Oral Sessions 1A, Tuesday, August 18

1A04   OS: Nanoscale Servo Control for Storage Systems and Precision Devices   Room 04

Organizer(s): Mitsuo Hirata (Utsunomiya University)

Chair(s): Mitsuo Hirata (Utsunomiya University)

1A04-1	"Novel Control and Peripheral Technologies Proposed for Future Hard Disk Drives," *Hiroyuki Ono (Atom Giken)	13:00
1A04-2	"Precise Following Control Using Optimized Friction Compensator for HDDs," *Motohiro Kawafuku (Nagoya Institute of Technology), Jun Takamori (Nagoya Institute of Technology), Makoto Iwasaki (Nagoya Institute of Technology), Hiromu Hirai (Nagoya Institute of Technology)	13:20
1A04-3	"LMI-based Robust Command Shaping Against Plant Perturbations in Fast and Precise Positioning," *Kazuaki Ito (Toyota National College of Technology), Masafumi Yamamoto (Nagoya Institute of Technology), Makoto Iwasaki (Nagoya Institute of Technology), Nobuyuki Matsui (Nagoya Institute of Technology)	13:40
1A04-4	"Vibration Minimized Design of Trapezoidal Acceleration Input for Semiconductor Manufacturing Systems," *Mitsuo Hirata (Utsunomiya University), Tomohiro Harayama (Canon Inc.), Kouji Yoshida (Canon Inc.), Youzou Fukagawa (Canon Inc.)	14:00
1A04-5	"Anti-saturation Surface Topography Observer for Amplitude Modulation Atomic Force Microscope," *Takayuki Shiraishi (Yokohama National University), Hiroshi Fujimoto (Yokohama National University)	14:20
1A04-6	"Self-tuning Control for Rotational Speed of Slider-crank Mechanism," *Hitoshi Saito (Tokyo Denki University), Jun Ishikawa (Tokyo Denki University), Norihiro Nakamichi (Tokyo Denki University), Tetsuo Shiotsuki (Tokyo Denki University), Katsuhisa Furuta (Tokyo Denki University)	14:40

1A05   Robot Control I   Room 05

Chair(s): Sadaaki Kunimatsu (Kumamoto University)

1A05-1	"Investigations of Width Effect in the Dynamic Modelling of Flexible Manipulator System," *Mohd Ashraf Ahmad (Universiti Malaysia Pahang), Ahmad N.K. Nasir (Universiti Malaysia Pahang), Nor M.A. Ghani (Universiti Malaysia Pahang), Reza E Samin (Universiti Malaysia Pahang)	13:00
1A05-2	"Sensor-less Grasping Control on Two-fingered Robot Hands," Akira Shimada (Shibaura Institute of Technology), *Kenichi Sonoda (Polytechnic University), Yuki Satoh (Polytechnic University)	13:20
1A05-3	"Catching Algorithm for 2D Robot Manipulator Using PD Controller," *Le Duc Hanh (Taiwan Tech University), Chyi-Yeu Lin (Taiwan Tech University), Yi-Pin Chiu (Taiwan Tech University)	13:40
1A05-4	"Walking Control of a Compass-like Biped Robot with a Constraint Mechanism," *Hodaka Kato (Osaka University), Toshiyuki Ohtsuka (Osaka University)	14:00
1A05-5	"Mixed l_2/l_infinity Preview Control for Biped Walking Pattern Generation," Sadaaki Kunimatsu (Kumamoto University), *Takahiro Fukuda (Kumamoto University), Makoto Kumon (Kumamoto University), Mitsuaki Ishitobi (Kumamoto University)	14:20

1A06   Vehicle I   Room 06

Chair(s): Noboru Sakamoto (Nagoya University), Kenichiro Nonaka (Tokyo City University)

1A06-1	"A Self Modeling Autonomous Airship," *Halit Bener Suay (The University of Tokyo), Takehisa Yairi (The University of Tokyo), Kazuo Machida (The University of Tokyo)	13:00
1A06-2	"A Characteristic Analysis of Vehicle's Lateral Dynamics," *Wen-Ching Chung (National Chiao Tung University), Der-Cherng Liaw (National Chiao Tung University), Kuo-Liang Chang (National Chiao Tung University), Chiz-Chung Cheng (Lee Ming Institute of Technology)	13:20
1A06-3	"Spacecraft Controller Tuning Using Particle Swarm Optimization," *Rihan Ahmad (University of Leicester), Hamza Chaal (Northumbria University), Da-wei Gu (University of Leicester)	13:40
1A06-4	"A Study on Novel Electrostatic Suspension System Using Piezo Actuators," *Truyen T Le (University of Ulsan), Jong U Jeon (University of Ulsan), Young-Jin Yum (University of Ulsan), Sung-Woo Park (University of Ulsan), Hyun-Woo Lim (University of Ulsan)	14:00

1A07   Control Theory & Design I   Room 07

Chair(s): Hiroyuki Ichihara (Kyushu Institute of Technology), Akira Kojima (Tokyo Metropolitan University)

1A07-1	"Finite-Time Control for Linear Systems with Impulse Control," *Hiroyuki Ichihara (Kyushu Institute of Technology), Hitoshi Katayama (Shizuoka University)	13:00
1A07-2	"H2 Performance on Multiple Preview Compensation," *Kazuki Yokoyama (Tokyo Metropolitan University), Akira Kojima (Tokyo metropolitan University)	13:20
1A07-3	"Reconstruction and Rejection of Mismatched and Matched Disturbances for a Class of Multivariable Systems," *Peng Chao-Chung (National Cheng Kung University), Chieh-Li Chen (National Cheng Kung University), Christopher Edwards (Leicester University)	13:40
1A07-4	"Generalized Minimum Variance Control with Pseudocommutation Applying Sylvesta Matrix for Time Varying System," *Masayoshi Doi (Fukuyama University), Tetsuya Takehira (Ministry of Defense), Yasuchika Mori (Tokyo Metropolitan University)	14:00
1A07-5	"Fixed-order Controller Design with Frequency Domain Specifications," *Jae Sik Lim (Seoul National University of Technology), Jung Rae Ryoo (Control & Instr. Eng., Seoul Nat'l University of Tech.), Young Il Lee (Control & Instr. Eng., Seoul Nat'l University of Tech.)	14:20

1A08   Educational and Entertaining Robot   Room 08

Chair(s): Kiminao Kogiso (NAIST)

1A08-1	"An Approach to Robotization of Rokogi-wasen," *Tadayuki Nakano (Polytech College Siga), Sinji Usui (Mie University), Akira Shimada (Shibaura Institute of Technology University)	13:00
1A08-2	"Evacuation Guidance Robot System for Victims in Disaster Site," *Young-Duk Kim (DGIST), Yoon-Gu Kim (DGIST), Seung-Hyun Lee (DGIST), Jeong-Ho Kang (Hoya Robot Co.), Jinung An (DGIST)	13:20
1A08-3	"Center of Gravity Based Control of a Humanoid Balancing Robot for Boxing Games : BalBot Ⅴ," *Hyungjik Lee (Chungnam National University), Ho Jin Choi (Chungnam National University), Jun Hyung Park (Chungnam National University), Jong Hyun Lee (Chungnam National University), Seul Jung (Chungnam National University)	13:40
1A08-4	"Design and Kinematic Analysis of a 6DOFs Omnidirectional Mobile Robot for the Gesture Expression," *Sang-ik An (KAIST), Dong-Soo Kwon (KAIST)	14:00

1A09　Data Mining and Clustering　　　　　　　　　　　　　　　　　　　　Room 09

Chair(s): Hiroshi Someya (The Institute of Statistical Mathematics), Tatsuo Unemi (Soka University)

1A09-1	"Unsupervised Clustering for Abnormality Detection Based on the Tri-axial Accelerometer," *Min-Seok Lee (KAIST), Jong-Gwan Lim (KAIST), Ki-Ru Park (KAIST), Dong-Soo Kwon (KAIST)	13:00
1A09-2	"Document Classification Method with Small Training Data," *Yasunari Maeda (Kitami Institute of Technology), Hideki Yoshida (Kitami Institute of Technology), Toshiyasu Matsushima (Waseda University)	13:20
1A09-3	"Interesting Rules Mining with Deductive Method," *Wenxiang Dou (Waseda University), Jinglu Hu (Waseda University), Gengfeng Wu (Shanghai University)	13:40
1A09-4	"Generalized Association Rules Mining with Multi-branches.Full-paths and Its Application to Traffic Volume Prediction," *Huiyu Zhou (Waseda University), Shingo Mabu (Waseda University), Manoj K Mainali (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	14:00
1A09-5	"Traveling Time Prediction Using Isolation Rules," *Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	14:20

1A10　Machine Vision I　　　　　　　　　　　　　　　　　　　　　　　　Room 10

Chair(s): Hideki Hashimoto (The University of Tokyo)

1A10-1	"Extracting Method of Characteristic Posture from Human Behavior for Surveillance Camera," *Miwa Takai (Tokyo Institute of Technology)	13:00
1A10-2	"Building Component Detection by Using Context Information and Multiple Cues for Outdoor Robot," Suk-Ju Kang (University of Ulsan), *Hoang-Hon Trinh (University of Ulsan), Dae-Nyeon Kim (University of Ulsan), Kang-Huyn Jo (University of Ulsan)	13:20
1A10-3	"Autonomous Detection and Recognition of Salient Features Using Generation of Saliency Map for Indoor Visual SLAM," *Yong-Ju Lee (Korea University), Jae-Bok Song (Korea University)	13:40
1A10-4	"Real-time Single Camera SLAM Using Fiducial Markers," *Lim Hyon (Inha University), Young S Lee (Inha University)	14:00
1A10-5	"SURF Algorithm with Color and Global Characteristics," *Hyunsup Yoon (Soongsil University), Hwan-Ik Chung (Soongsil University), Hernsoo Hahn (Soongsil University)	14:20
1A10-6	"A License Plate Recognition System Based On SURF Algorithm," *Nguyen Quoc Hung (University of Ulsan)	14:40

1A11　OS: Biological Control Systems　　　　　　　　　　　　　　　　　　Room 11

Organizer(s): Takehito Azuma (Utsunomiya University), Kwang-Hyun Cho (KAIST), Yoshihiro Mori (Kyoto Institute of Technology)
Chair(s): Takehito Azuma (Utsunomiya University), Yoshihiro Mori (Kyoto Institute of Technology)

1A11-1	"Module-based Analysis of the Robustness Generated by Complex Feedback Regulations in Biological Networks," *Hiroyuki Kurata (Kyushu Institute of Technology)	13:00
1A11-2	"Estimation of Protein Networks for Cell Cycle in Yeast Based on Least-squares Method," *Noriko Takahashi (Keio University), Takehito Azuma (Utsunomiya University), Shuichi Adachi (Keio University)	13:20
1A11-3	"Effects of Intrinsic Noise in Temperature-compensated Models for Circadian Rhythms," Sho Ichikawa (Waseda University), *Yohei Itou (Waseda University), Gen Kurosawa (JSPS and The University of Tokyo), Kenko Uchida (Waseda University)	13:40
1A11-4	"A Control Engineering Approach to Calculating Optimal Ventilator Settings for Critically-ill Patients under Mechanical Ventilation," *Zhiwei Gao (University of Leicester), Anup Das (University of Leicester), Prathyush P Menon (University of Leicester), Jonathan G Hardman (University Department of Anaesthesia Queen's Medical Centre), Bates G Declan (University of Leicester)	14:00
1A11-5	"Validation of a Model of Regulation in the Tryptophan Operon against Multiple Experiment Data Using Global Optimisation," *Jongrae Kim (University of Glasgow), Jung-Su Kim (Seoul National University), Ian Postlethwaite (University of Leicester), Pat Heslop-Harrison (University of Leicester), Declan G Bates (University of Leicester)	14:20
1A11-6	"Controller Design Method of Gene Networks Based on Gene Expression Patterns by Network Learning," *Yoshihiro Mori (Kyoto Institute of Technology), Yasuaki Kuroe (Kyoto Institute of Technology)	14:40

1A12　OS: Modeling and Control of Human-Machine Interactions　　　　　　Room 12

Organizer(s): Shigeru Yamamoto (Kanazawa University), Kim Jung (KAIST)
Chair(s): Shigeru Yamamoto (Kanazawa University), Kim Jung (KAIST)

1A12-1	"Real-time Motion Intention Estimation Based Using Surface Electromyography for Collision Avoidance," *Suncheol Kwon (KAIST), Jung Kim (KAIST)	13:00
1A12-2	"Processed Control of Haptic Information on Environmental Surface by Haptic Scanner," *Yukifumi Kobayashi (Keio University), Seiichiro Katsura (Keio University)	13:20
1A12-3	"Human-friendly Arm Robot Using Interactive Particle Swarm Optimization for Trajectory Generation," *Indra Adji Sulistijono (Electronics Eng. Polytec. Inst. Surabaya), Anhar Risnumawan (Electronics Engineering Polytechnics Institute of Surabaya), Cynthia Rachmanita (Electronics Engineering Polytechnics Institute of Surabaya), Naoyuki Kubota (Tokyo Metropolitan University)	13:40
1A12-4	"Identification of Human Skill Based on Feedforward / Feedback Switched Dynamical Model," *Hiroyuki Okuda (Nagoya University), Hidenori Takeuchi (Nagoya University), Shinkichi Inagaki (Nagoya University), Tatsuya Suzuki (Nagoya University)	14:00
1A12-5	"Robust Washout Control for Supporting Bicycle Riding," *Kotaro Shima (Kanazawa University), Shigeru Yamamoto (Kanazawa University), Takashi Takimoto (Fukuoka IST)	14:20
1A12-6	"Driver Centric Decentralized Controller Design in Traffic Flow," *Shigeru Yamamoto (Kanazawa University), Eiji Sakaguchi (Kanazawa University)	14:40

1A13　OS: Recent Receding Horizon Control Methods　　　　　　　　　　　Room 13

Organizer(s): Young Il Lee (Seoul National University of Technology)
Chair(s): Young Il Lee (Seoul National University of Technology)

1A13-1	"Receding Horizon Output Feedback Control for Constrained Uncertain Systems Using Periodic Invariance," Young I Lee (Seoul National University of Technology), *Jae S Lim (Seoul National University of Technology)	13:00
1A13-2	"Robust Model Predictive Control for Uncertain Singular Systems with State Delay," *Daehyun H Ji (Pohang University of Science & Technology), Woojong J Yoo (Pohang University of Science & Technology), Sangmoon M Lee (KT Co. Ltd.), Juhyun H Park (Yeungnam University), Sangchul C Won (Pohang University of Science & Technology)	13:20
1A13-3	"Discrete Time Consensus Problem using Optimal Control," Jinyoung Lee (Seoul National University), *Jung-Su Kim (Seoul National University of Technology)	13:40

1A13-4	"A Constrained Robust Model Predictive Control using Modified Fuzzy Disturbance Observer for Continuous-time Systems with Polytopic Uncertainty," *Woo Jong Yoo (POSTECH), D.H. Ji (POSTECH), S.J. Choi (POSTECH), Ju H. Park (YNU), S.C. Won (POSTECH)	14:00
1A13-5	"A Receding Horizon Control Approach to Synchronization for Chaotic Systems," *Choon Ki Ahn (Wonkwang University), JungHun Park (Seoul National University), Moon Kyu Song (Wonkwang University), Chul Dong Lee (Korea Electronics Technology Institute)	14:20
1A13-6	"Finite Memory Controls for Discrete-time State-space Systems ," *Soohee Han (Konkuk University), Jung Hun Park (Seoul National University), Wook Hyun Kwon (Seoul National University)	14:40

1A14   OS: Control of Axially Moving Systems   Room 14
Organizer(s): Keum-Shik Hong (Pusan National University)
Chair(s): Hiroshi Yabuno (Keio University), Keum-Shik Hong (Pusan National University)

1A14-1	"Stabilization of Buckled Beam by High-frequency Axial Excitation," *Hiroshi Yabuno (Keio University), Junta Okada (Keio University)	13:00
1A14-2	"Active Vibration Control of an Axially Moving Beam via Varying Axial Speed Method," *Quoc C Nguyen (Pusan National University), Quang H Ngo (Pusan National University), Keum-Shik Hong (Pusan National University)	13:20
1A14-3	"Adaptive Control of an Axially Moving String via a Hydraulic Actuator Under a Spatio-temporal Varying Tension," *Quoc C Nguyen (Pusan National University), Quang H Ngo (Pusan National University), Keum-Shik Hong (Pusan National University)	13:40
1A14-4	"Jerk Reduction Control of a Mechanical Transfer System with a Flexible Beam," *Takahiro Miura (Osaka Univercity), Masao Ikeda (Osaka University), Kohta Hoshijima (Daihen Co.)	14:00
1A14-5	"Adaptive Boundary Control of an Axially Moving String under the Effect of Boundary Disturbance ," *Quang Hieu Ngo (Pusan National University), Quoc Chi Nguyen (Pusan National University), Keum-Shik Hong (Pusan National University)	14:20
1A14-6	"Vibration Control of A Thin Walled Composite Beam Using PID Control Technique," *T.C. Manjunath (New Horizon College of Engineering (VTU))	14:40

1A15   Control System   Room 15
Chair(s): Yasuhiro Kobayashi (Hitachi Ltd.)

