

March 10th						
8:00-8:10	Opening					
8:10-9:10	Plenary Session 1					
9:10-10:30	Break & Demo session					
10:30-12:30	Session Room 1			Session Room 2		
	IS1: Motion Control for High Performance			TT1: Sensing and Its Applications		
	Chair	Prof. Yoshiyuki Urakawa	Prof. Kenta Seki	Chair	Prof. Hiroshi Igarashi	Prof. Sota Shimizu
		Title	Speaker		Title	Speaker
	IS-1	A Summary of Disturbance Observer Design Methodology for Non-Minimum Phase System	XiaoKe Wang (The University of Tokyo)	TT1-1	Automatic Detection of Lettuce Tipburn in Plant Factory with Artificial Light Using Deep Learning	Iori Ogasahara (Chiba University)
	IS-2	Fast and Precise Position Control of Articulated Robot Using Estimated Load Acceleration	Kazuaki Ito (Gifu University)	TT1-2	Validation of Trained Convolutional Neural Network Model in Detection of Braille Blocks to Guide Visually Impaired People	Toshiaki Okamoto (Yokohama National University)
	IS-3	Simultaneous Identification of Backlash Amount and Linear Characteristics with Hybrid Identification of Time-Series Data and Frequency Response Data	Ryohei Kitayoshi (YASKAWA Electric Corporation)	TT1-3	Evaluation of Sensor Fusion Approaches for Fall Detection	Anita Ramachandran (Birla Institute of Technology and Science, Pilani)
	IS-4	Force Control of Propeller-Driven Systems Using Rotor Angular Velocity	Daisuke Yashiro (Mie University)	TT1-4	In-Tool Motion Sensing for Reproduction of Violin Performance	Kodai Fujisaki (Keio University)
IS-5	Bilateral Control Between Human and Robot by Using Functional Electrical Stimulation	Sho Sakaino (University of Tsukuba)				
IS-6	Multiple Moving Targets Observation with Visual Servoing	Daisuke Matsuka (Hitachi, Ltd.)				
12:30-13:30	Lunch Break					
13:30-15:30	Session Room 1			Session Room 2		
	SS1: Advanced Control in Motion Control, Power Electronics, and Industrial Applications			SS2-1: Advanced Motion Control for High Value-Added Mechatronic Systems in the 21st Century		
	Chair	Prof. Jing Na	Prof. Tadao Zanma	Chair	Prof. Takenori Atsumi	Daisuke Matsuka
		Title	Speaker		Title	Speaker
	SS1-1	Boom Positioning and Load Sway Suppression for Rotary Cranes Using Online Trajectory Generation Method	Zheng Tian (Nanjing Tech University)	SS2-1-1	Addition of Robustness in the Reference Signal Self-Organizing Control System Based on Deep Reinforcement Learning	Hiromichi Iwasaki (Tokai University)
	SS1-2	Adaptive Neural Network Control for Tower Cranes with Double-Pendulum Effects and Non-Ideal Inputs	Menghua Zhang (University of Jinan)	SS2-1-2	Basic Research About Navigation by Multi Agents Using Profit Sharing	Shimon Sawada (Tokai University)
	SS1-3	Adaptive Dynamic Programming-Based Motion Control for Uncertain Underactuated Systems	Tong Yang (Nankai University)	SS2-1-3	Model Predictive Control with Variable Predictive Horizon for Remote Control System Including Variable Delay	Hiroki Arai (Shibaura Institute of Technology)
	SS1-4	Finite-Time Prescribed Performance Control for Attitude Tracking of Uncertain Spacecraft	Qiang Chen (Zhejiang University of Technology)	SS2-1-4	Detection of Reduced Magnetic Attraction Force Using a Disturbance Observer for Crawler Robots	Natsuki Kageyama (Chiba Institute of Technology)
SS1-5	Adaptive Parameter Identification for Sandwich Systems Subject to Dead-Zone	Jing Na (Kunming University of Science and Technology)	SS2-1-5	Feedforward Control for Track Seeking Control in Hard Disk Drive with Sampled-Data Polynomial Based on Causal First-Order Hold	Kazuho Igarashi (Chiba Institute of Technology)	
SS1-6	Robust Tracking Control for Full-State-Constrained Robot Manipulator Systems Subject to Uncertain Dynamics	Chen Dai (Southeast University)				
15:30-16:00	Break					
16:00-17:00	Plenary Session 2					
17:00-18:00	Plenary Session 3					
18:00-19:00	Demo session					

March 11th						
Session Room 1			Session Room 2			
SS3: New Sensing and Actuation Technology Oriented to Human Support Applications			TT4: Automotive Systems			
