

March 4th									
Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)			
SS3: Advanced Techniques in Real World Haptics			TT1: Power Electronics and Motor Drive						
Prof. Toshiaki Tsuji			Prof. Chowarit Mitsantisuk						
Prof. Yuki Yokokura			Prof. Masato Koyama						
Title	First Autor		Title	First Autor		Title	First Autor		
SS3-1	Estimation of Relationship between Stimulating Current and Exerted Force Considering Muscle Length	Tomoya Kitamura (Saitama University)	TT1-1	Dead-Time Compensation With Maximum Voltage Utilization for Nine-Switch Inverter		Kohei Kamada (Mie University)			
SS3-2	Force Command Generation of Hopping-Height Control Based on Energy Control	Yoshitaka Abe (Keio University)	TT1-2	Model Prediction Direct Current Control Considering Performance of Selective-Harmonic-Elimination Based on PWM pattern		Haruya Kada (Nagaoka University of Technology)			
SS3-3	Contact control of two inertial systems based on velocity damping by equivalent disturbance compensator	Shunsuke Suzuki (Nagaoka University of Technology)	TT1-3	Maximum Efficiency Operation of Wireless In-Wheel Motor Using Pulse Amplitude Modulation		Daiki Tajima (The University of Tokyo)			
SS3-4	Improvement of usability of power-assisted cart with torque sensor built in driving wheel	Ryohei Kitayoshi (Yaskawa Electric Corporation)	TT1-4	The Straight Traveling Method for Autonomous Agricultural Vehicle with Consideration of Terrain Parameter and Vehicle Dynamics Variables		Makoto Suzuki (The University of Tokyo)			
SS3-5	Industrial dual-arm robots based on integrated information of force and vision sensing for autonomous assembly	Pattaraporn Taptimong (Kasetsart University)	TT1-5	Design of Feed Forward Controller using Identified Model of Vibration Suppression Controller		Hajime Yamao (Mie University)			
SS3-6	Simultaneous Estimation of Contact Position and Tool Shape using Particle Filter	Kyo Kutsuzawa (Saitama University)	TT1-6						
11:30-13:00 Break									
13:00-13:10 Keyaki Kaikan (university hall)									
13:10-13:15 Opening									
13:10-14:05 Plenary Session 1									
14:05-15:00 Plenary Session 2									
15:00-15:30 Break									
Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)			
IS1: Recent Theory and Application in Motion Control			TT2: Advanced Control Theory			TT3: Robotics and Mechatronics			
Prof. Takahiro Nozaki			Prof. Wang Huiming			Prof. Menghua Zhang			
Prof. Masahide Ito			Prof. Takenori Atsumi			Prof. Masahide Ito			
Title	First Autor		Title	First Autor		Title	First Autor		
IS1-1	Vibration Suppression Control for Three-Inertia System Using Equivalent Rigid Body Observer	Yasufumi Yoshiura (YASKAWA ELECTRIC CORPORATION)	TT2-1	Design method of Fixed-Order Youla Parameter Based on v-gap Using Frequency Responses		Masayuki Okamura (Mie University)	TT3-1	A Method of Tension Transformation Considering Tension Limit for Tendon Driven Manipulator with Redundant Tendon	Masahiro Fujisaki (Mie University)
IS1-2	Precision tracking control by pneumatic actuator: challenges for input delay and acoustic vibrations	Wataru Ohnishi (The University of Tokyo)	TT2-2	Study on Control Model Structuring of Large-Sized Gantry-Type Linear Motor Slider by Measuring Frequency Response		Toshiyuki Tachibana (Kyushu Institute of Technology)	TT3-2	Modeling and Control of Magnetic-Gear Motor with Double-layered Structure	Yusuke Aoki (Yokohama National University)
IS1-3	Position/Force Hybrid Control of Electric Rotorcraft	Daisuke Yashiro (Mie University)	TT2-3	A Practical Frequency-domain Method for the Fractional Order PID Controller Design		Weijia Zheng (Huazhong University of Science and Technology, Foshan University)	TT3-3	Two-mass DOB Robust to Elastic Coefficient Variation for Collaborative Robot Joint Using Joint Torque Sensor and Encoders	Akiyuki Hasegawa (the University of Tokyo)
IS1-4	Optimal Quantization and Input for Quantized State Feedback Control System with Dynamic Quantizer	Than Zaw Soe (Chiba University)	TT2-4	Experimental Study on NCbT Guaranteeing Gain and Phase Margins		Munemitsu Date (Mie University)	TT3-4	Optimal Posture Determination Methods of Static Task for Variable Stiffness Tendon Driven Arm	Tomoki Tomita (Mie University)