1A15-1	"Output Feedback Stabilization of Linear Time-varying Uncertain Delay Systems," *Tomoaki Hashimoto (Shinshu University), Takashi Amemiya (Setsunan Univercity)	13:00
1A15-2	"Synthesis of a Robust H_infinity Controller for Dynamic Uncertain Nonlinear Systems with Time-Varying Delay," *Wudhichai Assawinchaichote (King Mongkut's University of Tech. Thonburi)	13:20
1A15-3	"Time-delay Effects on Controllability in LTI Systems," Fong I Kong (National Taiwan University), *Shu A He (National Taiwan University)	13:40
1A15-4	"Controllability Issues of Discrete-time Linear Systems with a State Time-delay," Fong I Kong (National Taiwan University), *Yuan M Liu (National Taiwan University)	14:00
1A15-5	"Distributed H-infinity Consensus Control for Networks of Multiple Agents with Linear Coupling Dynamics," *Yang Liu (Beihang University), Yingmin Jia (Beihang University), Junping Du (Beijing University of Posts and Telecommunications), Fashan Yu (Henan Polytechnic University)	14:20
1A15-6	"Analysis of Power System QV Curve by Fuzzy Modeling," Shu-Chen Wang (Taipei College of Maritime Technology), *Chi-Jui Wu (National Taiwan University of Science and Technology), Pei-Hwa Huang (National Taiwan Ocean University)	14:40

1A16   OS: Recent Progress in Mechanical Metrology   Room 16
Organizer(s): Yoshitaka Morimoto (Kanazawa Institute of Technology)
Chair(s): Yoshitaka Morimoto (Kanazawa Institute of Technology), Kazuhiko Terashima (Toyohashi University of Technology)

1A16-1	"Evaluation of a Fine-coarse Mechanism," *Yoshitaka Morimoto (Kanazawa Institute of Technology)	13:00
1A16-2	"Estimation of Flow Rate in Automatic Pouring System with Real Ladle Used in Industry," *Yoshiyuki Noda (Toyohashi Univerisity of Technology), Kazuhiko Terashima (Toyohashi University of Technology)	13:20
1A16-3	"Uncertainty Estimation of the Pressure Generated by the Controlled-clearance Pressure Balance in NMIJ," *Hiroaki Kajikawa (National Metrology Institute of Japan), Kazunori Ide (National Metrology Institute of Japan), Tokihiko Kobata (National Metrology Institute of Japan)	13:40
1A16-4	"Effects of Elastic Behaviours of Dies and Servo Press Machine on Deep Drawing Process," *Akihiro Watanabe (Gunma University), Yuji Kotani (Gunma Industrial Technology Center), Kazuki Nishimura (Gunma University), Hisaki Watari (Gunma University), Takanori Yamazaki (Oyama National College of Technology)	14:00
1A16-5	"Digital Creep Compensation Method for Load Cell in Various Loading Patterns," *Akitsugu Ohtsuka (Yamato Scale Co., Ltd.), Tetsuya Koyama (Yamato Scale Co., Ltd.), Toru Kohashi (Yamato Scale Co., Ltd.), Motoyuki Adachi (Yamato Scale Co., Ltd.)	14:20
1A16-6	"Variable Speed Control of Weight Stacks in 3 kN Force Standard Machine," *Toshiyuki Hayashi (AIST), Yoshihisa Katase (AIST), Hiroshi Maejima (AIST), Yukio Yamaguchi (AIST), Kazunaga Ueda (AIST)	14:40

1A17   Sensors and Transducers I   Room 17
Chair(s): Senya Kiyasu (Nagasaki University)

1A17-1	"Ultrasonic Treatment for Fragmentation at Solidification of Aluminum Alloy," *Sang-Woo Choi (POSCO), GooHwa Kim (POSCO), Jinsu Bae (POSCO), Young-Deog Kim (RIST)	13:00
1A17-2	"Gearbox Fault Diagnosis under Different Operating Conditions Based on Time Synchronous Average and Ensemble Empirical Mode Decomposition," Luyang Guan (University of Huddersfiled), Yimin Shao (Chongqing), *Fengshou Gu (University of Huddersfiled), Bruno Fazenda (University of Huddersfiled), Andrew Ball (University of Huddersfiled)	13:20
1A17-3	"A Design Set of Equations for Experiments of Single Transistor Microwave Oscillator Based on Negative Resistance Concept," *Kittipong Kan Tripech (Rajamangala University of Technology Suvarnabhumi), Dr. Ravee Phromloungsri (Mahanakorn University of Technology Bangkok Province)	13:40
1A17-4	"Effect of Cu Layer Thickness on Giant Magnetoresistance Properties of NiCoFe/Cu/NiCoFe Sandwich," *Mitra Djamal (Institut Teknologi Bandung), Ramli (Padang State University), Yulkifli (Padang State University), Khairurrijal (Institut Teknologi Bandung)	14:00
1A17-5	"Voltage Generate Circuit for Body Bias the MOS Dickson Charge Pump Circuit.," *Nutchaya Kaewraungrit (KMITL), Jirawath Parnklang (KMITL)	14:20
1A17-6	"Voltage Controlled Crystal Oscillator Base on MOSFET Circuit," *Sittisak Chaisotthee (King Mungkut's Institute of Technology), Nutchaya Kaewraungrit (King Mungkut's Institute of Technology), Jirawath Parnklang (King Mungkut's Institute of Technology)	14:40

1A18 Motor & Power Systems I — Room 18

Chair(s): Hidekazu Machida (SICE), Kazuyuki Kobayashi (Hosei University)

1A18-1	"High-performance Sensorless Control of PMSM Using Back-EMF and Reactive Power," Guen Lee B (Pusan National University), Jun S Park (Pusan National University), *Sung H Lee (Pusan National University), Young A Kwon (Pusan National University)	13:00
1A18-2	"Fuzzy Variable Structure Controller for a Three-phase Rectifier with Power Factor Correction," Alberto Berzoy (Universidad Simon Bolivar), *Miguel Strefezza (Universidad Simon Bolivar)	13:20
1A18-3	"A PWM Motor Speed Control System Based on the Dual-loop PLL," *Hidekazu Machida (Maizuru National College of Technology), Michinobu Kanbara (Maizuru College of Technology), Kouta Tanaka (Maizuru College of Technology), Taisuke Yamochi (Maizuru College of Technology), Fuminori Kobayashi (Kyusyu Institute of Technology)	13:40
1A18-4	"Small Grid-connected PV-system with Lossless Passive Soft-switching Technique," *Damrong Amorndechaphon (Naresuan University Phayao Campus), Suttichai Premrudeepreechacharn (Chiangmai University), Kohji Higuchi (The University of Electro-Communications)	14:00
1A18-5	"A simple Voltage and Frequency Control of Vsi-inverter-fed Self Excited Induction Generator Drive," *Yuttana Kumsuwan (Rajamangala University of Technology), Watcharin Srirattanawichaikul (Chiang Mai University), Suttichai Premrudeepreechacharn (Chiang Mai University)	14:20
1A18-6	"Experimental Study on Electric Motor as a Sound Device," *Takaaki Takekoshi (Hosei University), Tomoyuki Ohkubo (Hosei University), Yousuke Kurihara (Hosei University), Kazuyuki Kobayashi (Hosei University)	14:40

1A19 Pattern Recognition — Room 19

Chair(s): Masahiro Tanaka (Konan University), Hideaki Kawano (Kyushu Institute of Technology)

1A19-1	"Degraded Document Image Binarization Combining Local Statistics," Hideaki Kawano (Kyushu Institute of Technology), *Kouji Ohama (Kyushu Institute of Technology), Hiroshi Maeda (Kyushu Institute of Technology), Yuichiro Okada (Kyushu Institute of Technology), Norikazu Ikoma (Kyushu Institute of Technology)	13:00
1A19-2	"Proposal of a Method to Update Template Images for Holistic Matching According to the Width of Character," *Michiaki Toyoda (Nihon Fukushi University), Kazuhisa Oba (Nihon Fukushi University), Tetsuya Yanagimoto (Chukyo University), Takatomo Mori (Ritsumeikan University), Kazuo Hemmi (University of Nagasaki)	13:20
1A19-3	"Structure Extraction from Decorated Characters by Graph Spectral Decomposition and Component Selection Criterion," Hideaki Kawano (Kyushu Institute of Technology), *Akito Shimamura (Kyushu Institute of Technology), Hiroshi Maeda (Kyushu Institute of Technology), Junichi Fukuyo (Kyushu Institute of Technology), Norikazu Ikoma (Kyushu Institute of Technology)	13:40
1A19-4	"Segmentation of Books and Characters for Book Recognition System of Robot Intelligence," *Nguyen-Huu Quoc (University of Ulsan), Kyung-Haeng Woo (University of Ulsan), Won-Ho Choi (University of Ulsan)	14:00
1A19-5	"Illumination Invariant Chinese Chessboard Reconstruction Based on Color Image," *Jianjun Fang (North China University of China), Naoshi Kondo (Kyoto University), Jiying Yin (North China University of China), Xiuhong Liu (North China University of China), Kexian Xiao (North China University of China)	14:20

Oral Sessions 1B, Tuesday, August 18

1B02 OS: SICE Embedded Control Systems Summit 2009 — Room 02

Organizer(s): Motohisa Funabashi (Hitachi, Ltd.), Takatoshi Kawabe (Kyushu University)

Chair(s): Motohisa Funabashi (Hitachi, Ltd.), Masakazu Mukai (Kyushu University)

1B02-1	"Towards Post Embedded Systems Era," *Motohisa Funabashi (Hitachi, Ltd.), Takatoshi Kawabe (Kyushu University), Akira Nagashima (Tokyo University of Agriculture and Technology)	15:15
1B02-2	"DES Technology: Toward Dependable Embedded Control Systems," *Kunihiko Hiraishi (Japan Advanced Institute of Science and)	15:35
1B02-3	"Integration of UML with Simulink into Embedded Software Engineering," Tibor Farkas (Fraunhofer Institute FOKUS), *Emi Meiseki (NTT DATA Corporation), Carsten Neumann (Fraunhofer Institute FOKUS), Kunihisa Okano (NTT DATA Corporation), Andreas Hinnerichs (Fraunhofer Institute FOKUS), Shingo Kamiya (NTT DATA Corporation)	15:55
1B02-4	"An Approach for Physical Model Adaptation based on Transient Measurements," *Vasco Schirrmacher (IAV Japan Co. Ltd.), Philipp Schmiechen (IAV GmbH), Mirko Knaak (IAV Japan Co. Ltd.), Akira Ohata (Toyota Motor Company), Satoshi Kaneko (Toyota Motor Company)	16:15
1B02-5	"JMAAB Plant Modeling Guidelines and Vehicle Architecture," *Akira Ohata (Toyota Motor Corporation), Satoshi Komori (Mazda Motor Corporation)	16:35
1B02-6	"Towards the Creation of an ECU Model Exchange Market," *Kazuaki J Murakami (ISIT), Norifumi Yoshimatsu (ISIT), Pradeep Rao (ISIT), Shigeru Oho (Honda), Satoshi Shimada (HONDA R&D)	16:55

1B04 OS: Applications in Biomedical and Welfare Systems — Room 04

Organizer(s): Kee-Ho YU (Chonbuk National University), Zhongwei Jiang (Yamaguchi University)

Chair(s): Kee-Ho Yu (Chonbuk National University), Zhongwei Jiang (Yamaguchi University)

1B04-1	"Automatic Sleep-wake Stages Classifier Based on ECG," *Mourad Adnane (Yamaguchi University), Zhongwei Jiang (Yamaguchi University)	15:15
1B04-2	"Integration of Psycho-physiological and Behavioral Indicators with Ambulatory Tracking for Momentary Indoor Activity Assessment," *Yasuaki Ohtaki (University of Yamanashi), Akihiro Suzuki (Tohoku University), Georgios Papastefanou (German Social Science Infrastructure Service)	15:35
1B04-3	"A Study on Recognition of Obstacle Distribution by Tactile Stimulation," *Myoung-Jong Yoon (Chonbuk National University), Gu-Young Jeong (Chonbuk National University), Kee-Ho Yu (Chonbuk National University)	15:55
1B04-4	"Ambulatory ECG Monitoring Device with ST-segment Analysis," *Gu-Young Jeong (Chonbuk National University), Myoung-Jong Yoon (Chonbuk National University), Kee-Ho Yu (Chonbuk National University)	16:15
1B04-5	"Release Control of Drug-encapsulated Liposomes," *Zhongwei Jiang (Yamaguchi University), Gouming Chen (Yamaguchi University), Takaaki Kawazu (Yamaguchi University), Minoru Morita (Yamaguchi University)	16:35
1B04-6	"Characteristics of the Muscle Activities for the Elderly wearing the Lower Limb Orthosis during Gait on the Treadmill," *Kyung Kim (Chonbuk National University), Seung-Rok Kang (Chonbuk National University), Min Heo (Chonbuk National University), Nam-Gyun Kim (Chonbuk National University), Tae-Kyu Kwon (Chonbuk National University)	16:55

1B05 Robot Control II — Room 05

Chair(s): Takami Matsuo (Oita University)

1B05-1	"Robust Genetic Network Programming Using SARSA Learning for Autonomous Robots," *Sung G Park (Waseda University), Shingo Mabu (Waseda University), Kotaro Hirasawa (Waseda University)	15:15

1B05-2	"A Comparison of Probabilistic Motion Models for Mobile Robot Localization," *Quyen T. T. Bui (Pusan National University), Keum-Shik Hong (Pusan National University)	15:35
1B05-3	"Skid Steering Based Autonomous Driving of Robotic Vehicle with Articulated Suspension," *Juyong Kang (Seoul National University), Wongun Kim (Seoul National University), Soungyong Jung (Samsung Techwin), Jongseok Lee (Samsung Techwin), Kyongsu Yi (Seoul National University)	15:55
1B05-4	"Tracking Controller Design of Omnidirectional Mobile Manipulator System," *Nguyen Hung (Pukyong National University), Dae-Han Kim (Pukyong National University), Hak-Kyeong Kim (Pukyong National University), Sang-Bong Kim (Pukyong National University)	16:15
1B05-5	"Backstepping Control with Sum of Squares Design for Omni-directional Mobile Robots," *Shun-Hung Chen (National Cheng-Kung University), Jyh-Ching Juang (National Cheng Kung University), Sin-Hwa Su (National Cheng Kung University)	16:35

1B06 Vehicle II   Room 06
Chair(s): Igor Astrov (Tallinn University of Technology), Masayoshi Doi (Fukuyama University)

1B06-1	"Delay Time of Propelling Force with Ship's Controllable Pitch Propeller (CPP)," *Masayoshi Doi (Fukuyama University), Kazutoshi Nagamoto (Yuge National College of Maritime Engineering), Tetsuya Takehira (Japan Ministry of Defense), Yasuchika Mori (Tokyo Metropolitan University)	15:15
1B06-2	"Proposals for Improvement of AFS System Using HIL & SIL Simulation," *Seungkyu Oh (GM Daewoo Auto & Technology), Hyoungsoo Kim (GM DAT), Jinhee Jang (GM DAT)	15:35
1B06-3	"Depth Control of an Autonomous Underwater Vehicle in Situational Awareness a Mission," *Igor Astrov (Tallinn University of Technology), Ennu Rustern (Tallinn University of Technology)	15:55
1B06-4	"Performance Evaluation of the Anti-lock Braking System by Comparing Sliding Mode Controller with Commercial Electronic Control Unit," *Suenghwan Baek (Inje University), Jeonghoon Song (Dongmyoung University), Duksun Yun (Inje University), Heungseob Kim (Inje University), Kwangsuck Boo (Inje University)	16:15

1B07 Control Theory & Design II   Room 07
Chair(s): Sadaaki Kunimatsu (Kumamoto University), Hidetoshi Oya (The University of Tokushima)

1B07-1	"Trajectory-based Design of Robust Stabilizing Controllers for Polytopic Uncertain Systems," *Hiroki Wada (Shonan Institute of Technology), Hidetoshi Oya (The University of Tokushima), Kojiro Hagino (The University of Electro-Communications), Yasumitsu Ebinuma (Shonan Institute of Technology)	15:15
1B07-2	"Variable Gain Robust Output Feedback Controllers for a Class of Polytopic Uncertain Systems," *Hidetoshi Oya (The University of Tokushima), Kojiro Hagino (The University of Electro-Communications)	15:35
1B07-3	"An ILMI Approach to Guaranteed Cost Controllers with a Minimal Order Observer," *Daisuke Matsunaga (Kumamoto University), Mitsuaki Ishitobi (Kumamoto University), Sadaaki Kunimatsu (Kumamoto University)	15:55
1B07-4	"Cochlear Modelling using a Linear Fractional Transformation Approach," *Emmanuel Prempain (University of Leicester), Ben Lineton (University of Southampton)	16:15

1B08 Motor & Power Control   Room 08
Chair(s): Akira Shimada (Shibaura Institute of Technology), Kazushi Nakano (The University of Electro-Communications)

1B08-1	"Improved Sliding Mode Observer for Speed Sensorless Control of Induction Motor," Bong Su Jang (Pusan National University), *Yong Hu Park (Pusan National University), Kang Hyo Park (Pusan National University), Young Ahn Kwon (Pusan National University)	15:15
1B08-2	"Velocity Ripple Minimization in Permanent Magnet Stepper Motor Using Current Error Based Iterative Learning Control," *Wonhee Kim (Hanyang University), Jongpyo Han (Hanyang University), Induk Choi (Hanyang University), Chung Choo Chung (Hanyang University)	15:35
1B08-3	"Microstepping with PI Feedback and Feedforward for Permanent Magnet Stepper Motors," *Wonhee Kim (Hanyang University), Induk Choi (Hanyang University), Chung C Chung (Hanyang University)	15:55
1B08-4	"Load Voltage Tracking of Electric Power Systems by Using Backstepping Design," *Der-Cherng Liaw (National Chiao Tung University), Shih-Tse Chang (National Chiao Tung University), Yun-Hua Huang (National Chiao Tung University), Jen-Tze Huang (Chinese Culture University), Tzu-Chung Yenn (Institute of Nuclear Energy Research)	16:15
1B08-5	"Load Frequency Control of Power Systems with Sugeno Fuzzy Gain Scheduling PID Controller," Lokman Hadi Hassan (University of Malaya), *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Mahmoud Moghavvemi (University of Malaya), Soo Siang Yang (University of Malaya)	16:35
1B08-6	"Sensorless Fuzzy SMC for a Permanent Magnet Synchronous Motor," *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Soo Siang Yang (University of Malaya), Mahmoud Moghavvemi (University of Malaya)	16:55

1B09 Autonomous System   Room 09
Chair(s): Ken Sugawara (Tohoku Gakuin University), Shinichi Inagaki (Nagoya university)

1B09-1	"Research on The Virtual Space System Used for Learning of Autonomous Robots," *Hirotsugu Yano (Saga University), Hiroshi Douzono (Saga University), Ryouhei Fujiwara (OKI software)	15:15
1B09-2	"Intelligent Navigation and Control of an Autonomous Underwater Vehicle based on Q-learning and Self-organizing Control," *Namhoon Kim (KAIST), Gyeong-Hwan Yoon (KAIST), Doheon Lee (KAIST)	15:35
1B09-3	"Mobile Robot with Following Function and Autonomous Return Function," *Tsuda Naoki (Tottori University), Shuji Harimoto (Tottori University), Takeshi Saitoh (Tottori University), Tomoyuki Osaki (Tottori University), Ryosuke Konishi (Tottori University)	15:55
1B09-4	"Evaluation of Terrain Using LADAR Data in Urban Environment for Autonomous Vehicles and Its Application in the DARPA Urban Challenge," *Jihyun Yoon (University of Florida), Carl D. Crane III (University of Florida)	16:15
1B09-5	"A Study on SLAM for Indoor Blimp with Visual Markers," *Tatsuya Yamada (The University of Tokyo), Takehisa Yairi (The University of Tokyo), Suay Halit Bener (The University of Tokyo), Kazuo Machida (The University of Tokyo)	16:35

1B10 Machine Vision II   Room 10
Chair(s): Katsumi Moriwaki (The University of Shiga Prefecture)

1B10-1	"Eye Tracking System for Ophthalmic Operating Microscope," *Suthum Keerativittayanun (SIIT, Thammasat University), Kanokwan Rakjaeng (SIIT), Toshiaki Kondo (SIIT), Waree Kongprawechnon (SIIT), Kanokvate Tungpimolrut (NECTEC), Teesid Leelasawassuk (NECTEC)	15:15
1B10-2	"A Particle Filter with Adaptive Model for Object Tracking," *Sugandi Budi (Kyushu Institute of Technology), Hyoungseop Kim (Kyushu Institute of Technology), Joo K Tan (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	15:35
1B10-3	"Detecting Pedestrians from a Video by Stereo Cameras," *Kazuki Inumaru (kyushu Institute of Techology), Joo Kooi Tan (Kyushu Institute of Technology), Hyoungseop Kim (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	15:55

| 1B10-4 | "Recognition of Moving Object by Image Processing and Its Applications," *Katsumi Moriwaki (The University of Shiga Prefecture), Yuki Katayama (The University of Shiga Prefecture), Katsuyuki Tanaka (The University of Shiga Prefecture), Ruzo Hikami (The University of Shiga Prefecture) | 16:15 |
| 1B10-5 | "Vehicle Detection and Recognition for Automated Guided Vehicle," *Quoc Bao Truong (University of Ulsan), Heo Nam Geon (University of Ulsan), Byung Ryong Lee (University of Ulsan) | 16:35 |