Chair	Prof. Naoki Motoi	Prof. Tomoyuki Shimono	Chair	Prof. Koichi Hidaka	Prof. Yuki Yokokura	
	Title	Speaker		Title	Speaker	
10:00-12:00	SS3-1	Investigation of Search Intent Decision Indicators by Gaze Detection for Additional Pan Control of TPR	Reo Arita (Tokyo Denki University)	TT4-1	Optimal Transient Control of In-Motion Wireless Power Transfer for Receiving Energy Maximization Using Envelope Model	Keiichiro Tokita (The University of Tokyo)
	SS3-2	Development of Collision Alert System Using a Single WAF Sensor – Proposal of Mean Manhattan Distance Algorithm from Detected Feature Points –	Kenta Otsuka (Shibaura Institute of Technology)	TT4-2	Design of an Engine Controller to Separate the Fuel Consumption and SOC Evaluation for HEVs	Hokuto Yahagi (Tokyo Denki University)
	SS3-3	Human Tracking Control by Using Model Predictive Control with Human Trajectory Model for Mobile Robot	Naoki Motoi (Kobe University)	TT4-3	Reducing Power Consumption of Tilt-Wing eVTOL Aircraft During Hovering Flight in Crosswind	Masatoshi Mizuno (University of Tokyo)
	SS3-4	Experimental Verifications of Strain Signal-Based Position/Force Control in Piezoelectric Bimorph Actuators	Kenta Seki (Nagoya Institute of Technology)	TT4-4	Proposal of Hand-Controlled EVs Including Turning Movements and Its Application to Safe Narrow-Lane Exit	Shinsei Yoshikiyo (The University of Tokyo)
	SS3-5	Mathematical Modeling, Finite Element Analysis, and Experimental Verification of Cross-Coupled 2-DOF Tubular SPMSM	Tomoyuki Shimono (Yokohama National University)			
	SS3-6	Position Control Based on Robust Load-Side Acceleration Control Using Instantaneous State Observer for Industrial Robot	Taiga Shinozaki (Nagaoka University of Technology)			
12:00-13:00 Lunch Break						
Session Room 1			Session Room 2			
SS4: Haptics and Data Robotics			TT3: Control Theory and Its Applications			
Chair	Prof. Takahiro Endo	Dr. Issei Takeuchi	Chair	Prof. Tadao Zanma	Prof. Kazuaki Ito	
	Title	Speaker		Title	Speaker	
13:00-15:00	SS4-1	Performance Improvement of Element Description Method by Artificial Bee Colony Algorithm	Issei Takeuchi (Tokyo Automatic Machinery Works, Ltd.)	TT3-1	Frequency-Response-Based Controller Design for Robust Performance by Numerical Optimization	Kohei Ito (Mie University)
	SS4-2	Stabilization for Bilateral Teleoperation by Transmission of Force Information Using Equivalent Torsional Force Feedback	Yuki Nagatsu (Chuo University)	TT3-2	Controller Tuning with Estimated Closed-Loop Response Using Input/Output Data	Taiga Sakatoku (Mie University)
	SS4-3	Excess Force Reduction in Bilateral Control for Precise and Safe Operation	R.M. Maheshi Ruwanthika (Keio University)	TT3-3	Postural Control of 3D Inverted Pendulum Through Wearable-CMG Using the Hybrid Method	Akihiro Iizuka (Yokohama National University)
	SS4-4	Periodic-Position and Aperiodic-Impedance Control Based on Periodic/Aperiodic Disturbance Compensation	Hisayoshi Muramatsu (Hiroshima University)	TT3-4	Optimizing Logistics Warehouse Operations with Agent-Based Modeling	So Fukai (Tokyo Institute of Technology)
	SS4-5	Cognitive Grasping and Manipulation of Unknown Object with Control Grip Force Using Cyber Physical System Approach	Joel Thompson (KEIO University)			
	SS4-6	Enhancement of Haptic Sensation on Dominant and Non-Dominant Hands for Stiffness Discrimination Task by Stochastic Resonance	Komi Chamnongthai (Kyoto University)			
15:00-15:30 Break						
Session Room 1			Session Room 2			
SS2-2: Advanced Motion Control for High Value-Added Mechatronic Systems in the 21st Century			TT2: Actuation and Its Applications			
Chair	Prof. Shota Yabui	Prof. Wataru Ohnishi	Chair	Prof. Yasutaka Fujimoto	Prof. Masato Koyama	
	Title	Speaker		Title	Speaker	
15:30-16:50	SS2-2-1	Proposal of Anti-Windup Method of Twin Drive Mass-Flow-Rate Control for Pneumatic Driving System	Yui Shirato (the University of Tokyo)	TT2-1	Reducing Design Time of Permanent Magnet Volume Minimization for IPMSM for Automotive Applications Using Machine Learning	Yuki Shimizu (Osaka Prefecture University)
