (Chulalongkorn University, Thailand), David Banjerdpongchai (Chulalongkorn University, Thailand)
14:00-14:20	22	Multi-Objective State Feedback Controller Design for Discrete-Time Linear Systems with Stochastic Parameters N/A	Keishi Niwa (Keio University, Japan), Kenichi Hattaha (Keio University, Japan), Masayuki Sato (JAXA, Japan), Shuichi Adachi (Keio University, Japan)
14:20-14:40	25	Design of Model Predictive Control with Nonlinear Disturbance Observer for Electric Power Steering System 49	Yu Fujimura (Gumma University, Japan), Seiji Hashimoto (Gumma University, Japan), David Banjerdpongchai (Chulalongkorn University, Thailand)
14:40-15:00	27	Comparative Study of PWM-Based versus Hybrid Control for the DC-DC Zeta Converter Voltage Regulation N/A	Hafez Sarkawi (Kyoto University, Japan), Yoshito Ohta (Kyoto University, Japan), Paolo Rapisarda (University of Southampton, UK)

ISCS Invited Talk

Chair: Osamu Kaneko (University of Electro-Communication, Japan)

15:30-16:30, Room I (Room 232)

Daniel Zelazo (Technion Israel Institute of Technology, Israel)

Title: Passivity, Monotonicity, and Network Optimization: A New Framework for Network Systems Analysis

Day 2: Friday March 8, 2019

MSCS Plenary Talk

Chair: Hiroshi Ito (Kyusyu Institute of Technology, Japan)

9:30-10:20, Room 100th Anniversary Hall

Zongli Lin (University of Virginia, USA)

Title: Low Gain Feedback: For Constrained Control, Nonlinear Stabilization and Control of Time Delay Systems

Networked Control Systems (1)

Chair: Tomohisa Hayakawa (Tokyo Institute of Technology, Japan)

10:40-12:20, Room I (Room 232)

Schedule	No.	Title	Authors
10:40-11:00	21	A Stopping Rule for Time Averaging Multi-Agent Consensus over Unbalanced Noisy Networks N/A	Kenta Hanada (Osaka University, Japan), Takayuki Wada (Osaka University, Japan), Izumi Masubuchi (Kobe University, Japan), Toru Asai (Nagoya University, Japan), Yasumasa Fujisaki (Osaka University, Japan)
11:00-11:20	15	Linearization-Based Networked Control of Nonlinear Systems under Denial-of-Service Attacks N/A	Rui Kato (Tokyo Institute of Technology, Japan), Ahmet Cetinkaya (Tokyo Institute of Technology, Japan), Hideaki Ishii (Tokyo Institute of Technology, Japan)
11:20-11:40	23	Resilient Consensus through Asynchronous Event-Based Communication N/A	Yuan Wang (Tokyo Institute of Technology, Japan), Hideaki Ishii (Tokyo Institute of Technology, Japan)
11:40-12:00	33	Discrete Coordinate System with Uniformity and Isotropy for Honeycomb Structure 57	Keizo Miyahara (Osaka University, Japan)
12:00-12:20	37	Passivity-Short in Networked Nonlinear Systems N/A	Chiaki Kojima (Toyama Prefectural University, Japan), Toru Namerikawa (Keio University, Japan)

Networked Control Systems (2)

Chair: Takeshi Hatanaka (Tokyo Institute of Technology, Japan)

13:20-15:00, Room I (Room 232)

Schedule	No.	Title	Authors
13:20-13:40	6	Data Rates for Stabilizing Control under Denial-Of-Service Attacks N/A	Shuai Feng (University of Groningen, The Netherlands), Ahmet Cetinkaya (Tokyo Institute of Technology, Japan), Hideaki Ishii (Tokyo Institute of Technology, Japan), Pietro Tesi (University of Groningen, The Netherlands), Claudio De Persis (University of Groningen, The Netherlands)