1B11　OS: Control Theory and Numerical Analysis　Room 11

Organizer(s): Gou Nishida (RIKEN), Hisakazu Nakamura (Nara Institute of Science and Technology), Kentaro Takagi (Nagoya University), Morio Yoshida (RIKEN)

Chair(s): Gou Nishida (RIKEN), Hisakazu Nakamura (Nara Institute of Science and Technology)

1B11-1	"A Study on the Discretization of a Distributed RC Circuit Model," *Kentaro Takagi (Nagoya University), Ichiro Jikuya (Nagoya University), Gou Nishida (RIKEN), Bernhard Maschke (National Inst. Polar Res.), Kinji Asaka (Research Institute for Cell Engineering)	15:15
1B11-2	"Comparison of MdLVs Based Methods for Nonlinear Receding Horizon Control," Shunsuke Matoba (Nara Institute of Science and Technology), *Hisakazu Nakamura (Nara Institute of Science and Technology), Hirokazu Nishitani (Nara Institute of Science and Technology)	15:35
1B11-3	"Scaling Reduction of Port-hamiltonian Systems for Numerical Calculation," *Gou Nishida (RIKEN), Daiji Ichishima (Sumitomo Heavy Industries, Ltd.), Kenji Kashima (Tokyo Institute of Technology), Kenji Fujimoto (Nagoya University), Masaki Yamakita (Tokyo Institute of Technology), Bernhard Maschke (Universite Claude Bernard Lyon 1)	15:55
1B11-4	"Construction Method of Lyapunov Functions Based on Eigen Analysis," *Yuki Nishimura (Yamaguchi University), Yuh Yamashita (Hokkaido University), Kanya Tanaka (Yamaguchi University), Yuji Wakasa (Yamaguchi University)	16:15
1B11-5	"Manipulation of 2D Object with Arbitrary Shape by Two Robot Finger under Rolling Constraint," *Morio Yoshida (RIKEN), Suguru Arimoto (RIKEN/Ritsumeikan University), Kenji Tahara (Kyushu University/RIKEN)	16:35

1B12　OS: Emergent Control and Information Technologies for Human Living Environment　Room 12

Organizer(s): Feng-Li Lian (National Taiwan University), Jong-Hann Jean (St. John's University)

Chair(s): Kuang-Yow Lian (National Taiwan University), Chieh-Chih Wang (National Taiwan University)

1B12-1	"Indoor Robot Navigation Based on DWA*: Velocity Space Approach with Region Analysis," *Yi-Chun Lin (National Taiwan University), Chih-Chung Chou (National Taiwan University), Feng-Li Lian (National Taiwan University)	15:15
1B12-2	"Scene Reconstruction Using a Pan-tilt-zoom Camera with a Moving Spherical Mirror," *Chen-Yu Huang (National Taiwan University), Chieh-Chih Wang (National Taiwan University)	15:35
1B12-3	"Development of a Housekeeping Robot with Visual Servoing Capabilities," *Jong-Hann Jean (St. John's University), Ming-Jin Hsieh (St. John's University), Zheng-Wei Lin (St. John's University)	15:55
1B12-4	"Real-time Object Detection and Tracking on a Moving Camera Platform," *ChengMing Huang (National Taiwan University), Yi-Ru Chen (National Taiwan University), Li-Chen Fu (National Taiwan University)	16:15
1B12-5	"Adaptive Control of a Class of Unknown Switched Linear Systems with Dwell Time," *Ming-Li Chiang (National Taiwan University), Li-Chen Fu (National Taiwan University)	16:35
1B12-6	"Synchronization of Coupled Dynamic Systems Using Fuzzy Design Approach," *Kuo-En Huang (Chung-Yuan Christian University), Kuang-Yow Lian (National Taipei University of Technology)	16:55

1B13　OS: Optimization Algorithms and Applications　Room 13

Organizer(s): Shunji Tanaka (Kyoto University), Masaaki Ida (National Institution for Academic Degree)

Chair(s): Shunji Tanaka (Kyoto University), Masaaki Ida (National Institute for Academic Degree)

1B13-1	"Sensitivity Analysis for Correspondence Analysis and Visualization," *Masaaki Ida (National Institution for Academic Degree)	15:15
1B13-2	"Constrained Optimization Using the Chaotic Lagrangian Method and the Simultaneous Perturbation Gradient Approximation," *Takashi Okamoto (Chiba University), Hironori Hirata (Chiba University)	15:35
1B13-3	"Cluster-structured Particle Swarm Optimization with Interaction," *Kazuyuki Yazawa (Tokyo Metropolitan University), Makoto Motoki (Kanto Gakuin University), Keiichiro Yasuda (Tokyo Metropolitan University)	15:55
1B13-4	"An Exact Algorithm Based on Lagrangian Relaxation for the Input-output Scheduling Problem in Automated Warehouses," *Yoshitsune Kubota (Tokyo Univercity of Science), Kazumiti Numata (Tokyo University of Science)	16:15
1B13-5	"Decomposition Model of Vehicle Routing Problem and Hybrid Approach Mixing Branch-and-bound Techniques and Meta-heuristics," *Kazutoshi Sakakibara (Ritsumeikan University), Muneyoshi Iyama (Ritsumeikan University), Ikuko Nishikawa (Ritsumeikan University)	16:35
1B13-6	"Optimization-based Collision Avoidance in Multi-car Elevator Systems," Shunji Tanaka (Kyoto University), *Masashi Watanabe (Kyoto University)	16:55

1B14　OS: Robotics to Extend Human Strength and Activity　Room 14

Organizer(s): Shunji Moromugi (Nagasaki University), Inhyuk Moon (Dong-Eui University), Takakazu Ishimatsu (Nagasaki university), Takayuki Tanaka (Hokkaido University), Takanori Miyoshi (Toyohashi University of Technology)

Chair(s): Shunji Moromugi (Nagasaki University), Inhyuk Moon (Dong-Eui University)

1B14-1	"Assist Force Control of Smart Suit for Horse Trainer Considering Motion Synchronization and Postural Stabilization," *Takashi Kusaka (Hokkaido University), Takayuki Tanaka (Hokkaido University), Shun'ichi Kaneko (Hokaido University), Yoshihito Suzuki (Smart Support Technology), Munenobu Saitoh (Smart Support Technology), Shuji Seki (Morita Holdings Corporation)	15:15
1B14-2	"Study of Power-assisted Attitude Control with Direct Manipulation for Four DOF," *Tomohiro Sawano (Toyohashi University of Technology), Hideto Kojima (Honda Motor co. ltd.), Takanori Miyoshi (Toyohashi University of Tech.), Kazuhiko Terashima (Toyohashi University of Tech.)	15:35
1B14-3	"Assistive Device for People with Upper Limb Disability," *Yusuke Tomimatsu (Nagasaki University), Jiang Nan (Nagasaki University), Makoto Takashima (Nagasaki University)	15:55
1B14-4	"Design of a Wearable Upper-limb Rehabilitation Robot using Parallel Mechanism," *Young Min Kim (Dong-eui University), Sung-yoon Jung (Dong_Eui University), Inhyuk Moon (Dong-Eui University)	16:15
1B14-5	"Development of Wireless Data glove for Unrestricted Upper-extremity Rehabilitation System," *Chan-Young Park (Dong-Eui University), Ju-hwan Bae (Dong-eui Univercity), Inhyuk Moon (Dong-Eui University)	16:35
1B14-6	"A Tendon-driven Glove to Restore Finger Function for Disabled," *Shunji Moromugi (Nagasaki University), Kousuke Kawakami (Nagasaki University), Katsutoshi Nakamura (Nagasaki University), Taichi Sakamoto (Nagasaki University), Takakazu Ishimatsu (Nagasaki University)	16:55

1B15 Various Industrial Applications   Room 15

Chair(s): Noriyuki Hori (University of Tsukuba)

1B15-1 "Improved PIM Digital Driver with Dead-zone Compensation for a Stepping Motor," *Takahiro Okada (University of Tsukuba), Noriyuki Hori (University of Tsukuba)   15:15

1B15-2 "Multi-evaluation Method for Group Data Envelopment Analysis," *Akio Naito (Osaka Prefecture University), Shingo Aoki (Osaka Prefecture University), Hiroshi Tsuji (Osaka Prefecture University)   15:35

1B15-3 "Research on Drug Retail Surveillance and Management System Concerned with Adverse Drug Reaction," *Zhang Qinghua (University of Science and Technology Beijing), Zhao Shanshan (University of Science and Technology Beijing), Wang Zhuan (University of Science and Technology Beijing), Cheng Guoquan (University of Science and Technology Beijing), Wei Jun (University of Science and Technology Beijing), Hu Haiqin (University of Science and Technology Beijing)   15:55

1B15-4 "Optimum injection considering shot timing for Die casting by using CFD simulator," *Yoshifumi Kuriyama (Gifu University), Kenichi Yano (Gifu University), Seishi Nishido (AISIN Takaoka CO.,LTD)   16:15

1B15-5 "Development of a Tandem MIG Welding Control System," *Sang-Gu Choi (Hyundai Heavy Industries), Jong-Jun Kim (Hyundai heavy Industries), Sang-Hun Ryu (Hyundai heavy Industries), Bong-Jea Kwon (Hyundai heavy Industries)   16:35

1B15-6 "Improvement of Auto Defect Repair Performance by Image Processing Calibration algorithm," *Song Jun Bong (LG Electronic Company), Lee Woo Chul (Senior Reserch engineer), Lee WonJeong (LG Electronic Company)   16:55

1B16 Signal Processing in EEG   Room 16

Chair(s): Kazutomo Yunokuchi (Kagoshima University)

1B16-1 "Dependence of EEG Response to Flicker Stimuli on Stimulus Parameters," *Seiji Nishifuji (Yamaguchi University), Tsukasa Shigeyama (Yamaguchi University), Shogo Tanaka (Yamaguchi University)   15:15

1B16-2 "Feature Extraction of Electroencephalogram of Photic Evoked Spikes with Slow Burst and its Automatic Detection," *Shigeto Nishida (Fukuoka Institute of Technology), Takenao Sugi (Saga University), Akio Ikeda (Kyoto University School of Medicine), Takashi Nagamine (Sapporo Medical University), Hiroshi Shibasaki (Takeda General Hospital), Masatoshi Nakamura (Saga University)   15:35

1B16-3 "Automatic Interpretation of Hyperventilation-induced Electroencephalogram Fitting to Visual Inspection," *Xiu Zhang (East China University of Science & Technology), Xingyu Wagn (East China University of Science & Technology), Takenao Sugi (Saga Univeristy), Akio Ikeda, Takashi Nagamine (Takeda General Hospital), Hiroshi Shibasaki (Saga University)   15:55

1B16-4 "Feature Extraction of EEG during Motor Imagery and Cognition by using Morphological MRA," *Tomonari Yamaguchi (Kyushu Institute of Technology), Mitsuhiko Fujio (Kyushu Institute of Technology), Katsuhiro Inoue (Kyushu Institute of Technology), Gert Pfurtscheller (Graz University of Technology)   16:15

1B16-5 "Feature Extraction from EEG signals in P300 Spelling System," *Kana Omori (Kyushu Institute of Technology), Tomonari Yamaguchi (Kyushu Institute of Technology), Katsuhiro Inoue (Kyushu Institute of Technology)   16:35

1B16-6 "Quantitative Analysis between Visual Mismatch Negativity and Psychopathology Scale for Schizophrenia," *Kazuhiko Goto (Saga University), Takenao Sugi (Saga University), Toshihiko Maekawa (Kyushu University), Katuya Ogata (Kyushu University), Yoshinobu Goto (Kyushu University), Shozo Tobimatsu (Kyushu University)   16:55

1B17 Sensors and Transducers II   Room 17

Chair(s): Hideto Iwaoka (Kanazawa Institute of Technology)

1B17-1 "OTA-based Floating Inductance Simulator," *Chitpol Koomgaew (King Mongkut's Inst. of Tech. Ladkrabang), Wandee Petchmaneelumka (King Mongkuts Inst. of Tech. Ladkrabang), Vanchai Riewruja (King Mongkut's Inst. of Tech. Ladkrabang)   15:15

1B17-2 "Voltage Signal Max/Min Finder," *Chanon Lekthamrong (King Mongkut's Inst. of Tech Ladkrabang), *Apinai Rerkratn (King Mongkuts Inst. of Tech. Ladkrabang), Wamdee Petchmaneelumka (National Electronics and Computer Technology Center), Vanchai Riewruja (King Mongkut's Inst. of Tech. Ladkrabang)   15:35

1B17-3 "Optimal Posture of Mobile Inverted Pendulum Using a Single Gyroscope and Tilt Sensor," Ryu Sang-Won (Pusan National UNIVERSITY), *Ho-Won Lee (Pusan National University), Jang-Myung Lee (Pusan National University)   15:55

1B17-4 "A Single-Phase PWM Inverter Controlling Based on PLL Compensation with Nonlinear Loads," Winyu Sawaengsinkasikit (Kasem Bundit University), Kowit Pipek (King mongkut's Institute of Technology L), *Vittaya Tipsuwanporn (King mongkut's Institute of Technology L)   16:15

1B17-5 "Monitoring in Smart multi-lane Torque Summed Electromechanical Actuators," *Fawaz Yahya Annaz (University of Nottingham, Malaysia Campu)   16:35

1B17-6 "State of Charge Estimation for Battery by Time Differenced ARMAX Model Representation," *Sang Man Seong (Korea University of Tech. and Education)   16:55

1B18 Motor & Power Systems II   Room 18

Chair(s): Takashi Takimoto (Fukuoka IST), Nishantha Nanayakkara (University of Moratuwa)

1B18-1 "Mitigation of Voltage Dips and Swells in Grid-connected Wind Energy Conversion Systems," *Mona N Eskander (Electronics Research institute), Sanaa Ibrahim Amer (Electronics Research institute)   15:15

1B18-2 "SEPIC Type DC-DC Converter Fuzzy Model," Arnaldo Matute (Universidad Simon Bolivar), *Miguel Strefezza (Universidad Simon Bolivar)   15:35

1B18-3 "Control of DC-DC Converters with Pulse Width Modulation Inputs," *Takashi Takimoto (Fukuoka IST), Shigeru Kuchii (Kitakyushu National College of Technology)   15:55

1B18-4 "Implementation of Grid Connected using 12 Pulse Converter for a Variable Speed Wind Energy Conversion System," *Satean Tunyasrirut (Pathumwan Institute of Technology), Sompong Srilad (Pathumwan Institute of Technology), Santi Wangnipparnto (Pathumwan Institute of Technology)   16:15

1B18-5 "Implementation of Real Time Three Phase Balanced Voltage Sag Generator 1 kVA : Using Microcontroller and PC Control," *Chaiyant Boonmee (RMUTSB Nonthabur), Yuttana Kumsuwa (Rajamangala University of Technology), Suttichai Premrudeepreechacharn (Chiang Mai University)   16:35

1B18-6 "System Modeling for Affordable and Sustainable and Development of Small Hydro Projects in Rwanda," *Nishantha Nanayakkara (University of Moratuwa), Fatin Ali Mohamed (Vienna International Centre Unido), Masatoshi Nakamura (University of Saga)   16:55

Oral Sessions 2A, Wednesday, August 19

2A02 OS: Data Driven Approach to Controller Parameter Tuning
Room 02

Organizer(s): Shigeru Yamamoto (Kanazawa University), Osamu Kaneko (Kanazawa University)
Chair(s): Shigeru Yamamoto (Kanazawa University), Osamu Kaneko (Kanazawa University)

2A02-1 "Experimental Study of Virtual Disturbance Loop-shaping Method for Angular Velocity Control of a Belt-drive System," *Yosuke Sugitani (Hiroshima University), Masami Saeki (Hiroshima University) — 9:00

2A02-2 "A Simple Tuning Method for a Class of Feedforward Controllers Utilizing PID," *Masataka Hamada (Kanazawa University), Shigeru Yamamoto (Kanazawa University) — 9:20

2A02-3 "Tuning of Feedback Type Decoupling Controller for Two-dimensional Thermal Process based on VRFT Method," *Masahiko Nakano (Kumamoto University), Nobutomo Matsunaga (Kumamoto University), Hiroshi Okajima (Kumamoto University), Shigeyasu Kawaji (Kumamoto University) — 9:40

2A02-4 "Correlation-based Direct Tuning of MIMO Controllers by Least-squares and Its Application to Tension-and-speed Control Apparatus," *Kazuhiro Yubai (Mie University), Hidenori Usami (Mie University), Junji Hirai (Mie University) — 10:00

2A02-5 "Extension of ILQ Design Method and Its Application to FRIT-Based I-PD Controller Tuning for Linear System with Time Delay," *Takao Fujii (Fukui University of Technology), Osamu Kaneko (Osaka University) — 10:20

2A02-6 "PID Gain Tuning for Disturbance Attenuation Using FRIT Method," *Yusuke Yasuda (Tokyo Metropolitan University), Shiro Masuda (Tokyo Metropolitan University), Manabu Kano (Kyoto University) — 10:40

2A03 OS: SICE and International Standardization Activities : Keynote Session
Room 03

Organizer(s): Yoh Shimanuki (SICE), Seiichi Shin (University of Electro-Communications)
Chair(s): Seiichi Shin (University of Electro-Communications)

2A03-1 "What Are the Standards in Industrial Automation Sector?," *Seiichi Shin (The University of Electro-Communications) — 9:00

2A03-2 "Expected Contribution to International Standardization Activities by SICE," *Masaharu Ogawa (Mitsubishi Electric Corporation), Kyuma Kazuo (Mitsubishi Electric Corporation) — 9:20

2A03-3 "Governmental Services and Supports for the International Standardization for Industrial Automation," *Morihiro Taba (Ministry of Economy) — 9:40

2A03-4 "Latest Updates of IEC Standardization Activities for Process Automation Sectors," *Hisashi Sasajima (Yamatake Corporation) — 10:00

2A03-5 "Standardization for Manufacturing System in ISO," *Yoshiro Fukuda (Hosei University) — 10:20

2A04 OS: SICE-CCC Joint Session on Complex Systems
Room 04

Organizer(s): Shiro Masuda (Tokyo Metropolitan University), Yiguang Hong (Academy of Math and Systems Science)
Chair(s): Yiguang Hong (Academy of Math and Systems Science), Ikuro Mizumoto (Kumamoto University)

2A04-1 "Simultaneous Estimation of Disturbance and Process Gain Using Moving Horizon Estimation for an Oxgen Converter Gas Recovery Process," *Shiro Masuda (Tokyo Metropolitan University), Kohei Ishigaki (Tokyo Metropolitan University) — 9:00

2A04-2 "A New Discrete-time Logistic Equation Having No Overshoot and No Chaos," *Yoshiaki Habiro (University of Tsukuba), Noriyuki Hori (University of Tsukuba) — 9:20

