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## Day 2: Tuesday March 7, 2017

### Robust Control

Chair: Toshiharu Sugie (Kyoto University, Japan)

11:00-12:40, Room A

Schedule	No.	Title	Author(s)
11:00-11:20	5	On the Synthesis of Output Feedback Controllers for Robust D-Stability: Necessary and Sufficient LMI Conditions	Graziano Chesi (The University of Hong Kong, China)
11:20-11:40	13	Sensitivity minimization in active networks by port compensation	Mayuresh Bakshi (VIIT Pune, India), Virendra Sule (IIT Bombay, Mumbai, India), Maryam Shoejai Baghini (IIT Bombay, Mumbai, India)
11:40-12:00	39	Stability Analysis of Extended Induced Voltage Observer Used for High Speed Position Sensorless Control of Surface Permanent Magnet Synchronous Motor	Kento Yoshino (Kyushu Institute of Technology, Japan), Ravi Nath Tripathi (Kyushu Institute of Technology, Japan), Tsuyoshi Hanamoto (Kyushu Institute of Technology, Japan)
12:00-12:20	6	On the Complexity of SOS Programming: Formulas for General Cases and Exact Reductions	Graziano Chesi (The University of Hong Kong, China)
12:20-12:40	12	Robust Compensation of Discrete-Time Plants using 2 Degrees-of-freedom 2-Periodic Controller	Gurunayk Nayak (M. S. Ramaiah Institute of Technology, Bangalore, India), Sayantan Chakraborty (Jadavpur University, Kolkata, India), Sarit K. Das (Indian Institute of Technology, Kharagpur, India)

### Nonlinear Systems

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

13:40-15:00, Room A

Schedule	No.	Title	Author(s)
13:40-14:00	17	New Interaction in Autonomous Decentralized Control Method for Future Social Systems	Seiji Miura (Hitachi, Ltd., Japan), Jun-ichi Miyakoshi (Hitachi, Ltd., Japan)
14:00-14:20	4	An Improved El-Gamal Cryptosystem based on Chaotic Synchronization	Teh-Lu Liao (National Cheng Kung University, Taiwan), Hsin-Han Tsai (National Cheng Kung University, Taiwan), Jun-Juh Yan (Shu-Te University, Taiwan)
14:20-14:40	9	Robust Fault Diagnosis in Nonlinear Technical Systems via Linear Methods	Alexey Zhirabok (Far Eastern Federal University, Russia), Alexey Shumsky (Far Eastern Federal University, Russia)
14:40-15:00	29	Studies on Synchronization Conditions of the Non-Uniform Kuramoto Model	Takayuki Shimohashi (Okayama Prefectural University, Japan), Xin Xin (Okayama Prefectural University, Japan), Shinsaku Izumi (Okayama Prefectural University, Japan), Taiga Yamasaki (Okayama Prefectural University, Japan)

### **MSCS Plenaries: Kimura-Award Commemorative Lecture**

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Chair: Toshiharu Sugie (Kyoto University, Japan)

15:40-16:20, 50th Anniversary Hall

**Noboru Sakamoto** (Nanzan University, Japan)

**Title: Nonlinear optimal control and applications - stable manifold approach**

Day 3: Wednesday March 8, 2017

### **ISCS Invited Talk**

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Chair: Shinji Hara (University of Tokyo, Japan), Co-Chair Jun-ichi Imura (Tokyo Institute of Technology, Japan)

9:40-10:20, Room A

**Hyungbo Shim** (Seoul National University, Korea)

**Title: Blending dynamics by strong coupling in multi-agent system**

### **Multi-Agent and Networked Control Systems**

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Chair: Shinji Hara (The University of Tokyo, Japan), Co-Chair Jun-ichi Imura (Tokyo Institute of Technology, Japan)

10:20-11:20, Room A

Schedule	No.	Title	Author(s)
10:20-10:40	37	Time Averaging Consensus over Noisy Networks of Linear Symmetric Agents	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)
10:40-11:00	33	Decentralized Iterative Learning Control of Building Temperature Control System	Van Tuynh Pham (Chulalongkorn University, Thailand), Dinh Hoa Nguyen (Kyushu University, Japan), David Banjerdpongchai (Chulalongkorn University, Thailand)
11:00-11:20	25	Power Gain Bounds of Networked Feedback Systems: An Information-Theoretic Approach	Song Fang (City University of Hong Kong, China), Jie Chen (City University of Hong Kong, China), Hideaki Ishii (Tokyo Institute of Technology, Japan)

### **Control Applications I**

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Chair: Kenji Fujimoto (Kyoto University, Japan)

12:30-14:10, Room A

Schedule	No.	Title	Author(s)
12:30-12:50	22	Sampling Jitter Mitigation in Latency-Critical State-Estimation Applications using Particle Filters	Viktorio Semir El Hakim (University of Twente, The Netherlands), Marco J. G. Bekooij (NXP Semiconductors, The