IS1-5	Abstraction of Thermal Welding System Based on Element Description Method	Issei Takeuchi (Tokyo Automatic Machinery Works, Ltd.)	TT2-5	Data-Driven Controller Parameter Update Ensuring Closed-Loop Stability		Kosuke Yanagawa (Mie University)	TT3-5	Experimental Observation of Torsion Torque Using a Double-Encoder-Based Stiffness Variation Torque Observer	Julio Cesar Vera Paramo (Nagaoka University of Technology)
			TT2-6	Basic Study of Iterative Learning Control Using Basis Functions for Various Tasks of a Ball-screw-driven Stage		Takumi Hayashi (The University of Tokyo)	TT3-6	Visual servoing of robot arms using simple transformation through multiple coordinate systems from binocular visual space	Hiromi Kishi (Mie University)
			TT2-7	Data-Driven H_{∞} Controller Tuning by Iterative Convex Optimization		Akifumi Morita (Mie University)	TT3-7	Visual Tracking Control based on Velocity Estimation for redundant Eye-in-Hand Robot	Hayato Hori (Seikei University)

March 5th									
Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)			
9:30-11:30	SS4: Advanced Control in Motion Control, Power Electronics, and Industrial Applications			TT4: Planning and Optimization			TT5: Physical Support Applications		
	Prof. Shihua Li			Prof. Huimin Ouyang			Prof. Tomoyuki Shimono		
	Prof. Hiroshi Fujimoto			Prof. Satoshi Suzuki			TBA		
		Title	First Autor		Title	First Autor		Title	First Autor
	SS4-1	Robust Tracking Design for Quadrotor Unmanned Aerial Vehicle: A GPI Observer based Approach	Zhenxing Sun (Nanjing Tech University)	TT4-1	On The Performance Improvement for Cooperative Tasks by Robot Teams with Diverse Action Control Individualities	Yu Yoshida (Tokai University)	TT5-1	Human – Robot Physical Interactions in Modal Space for Cooperative Transport	Yuta Kakimi (Keio University)
	SS4-2	Robust Finite-Time Control for Flexible-Joint Systems Under Time-Varying Disturbances	Huiming Wang (Chongqing University of Posts and Telecommunications)	TT4-2	Optimal Legs-Allocation on Multi-legged Robot for Stable Posture Implementation	Kanji Shibano (Shibaura Institute of Technology)	TT5-2	Investigation on measurement conditions of the lower limb muscle strength evaluation device capable of muscle strength evaluation for each muscle group	Shuhei Madokoro (Mie University)
	SS4-3	A Powerful Control Structure for Electrical Drive Systems By Using MPC and DOB Technique	Fengxiang Wang (Quanzhou Institute of Equipment Manufacturing, Haixi Institutes, Chinese Academy of Sciences, Jinjiang, China)	TT4-3	RRT-Based Path Planning Considering Initial and Final Pose for Nonholonomic Wheeled Robots	Mamoru Sobue (The University of Tokyo)	TT5-3	Comparison between Calculated and Measured Output Force of Supporting Robot for Lower Limb Function	Natsuki Inamura (Yokohama National University, KISTEC)
	SS4-4	Second order sliding mode control for buck dc-dc converter with ESR and ESL	Rui Ling (Chongqing University)	TT4-4	Autonomous path planning for ground leveling work by Deep Reinforcement Learning	Shunya Tanabe (Shibaura Institute of Technology)	TT5-4	Modeling of ankle angle-torque characteristic during passive dorsiflexion	Atsuki Oguri (Mie University)
SS4-5	Model Predictive Control Design for PMSM Servo System Based on Friction-Compensation and Extended State Observer	Chaodong Jiang (Southeast University)	TT4-5	Combining Method of Image and Motion Latent Space	Daisuke Takahashi (Keio University)	TT5-5	Hybrid Practice Scheduling of Motor Learning with Upper-Limb Rehabilitation Robot	Takahiro Ebato (Keio University)	
SS4-6	Extended State Observer-Based Sliding Mode Control for Nonlinear Servo Systems With Unknown Dynamics	Shubo Wang (Qingdao University)	TT4-6	Optimization of Grading Path Planning for Autonomous Construction Machine	Kazuki Kuzu (Shibaura Institute of Technology)	TT5-6	Study on walking assist device that use a tendon driven mechanism focused on gait cycle	Takashi Fuyuki (Mie University)	
11:30-13:00	Break								