2A04-3 "Application of High Gain Adaptive Output Feedback Control to a Magnetic Levitation System," *Ryuji Michino (Kumamoto Industrial Research Institute), Hiroki Tanaka (Kumamoto University), Ikuro Mizumoto (Kumamoto University) — 9:40

2A04-4 "A Constrained Optimization Approach to the Control of Inverters: Beyond the PWM Technique," *Kang-Zhi Liu (Chiba University) — 10:00

2A04-5 "Distributed Observers for Tracking a Moving Target by Cooperative Multiple Agents with Time Delays," Xiaoli Wang (Academy of Math & Systems Science), *Yiguang Hong (Academy of Math and Systems Science) — 10:20

2A04-6 "Adaptive Synchronization of Chua's Circuit with an Uncertain Harmonic System," *Lu Liu (The University of Tokyo), Jie Huang (Chinese University of Hong Kong) — 10:40

2A05 System/Information I
Room 05

Chair(s): Shuichi Adachi (Keio University), Hideyuki Tanaka (Kyoto University)

2A05-1 "Energy Saving Elevator Group Supervisory Control System with Idle Cage Assignment Using Genetic Network Programming," *Tiantian Zhang (Waseda University), Shingo Mabu (Waseda University), Lu Yu (Waseda University), Jin Zhou (Waseda University), Xianchao Zhang (Dalian University of Technology), Kotaro Hirasawa (Waseda University) — 9:00

2A05-2 "Rule Accumulation Method with Modified Fitness Function Based on Genetic Network Programming," Lutao Wang (Waseda University), Shingo Mabu (Waseda University), *Fengming Ye (Waseda University), Kotaro Hirasawa (Waseda University) — 9:20

2A05-3 "Autonomous Blimp Control Using Reinforcement Learning," Yiwei Liu (University of Wollongong), *Zengxi Pan (University of Wollongong), David Stirling (University of Wollongong), Fazel Naghdy (University of Wollongong) — 9:40

2A05-4 "An Action-selection Strategy Insensitive to Parameter-settings in Reinforcement Learning," *Kenji Ono (Hiroshima City University), Kazunori Iwata (Hiroshima City University), Akira Hayashi (Hiroshima City University) — 10:00

2A05-5 "A Hierarchical Genetic Algorithm Based RBF Neural Network Approach for Modelling of the Electrohydraulic System," Zong-yi Xing (Nanjing University of Sci&Tec), Yuan Zhang (Nanjing University of SCI&TEC), Yong Qin (Beijing Jiaotong University), Li-min Jia (Beijing Jiaotong University), *Ying-ying Wu (Nanjing University of Sci&Tec) — 10:20

2A05-6 "Hybridization of Fuzzy Q-learning and Behavior-based Control for Autonomous Mobile Robot Navigation in Cluttered Environment," *Khairul Anam (University of Jember), Prihastono (University of Bhayangkara), Handy Wicaksono (Petra Christian University), Rusdhianto Effendi (Institut Teknologi Sepuduh Nopember), Indra Adji Sulistijo (Polytechnics Institute of Surabaya), Son Kuswadi (Polytechnics Institute of Surabaya) — 10:40

2A06 Control Theory & Design III
Room 06

Chair(s): Hisaya Fujioka (Kyoto University), Tomomichi Hagiwara (Kyoto University)

2A06-1 "LQ Control Problem Based on Numerical Computation with Highly Guaranteed Accuracy Using Multiple-precision Arithmetic," *Kentaro Yano (Kyushu Institute of Technology), Hiromasa Nakashima (Kyushu Institute of Technology), Masanobu Koga (Kyushu Institute of Technology) — 9:00

2A06-2 "Stochastic Optimal Tracking with Preview for Linear Discrete-time Markovian Jump Systems by Output Feedback with Known Modes," *Gou Nakura (Osaka University) — 9:20

2A06-3 "On the Computation of a Time-varying Optimal Gain Based on Exact Discretization of a Matrix Differential Riccati Equation," Kanticha Kittipeerachon (University of Tsukuba), *Noriyuki Hori (University of Tsukuba) — 9:40

2A06-4	"An LQ Approach to Constrained Nonlinear Optimal Control Problems via Riccati Transformation," *Joe Imae (Osaka Prefecture University), Tomonari Ando (Osaka Prefecture University), Tomoaki Kobayashi (Osaka Prefecture University), Guisheng Zhai (The Institute of Statistical Mathematics)	10:00
2A06-5	"On the Existence of Multipliers for MIMO Systems with Repeated Slope-restricted Nonlinearities," *Matthew C Turner (University of Leicester), Murray L Kerr (Deimos Space SL), Postlethwaite Ian (University of Leicester)	10:20

2A07　Distributed, Hierarchical System Control　　　Room 07
Chair(s): Koji Tsumura (The University of Tokyo)

2A07-1	"Approximation of Large-scaled Dynamical Systems Based on Multi-layered Hierarchical Structure and Multiple Time Scales," *Junji Kurabayashi (The University of Tokyo), Koji Tsumura (The University of Tokyo)	9:00
2A07-2	"Hierarchical Consensus for Multi-agent Systems with Low-rank Interconnection," Hikaru Shimizu (The University of Tokyo), *Shinji Hara (The University of Tokyo)	9:20
2A07-3	"Hierarchical Modeling for Diffusion Systems: Symmetrically-networked Systems with Rank One Interconnection," *Daisuke Tsubakino (The University of Tokyo), Shinji Hara (The University of Tokyo)	9:40
2A07-4	"Coordination of a Group of Autonomous Agents with Limited Field of View through Variable Structure Control Method," *Shahram Etemadi Haghighi (Sharif University of Technology), Hamed Koohi (Sharif University of Technology), Aria Alasty (Sharif University of Technology), Gholamreza Vossoughi (Sharif University of Technology)	10:00

2A08　Virtual Reality and Human Interfaces　　　Room 08
Chair(s): Naoki Kawakami (The University of Tokyo), Tatsuya Furukawa (Saga University)

2A08-1	"A Collaboration Technique of RT-middleware with the Existing Simulator," *Tsunehiko Fujita (Shibaura Institute of Technology), Makoto Mizukawa (Shibaura Institute of Technology), Yoshinobu Ando (Shibaura Institute of Technology)	9:00
2A08-2	"A Web-based 3D Collaborative Virtual Environment for Distance Learning," *Sittapong Settapat (Shibaura Institute of Technology), Michiko Ohkura (Shibaura Institute of Technology), Tiranee Achalakul (King Mongkut's University of Technology Thonburi Thonburi)	9:20
2A08-3	"Perception of Finger Angle Position in Grip-type Haptic Display based on Grasping Force," *Katsunari Sato (The University of Tokyo), Naoki Kawakami (The University of Tokyo), Susumu Tachi (The University of Tokyo)	9:40
2A08-4	"Acceleration Feature Extraction for Handwritings with Natural Similarities," *Byung-Kil Han (KAIST), Jong Gwan Lim (KAIST), Dong-soo Kwon (KAIST)	10:00
2A08-5	"Improvement of Reality on Input Device for Virtual Walk System," *Toshiyuki Hori (Saga University), Tatsuya Furukawa (Saga University), Hisao Fukumoto (Saga University), Masashi Ohchi (Chiba Institute of Technology), Yoshiyuki Nakashima (Saga University)	10:20

2A09　Opto-Electronic Measurement　　　Room 09
Chair(s): Yasuhisa Omura (Kansai University)

2A09-1	"Safe Wireless Power Transmission Using Low Leakage 2D-communication Sheet," *Akihito Noda (The University of Tokyo), Hiroyuki Shinoda (The University of Tokyo)	9:00
2A09-2	"Dielectric Grating Antenna for 2D Waveguides Interconnection," *Yasuaki Monnai (The University of Tokyo), Hiroyuki Shinoda (The University of Tokyo), (SIIT Thammasat University), Dr. Kanokvet Tungpimolrut (Industrial Control and Automation Laboratory National)	9:20
2A09-3	"Enhanced Calibration Method for Camera Distortion," *Ting-Wei Lin Chang (Chung Yuan Christian University), Cheng-Yuan Chang (Chung Yuan Christian University)	9:40
2A09-4	"Uniform Optical Flow Model by Foveation Effect for Virtual Cylindrical Screen Algorithm," *Sota Shimizu (Waseda University), Takumi Hashizume (Waseda University)	10:00
2A09-5	"A High-speed Six-line Ternary Barcode Detection System with a Dual Threshold Method," *Hiroo Wakaumi (Tokyo M. College Industrial Technology)	10:20
2A09-6	"Spectroscopic Characterization of Impact of Alcoholic Intake on Diversity of Blood-Pulse Waveform," *Yasuhiro Shimazu (Kansai University), Yasuhisa Omura (Kansai University)	10:40

2A10　Human-robot Interaction　　　Room 10
Chair(s): Tatsuya Suzuki (Nagoya University)

2A10-1	"Improvement of Human-object Observation System," Kazuki Yokoi (The University of Tokyo), *Mihoko Niitsuma (The University of Tokyo), Hideki Hashimoto (The University of Tokyo)	9:00
2A10-2	"Design of the Robotic System for Human-Robot Interaction using Sound Source Localization, Mapping Data and Voice Recognition," *Jae Moon Lee (Korea Institute of Science and Tech), JongSuk Choi (KIST), Mignon Park (Yonsei University)	9:20
2A10-3	"Development of Electric Wheelchair Interface Based on Laser Pointer," *Yoshihisa Fukuda (Hosei University), Yosuke Kurihara (Seikei Univ), Kazuyuki Kobayashi (Hosei University), Kajiro Watanabe (Hosei University)	9:40
2A10-4	"Design of Master Console Robot for Natural Orifice Transluminal Endoscopic Surgery," *Sukhoon Park (KAIST), Kyeong Bin Lim (KAIST), Jae Muk Jeong (KAIST), Yong-San Yoon (KAIST)	10:00
2A10-5	"A Study of Human-human Cooperative Characteristic in Moving an Object," *Shahriman Bin Abu Bakar (Mie University), Ryojun Ikeura (Mie University), Ahmad Faizal Bin Salleh (Mie University), Takemi Yano (Mie University)	10:20

2A11　OS: Nexus System Design: New Interaction among Humans, Agents, and Robots　　　Room 11
Organizer(s): Keiki Takadama (The University of Electro-Communication)
Chair(s): Keiki Takadama (The University of Electro-Communication), Hiroshi Kawakami (Kyoto University)

2A11-1	"Awareness Based Filtering - Toward the Cooperative Learning in Human Agent Interaction -," *Tomohiro Yamaguchi (Nara National College of Technology), Takuma Nishimura (Nara National College of Technology), Keiki Takadama (The University of Electro-Communications)	9:00
2A11-2	"Exploring Relationship Between Symbol Creation/Understanding and Embodiment: Effect of Adjective in Communication Among Agents," *Tomoyo Inoue (Univercity of Erectro-Communications), Masayuki Otani (The University of Electro-Communications), Kiyohiko Hattori (The University of Electro-Communications), Keiki Takadama (The University of Electro-Communications)	9:20
2A11-3	"Dynamics of Relationship: For Goal-Oriented Control of Group Behavior," *Yoshiaki Senda (Doshisha University), Ivan Tanev (Doshisha University), Katsunori Shimohara (Doshisha University)	9:40
2A11-4	"A Preliminary Analysis of Interactive Effects between Network Structure and Decision Criteria on the Global Behavior," *Masaki Imajuku (Chiba University), Tatsuya Hiyama (Chiba University), Sachiyo Arai (Chiba University)	10:00
2A11-5	"System Design based on Benefit of Inconvenience and Emotion," *Hiroshi Kawakami (Kyoto University), Masato Nishimura (Kyoto University), Osamu Katai (Kyoto University), Takayuki Shiose (Kyoto University)	10:20

2A11-6	"Development of the Active Course Classification Support System with a Learning Mechanism," *Kazuteru Miyazaki (NIAD-UE), Fuyuki Yoshikane (National Institution for Academic Degrees and University Eva), Masaaki Ida (National Institution for Academic Degrees and University Eva)	10:40

2A12 Robot Control III   Room 12
Chair(s): Kajiro Watanabe (Hosei University)

2A12-1	"Development of a Timberjack-like Pruning Robot: Climbing Experiment and Fuzzy Velocity Control," *Winai Chonnaparamutt (Gifu University), Haruhisa Kawasaki (Gifu University), Satoshi Ueki (Gifu University), Suguru Murakami (Gifu University), Kousuke Koganemaru (Gifu University)	9:00
2A12-2	"Librarian Robot Controlled by Mathematical AIM Model," *Masahiko Mikawa (University of Tsukuba), Masahiro Yoshikawa (University of Tsukuba), Takeshi Tsujimura (NTT Access Network Service Systems Laboratories), Kazuyo Tanaka (University of Tsukuba)	9:20
2A12-3	"Effectiveness of Human Three-joint Arm's Optimal Control Model Characterized by Hand-joint's Freezing Mechanism in Reproducing Constrained Reaching Movement Characteristics," *Toshikazu Matsui (Gunma University), Kouki Takeshita (Gunma University), Takahisa Shibusawa (Gunma University)	9:40
2A12-4	"Improved Stability in Lower Extremity Exoskeletons using Foot Extensions," *Prasanth Kumar (Gyeongsang National University), Jungwon Yoon (Gyeongsang National University)	10:00
2A12-5	"Improved Walking Motion for a Biped Robot Using Piezoelectric Ceramic Sensors," *Hiroyoshi Nakayama (Housei University), Kajiro Watanabe (Housei University)	10:20
2A12-6	"Effect of Swing Arm during Gait Transition of a Humanoid Robot," *Thavida Maneewarn (King Mongkut's Unviersity of Technology Thonburi), Panuvat Sinsaranon (FIBO, KMUTT)	10:40

2A13 OS: Probabilistic and Randomized Techniques in Systems and Control   Room 13
Organizer(s): Yasumasa Fujisaki (Kobe University)
Chair(s): Yasumasa Fujisaki (Kobe University)

2A13-1	"Robust Optimization via Randomized Algorithms," *Yasumasa Fujisaki (Kobe University), Takayuki Wada (Kobe University)	9:00
2A13-2	"H2/H-infinity Approach to the Histogram Method for Density Estimation," Masaaki Nagahara (Kyoto University), *Kenji I. Sato (Kyoto University), Yutaka Yamamoto (Kyoto University)	9:20
2A13-3	"Distributed Fusion Receding Horizon Filtering," *Il Y Song (Gwangju Institute of Science and Technol), Du Y Kim (Gwangju Institute of Science and Technology), Seok H Lee (Gwangju Institute of Science and Technology), Vladimir Shin (Gwangju Institute of Science and Technology)	9:40
2A13-4	"Fast Sensor Scheduling for Estimation of Networked Sensor Systems," Shogo Arai (Tohoku University), *Yasushi Iwatani (Tohoku University), Koichi Hashimoto (Tohoku University)	10:00
2A13-5	"Observer Based Stochastic Trajectory Tracking Control of Mechanical Systems ," *Satoshi Satoh (Nagoya University), Kenji Fujimoto (Nagoya University)	10:20

2A14 Sliding Mode Control   Room 14
Chair(s): Kenichiro Nonaka (Tokyo City University)

2A14-1	"SMC Reliable Design for T-S Model-based Systems," *Yew-Wen Liang (National Chiao Tung University), Sheng-Dong Xu (National Chiao Tung University), Der-Cherng Liaw (National Chiao Tung University), Cheng-Chang Chen (National Chiao Tung University), Li-Wei Ting (National Chiao Tung University)	9:00
2A14-2	"The Ultimate Bound of a Sampled-data Sliding Mode Control System with Short Sampling Period," Heum-Yong Park (Korea University), Young-Hun Jo (Korea University), *Kang-Bak Park (Korea University)	9:20
2A14-3	"PMSM Speed Controller Using Switching Algorithm of PD and Sliding Mode Control," *Li Yan (Pusan National University), Ju-Beom Son (Pusan National University), Jang-Myung Lee (Pusan National University)	9:40
2A14-4	"Stability Improvement for Engine Idle-speed Control by Variable Structure Control," *Yang Zhang (Hachinohe Institute of Technology), Nobuo Kurihara (Hachinohe Institute of Technology)	10:00
2A14-5	"Application and Test of Sliding Mode Control for Indoor Vehicles," *Minoru Yamamoto (Musashi Institute of Technology), Kenichiro Nonaka (Musashi Institute of Technology)	10:20
2A14-6	"Sliding Mode Controller Design for a Flying Quadrotor with Simplified Action Planner," *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Soo Siang Yang (University of Malaya), Mahmoud Moghavvemi (University of Malaya)	10:40

2A15 OS: Advanced Systems for Safety and Loss Prevention of Industrial Complex   Room 15
Organizer(s): Akio Gofuku (Okayama University), Akira Inoue (Okayama University)
Chair(s): Akio Gofuku (Okayama University), Akira Inoue (Okayama University)

2A15-1	"Agent Based Rouings of Multi Mobile Robots with Vision Feedbacks," *Hiroki Takenaga (Okayama University), Masami Konishi (Okayama University), Jun Imai (Okayama University)	9:00
2A15-2	"Evaluation of an Integrated Support System for Operation and Planning of Several Plants," *Akio Gofuku (Okayama University), Masahiro Yonemura (Okayama University), Masami Konishi (Okayama University)	9:20
2A15-3	"A Support System for Disaster Relief Activities at Petrochemical Complexes," *Yasuhiro Kajihara (Tokyo Metropolitan University), Seiko Taki (Tokyo Metropolitan University)	9:40
2A15-4	"A Design of a Strongly Stable Generalized Minimum Variance Control Using a Genetic Algorithm," *Akira Yanou (Okayama University), Mingcong Deng (Okayama University), Akira Inoue (Okayama University)	10:00
2A15-5	"Operator based Nonlinear Control for Nonlinear Plants with Time-delays," Mingcong Deng (Okayama University), *Shuhui Bi (Okayama University), Akira Yanou (Okayama University), Akira Inoue (Okayama University)	10:20

2A16 OS: Atmospheric and Meteorological Radar Applications   Room 16
Organizer(s): Toru Sato (Kyoto University), Yasuyuki Maekawa (Osaka Electro-Communication University)
Chair(s): Toru Sato (Kyoto University), Yasuyuki Maekawa (Osaka Electro-Communication University)

2A16-1	"Spatial Relationship of F-region Field-aligned Irregularities and Medium-scale Traveling Ionospheric Disturbances Observed with the MU Radar and All-sky Airglow Imagers," *Yuichi Otsuka (Nagoya University), Kazuo Shiokawa (Nagoya University), Tadahiko Ogawa (NICT), Tatsuhiro Yokoyama (Cornell University), Mamoru Yamamoto (Kyoto University)	9:00
2A16-2	"Continuous Monitoring of Temperature Profiles with a Excellent Vertical Resolution by Applying Frequency Domain Interferometric Imaging Technique to the Radio Acoustic Sounding System with a Wind Profiling Radar.," *Jun-ichi Furumoto (Kyoto University), Tomonori Shinoda (Kyoto University), Toshitaka Tsuda (Kyoto University)	9:20