	SS2-2-2	Stable Torsion Torque Control for Two-Inertia Systems with Backlash Based on Duality of Nonlinear Friction and Backlash	Juan Padron (Nagaoka University)	TT2-2	High Efficiency Motor Drive System by Voltage-Integral-Based Reference Tracking Modulator with Voltage Prediction	Yuto Kobayashi (Nagaoka University of Technology)
	SS2-2-3	Improvement of Bridge Circuit for Self-Sensing Actuation Using Piezoelectric Elements	Jumpei Ohno (Nagoya Institute of Technology)	TT2-3	Analysis Results and MPPT Method Using SRG for Small Size Wind Power Generating System	Kakinuma Rin (Mie University)
	SS2-2-4	Design of Delay-Based Infinite Impulse Response Filter for Periodic-Disturbance Observer	Hiroki Tanaka (Hiroshima University)	TT2-4	Analysis of Force Generation in Microwave Motors	Masazumi Katoh (Yokohama National University)
				TT2-5	Characteristics of Muscle Contraction with Voltage and Frequency in Non-Invasive Functional Electrical Stimulation	Tatsuhiro Hamana (University of Tsukuba)

March 12th						
Session Room 1			Session Room 2			
10:00-12:00	JIA to SAMCON2021			P1: Sensing and actuation		
	Chair	Prof. Hiroshi Fujimoto	Prof. Tomoyuki Shimono	Chair	Prof. Yutaka Uchimura	Prof. Hiroshi Igarashi
		Title	Speaker			
		Model-Based Filter Design for Triple Skyhook Control of In-Wheel Motor Vehicles for Ride Comfort	Tomonori Suzuki (The University of Tokyo)			
		High-Precision Control for Functional Electrical Stimulation Utilizing a High-Resolution Encoder	Tomoya Kitamura (Saitama University)			
		Simultaneous Estimation of Contact Position and Tool Shape Using an Unscented Particle Filter	Kyo Kutsuzawa (Tohoku University)			
		Precise External Force Estimation of Helical Motors Using Magnetic-Attractive-Force Error Compensation	Masato Koyama (Mie University)			
		Trial Report of Localization for Visual Based Tracking System in Asteroid Flyby	Susumu Hara (Nagoya University)			
12:00-13:00	Lunch break					
13:00-15:00	Session Room 1			Session Room 2		
	TT5: Robotics and Mechatronics			P2: Control theory and its applications		
	Chair	Prof. Daisuke Yashiro	Prof. Takashi Yoshioka	Chair	Prof. Tomoyuki Shimono	Prof. Kazuaki Ito
		Title	Speaker			
	TT5-1	Development of Real-Time Fault Prediction System Using Artificial Intelligence	Tetsuya Ojiro (Kyushu Sangyo University)			
	TT5-2	Tracked Vehicle Velocity Estimation by Disturbance Observer and Machine Learning, and Its Application to Driving Force Control for Slippage Suppression	Hiroaki Kuwahara (Keio University)			
	TT5-3	An Anti-Windup Control with Adaptive Saturation Function for Two-Wheeled Inverted Pendulum Wheelchair	Keinosuke Yokota (Keio University)			
	TT5-4	Control of Humanoid Robots Using Divided Coordinate Transformations	Shinnosuke Kato (Mie University)			
TT5-5	Design of a Gain-Scheduled Rotor Thrust Controller Using Wind Velocity and Rotor Angular Velocity	Yuki Kato (Mie University)				
TT5-6	Control Method for Large-Sized Gantry Type Linear Motor Slider with High Feedback Gain	Tetsuya Ojiro (Kyushu Sangyo University)				
15:00-15:30	Break					
15:30-17:30	Session Room 1			Session Room 2		
	TT6: Human Interaction			P3: Robotics and mechatronics		
	Chair	Prof. Sho Sakaino	Prof. Takahiro Nozaki	Chair	Prof. Yasutaka Fujimoto	Prof. Yuki Nagatsu
		Title	Speaker			
	TT6-1	Estimation Ankle Joint Exertion Torque Using Electromyogram and Ankle/Knee Joint Angles	Yuma Nagaoka (Mie University)			
	TT6-2	Estimation of Ankle Torque in Passive Plantar-Dorsiflexion Using Ankle/Knee Angle	Kosuke Kitabata (Mie University)			
	TT6-3	Estimation of Dynamic Muscle Force Characteristics Based on Joint Torque	Mayu Miyake (Yokohama National University)			
	TT6-4	Depth Camera-Based Lifting Robot Navigation in Environments with Different Lighting Conditions	Tran Dung (Hosei University)			