13:00-15:00	Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)		
	SS2: Modeling and Control for High Precision Motion Control Systems			TT6: Advanced Automotive Control			TT7: Haptics		
	Prof. Kenta Seki			Prof. Koichi Hidaka			Prof. Daisuke Yashiro		
	Prof. Jan Swevers			Prof. Toshimasa Miyazaki			Prof. Yasutaka Fujimoto		
		Title	First Autor		Title	First Autor		Title	First Autor
	SS2-1	PD-SMC method for 3D overhead cranes	Menghua Zhang (University of Jinan)	TT6-1	Range Extension Autonomous Driving of Electric Vehicles Considering Multiple Traffic Signals	Naoyuki Ogawa (University of Tokyo)	TT7-1	Utility Consideration of Haptic Forceps for Brain Surgery	Mika Aoki (Yokohama National University)
	SS2-2	Residual Load Sway Rejection for Rotary Cranes with Double-pendulum Using Open-loop Control Approach	Huimin Ouyang (Nanjing Tech University)	TT6-2	Energy Management for Hybrid Electric Vehicles using Linear Parameter-Varying MPC	Yuta Takahashi (Tokyo Denki University)	TT7-2	Analysis on Design Method of Force Control Systems with Disturbance Observer and Reaction Force Observer	Kenji Natori (Chiba University)
	SS2-3	NLPID Based High Precision Cross Coupling Control for CNC Multi-axis Motion Control Systems	Junxiao Wang (Zhejiang University of Technology)	TT6-3	Energy Efficient Autonomous Driving of Electric Vehicle with Real-Time Optimization Using Linear Quadratic Regulator	Mitsuhiro Hattori (The University of Tokyo)	TT7-3	Design of Torque Control System Using Motor/Load Side Encoders and Ultrasonic Motor Based Closed-loop Angle Control System	Daiki Yonemoto (Mie University)
SS2-4	Evaluation of Disturbance Caused by Cable Tension in Multi-axis High-Precision Stage using Wireless Power Transfer	Yuma Yazaki (The University of Tokyo)	TT6-4	Study on Advanced Statistical Modeling using Gaussian Process for Charging Efficiency (2nd Report)	Fumie Ogawa (Mazda Motor Corporation, Tokyo University of Agriculture and Technology)	TT7-4	Driving Support System with Using Haptic Bio Feedback through Steering Wheel	Yasuhiro Kato (Saitama University)	
SS2-5	Adaptability Improvement of Handling Object based Inertia Variation in Multi DOF Motion Copying System	M K C DINESH CHINTHAKA (Yokohama National University)	TT6-5	Experimental Verification of Driving Force Controller Using High-Power Racing Electric Vehicle	Hiroyuki Fuse (The University of Tokyo)	TT7-5	Development of Multi Degree of Freedom Haptic Forceps Robot with Multi Actuated Fingers	Takuya Matsunaga (Kanagawa Institute of Industrial Science and Technology)	
			TT6-6	Suppression of Velocity Fluctuation of Electric Tiller Using a Tilling Reaction Force Observer	Takumi Nakazawa (Nagaoka University of Technology)	TT7-6	Analysis of Individual Joint Controllable Haptic Glove Adapted in Complementary Learning Assist System	Kazushige Ashimori (Tokyo Denki University)	
15:00-15:30	Break								
15:30-16:25	Keyaki Kaikan (university hall)								
16:25-17:20	Plenary Session 3								
17:50-19:30	Plenary Session 4								
	Banquet								

March 6th									
Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)			
9:30-11:30	IS2: Assistive Robotics			TT8: High Precision Control			TT9: Sensing and Signal Processing		
	Prof. Genci Capi			Prof. Jing Na			Prof. Hiroshi Igarashi		
	Dr. Delowar Hossain			Prof. Wataru Ohnishi			Prof. Yoshihiro Maeda		
	Title		First Autor	Title		First Autor	Title		First Autor
	IS2-1	Force Control Using No Joint Variables for Elastic Tendon Robot	Chao Shao (Yamagata University)	TT8-1	Estimation of Wind Disturbance for Quadcopter in Square Tube	Yoshiyuki Otsuji (Chiba Institute of Technology)	TT9-1	Teamwork Evaluation by the Orthogonal CFO	Genki Sasaki (Tokyo Denki University)
	IS2-2	Development of Automatic Polishing System using Object Recognition: A Faster R-CNN Approach	Masahiro Namekawa (Hosei University)	TT8-2	Data-driven Optimization Method for Controller Parameters Using Support Vector Machine	Toshiki Saito (Chiba Institute of Technology)	TT9-2	A Method to Extract Change of Lunula of the Nail	Kazuki Shimamoto (Tokushima University)