2A16-3	"Application of C-band Polarimetric Radar on Rainfall-type Classification," *Yukari Shusse (Nagoya University), Nobuhiro Takahashi (National Institute of Information and Communications Techno), Katsuhiro Nakagawa (National Institute of Information and Communications Techno), Shinsuke Satoh (National Institute of Information and Communications Techno), Toshio Iguchi (National Institute of Information and Communications Techno)	9:40
2A16-4	"Estimation of Rain Attenuation Characteristics of Satellite Communication Links using X-band Meteorological Radars," *Yasuyuki Maekawa (Osaka Electro-Communication University), Shosuke Miyamoto (Osaka Electro-Communication University), Koichi Sawai (Osaka Electro-Communication University), Yoshiaki Shibagaki (Osaka Electro-Communication University), Toru Sato (Kyoto University), Mamoru Yamamoto (Kyoto University)	10:00
2A16-5	"Performance Evaluation of Adaptive Scan with Wide-band Noise Modulation for Spaceborne Rain Radar based on Simulation," *Toyoshi Shimomai (Shimane University), Kentaro Adachi (JR West Co., Ltd.), Toshiaki Kozu (Shimane University), Hiroshi Hanado (NICT)	10:20
2A16-6	"Cloud Profiling Radar on Earthcare Satellite," *Nobuhiro Takahashi (National Institute of Information and Co), Toshiyoshi Kimura (JAXA), Yuichi Ohno (National Institute of Information and Co), Hiroaki Horie (National Institute of Information and Co), Hirotaka Nakatsuka (JAXA), Kenji Sato (JAXA)	10:40

2A17　Mechanical System I　　Room 17
Chair(s): Hitoshi Katayama (Shizuoka University), Noboru Sakamoto (Nagoya University)

2A17-1	"Suppression of Vibration Caused by Quick-stop Operation of Hydraulic Excavators," *Seongwan Koo (Changwon National University), Jongmin Kang (Changwon National University), Joongseon Joh (Changwon National University)	9:00
2A17-2	"Collimator Focus Adjustment for Free Space Optics System Using Single-mode Optical Fibers," *Koichi Yoshida (NTT), Kuniaki Tanaka (NTT), Kazunori Katayama (NTT), Takeshi Tsujimura (NTT), Yuji Azuma (NTT)	9:20
2A17-3	"Adaptive Node Placement for Optimal Control," Ho Ching (The Chinese University of Hong Kong), *Pui-Hang Ko (The Chinese University of Hong Kong), Ching Kong (The Chinese University of Hong Kong), Ruxu Du (The Chinese University of Hong Kong)	9:40
2A17-4	"Control of A Suspension System with Hydraulic Strut Mount," *Le Hoa Nguyen (Pusan National University), Seonghun Park (Pusan National University), Arjon Turnip (Pusan National University), Keum-Shik Hong (Pusan National University)	10:00
2A17-5	"Development of the Heavy Load Transferring Task Oriented Exoskeleton Adapted by Lower Extremity using by Qausi – active Joints," *Wan Soo Kim (Hanyang University), Seung hoon Lee (Hanyang University), Hee don Lee (Hanyang University), Seung nam Yu (Hanyang University), Jung soo Han (Hansung University), Chang soo Han (Hanyang University)	10:20
2A17-6	"Best Location for Placement of Collocated Sensor / Actuator Pair on the Smart Systems," *T.C. Manjunath (New Horizon College of Engineering (VTU)), Sheelarani T B (New Horizon College of Engg., Banaglore, India), C B Vinutha (Shri Siddhartha Institute of Technology), M Z Kurien (SSIT)	10:40

2A18　Sensor Fusion and Soft Sensor I　　Room 18
Chair(s): Kenbu Teramoto (Saga University)

2A18-1	"Sensor Fusion for Obstacle Detection and Its Application to an Unmanned Ground Vehicle," *Seunghan Yang (Ajou University), Hyung-Suk Lho (Ajou University), Bongsob Song (Ajou University)	9:00
2A18-2	"A Study on Detecting Elevator Entrance Door using Stereo Vision in Multi Floor Environment," *JunYoung Baek (pusan national unversity), Min Cheol Lee (Pusan National University)	9:20
2A18-3	"Tracking of 3D Sound Source Location by Particle Filter with TDOA and Signal Power Ratio," *Norikazu Ikoma (Kyushu Institute of Technology), Osamu Tokunaga (Kyushu Institute of Technology), Hideaki Kawano (Kyushu Institute of Technology), Hiroshi Maeda (Kyushu Institute of Technology)	9:40
2A18-4	"Design of A Semi-spherical Microphone Array Based Sound Localization System," *Ming-Yuan Shieh (Southern Taiwan University), Ming-Hung Tsai (Southern Taiwan University), Chin-Chien Chen (Southern Taiwan University), Jeng-Han Li (Industrial Tech. Res. Inst.)	10:00
2A18-5	"Sensor Fusion Localization System for Outdoor Mobile Robot," *Donghoon Lee (Korea Institute of Industrial Technology), Sukyung Son (KITECH), Kwangwoong Yang (KITECH), Jonghwan Park (KITECH), Hogil Lee (KITECH)	10:20

2A19　Multi Agent System / Discrete Event System　　Room 19
Chair(s): Jun Ota (The University of Tokyo)

2A19-1	"Intelligent Gesture Generation in Humanoid Robot using Multi-Component Synchronization and Coordination," *Laxmisha Rai (Soongsil University), Boo-Hyung Lee (Kongju National University), Jiman Hong (Soongsil University), Hernsoo Hahn (Soongsil University)	9:00
2A19-2	"Development of Unmanned Ground Vehicle for Multi Agent systems," *Sunho Lee (Ajou University), Bongsob Song (Mechanical engineering of ajou University), Youngho Shin (Ajou University), Jaeyoon Byun (Ajou University)	9:20
2A19-3	"Improved TMO HILS Architecture for Multi UAVs," *Seung-Hwa Song (Konkuk University), Han-Sol Park (Konkuk University), Tae-Wan Kim (Myongji University), Chun-Hyon Chang (Konkuk University)	9:40
2A19-4	"Implementation of a Novel Approach for the Simulation of Cognition Based on Situation-operator-modeling and High-level Petri Nets," *Dennis Gamrad (University of Duisburg-Essen), Dirk Soeffker (University of Duisburg-Essen)	10:00
2A19-5	"Geometrical Modeling for Material Flow Problems," *Reggie Davidrajuh (University of Stavanger)	10:20

Oral Sessions 2B, Wednesday, August 19

2B03　OS: International Standardization for Process Automation Businesses　　Room 03
Organizer(s): Yoichi Takyanagi (TOSHIBA Corporation), Hisashi Sasajima (Yamatake Corporation), Seiichi Shin (University of Electro-Communications)
Chair(s): Hisashi Sasajima (Yamatake Corporation)

2B03-1	"What are the Tasks and Solutions in Japanese Organizations for PA Sectors," *Hisashi Sasajima (Yamatake Corporation)	13:15
2B03-2	"Recent activities within IEC TC65/SC65A," *Yukio Tani (Yamatake Corporation)	13:35
2B03-3	"Recent Activites within IEC TC65/SC65B," *Hiroshi Ishihara (Yamatake Corporation AAC)	13:55
2B03-4	"Introduction of IEC Activity on Digital Communication Subsystem (Overview of IEC/SC65C)," *Taro Harima (Mitsubishi Electric Co.)	14:15
2B03-5	"Introduction of Recent Activity on IEC/SC65E," *Takashi Ikeda (Fuji Electric Systems)	14:35

2B04　OS: SICE-CCC Joint Session on Advanced Control Design　　Room 04
Organizer(s): Jie Huang (Chinese University of Hong Kong), Tielong Shen (Sophia University)
Chair(s): Jie Huang (Chinese University of Hong Kong), Tielong Shen (Sophia University)

2B04-1	"Adaptive Controlled High Precision Winding for Columnar Parts," *Takashi Ishigami (Hitachi,Ltd.), Kazushi Sanada (Yokohama National University), Mitsuaki Shiba (Hitachi Displays,Ltd.), Hiroyasu Yanase (Hitachi Displays,Ltd.)	13:15

2B04-2	"Decomposed Fliess Functional Expansion and Its Application to Attitude Control of Missiles," *Daizhan Cheng (Chinese Academy of Sciences), Yupeng Qiao (South China University of Technology), Yanyan Yuan (Chinese Academy of Sciences)	13:35
2B04-3	"Sliding Mode Control Design Based on New Approaching Criteria for Linear Lipschitz Switching Surface," *Kai Zheng (Harbin Intitute of Technology), Tielong Shen (Sophia University), Yu Yao (Harbin Institute of Technology)	13:55
2B04-4	"Estimation of LISS Properties via a Quadratic Form LISS-Lyapunov Function," *Wu Shengyu (Tsinghua University), Mei Shengwei (Tsinghua University)	14:15
2B04-5	"Observer-based Robust Control for Systems with Delayed Output Measurements and Application to Rolling Mill," *Xiaohong Jiao (Yanshan University), Xin Li (Yanshan University), Zhisong Mei (Yanshan University)	14:35
2B04-6	"On the Energy Based Control for Underactuated Mechanical System," *Xin Xin (Okayama Prefectural University)	14:55

2B05　System/Information II　　　　　Room 05
Chair(s): Hiroshi Kawakami (Kyoto University), Shunji Tanaka (Kyoto University)

2B05-1	"Temperature Parameter Control of Q Value-based Dynamic Programming with Boltzmann Distribution," *Shanqing Yu (Waseda University), Shingo Mabu (Waseda University), Manoj K Mainali (Waseda University), Shinji Eto (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	13:15
2B05-2	"Collision-free Scheduling of Multi-robot Systems Based on Petri Net Model," *Xin Jin (Ajou University), Dongkyoung Chwa (Ajou University), Suk-Kyo Hong (Ajou University)	13:35
2B05-3	"Event Scheduling of Timed Automata Using Dioid Algebra," *Sobhi Baniardalani (Isfahan University Of Technology), Javad Askari (Isfahan University of Technology), Ali Akbar Afzalian (Abbaspour Univesity)	13:55
2B05-4	"Sequence Design for Direct-proportional Length-based DNA Computing using Population-based Ant Colony Optimization," *Tri Basuki Kurniawan (Universiti Teknologi Malaysia), Noor Khafifah Khalid (Universiti Teknologi Malaysia), Zuwairie Ibrahim (Universiti Teknologi Malaysia), Mohamad Shukri Zainal Abidin (Universiti Teknologi Malaysia), Marzuki Khalid (Universiti Teknologi Malaysia)	14:15
2B05-5	"Linearization of CMOS CCCII with Optimal Design via Geometric Programming," Roungsan Chaisricharoen (King Mongkut's University of Technology Thonburi), *Boonruk Chipipop (King Mongkut's University of Technology Thonburi), Kosin Chamnongthai (King Mongkut's University of Technology Thonburi), Kohji Higuchi (The University of Electro-Communications), Boonchareon Sirinaovakul (King Mongkut's University of Technology Thonburi)	14:35

2B06　Control Theory & Design IV　　　　　Room 06
Chair(s): Gou Nakura (Osaka University)

2B06-1	"Expressions of the Phase and Gain Margins as Roots of Polynomials and its Applications," *Takuya Kitamoto (Yamaguchi University)	13:15
2B06-2	"A Study on Quadratic Stability of Optimal Regulators under Gain Adjustment," *Takayuki Inui (Kyoto University), Tomomichi Hagiwara (Kyoto University)	13:35
2B06-3	"Parametrization of Stabilizing Controllers with Some Conditions," *Kazuyoshi Mori (The University of AIZU)	13:55
2B06-4	"Essential Frequency Domain Properties of Positive Real Matrices," *Mojtaba Hakimi (K. N. Toosi University), Hamid Khaloozadeh (K.N.Toosi University)	14:15
2B06-5	"Generalized Necessary and Sufficient Conditions for Strictly Positive Real Matrices," *Mojtaba Hakimi (Islamic Azad University), Hamid Khaloozadeh (K. N. Toosi University)	14:35

2B07　Process/Manufacturing System I　　　　　Room 07
Chair(s): Yasuo Takagi (Toshiba Corporation)

2B07-1	"Temperature and Humidity Control System with Adjustable Manual Reset," *Yuji Yamakawa (The University of Tokyo), Takanori Yamazaki (Oyama National College of Technology), Kazuyuki Kamimura (National Institute for Environmental Studies), Shigeru Kurosu (Research Inst. "Crotech")	13:15
2B07-2	"H-infinity Output Feedback Control for Heat Exchangers with a Bilinear Input Flow Rate Term and a Bilinear Disturbance Flow Rate Term," *Shin Nakayama (Meiji University), Hiroaki Kobayashi (Meiji University)	13:35
2B07-3	"A Nonlinear Plant Control by Means of Simulator-based Foresight Control," *Tao Zhang (Tsinghua University), Motomiki Uchida (Fukuoka Institute of Technology), Masatoshi Nakamura (Saga University)	13:55
2B07-4	"On Embedding of Control Systems into Euclidean Space," *Dong Eui Chang (University of Waterloo), David Long (North Carolina State University), Dmitry Zenkov (North Carolina State University)	14:15
2B07-5	"PIDA Controller Designed by Kittis Method," Prapart Ukakimaparn (King Mongkut Institute of Technology Lad), *Pittaya Pannil (King Mongkut Institute of Technology Lad), Peerapongpan Boonchuay (King Mongkut Institute of Technology Lad), Thanit Trisuwannawat (King Mongkut Institute of Technology Lad)	14:35

2B08　Manipulation and Grasping　　　　　Room 08
Chair(s): Seul Jung (Chungnam National University)

2B08-1	"Development of the Robot Gripper for a Home Service Robot," *Yong Chul Lee (Hanyang University), Sung-Jin Lim (Hanyang University), Soon-Woong Hwang (Hanyang University), Chang-Soo Han (Hanyang University)	13:15
2B08-2	"A New Inverse Kinematics Method for Three Dimensional Redundant Manipulators," *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Samer Yahya (University of Malaya), Mahmoud Moghavvemi (University of Malaya), Soo Siang Yang (University of Malaya)	13:35
2B08-3	"Macro-micro Bilateral Control with Friction-free Structure," *Shutaro Yorozu (Keio University), Seiichiro Katsura (Keio University)	13:55
2B08-4	"Continuous Integration of Motion Components Using Motion Copying System," *Noboru Tsunashima (Keio University), Seiichiro Katsura (Keio University)	14:15

2B09　Temperature Measurement　　　　　Room 09
Chair(s): Tooru Katsumata (Toyo University), Fumihiro Sakuma (National Institute of Advanced Industrial Science and Technology)

2B09-1	"Design of Smart Temperature Transmitter," *Heping Hang (Beijing Union University), Juan Song (Beijing Union University), Fang Yang (Beijing Union University), Xiaobing Fan (Beijing Union University)	13:15
2B09-2	"Dynamic Behavior for Some Nonlinearity Correcting Methods in Industrial Platinum Resistance Thermometer," *Zeljko Hocenski (University Josip Juraj Strossmayer), Ljubivoj Cvitas (Siemens d.d., Zagreb, Croatia)	13:35
2B09-3	"Temperature and Heating Rate Effects on Tubular Alumina Filter," *Tanikan Thongchai (Narasuan University), Siriporn Larpkiattaworn (Thailand Institute of Scientific and Technological Research)	13:55
2B09-4	"Study on Sensor Networks Correlated with Human's Thermal Sensation," *Kazuyuki Kojima (Saitama University)	14:15
2B09-5	"Three-dimensional Temperature-field Modelling of Large Transformer Using Finite Element Method," *Qian Suxiang (University of Jiaxing), Hu Hongsheng (University of Jiaxing), Xu Juwu (University of Jiaxing), Shao Yimin (Chongqing University)	14:35

2B10 Medical and Welfare Systems — Room 10

Chair(s): Toshiyuki Tanaka (Keio University)

2B10-1	"Automatic Heart Sound Analysis for Tele-cardiac Auscultation," *Sumeth Yuenyong (Sirindhorn International Inst. of Tech.), Waree Kongprawechnon (Siridhorn International Inst. of Technology Thammasat U.), Kanokwech Tungpimolrut (National Electronic and Computer Center), Akinori Nishihara (Tokyo Institute of Technology)	13:15
2B10-2	"EEG De-Noising Based on Wavelet-Transforms and Extraction of Sub-band Components Related to Movement Imagination," *Manoj Kumar Mukul (The University of Electro-Communication), Fumitoshi Matsuno (Kyoto University)	13:35
2B10-3	"Relative Spectral Power and Power Spectral Density Changes in Motor Rhythm for Movement Imagination," *Manoj Kumar Mukul (The University of Electro-Communication), Rajkishore Prasad (B.R.A Bihar University), Fumitoshi Matsuno (Kyoto University)	13:55
2B10-4	"A Development of the Online Audio Streaming Recorder for Blind Learner," *Settachai – Chaisanit (King Mongkut's University of Technology), Surachai Suksakulchai (King Mongkut's University of Technology)	14:15
2B10-5	"Recognizing Facial Expression for Man-machine Interaction," *Wataru Hirata (Kyushu Institute of Technology), Joo Kooi Tan (Kyushu Institute of Technology), Hyoungseop Kim (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	14:35
2B10-6	"Development of a Compact-size and Wireless Surface EMG Measurement System," *WonKeun Youn (KAIST), Jung Kim (KAIST)	14:55

2B11 OS: Robotics and Mechatronics in Rehabilitation and Welfare Applications — Room 11

Organizer(s): Masayoshi Wada (Saitama Institute of Technology)
Chair(s): Kazuyuki Kobayashi (Hosei University), Akira Inoue (Okayama University)

2B11-1	"Development of Safety System for Electric Wheelchair with Thermography Camera," *Tomoyuki Ohkubo (Hosei University), Kazuyuki Kobayashi (Hosei University), Kajiro Watanabe (Hosei University), Yosuke Kurihara (Hosei University)	13:15
2B11-2	"Force Sensor-less Power Assist Control Design Based on Two-degree-of-freedom Control," *Sehoon Oh (The University of Tokyo), Takuya Koyanagi (The University of Tokyo), Yoichi Hori (The University of Tokyo)	13:35
2B11-3	"Walking Assistance System for Sight Impaired People Based on a Multimodal Information Transformation Technique," *JaeHyoung Yu (Soongsil University), Hwan-Ik Chung (Soongsil University), Hernsoo Hahn (Soongsil University)	13:55
2B11-4	"Optimal Design and Control of a Hand Exoskeleton for Rehabilitation of Stroke Patients," H. Akolkar (Indian Institute of Technology Kanpur), M. F. Orlando (Indian Institute of Technology Kanpur), *Ashish Dutta (Indian Institute of Technology Kanpur), A. Saxena (Indian Institute of Technology Kanpur), L. Behera (Indian Institute of Technology Kanpur)	14:15
2B11-5	"Transfer Motion Analysis for Motion Planning of Care Giver Robot," *Yuki Sakaida (RIKEN), Hiroki Masuda (Mie University), Daisuke Chugo (Kwansei Gakuin University), Ryojun Ikeura (Mie University)	14:35