13:40-14:00	5	Position Estimation for Formation Control with Predicted Information of Detected Robots N/A	Tsuyoshi Ogawa (Tottori University, Japan), Kazunori Sakurama (Kyoto University, Japan)
14:00-14:20	17	Two-Player Subgame Perfect Equilibrium Analysis for Jamming Attacks on Dynamic Graphs N/A	Yurid Nugraha (Tokyo Institute of Technology, Japan), Ahmet Cetinkaya (Tokyo Institute of Technology, Japan), Tomohisa Hayakawa (Tokyo Institute of Technology, Japan), Hideaki Ishii (Tokyo Institute of Technology, Japan), Quanyan Zhu (New York University, USA)
14:20-14:40	32	Opinion Shift: An Index for Describing Gossip Algorithms for Opinion Dynamics N/A	Emerico Aguilar (Osaka University, Japan), Yasumasa Fujisaki (Osaka University, Japan)
14:40-15:00	40	Analysis of Dynamic Traffic Demand on a Paradoxical Phenomenon and Reachability with Input Constraints 65	Yohei Kitahara (Tokyo Institute of Technology, Japan), Tomohisa Hayakawa (Tokyo Institute of Technology, Japan)

Day 3: Saturday March 9, 2019

Identification and Estimation

Chair: Hideyuki Tanaka (Hiroshima University, Japan)

9:30-11:10, Room I (Room 232)

Schedule	No.	Title	Authors
9:30-9:50	13	Modeling of Hydraulic Robots with an Open-Center Dynamics N/A	Akihiro Tatsuoka (Shinshu University, Japan), Satoru Sakai (Shinshu University, Japan), Qin Zhang (Washington State University, USA)
9:50-10:10	10	State-of-Charge Estimation of Rechargeable Batteries Guaranteed Finite-Time Estimation Error Convergence 72	Kenichi Hattaha (Keio University, Japan), Tetsuho Ono (Keio University, Japan), Risako Sasaki (Keio University, Japan), Kensuke Osamura (Calsonic Kansei Corporation, Japan), Shuichi Adachi (Keio University, Japan)
10:10-10:30	11	Visual Modeling of Non-Planar Sloshing via a Linearizing Basis N/A	Shota Morozumi (Shinshu University, Japan), Kumho Lee (Shinshu University, Japan), Satoru Sakai (Shinshu University, Japan)
10:30-10:50	36	Numerical Study for Day-ahead Scheduling Based on Machine Learning Approaches N/A	Fumiya Watanabe (Tokyo Institute of Technology, Japan), Takahiro Kawaguchi (Tokyo Institute of Technology, Japan), Takayuki Ishizaki (Tokyo Institute of Technology, Japan), Jun-ichi Imura (Tokyo Institute of Technology, Japan)
10:50-11:10	1	A Variety of Unscented Kalman Filters for Sensorless Speed Control of Permanent Magnet Synchronous Motor N/A	Cheol Moon (Pusan National University, Republic of Korea), Guk Jin Choe (Pusan National University, Republic of Korea), Young Ahn Kwon (Pusan National University, Republic of Korea)

Data-Driven Control

Chair: Takuya Kinoshita (Hiroshima University, Japan)

12:30-13:50, Room I (Room 232)

Schedule	No.	Title	Authors
12:30-12:50	12	An Approach for The Electricity Consumption Prediction Based on Artificial Neural Network 78	Dinh Hoa Nguyen (Kyushu University, Japan), Anh Tung Nguyen (Hanoi University of Science and Technology, Vietnam)
12:50-13:10	24	Model-Free Predictive Control and Its Relation to Parameter-Estimation-Based Predictive Control 84	Nicha Chaovalit (Kanazawa University, Japan), Shigeru Yamamoto (Kanazawa University, Japan)
13:10-13:30	28	Design of OFSP-Based Adaptive Output Feedback Control for Nonlinear Systems Using Data-Driven Approach 90	Zhe Guan (Hiroshima University, Japan), Shin Wakitani (Hiroshima University, Japan), Ikuro Mizumoto (Kumamoto University, Japan), Toru Yamamoto (Hiroshima University, Japan)
13:30-13:50	38	Controller Parameter Tuning of a Hexacopter with Fictitious Reference Iterative Tuning 96	Zaw Ko Ko Latt (Myanmar Aerospace Engineering University, Myanmar), Hnin Si (Yangon Technological University, Myanmar), Osamu Kaneko (The University of Electro-Communications, Japan)