	IS2-3	Robot Navigation in Outdoor Environments using Odometry and Convolutional Neural Network	Keisuke Atsuzawa (Hosei University)	TT8-3	Disturbance Compensation Using Minimal Control Synthesis Algorithm in Two-dimensional Shaking Tables	Masashi Matsuoka (Nagoya Institute of Technology)	TT9-3	Estimation of Drowsiness Using Steering Fluctuation Data	Wataru Hatori (Chuo-University)
IS2-4	Neural network based robot navigation in indoor environments using depth image	Dung Duc Tran (Hosei University)	TT8-4	Two-Degree-of-Freedom Control with Adaptive Dead Zone Compensation for Pneumatic Valves	Yui Shirato (The University of Tokyo)	TT9-4	A Method to Detect Presence or Absence of Learning Understanding Using Center Cumulative Frequency Comparison Method and Multistage ICA	Hisaki Omae (Tokushima University)	
			TT8-5	Input Voltage Control Scheme for High Efficiency Operation of Multi-axis High-Precision Wireless Powered Stage	Ryunosuke Katada (The University of Tokyo)	TT9-5	Aperiodic Force Extraction Method Based on Variant Frequency Estimation and Normalization	Takumi Karato (Keio University)	
			TT8-6	A Fundamental Study on Switching Control System with Multiple Modes for Force Control	Shotaro Tsujii (Mie University)	TT9-6	The effect of teleexistence robot's size on impression of the conversation partner in Kendon's F-formation	Keita Hori (Tokyo Denki University)	
11:30-13:00	Break								Keyaki Kaikan, 2nd Floor
13:00-15:00	Session Room 1 (Keyaki Kaikan, Main Hall)			Session Room 2 (Keyaki Kaikan, Meeting Room 2)			Session Room 3 (Keyaki Kaikan, Meeting Room 3)		
	V1: Video and Interactive Session 1			V2: Video and Interactive Session 2			V3: Video and Interactive Session 3		
	Prof. Yoshiyuki Urakawa			Prof. Seiichiro Katsura			Prof. Sota Shimizu		
	Prof. Yuki Nagatsu			Dr. Eichi Saito			Prof. Kenji Natori		
Title		First Autor	Title		First Autor	Title		First Autor	
15:00-15:30	Break								
15:30-17:30	Session Room 1 (Faculty of Engineering, Building 2, 103)			Session Room 2 (Faculty of Engineering, Building 2, 102)			Session Room 3 (Faculty of Engineering, Building 2, 202)		
	SS1: Intelligent Sensing, Monitoring, and Diagnosis for Human Support Systems			TT10: Mobile Systems					
	Prof. Naoki Motoi			Prof. Sho Sakaino					
	Prof. Tomoaki Kashiwao			Prof. Akira Shimada					
	Title		First Autor	Title		First Autor	Title		First Autor
	SS1-1	Fault diagnosis of a rotating machine using online measurements of its vibration waveform data and the constant-Q transform of these data	Takanori Hayashi (MEIDENSHA CORPORATION)	TT10-1	Velocity Command Generation Considering Trajectory Tracking and Collision Avoidance for Mobile Robot	Masato Kobayashi (Kobe University)			
	SS1-2	Motion Control Robot with Different Structures using MIDI-A Modeling based on Standard Midi File Format-	Yukio Haga (Shibaura Institute of Technology)	TT10-2	Waist Rotating Motion Control for Reducing Ground Reaction Moment on Biped Robot	Hiroyuki Saito (Seikei University)			
SS1-3	Force Impulse Control Based on Resonance Ratio Control for Anti-bouncing Motion	Yusuke Kawai (Nagaoka University of Technology)	TT10-3	Kicking-out Force Control with Compensation of Torsional Torque in Leg Robot using Bi-articular Muscle	Kenta Tomiyama (Nagaoka University of Technology)				
SS1-4	Extraction of Effective Feature Parameters for Recognition of Shockable Arrhythmias	Takayuki Okai (Tokyo City University)	TT10-4	Movement Control Based on MPC and DOB for Overhead Traveling Quadrotor Robot	Hiromi Tsuji (Shibaura Institute of Technology)				
SS1-5	Big-data Analysis of Railway-telemeter System	Daisuke Tanaka (National Institute of Technology, Niihama College)	TT10-5	Design of Gain Scheduling Controller for Bilateral Control System Using Propeller Driven System	Sota Yamagiwa (Mie University)				
SS1-6	Action recognition of child's gross motor with LSTM and OpenPose	Satoshi Suzuki (Tokyo Denki University)	TT10-6	Switching Control of Personal Vehicle with Two wheels and Three Wheels Modes	Yukihiro Matsushita (Chuo University)				

Demonstration Session (11:30-15:00)