2B12 OS: Interaction Design between Robots and Environment — Room 12

Organizer(s): Nobuto Matsuhira (Toshiba Corporation), Kawarazaki Noriyuki (Kanagawa Institute of Technology)
Chair(s): Nobuto Matsuhira (Toshiba Corporation), Kawarazaki Noriyuki (Kanagawa Institute of Technology)

2B12-1	"Universal Design with Robots for the Wide Use of Robots – Core Concept for Interaction Design between Robots and Environment –," *Nobuto Matsuhira (Toshiba Corporation), Junko Hirokawa (Toshiba Corporation), Hideki Ogawa (Toshiba Corporation), Tatsuya Wada (Ritsumeikan University)	13:15
2B12-2	"Human Interface Technologies in Consideration of Universal Design," *Noriyuki Kawarazaki (Kanagawa Institute of Technology), Tadashi Yoshidome (Kanagawa Institute of Technology), Takayuki Tanaka (Hokkaido University)	13:35
2B12-3	"Universal Design of Robot Management System for Daily-life-supporting Robots," *Bong Keun Kim (AIST), Tetsuo Tomizawa (The University of Electro-Communications), Hyun Min Do (AIST), Jae Hoon Lee (Ehime University), Hideyiki Tanaka (AIST), Yasushi Sumi (AIST)	13:55
2B12-4	"Visual Marker System for Control of Flexible Manipulator Supporting Daily Living," *Hideyuki Tanaka (AIST), Tetsuo Tomizawa (AIST), Yasushi Sumi (AIST), Jae Hoon Lee (AIST), Hyun Min Do (AIST), Yong Shik Kim (AIST)	14:15
2B12-5	"Algorithm Evaluation Support Tools for Intelligent Space," Shaohua Zheng (The University of Tokyo), *Takeshi Sasaki (The University of Tokyo), Hideki Hashimoto (The University of Tokyo)	14:35
2B12-6	"Robotics-mechatronics Design Competition in Kyushu Area, Japan," *Taisuke Sakaki (Kyushu Sangyo University), Takanori Kiyota (University of Kitakyushu), Hitoshi Kino (Fukuoka Institute Technology), Shinichi Sagara (Kyushu Institute of Technology), Ryuichi Oguro (Kyushu Institute of Technology), Shunji Moromugi (Nagasaki University)	14:55

2B13 OS: System Development Technologies for Indoor Air Quality Management — Room 13

Organizer(s): ChangKyoo Yoo (Kyung Hee University), Takashi Amagai (University of Shizuoka)
Chair(s): ChangKyoo Yoo (Kyung Hee University), Takashi Amagai (University of Shizuoka)

2B13-1	"A Study on NDIR-based CO2 Sensor to Apply Remote Air Quality Monitoring System," Jongwon Kwon (University of Seoul), Gwanghoon Ahn (University of Seoul), Gyusik Kim (University of Seoul), Jo Chun Kim (Konkuk University), *Hiesik Kim (University of Seoul)	13:15
2B13-2	"Data-driven Prediction Model of Indoor Air Quality by the Preprocessed Recurrent Neural Networks," *Minhan Kim (KyungHee University), YoungSoo Kim (KyungHee University), SuWhana Sung (KyungPook National University), ChangKyoo Yoo (KyungHee University)	13:35
2B13-3	"Multidimensional Interpretation of the Air Quality Change by the Installation of PSD in a Subway Station," *YoungSoo Kim (KyungHee University), Minhan Kim (KyungHee University), SeoJin Kim (Konkuk University), InWon Kim (Konkuk University), JaeSik Jeon (Seoul Metropolitan Research Institute of Public Health and E), ChangKyoo Yoo (KyungHee University)	13:55
2B13-4	"A simultaneous Control Technology for Nitrogen Dioxide and Toluene in Indoor Areas," Young-Hoon Kang (Konkuk University), *Jo-Chun Kim (Konkuk University), Youn-Suk Son (Konkuk University), Pillheon Kim (Konkuk University), Sang-Gwi Chung (Konkuk University)	14:15
2B13-5	"Fine Dust Control by HVAC in Seoul Metro Subway," *Jung Hee Jang (Kyung Hee University), Li Kun (Kyung Hee University), Young Min Jo (Kyung Hee University)	14:35
2B13-6	"The Effect of Platform Screen Door (PSD) for Fine Particles at Subway Train in Seoul, Korea," Jeong-Geun Lee (Korea University), *Sang-Hoon Byeon (Korea University), Jai-Hyo Lee (Konkuk University)	14:55

2B14　OS: Scheduling and Hybrid Systems Based on Discrete Event Systems　　　　　Room 14

Organizer(s): Shiro Masuda (Tokyo Metropolitan University), Kunihiko Hiraishi (Japan Advanced Institute of Science and Technology), Koichi Kobayashi (Japan Advanced Institute of Science and Technology)

Chair(s): Shiro Masuda (Tokyo Metropolitan University), Kunihiko Hiraishi (Japan Advanced Institute of Science and Technology)

2B14-1	"On the Buffer Management Policy for CCPM Based on MPL," *Munenori Kasahara (Nagaoka University of Technology), Hirotaka Takahashi (Nagaoka University of Technology), Hiroyuki Goto (Nagaoka University of Technology)	13:15
2B14-2	"A Faster Approximation Technique for Predicate Abstraction of Hybrid Systems," *Kunihiko Hiraishi (Japan Advanced Institute of Science and), Koichi Kobayashi (JAIST)	13:35
2B14-3	"Decomposition of Timed Automata for Solving Jobshop Scheduling Problems," *Masato Wakatake (Osaka University), Tatsushi Nishi (Osaka University), Masahiro Inuiguchi (Osaka University)	13:55
2B14-4	"A Q-learning System for Group-Based Container Marshalling with A-Priori Knowledge for Ship Loading," *Yoichi Hirashima (Osaka Institute of Technology)	14:15
2B14-5	"Process Pogressing Scheduling for Repetitive Systems Using Max-plus Algebra under Multiple Output Constraints," *Atsuya Tanaka (Tokyo Metropolitan University), Shiro Masuda (Tokyo Metropolitan University), Hiroyuki Goto (Nagaoka University of Technology)	14:35
2B14-6	"On Scheduling a Shipbuilding Line Based on Max-plus System Dynamic Representation," *Kajiwara Hiroyuki (Kyushu University), Yasuhiro Hitoi (Oshima Shipbuilding Co., Ltd.), Youishi Nakao (Oshima Shipbuilding Co., Ltd.)	14:55

2B15　OS: Underwater Wireless Sensor Network Based Navigation and Tracking　　　　　Room 15

Organizer(s): Jae Weon Choi (Pusan National University)

Chair(s): Jae Weon Choi (Pusan National University), Young-Ik Son (Myongji University)

2B15-1	"An Adaptive Output Feedback Control for Time-delay Systems with Input Disturbance," *Kim In-Hyuk (MyongJi University), Goo-Jong Jeong (MyongJi University), Young-Ik Son (MyongJi University)	13:15
2B15-2	"Application of Simple Adaptive Control to a DC/DC Boost Converter with Load Variation," *Goo-Jong Jeong (Myongji University), In-Hyuk Kim (Myongji University), Young-Ik Son (Myongji University)	13:35
2B15-3	"Interacting Multiple Model Based Distributed Target Tracking Algorithm in UWSNs," *Chang Ho Yu (Pusan National University), Hyun Pil Moon (Pusan National University), Jae Weon Choi (Pusan National University), Young Bong Seo	13:55
2B15-4	"Sensor Localization Algorithms in Underwater Wireless Sensor Networks," *Chang Ho Yu (Pusan National University), Kang Hoon Lee (Pusan National University), Hyun Pil Moon (Pusan National University), Jae Weon Choi (PICEE, Pusan National University)	14:15
2B15-5	"Modeling Heterogeneous Signal Strength Characteristics for Flexible WLAN Indoor Localization," *Hyung Keun Lee (Korea Aerospace University), Hee Sung Kim (Korea Aerospace University), Wan Sik Choi (ETRI)	14:35

2B16　Acoustical Measurement　　　　　Room 16

Chair(s): Hiroshi Harada (Kumamoto University)

2B16-1	"Analysis of Individual Differences in Head-related Transfer Functions by Spectral Distortion," *Hyun Jo (KAIST), Youngjin Park (KAIST), Youn-sik Park (KAIST)	13:15
2B16-2	"Multiple Sound Sources Localization Using the Spatially Mapped GCC Functions," *Byoungho Kwon (KAIST), Youngjin Park (KAIST), Youn-sik Park (KAIST)	13:35
2B16-3	"Modified Cross-correlation for Inter-aural Time Delay Estimation," *Byoung-gi Lee (KIST), Jong-suk Choi (KIST)	13:55
2B16-4	"Newly Designed HRTF Measuring System," *Yunjae Lee (KAIST), Youngjin Park (KAIST), Youn-sik Park (KAIST)	14:15
2B16-5	"A Study of the Possibility of Positioning Using Small Number of Satellite," *Masashi Yonekawa (Keio University), Toshiyuki Tanaka (Keio University)	14:35
2B16-6	"Robust State Estimation Approach to Target Localization Using Range Difference of Arrival Data," *Choi Ga Hyung (Yonsei University), Won Sang Ra (Handon University), Tae Sung Yoon (Changwon University), Jin Bae Park (Yonsei University)	14:55

2B17　Mechanical System II　　　　　Room 17

Chair(s): Koichi Osuka (Osaka University)

2B17-1	"Design of Reduced Order Observer-based Output Feedback Stabilizing Controllers for Dynamically Positioned Ships," *Hitoshi Katayama (Shizuoka University)	13:15
2B17-2	"Continuous-time Nonlinear Controller Redesign for Sampled-data Implementation and Its Application to Flight Control of a Model Helicopter," *Yaw C Pin (Kumamoto University), Mistuaki Ishitobi (Kumamoto University), Masatoshi Nishi (Kumamoto University)	13:35
2B17-3	"Attitude Stabilization of an Aircraft via Nonlinear Optimal Control Based on Aerodynamic Data," *Yuhei Yamato (Nagoya University), Noboru Sakamoto (Nagoya University), Morio Takahama (Nagoya University)	13:55
2B17-4	"Implementation of Disturbance Observer for Compensating Backlash," *Chi-Seung Kim (Inha University), Min-Jeong Kang (Inha University), Jin-Hwan Kim (Inha Technical College), Uk-Youl Huh (Inha University)	14:15
2B17-5	"Feedback Controller with Nonlinear Compensator Optimized by Genetic Algorithm for Rotary Crane System," *Hiroshi Kinjo (Univeristy of the Ryukyus), Kunihiko Nakazono (University of the Ryukyus), Kohei Ohnishi (Keio University), Tetsuhiko Yamamoto (Tokushima College of Technology)	14:35
2B17-6	"Lunar Capture Guidance Scheme using Lyapunov Feedback Control," *Dong-Hyun Cho (KAIST), Hyochoong Bang (KAIST)	14:55

2B18　Sensor Fusion and Soft Sensor II　　　　　Room 18

Chair(s): Shigeru Ando (The University of Tokyo), Kanbu Teramoto (Saga University)

2B18-1	"Robust Color Tracking based on Mean-shift under Illuminance Change," *Koichi Hidaka (Tokyo Denki University)	13:15
2B18-2	"Evaporative Estimation Using Multiple Regression," Prapas Roengruen (King Mongkut's Institute of Technology), *Watsamon Nakarin (King Mongkut's Institute of Technology), Arjin Numsomran (King Mongkut's Institute of Technology), Vittaya Tipsuwanporn (King mongkut's Institute of Technology)	13:35
2B18-3	"A Simple and Valuable Method for Detecting Levels of Interface of Oil -water and Oil Layer," *Guirong Lu (Jiangsu Polytechnic University), Hao Hu (Jiangsu Polytechnic University), Suolin Duan (Jiangsu Polytechnic University), Hongyuan Wang (Jiangsu Polytechnic University)	13:55
2B18-4	"State Estimation in the Case of Loss of Observations," *Naeem Khan (University of Leicester), D-W Gu (University of Leicester)	14:15
2B18-5	"Declined Angle Analysis of Shaft using Magnetic Field Measurement," *Lerdlekha Tanachaikhan (Ramkhamhaeng University), Narin Tammarugwattana (KMITL), Witsarut Sriratana (King Mongkuts Institute of Technology Ladkrabang), Panupon Klongratog (King Mongkuts Institute of Technology Ladkrabang)	14:35

2B19	OS: Safety Control and Preventive Maintenance for Safety on Site	Room 19

Organizer(s): Masami Hasegawa (Fuji Electric Systems Co.,Ltd.), Kazushi Nakano (The University of Electro-Communications)

Chair(s): Masami Hasegawa (Fuji Electric Systems Co.,Ltd.), Kazushi Nakano (The University of Electro-Communications)

2B19-1	"Issues Concerning the Practical Application and Diffusion of Plant Asset Diagnostics and Analysis Technologies," *Yoshitaka Yuki (Yokogawa Electric Corporation)	13:15
2B19-2	"Development of Remaining Life Assessment for Oil-immersed Transformer Using Structured Neural Networks," *Tetsuro Matsui (Fuji Electric Advanced Technology Co.), Yasuo Nakahara (Fuji Electric Systems), Kazuo Nishiyama (Fuji Electric Systems), Noboru Urabe (Fuji Electric Systems), Masayoshi Itoh (Fuji Electric Chiba Tech)	13:35
2B19-3	"Introduction of Functional Safety into the Field of Maintenance and Preventive Maintenance," *Masami Hasegawa (Fuji Electric Systems Co.,Ltd.)	13:55
2B19-4	"Visualization of Multi-dimensional Living Body Information Based on Wavelet Transformation Analysis," *Toru Yamamoto (The University of Electro-Comunications), Kensuke Hayashi (The University of Electro-Communications), Seiichi Shin (The University of Electro-Communications)	14:15

Oral Sessions 20, Wednesday, August 19

2C02	OS: Sponsored Industrial Session1: Model-Based Design	Room 02

Organizer(s): Wenxi Jin (The MathWorks, Inc.), Yoshito Ohta (Kyoto University)

Chair(s): Hiromichi Iino (MathWorks Japan), Yoshito Ohta (Kyoto University)

2C02-1	"Control Design in Model-Based Development and New SICE Benchmark Control Design Problem," *Akira Ohata (Toyota Motor Corporation)	14:30
2C02-2	"Application of MBD to Automotive Control System Engineering," *Atsushi Sawabe (AISIN AW CO.,LTD)	15:00
2C02-3	"Development of a High Throughput LDPC Codec with 1Gb/s and OFDM Transmission System Utilizing MBD," *Takashi Maehata (Sumitomo Electric Industries, Ltd.)	15:40
2C02-4	"Bridging the Gap in Engineering Education through Student Competition," *Paul Smith (The MathWorks, Inc.)	16:10

2C03	OS: International Standardization for Robot Technology	Room 03

Organizer(s): Tetsuo Kotoku (AIST)

Chair(s): Tetsuo Kotoku (AIST), Yoji Yamada (Nagoya University)

2C03-1	"Survey on ISO Standards for Industrial and Service Robots," *Seungbin Moon (Sejong University), Gurvinder S Virk (Massey University)	15:30
2C03-2	"Novel Activity on International Safety Standardization for Personal Care Robots," *Yoji Yamada (Nagoya University), Yasuhiro Ota (Toyota Motor Engineering & Manufacturing North America)	15:50
2C03-3	"Standardization Activities for Service Robots in Korea," *Seungbin Moon (Sejong University), Kwang Ho Park (Korea Agency for Technology and Standards), Soon-Geul Lee (Kyung Hee University), Young-Jo Cho (Electronics and Telecommunication Research Institute), Youngsun Ryuh (Korea Institute of Industrial Technology)	16:10
2C03-4	"Collecting Plant Floor Data using Agent Embedded in Controller," *Satoru Hori (Hitachi, Ltd.), Hiromitsu Kato (Hitachi, Ltd), Hiroshi Fujii (Hitachi Industrial Equipment Systems Co., Ltd.), Seiichi Shin (The University of Electro-Communications)	16:30

2C04	OS: Advanced Adaptive and Learning Control -Theory and Applications-	Room 04

Organizer(s): Ikuro Mizumoto (Kumamoto University), Toru Yamamoto (Hiroshima University)

Chair(s): Ikuro Mizumoto (Kumamoto University), Toru Yamamoto (Hiroshima University)

2C04-1	"A Method of Offset Error Reduction of Simple Adaptive Control Using Neural Networks for MIMO Nonlinear Systems," *Muhammad Yasser (IDS Research Group), Ikuro Mizumoto (Kumamoto University)	15:30
2C04-2	"A Simple Redesign of Adaptive Control for Flexible Arms by Finite Dimensional Controllers," *Yoshihiko Miyasato (The Institute of Statistical Mathematics)	15:50
2C04-3	"A Switching Method of PID Controllers Based on Performance Assessment," *Yoshihiro Ohnishi (Kure Natinal College of Technology)	16:10
2C04-4	"Intelligent IMC-PID Control for Ultrasonic Motor," *Mu Shenglin (Yamaguchi University), Kanya Tanaka (Yamaguchi University), Yuji Wakasa (Yamaguchi University), Takuya Akashi (Yamaguchi University), Masato Oka (Ube National College of Technology)	16:30
2C04-5	"Power Consumption/Supply Control Using Neural Network for Micro Grids," Kaneko Tsunashi (Science and Technology, Keio University), *Shohei Shimizu (Keio University), Hiromitsu Ohmori (Keio University)	16:50
2C04-6	"A Self-repairing Control System with an Unstable Filter," *Masanori Takahashi (Tokai University)	17:10

2C05	Image Processing	Room 05

Chair(s): Byung-Ryong Lee (University of Ulsan)

2C05-1	"Piecewise Linear Motion Blur Identification Using Morphological Filtering in Frequency Domain," *Byunghoon Kang (POSTECH), JaeWook Shin (POSTECH), PooGyeon Park (POSTECH)	15:30
2C05-2	"Image Reconstruction from Point Cloud Data by CIP-Level Set Method," *Hironori Ishimoto (Anan National College of Technology), Ryuzaburo Sugino (Anan National College of Technology), Noboru Morizumi (Anan National College of Technology)	15:50
2C05-3	"Image Enlargement with Back Projection of Lost High-frequency Components," Hideaki Kawano (Kyushu Institute of Technology), *Hideaki Orii (Kyushu Institute of Technology), Hiroshi Maeda (Kyushu Institute of Technology), Hiromi Fukushima (Kyushu Institute of Technology), Norikazu Ikoma (Kyushu Institute of Technology)	16:10
2C05-4	"Image Watermarking Using Adaptive Tabu Search," *Patcharin Artameeyanant (Vongchavalit University)	16:30
2C05-5	"Medical Image Compression and DICOM-format Image Archive," *Piyamas Suapang (Rangsit University), Kobchai Dejhan (Rangsit University), Surapun Yimmun (King Mongkut's University of Technology Thonburi Thonburi)	16:50
2C05-6	"Real-time Forming Error Inspection System Using Computer Vision for Small-sized Tubes," Hyoung-Seok Kim (University of Ulsan), *Erdenesuren Naranbaatar (University of Ulsan), Sheikh Ahasan Ahammad (University of Ulsan), Yong-Hwan Bae (Andong National University), Byung-Ryong Lee (University of Ulsan)	17:10