			Netherlands)
12:50-13:10	38	Constant Switching Frequency Hysteresis Band Robust Controller for LCL Interfaced Grid Connected PV system	Ravi Nath Tripathi (Kyushu Institute of Technology, Kitakyushu, Japan), Ravikant Pandey (Kyushu Institute of Technology, Kitakyushu, Japan), Tsuyoshi Hanamoto (Kyushu Institute of Technology, Kitakyushu, Japan)
13:10-13:30	40	Finite Time Output Regulation of Sampled Data Linear Systems through Impulsive Observer	Atif Qayyum (National University of Sciences and Technology, Pakistan)
13:30-13:50	31	A Data-Driven Construction of Energy Functions for Power Grid Collective Behavior via Synchrophasors	Chiaki Kojima (The University of Tokyo, Japan), Yoshihiko Susuki (Osaka Prefecture University, Japan), Aranya Chakraborty (North Carolina State University, USA)
13:50-14:10	10	Maximum Throughput of Automated Guided Vehicle System by use of Models of Traffic Flow Capacity and Traffic Flow Consumption	Kenji Kumagai (The University of Electro-Communications, Japan), Kenji Sawada (The University of Electro-Communications, Japan), Seiichi Shin (The University of Electro-Communications, Japan)

## Control Applications II

Chair: Toshiyuki Ohtsuka (Kyoto University, Japan)

14:30-15:50, Room A

Schedule	No.	Title	Author(s)
14:30-14:50	16	Development of the Vibration Analysis and Suppression Technology for Laser Galvanometers Based on Inertial Sensing Technology	Wen-Chuan Chen (Industrial Technology Research Institute, National Taipei University of Technology, Taiwan), Yu-Liang Hsu (Feng Chia University, Taiwan), Po-Huan Chou (Industrial Technology Research Institute, Taiwan), Hsin-Hung Lee (Industrial Technology Research Institute, Taiwan), Hsing-Cheng Chang (Feng Chia University, Taiwan), Shih-Chin Yang (National Taiwan University, Taiwan), Chin-Sheng Chen (National Taipei University of Technology, Taiwan)
14:50-15:10	19	A Force Control of Hydraulic Arms with Unknown Bulk Modulus	Hiroki Momoshima (Shinshu University, Japan), Yusuke Nabana (Shinshu University, Japan), Satoru Sakai (Shinshu University, Japan)
15:10-15:30	20	An EMG and Force based Control Strategy on an Upper Limb Rehabilitation Exoskeleton	Ran Tao (University of Auckland, New Zealand), Ho Shing Lo (University of Auckland, New Zealand), Sheng Quan (Shane) Xie (University of Auckland, New Zealand), Mingming Zhang (University of Auckland, New Zealand)
15:30-15:50	7	Finding a Feasible Initial Solution of a Flatness-Based Multi-Link Manipulator Motion Planning under State and Control Constraints	Keisuke Uto (Denso IT Laboratory, Japan), Makoto Obayashi (Denso IT Laboratory, Japan), Gaku Takano (Denso IT Laboratory, Japan)

## Day 4: Thursday March 9, 2017

### ISCS Invited Talk

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Chair: Yasumasa Fujisaki (Osaka University, Japan)

9:00-9:40, Room A

**Giacomo Como** (Politecnico di Torino, Italy/Lund University, Sweden)

**Title: Resilient control of dynamical flow networks**

### Resilient Control Systems

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Chair: Yasumasa Fujisaki (Osaka University, Japan)

9:40-10:40, Room A

Schedule	No.	Title	Author(s)
9:40- 10:00	14	Wireless Networked Control Resilient Against Jamming Attacks with Bounded Average Power	Ahmet Cetinkaya (Tokyo Institute of Technology, Japan), Hideaki Ishii (Tokyo Institute of Technology, Japan) , Tomohisa Hayakawa (Tokyo Institute of Technology, Japan)
10:00-10:20	21	An Approach for Energy Conservation in Just-In-Time Production	Yifan Yang (Waseda University, Japan), Wei Weng (Waseda University, Japan), Shigeru Fujimura (Waseda University, Japan)
10:20-10:40	15	Satisfiability-Based Analysis of Cascading Failures in Power System Networks	Tatsuhiko Tsuchiya (Osaka University, Japan), Yasumasa Fujisaki (Osaka University, Japan)

### Automotive and Flight Control

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Chair: Hitoshi Katayama (Shizuoka University, Japan)

11:00-12:20, Room A

Schedule	No.	Title	Author(s)
11:00-11:20	26	Likelihood-based Threshold Control for Cyclic Variation Probability in Combustion Engines	Zidan Xu (Sophia University, Japan), Yahui Zhang (Sophia University, Japan), Tielong Shen (Sophia University, Japan)
11:20-11:40	27	Adaptive Modified Super Twisting Control for a Quadrotor Helicopter with a Nonlinear Sliding Surface	Reesa Akbar (Politeknik Elektronika Negeri Surabaya, Indonesia), Naoki Uchiyama (Toyohashi University of Technology, Japan)
11:40-12:00	35	A Study on Attitude Control System during Deployment of Antenna of Ultra-Small Satellite for Observing Jupiter's Decametric Radio Emission	Eric Tan Kai Chiang (National Institute of Technology, Gunma College, Japan), Mizuki Ando (National Institute of Technology, Gunma College, Japan), Kentarou Kitamura (National Institute of Technology, Tokuyama College, Japan), Imai Kazumasa (National Institute of Technology, Kochi College, Japan), Nobuto Hirakoso (National Institute of Technology, Gunma College, Japan)
12:00-12:20	36	Composite Adaptive Control using Output Feedback for Micro Air Vehicle	Shuvrangshu Jana (Indian Institute of Science, Bengaluru, India), M Seetharama Bhat (Indian Institute of Science, Bengaluru, India)