2C06	Networked Sensing System	Room 06

Chair(s): Hidekata Hontani (Nagoya Institute of Technology), Hideto Iwaoka (Kanazawa Institute of Technology)

2C06-1	"A Short Range Measurement Using RF Signal's Propagation Time Based on Vernier Effect," *Sang-il Ko (Tokyo Institute of Technology), Jun-ya Takayama (Tokyo Institute of Technology), Shinji Ohyama (Tokyo Institute of Technology)	15:30

2C06-2	"Efficient Range-free Localization Algorithm for Wireless Sensor Network Based on Shortest Path Information," *Jaehun Lee (Yonsei University), Wooyong Chung (Yonsei University), Euntai Kim (Yonsei University)	15:50
2C06-3	"Detecting Sinkhole Attacks in Wireless Sensor Networks," *Chanatip Tumrongwittayapak (King Mongkut Institute of Technology Lad), Ruttikorn Varakulsiripunth (King Mongkut Institute of Technology Lad)	16:10
2C06-4	"Design of the Middleware for Wireless Sensor Node Based on IEEE1451.5," *Joung-Han Lee (Hanyang University)	16:30
2C06-5	"Reliable Data Transfer using Overhearing for Implicit ACK," *Ga-won Lee (KyungHee University), Eui-Nam Huh (KyungHee University)	16:50
2C06-6	"Network-centric Mashup for a Sensor Network that uses a Messaging Network," *Yooin Choi (University of Aizu), Junya Terazono (University of Aizu), Kensaku Kawauchi (University of Tokyo), Kana Itabashi (University of Aizu), Hideyuki Fukuhara (NetOne Systems), Isamu Koseda (Net One Systems Co., Ltd.)	17:10

2C07 Process/Manufacturing System II — Room 07

Chair(s): Yutaka Iino (Toshiba Corporation)

2C07-1	"Optimal Grade Transition for Quality Control of Continuous Polymerization Reactor," Qing Guo (Nara Institute of Science and Technology), *Masaru Noda (Nara Institute of Science and Technology), Hirokazu Nishitani (Nara Institute of Science and Technology)	15:30
2C07-2	"Development of Correlation-based Pattern Recognition and Its Application to Adaptive Soft-sensor Design," *Koichi Fujiwara (Kyoto University), Manabu Kano (Kyoto University), Shinji Hasebe (Kyoto University)	15:50
2C07-3	"Optimal Control Design for Block-ice Production Process under Time of Use Tariff," *Hai Minh Le (Chulalongkorn University), David Banjerdpongchai (Chulalongkorn University)	16:10
2C07-4	"Next Generation HVAC System for Office Buildings – The Optimal Control Structure for DHC Buildings –," *Yasuo Takagi (Toshiba Corporation), Kenzo Yonezawa (Toshiba Corporation), Nobutaka Nishimura (Toshiba Corporation), Yuuichi Hanada (Toshiba Corporation), Kenichi Yamazaki (Toshiba Corporation)	16:30
2C07-5	"Hybrid Modeling with Physical and JIT Model for Building Thermal Load Prediction and Optimal Energy Saving Control," *Yutaka Iino (Toshiba Corporation), Masahiko Murai (Toshiba Corporation), Dai Murayama (Toshiba Corporation), Ichiro Motoyama (Kansai Electric Power Co., Inc), Satoshi Kuzusaka (Kansai Electric Power Co., Inc), Kenji Ueta (Kansai Electric Power Co., Inc)	16:50
2C07-6	"Automated Fault Diagnosis Method for a Variable Air Volume Air Handing Unit," *Dong Won Han (Korea University), Young-Soo Chang (Korea Institute of Science and Technology)	17:10

2C08 Man-Machine Systems — Room 08

Chair(s): Juri Vain (Tallinn University of Technology)

2C08-1	"Transparency Analysis of a Scaled Teleoperation System with Encoder Noise," *Maya Wulandari (KAIST), Dong Soo Kwon (KAIST)	15:30
2C08-2	"Motion Analysis of Arm by Use of Myoelectric Signal," *Masahiro Eura (Kumamoto University), Hiroshi Harada (Kumamoto University), Yoshifumi Ohbuchi (Kumamoto University), Teruo Yamaguchi (Kumamoto University)	15:50
2C08-3	"Development of 5 D.O.F Robot Hand for an Android Robot," *Dongwoon Che (Korea Institute of Industrial technology), HyunSub Park (Korea Institute of Industrial technology), Dong-Wook Lee (Korea Institute of Industrial technology)	16:10
2C08-4	"Selectio of Gaze Behavior Based on Emotional State for an Android," *Jun-Young Jung (University of Science and Technology), Dongwoon Che (Korea Institute of Industrial Technology), Dong-Wook Lee (Korea Institute of Industrial Technology), Hyun Sub Park (Korea Institute of Industrial Technology), Ho-Gil Lee (Korea Institute of Industrial Technology)	16:30
2C08-5	"Human-Robot Interaction Learning Using Timed Automata," *Juri Vain (Tallinn University of Technology), Fujio Miyawaki (Tokyo Denki University), Sven Nomm (Institute of Cybernetics at TUT), Tatjana Totskaya (Tallinn University of Technology), Anino Aivo (Tallinn University of Technology)	16:50

2C09 Signal Processing I — Room 09

Chair(s): Masaaki Nagahara (Kyoto University)

2C09-1	"Signal Processing Methods for Noise Cancellation in Sound and Electromagnetic Environment of Power State Variables," *Hisako Masuike (Hiroshima National College of Maritime Technology), Akira Ikuta (Prefectural University of Hiroshima)	15:30
2C09-2	"A Novel Filter Design for Reduction of Noise in the Captured Signals Used for Smart Structure Systems," *T.C. Manjunath (New Horizon College of Engineering (VTU)), Sheelarani TB (NHCE, Bangalore, India), C B Vinutha (Shri Siddhartha Institute of Technology), M Z Kurien (SSIT)	15:50
2C09-3	"Improved Variable Step Size (IVSS) LMS for Active Noise Control System," *jinwei Sun (Harbin Institute of Technology), Boyan Huang (Harbin Institute of Technology), Guo Wei (Harbin Institute of Technology), Dan Liu (Harbin Institute of Technology)	16:10
2C09-4	"A New Method of Spectral Analysis -- Synchronous Cycle-ratio Spectral Analysis," *Junqing Fu (Changsha University of Science and Technology), Yimin Shao (Chongqing University)	16:30
2C09-5	"Measurement and Diagnostic of Engine Belt Physical Condition from Acoustic Signals," *Bruno Fazenda (University of Huddersfield), Fengshou Gu (University of Huddersfield), Mark Avis (University of Salford), Andrew Ball (University of Huddersfield)	16:50

2C10 Industrial Network System — Room 10

Chair(s): Hong-Hee Lee (University of Ulsan)

2C10-1	"A web-based Self-tuning Control System to Automate Materials Procurement in Large Construction Projects," *Caroline T.W. Chan (City University of Hong Kong), H.C. Sin (City University of Hong Kong)	15:30
2C10-2	"Power Monitor Networked Control Based on DeviceNet Field-bus," *Zaiping Chen (Tianjin University of Technology), Jianfeng Zhang (Tianjin University of Technology), Chao Jia (Tianjin University of Technology), Fan Wu (Tianjin University of Technology)	15:50
2C10-3	"Software-Based Internet Protocol Offload Engine for Low-End Field Devices," *Shuji Kuwahara (Yokogawa Electric Corporation), Takanori Shimomura (Yokogawa Electric Corporation), Yoshio Yoshida (Yokogawa Electric Corporation)	16:10
2C10-4	"Implementation of Web Services Based on IEC 61400-25 for Wind Power Plant," *Minjae Seo (Ulsan University), Gwan-Su Kim (Ulsan University), Hong-Hee Lee (Ulsan University)	16:30
2C10-5	"Engineering Experience in Foundation Fieldbus Technology," *Yoshinori Sato (JGC Corporation)	16:50

2C11 OS: Intelligent Robotics and Applications — Room 11

Organizer(s): Sung Han (Kyungnam University)
Chair(s): Sung-Hyun Han (Kyungnam University)

| 2C11-1 | "Real-time Adaptive Control of Robot Manipulator Based on Neural Network Compensator," *Huu Cong-Nguyen (Robotics and Control lab), Woo-Song Lee (Robotics and Control lab), Chang-Jae Cho (Kyungnam University), Sung-Hyun Han (Kyungnam University) | 15:30 |
| 2C11-2 | "Grasping Control of Flexible Hand with Thirteen D.O.Fs," *Huu Cong-Nguyen (Robotics and Control lab), Haeng-Bong Shin (Robotics and Control lab), Dong-Jun Park (Kyungnam University), Sung-Hyun Han (Kyungnam University) | 15:50 |

2C11-3	"Integration of Robust Voice Recognition and Navigation System on Mobile Robot," *Nguyen Huu Cong (Robotics and Control lab), Kyun Shim Byoung (Robotics and Control lab), Kang Chang Hak (Nokia Co., Ltd.), Park Dong Jun (DMT Co., Ltd.), Han Sung Hyun (Kyungnam University)	16:10
2C11-4	"A Study on Robust Control of Non-holonomic Mobile Robot Based on Fuzzy Perception," *Quyet Van-Nguyen (Kyungnam University), Jun-Hong Kim (Kyungnam University), Woo-Song Lee (Kyungnam University), Sung-Hyun Han (Kyungnam University)	16:30
2C11-5	"Saving Energy Control of Cylinder Drive Using Hydraulic Transformer Combined with An Assisted Hydraulic Circuit," *Triet Hung Ho (University of Ulsan), Kyoung Kwan Ahn (University of Ulsan)	16:50

2012 OS: Biomeasurement and Its Applications — Room 12

Organizer(s): Masafumi Uchida (The University of Electro-communications), Akio Nozawa (Meisei University)
Chair(s): Masafumi Uchida (The University of Electro-communications), Akio Nozawa (Meisei University)

2C12-1	"Conformity in Heart Rate Variability under Online Game without Conversations," *Hisaya Tanaka (Kogakuin University), Tatsuya Kawahara (Kogakuin University)	15:30
2C12-2	"Variation Analysis of Free-style Hand-written Character Pattern in Documents," *Yoshimasa Kimura (Sojo University), Kazumi Odaka (University of Tsukuba)	15:50
2C12-3	"Integrative Measurement of Biological Information During Voluntary Movement," *Kazuya Saito (The University of Electro-Communications), Young-il Park (The University of Electro-communications), Masafumi Uchida (The University of Electro-communications)	16:10
2C12-4	"Characterization of Preference for Viscosity and Fragrance of Cosmetic Emulsions by Autonomous Nervous System Activity," *Akio Nozawa (Meisei University), Masafumi Uchida (The University of Electro-Communications)	16:30
2C12-5	"Evaluation of Effect of the Mental Work and the Simple Work by the Nasal Skin Temperature," *Tota Mizuno (Advanced Industrial Science and Technolo), Shusaku Nomura (Nagaoka University of Technology), Akio Nozawa (Meisei University), Hirotoshi Asano (Aoyama Gakuin University), Hideto Ide (Aoyama Gakuin University)	16:50
2C12-6	"Analysis of Surface EMG with Apparent Movement of Tactile Sense," *Young-il Park (The University of Electro-communications), Masafumi Uchida (The University of Electro-communications)	17:10

2013 OS: Model Predictive Control: Recent Advances for Applications — Room 13

Organizer(s): Akira Kojima (Tokyo Metropolitan University), Shiro Masuda (Tokyo Metropolitan University), Masakazu Mukai (Kyushu University)
Chair(s): Akira Kojima (Tokyo Metropolitan University), Shiro Masuda (Tokyo Metropolitan University)

2C13-1	"MPC of 2D Channel Flow via Staggered Grid," *Sompach Kongviwattanakul (Tokyo Institute of Technology), Kenji Kashima (Tokyo Institute of Technology), Jun-ichi Imura (Tokyo Institute of Technology)	15:30
2C13-2	"A Modeling of Pedestrian Flow Based on MLD System Approach," *Toru Koukaki (Tokyo Metropolitan University), Akira Kojima (Tokyo Metropolitan University)	15:50
2C13-3	"Reduced Order Model Predictive Control for Constrained Linear Systems with Disturbance Attenuation," Masaaki Takahashi (Osaka Prefecture University), *Naoyuki Hara (Osaka Prefecture University), Hideki Kokame (Osaka Prefecture University), Keiji Konishi (Osaka Prefecture University)	16:10
2C13-4	"Nonlinear Receding Horizon Control of a Tandem Cold Mill in Acceleration and Deceleration Conditions," Kohei Ozaki (Osaka University), *Toshiyuki Ohtsuka (Osaka University), Kenji Fujimoto (Nagoya University), Akira Kitamura (Tottori University), Makishi Nakayama (Kobe Steel, Ltd.)	16:30
2C13-5	"An Automotive Collision Avoidance Control based on a Feasible Set," *Masakazu Mukai (Kyushu University), Yuji Harada (Kyushu University), Junichi Murata (Kyushu University), Taketoshi Kawabe (Kyushu University), Hikaru Nishira (Nissan Motor Co. LTd.), Yoshitaka Deguchi (Nissan Motor Co. LTd.)	16:50
2C13-6	"A Design Method for Nonlinear Model Predictive Control with a Step-type Input Constraint," *Ryuichi Sakata (Tokyo Metropolitan University), Shiro Masuda (Tokyo Metropolitan University), Takuya Sugiyama (Tokyo Metropolitan University), Takao Sato (University of Hyogo)	17:10

2014 OS: Advances in Networked Control Systems — Room 14

Organizer(s): Youngsoo Suh (University of Ulsan), Hisaya Fujioka (Kyoto University)
Chair(s): Young Soo Suh (University of Ulsan), Hisaya Fujioka (Kyoto University)

2C14-1	"Stability Analysis of Aperiodic Sampled-data Control Systems: An Approach Using Robust Linear Matrix Inequalities," *Yasuaki Oishi (Nanzan University), Hisaya Fujioka (Kyoto University)	15:30
2C14-2	"An Improved Approach to Robust H_inf Stabilization for Networked Control Systems," Sung Hyun Kim (Pohang University of Science and Technol), *Changki Jeong (Pohang University of Science and Technol), Bum Yong Park (Pohang University of Science and Technol), PooGyeon Park (Pohang University of Science and Technol)	15:50
2C14-3	"Some Open Issues in Continuous-time IQC Approach to a Class of Networked Control Systems," *Hisaya Fujioka (Kyoto University)	16:10
2C14-4	"Performance Evaluation of Wireless Networked Control System Using Time-triggered IEEE 802.15.4," *Young Hun Song (Pusan National University), Jee Hun Park (Pusan National University), Kyung Chang Lee (Pukyong National University), Suk Lee (Pusan National University)	16:30
2C14-5	"A Design of State Predictive LQI Controllers for a Networked Control System," *Tomoya Ueno (Utsunomiya University), Takehito Azuma (Utsunomiya University)	16:50
2C14-6	"Stability Analysis of Time-varying Sampling Systems with Scheduling Dependent Probabilistic Bound Information," *Youngsoo Suh (University of Ulsan)	17:10

2015 OS: Construction Robot: Autonomous Excavator — Room 15

Organizer(s): Chang-soo Han (Hanyang University), Noriho Koyachi (AIST)
Chair(s): Chang-soo Han (Hanyang University), Noriho Koyachi (AIST)

2C15-1	"System Identification of the Pressure Transducer and the Force Sensor on Intelligent Excavator," *Chang Seop Lee (Korea University), Ki Young Kim (Korea University), Jangho Bae (Korea University), Daehie Hong (Korea University)	15:30
2C15-2	"Nonlinear Straight Path Tracking Control for an Articulated Steering Type Vehicle," *Naoji Shiroma (Ibaraki University), Satoshi Ishikawa (Ibaraki University)	15:50
2C15-3	"Development of Electro-hydraulic Control Valve for Intelligent Excavator," *KiYong Kim (Doosan Infracore), DalSik Jang (Doosaninfracore), YongLak Cho (Doosaninfracore), JuneHyun Jang (Doosaninfracore)	16:10

2C15-4	"Building an Digital Model of an Earthwork Site for Autonomous Excavator Operation," *Seok-Joon You (Sungkyunkwan University), Kyu-Won Lee (KICT), Soon-Wook Kwon (SKKU), Myung-Jin Chae (KICT), Moon-Young Cho (KICT), Changyeon Cho (SKKU)	16:30
2C15-5	"Unmanned Loading Operation By Autonomous Wheel Loader," *Noriho Koyachi (AIST), Shigeru Sarata (National Institute of Advanced Industrial Science and Techno)	16:50
2C15-6	"Development of Autonomous Excavation Technology for Hydraulic Excavators," *Hiroshi Yamamoto (Public Works Research Institute), Masaharu Moteki (Public Works Research Institute), Hui Shao (Public Works Research Institute), Takashi Ootuki (Public Works Research Institute)	17:10

2C16 OS: Distributed Autonomous Systems and Robots — Room 16

Organizer(s): Ryosuke Ohba (Tokyo Metropolitan University), Kuniaki Kawabata (RIKEN)
Chair(s): Ryosuke Ohba (Tokyo Metropolitan University), Kuniaki Kawabata (RIKEN)

2C16-1	"Realization of Rearrangement Task by Multiple Robots," *Yoshihiro Takebe (The University of Tokyo), Norisuke Fujii (The University of Tokyo), Reiko Unoue (The University of Tokyo), Jun Ota (The University of Tokyo)	15:30
2C16-2	"Evolving Adaptive Group Behavior in a Multi-robot System," *Saori Iwanaga (Japan Coast Guard Academy), Kazuhiro Ohkura (Hiroshima University), Tomoya Matsuda (Hiroshima University)	15:50
2C16-3	"Self-assembly with Simple Robotic Agents," *Kazuya Suzuki (Tohoku University), Tsunamichi Tsukidate (Tohoku University), Masahiro Shimizu (Tohoku University), Akio Ishigro (University of Aizu)	16:10
2C16-4	"Locomotion Control of Multi-legged Robot Based on Follow-the-contact-point Gait," *Tomoya Niwa (Nagoya University), Shinkichi Inagaki (Nagoya University), Tatsuya Suzuki (Nagoya University)	16:30
2C16-5	"Development of Neurotransmitter Modulation on Aggression and Dominance Hierarchy in Cricket,Gryllus Bimaculatus," *Shiro Yano (The University of Tokyo), Yusuke Ikemoto (The University of Tokyo), Hitoshi Aonuma (Hokkaido University), Hajime Asama (The University of Tokyo)	16:50
2C16-6	"Design of Gesture Interface for Deskwork Support System," *Masataka Nishino (The University of Tokyo Nishino), Yuto Nakanishi (The University of Tokyo), Masao Sugi (The University of Tokyo), Yewguan Soo (The University of Tokyo), Jun Ota (The University of Tokyo), Tamio Arai (The University of Tokyo)	17:10

2C17 Mechanical System III — Room 17

Chair(s): Yoshikazu Hayakawa (Nagoya University), Shoshiro Hatakeyama (Tokyo Denki University)

2C17-1	"A Pratical Approach to Enhance Positioning Accuracy for Industrial Robots," *Lim Hyunkyu (Hyundai Heavy Industries Co. Ltd.), Dong-Hyeok Kim (Hyundai Heavy Industries. Co. Ltd.), Sung-Rak Kim (Hyundai Heavy Industries. Co. Ltd.), Hee-Jun Kang (University of Ulsan)	15:30
2C17-2	"Experimental evaluation of multi agent based optimal arrest and guidance of a 2D prismatic object avoiding obstacles," Shinde Vijaysingh (Indian Institute of Technology Kanpur), *Ashish Dutta (Indian Institute of Technology Kanpur), A. Saxena (Indian Institute of Technology Kanpur), B.Panda (Indian Institute of Technology Kanpur), T.Maji (Indian Institute of Technology Kanpur)	15:50
2C17-3	"A Study on Optimization of Fish Robot Maximum Velocity Using the Combination of Genetic – Hill Climbing Algorithm," *Tuong Quan Vo (University of Ulsan), Hyoung Seok Kim (University of Ulsan), Hyo Seung Cho (University of Ulsan), Doan Nuoi Dang (University of Ulsan), Byung Ryong Lee (University of Ulsan)	16:10
2C17-4	"Vibration Control Simulation for a Multi-Body high Speed Flexible Rotor Model Using a Phase Adjusting Method," Chaesil Kim (Changwon National University), Yoon Gyo Jung (Changwon National University), Soo Yong Cho (Geongsang National University), *Hoon Hyung Jung (Changwon National University)	16:30
2C17-5	"Modeling and Analysis for Ice Skating Blade," *Kazuo Sato (Tokyo Denki University), Teruyoshi Sadahiro (Tokyo Denki University), Masami Iwase (Tokyo Denki University), Shoshiro Hatakeyama (Tokyo Denki University)	16:50
2C17-6	"Modeling of Rebound Phenomenon between Ball and Racket Rubber with Spinning Effect," *Akira Nakashima (Nagoya University), Yosuke Kobayashi (Nagoya University), Yuki Ogawa (Nagoya University), Yoshikazu Hayakawa (Nagoya University, RIKEN-TRI Collaboration Center)	17:10

2C18 OS: Inverse Problems in Measurement — Room 18

Organizer(s): Tadashi Ito (Gunma University), Shogo Tanaka (Yamaguchi University)
Chair(s): Tadashi Ito (Gunma University), Kenbu Teramoto (Saga University)

2C18-1	"Reconstruction of Face Image from Security Camera Based on a Measurement of Space Variant PSF," *Tadashi Ito (Gunma University), Hitoshi Hoshino (Gunma University), Yusaku Fujii (Gunma University), Naoya Ohta (Gunma University)	15:30
2C18-2	"Novel Inversion Theory and Sensor Structure of Biomimicry Directional Microphone," *Shigeru Ando (The University of Tokyo), Toru Kurihara (The University of Tokyo), Kentaro Watanabe (The University of Tokyo), Yoshiki Yamanishi (Tokyo Electron AT Limited), Takahiko Ooasa (Tokyo Electron AT Limited)	15:50
2C18-3	"Time Reversal Imaging for Gradient Sensor Networks over the Lamb-wave Field," *Kenbu Teramoto (SagaUniversity), Akito Uekihara (Saga University)	16:10
2C18-4	"Study on Improvement in Resolution of Synthetic Aperture Sonar Using Spatial Filter," *Kazuya Watanabe (Keio University), Satoshi Honda (keio University), Takao Sawa (marine technology center)	16:30
2C18-5	"High Accurate Detection of Inclined Cracks in Concrete Structures Using an Acceleration Pickup," Shozou Miyoshi (Yamaguchi University), *Masayuki Okamoto (Yamaguchi University), Shogo Tanaka (Yamaguchi University)	16:50
2C18-6	"Development of Guided Wave Simulator and Application to Sizing Methodologies of Pipe Wall Thinning," Fumio Kojima (Kobe University), *Jun-ichi Tsubota (Kobe University)	17:10

2C19 Robotics and Communication Systems — Room 19

Chair(s): Kimnao Kogiso (NAIST)

2C19-1	"High Mobility Data Pilot Based Channel Estimation for Downlink OFDMA System Based on IEEE 802.16e Standard," *Savitri Galih (Widyatama University, Bandung Institute of Technology), Riafeni Karlina (Bandung Institute of Technology), Finfin Nugroho (Versatile Silicon), Ade Irawan (Versatile Silicon), Adiono Trio (Bandung Institute of Technology), Kurniawan Adit (Bandung Institute of Technology)	15:30
2C19-2	"Low Complexity LMS Based Adaptive Iterative Receiver for CDMA Systems," *Teav Keov Kolyan (King Mongkut's Institute of Technology), Chakree Teekapavisit (King Mongkut's Institute of Technology)	15:50
2C19-3	"Image Processing based Remote Control with Robot Arm Simulator," *Jiafeng Zhang (Tokyo University of Marine Science. and Tec.), Feifei. Zhang (Tokyo University of Marine Science. and Tec.), Masanori. Ito (Tokyo University of Marine Science. and Tec.)	16:10

| 2C19-4 | "Measuring Method for the Torque Control of Instrument in Surgical Robot," *Chi Yen Kim (Pusan National University), Min Cheol Lee (Pusan National University) | 16:30 |

Oral Sessions 2D, Wednesday, August 19

2D01	OS: Environmental Monitoring Sensors and Systems Using Sound and Ultrasound Waves / Nondestructive Evaluation with Non-linear Ultrasonics	Room 01

Organizer(s): Tomoo Kamakura (University of Electro-Communications)

Chair(s): Toshihiro Ohtani (Shonan Institute of Technology), Hiroshi Ochi (JAMSTEC)

2D01-1	"Application of Neural Network Analysis to Automatic Detection of Road Surface Conditions Utilizing Tire Noise from Vehicles," *Wuttiwat Kongrattanaprasert (The University of Electro-Communications), Hideyuki Nomura (The University of Electro-Communications), Tomoo Kamakura (The University of Electro-Communications), Koji Ueda (Nagoya Electric Works Co.,LTD)	17:45
2D01-2	"Wireless Sensor System Using Surface Acoustic Wave Devices," *Atushi Saitoh (Shibaura Institute of Technology), Toru Nomura (Shibaura Institute of Technology)	18:05
2D01-3	"Measurement of Absorption Coefficients at 80 kHz Band for Broadband Underwater Acoustic Data Transmission," *Hiroshi Ochi (Japan Agency for Marine-Earth Science and Technology), Yoshitaka Watanabe (Japan Agency for Marine-Earth Science and Technology), Takuya Shimura (Japan Agency for Marine-Earth Science and Technology), Takehito Hattori (Nippon Marine Enterprises)	18:25
2D01-4	"Nonlinear Ultrasonic Characterization of Lamb Wave in a Plate with Contacting Interfaces," Satoshi Kishiwada (Kyoto University), *Shiro Biwa (Kyoto University), Claude Inserra (Kyoto University), Eiji Matsumoto (Kyoto University)	18:45

2D02	OS: Sponsored Industrial Session2: Symbolic Numeric Approach to Dynamic System Design	Room 02

Organizer(s): Shinichi Ishizuka (Cybernet System Co., Ltd.), Shinji Hara (The University of Tokyo)

Chair(s): Shinichi Ishizuka (Cybernet System Co., Ltd.), Shinji Hara (The University of Tokyo)

2D02-1	"Symbolic/Numeric Computations for Feedback Control System Design," *Shinji Hara (The University of Tokyo)	17:15
2D02-2	"A Contemporary Engineering Perspective on Symbolic Computation," *Tom Lee (Maplesoft)	17:45
2D02-3	"High Level Modeling Tool (HLMT)," *Hisahiro Ito (Toyota Motor Corporation), Akira Ohata (Toyota Motor Corporation)	18:05
2D02-4	"Symbolic and Numeric DAE Approach for Dynamical System Simulation," *Shinichi Ishizuka (Cybernet System Co., Ltd.)	18:25

2D03	OS: International Standardization for Factory Automation Businesses	Room 03

Organizer(s): Yoshiro Fukuda (Hosei University), Seiichi Shin (University of Electro-Communications)

Chair(s): Yoshiro Fukuda (Hosei University), Seiichi Shin (University of Electro-Communications)

2D03-1	"State of The Arts in Manufacturing Software Standardization," *Eiji Arai (Osaka University), Michiko Matsuda (Kanagawa Institute of Technology)	17:45
2D03-2	"Recent Trends and Issues of Device Integration Standardization," *Kenji Suzuki (Mitsubishi Electric Corporation), Satoshi Iwatsu (Mitsubishi Electric Corporation), Tetsuo Ideguchi (Aichi Prefectural University)	18:05
2D03-3	"PSLX: Interoperable Software Implementation Platform for Manufacturing Operations Management," Yasuyuki Nishioka (Hosei University), *Tomohiko Maeda (Fujitsu Ltd.), Hiroaki Sasaki (Yokogawa Electric Corporation), Kiminobu Kodama (Information Systems Institute, Ltd.), Shinsuke Nomoto (Kozo Keikaku Engineering Inc.), Akihito Ito (Cimtops Corporation)	18:25
2D03-4	"Environmental Evaluation Method of Manufacturing System," *Yoshiro Fukuda (Hosei University), Jan Dusks (Hosei University), Fumihiko Kimura (Hosei University)	18:45

2D04	OS: The Unmanned Ground Vehicle	Room 04

Organizer(s): Jung Ha Kim (Kookmin University)

Chair(s): Jung Ha Kim (Kookmin University), Toru Yamamoto (Hiroshima University)

2D04-1	"Dvelopment of Autonomous Vehicles for Urban Driving," *Jae Cheon Lee (Keimyung University), Dong Myung Lee (Keimyung University)	17:45
2D04-2	"Design and Control of Unmanned Ground Vehicle using SUV," Jae-Hoon Jang (Kookmin University), *Myungwook Park (Kookmin University), Jeong-Yeob Lee (Company of Hundai Rotem), Ji-Suk Lee (Company of Hundai Rotem)	18:05
2D04-3	"Urban Driving System for UGV using Laser Scanner and Vision," *Jae-Hwan Kim (Kookmin University), Jae-Saek Oh (Kookmin University), Jung-Ha Kim (Kookmin University)	18:25
2D04-4	"Research into Navigation Algorithm for Unmanned Ground Vehicle Using Real Time Kinematic(RTK)-GPS," *HoonJe Woo (Kookmin University), Bok-Joong Yoon (Kookmin University), Bong-Geun Cho (Kookmin University), Jung-Ha Kim (Kookmin University)	18:45

2D05	Image Processing for Measurement	Room 05

Chair(s): Kajiro Watanabe (Hosei University)

2D05-1	"Effective Scheme of Measuring the Displacement between Wheel and Rail of Active Steering Bogie Using Computer Vision System," *Byounghyun Kim (Soong Sil University), Nam-ki Lee (Soong Sil University), Youngjoon Han (Soong Sil University), Hernsoo Hahn (Soong Sil University)	17:45
2D05-2	"Recognizing a Chip on Edge of a Cutting Tool by Hough Transform," *Junki Fujii (Okayama University), Masami Konishi (Okayama University)	18:05
2D05-3	"Automatic Weave Diagram Construction from Yarn Positional Information of Weft-knitted Fabric," *Toshihiro Shinohara (Kinki University)	18:25
2D05-4	"Welding Inspection with Image Processing," *Murosaki Takashi (Denso Corporation), Takaha Naoki (Denso Corporation), Syuji Takeda (Denso Corporation), Akihiro Hayashiguchi (Denso Corporation), Fumiaki Sugiura (System One Co.)	18:45

2D06	Nonlinear Control	Room 06

Chair(s): Mitsuaki Ishitobi (Kumamoto University), Hiroyuki Ichihara (Kyushu Institute of Technology)

| 2D06-1 | "Sampled-data Models and Zero Dynamics for Nonlinear Systems," *Masatoshi Nishi (Kumamoto University), Mitsuaki Ishitobi (Kumamoto University) | 17:45 |
| 2D06-2 | "Stability Analysis of Nonlinear Systems via Locally Defined Density Functions," *Izumi Masubuchi (Hiroshima University) | 18:05 |

2D06-3 "Stability Analysis of Nonlinear Sampled-data Systems via Causal Linear Periodically Time-Varying Scaling," *Kenichi Morioka (Kyoto University), Tomomichi Hagiwara (Kyoto University) 18:25

2D06-4 "A Discontinuous Control of a Nonholonomic Wheeled Mobile Robot," *Sam Chau Duong (University of the Ryukyus), Hiroshi Kinjo (University of the Ryukyus), Eiho Uezato (University of the Ryukyus), Tetsuhiko Yamamoto (Tokushima College of Technology) 18:45

2D07 OS: Control of Flexible Mechanical Systems   Room 07
Organizer(s): Minoru Sasaki (Gifu University), Sungsoo Rhim (Kyung Hee University)
Chair(s): Minoru Sasaki (Gifu University), Sungsoo Rhim (Kyung Hee University)

2D07-1 "Self-tuning Control of a Two-link Flexible Manipulator Using Neural Networks," *Minoru Sasaki (Gifu University), Akihiro Asai (Gifu University), Toshimi Shimizu (Niigata University), Satoshi Ito (Gifu University) 17:45

2D07-2 "On Dynamic Extension Controller for Stabilizing a Two Link Planar Flexible Manipulator," *Toshimi Shimizu (Ibaraki University), Minoru Sasaki (Gifu University) 18:05

2D07-3 "Two-degree-of-freedom Control of a Stacker Crane," *Minoru Sasaki (Gifu University), Toshimi Shimizu (Niigata University), Kengo Suzuki (Daifuku Institute of Technology Inc), Shingo Naito (Daifuku Institute of Technology Inc), Satoshi Ito (Gifu University) 18:25

2D08 Robot Navigation and Mapping   Room 08
Chair(s): Yoshiharu Amano (Waseda University)

2D08-1 "A Hybrid Path Planning Method for Partly Unknown Environment," *Tao Zhang (Tsinghua University), Yi Zhu (Tsinghua University), Jingyan Song (Tsinghua University) 17:45

2D08-2 "Aerial Cable Localization and Management Using a Mobile Mapping System," *Kiichiro Ishikawa (Waseda University), Syuuhei Ono (Waseda University), Jun-ichi Takiguchi (Waseda University), Yoshiharu Amano (Waseda University), Takumi Hashizume (Waseda University) 18:05

2D08-3 "Internet Coordinated Pet Robot Simulator Based on MSRDS," *Byoung Wook Choi (Seoul National University of Technology), Sung-Hun Lee (Seoul National University of Technology), Soo-Yeong Yi (Seoul National University of Technology) 18:25

2D09 Signal Processing II   Room 09
Chair(s): Katsuji Uosaki (Fukui University of Technology), Naoki Shiba (Nihon University)

2D09-1 "Image Restoration from the Corrupted Halftone Image Using the Statistical Mechanical Iterative Method," *Yohei Saika (Wakayama National College of Technology), Naoyuki Tahara (Wakayama National College of Technology), Tetsuya Yamasaki (Wakayama National College of Technology) 17:45

2D09-2 "Three-dimensional Medical Image Recognition of the Heart by Revised GMDH-type Neural Network Algorithm," Chihiro Kondo (Keio University), *Tadashi Kondo (The University of Tokushima) 18:05

2D09-3 "Multivariate Time Series Prediction by Blind Signal Deconvolution," *Kenji Sugimoto (Nara Institute of Science and Technology), Hirokazu Kondo (Nara Institute of Science and Technology) 18:25

2D09-4 "Estimation of The Power of the System Noise for Adaptive Filter Algorithms," *Hyeonwoo Cho (Pohang University of Sci. and Tech.), Sung Jun Ban (Pohang University of Sci. and Tech.), Sang Woo Kim (Pohang University of Sci. and Tech.) 18:45

2D10 Biological System   Room 10
Chair(s): Katsuhiro Inoue (Kyushu Institute of Technology), Hiroshi Harada (Kumamoto University)

2D10-1 "Detection of Critical Driving Situations Based on Wheel-ground Contact Normal Forces," *Arjon Turnip (Pusan National University), Le Hoa Nguyen (Pusan National University), Keum-Shik Hong (Pusan National University) 17:45

2D10-2 "On the Existence of Oscillatory Behavior in Gene Regulatory Networks with Cyclic Interconnections," *Yutaka Hori (The University of Tokyo), Akifumi Takabe (The University of Tokyo), Shinji Hara (The University of Tokyo) 18:05

2D10-3 "An Approach for the Task Performance Estimation Using Biological Signals Just Before and After the Onset of Voluntary Motion," *Satoshi Suzuki (Tokyo Metropolitan University), Takemi Matsui (Tokyo Metropolitan University), Kentaro Mikajiri (Tokyo Metropolitan University), Yusuke Sakaguchi (Tokyo Metropolitan University), Kazuhiro Ando (Tokyo Metropolitan University), Nobuyuki Nishiuchi (Tokyo Metropolitan University) 18:25

2D10-4 "Robotic Slit-lamp for Tele-Ophthalmology," *Puwat Charukamnoetkanok (Mettapracharak (Wat Rai Khing) Hospital), Kittipong Ekkachai (National Electronics and Computer Technology Center (NECTEC)), Narisara Klanarongran (Mettapracharak (Wat Rai Khing) Hospital), Teesid Leelasawassuk (National Electronics and Computer Technology Center (NECTEC)), Prakob Komeswarakul (National Electronics and Computer Technology Center (NECTEC)), Pitipong Suramethakul (Mettapracharak (Wat Rai Khing) Hospital) 18:45

2D11 Optimization   Room 11
Chair(s): Keiichiro Yasuda (Tokyo Metropolitan University)

2D11-1 "Experience Repository Based Particle Swarm Optimization for Evolutionary Robotics," *Jeong-Jung Kim (KAIST), So-Youn Park (KAIST), Ju-Jang Lee (KAIST) 17:45

2D11-2 "Adaptive Epsilon Non-dominated Sorting Multi-objective Evolutionary Optimization and Its Application in Shortest Path Problem," *Yu Cheng (Waseda University), Yongjie Jin (Waseda University), Jinglu Hu (Waseda University) 18:05

2D11-3 "Study on Quantum Heuristic Search in an NP-Hard Problem," *Mohamed Ahmed El-Fiky (Kagoshima University), Satoshi Ono (Kagoshima University), Shigeru Nakayama (Kagoshima University) 18:25

2D11-4 "Prediction of the Optimal Time for Havesting Streptococcus Thermophilius in a Fermentation Process," *Michael Kraeling (Christian-Albrechts-University of Kiel), Joachim Hoerrmann (Christian-Albrechts-University of Kiel), Helmut Roeck (Christian-Albrechts-University of Kiel) 18:45

2D12 Stock Forecasting & Portfolio   Room 12
Chair(s): Boonruk Chipipop (King Mongkut U. of Tech. Thonburi)

2D12-1 "Stock Movement Prediction Using Fuzzy Intertransaction Class Association Rule Mining Based on Genetic Network Programming," *Yuchen Yang (Waseda University), Shingo Mabu (Waseda University), Etsushi Ohkawa (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University) 17:45

2D12-2 "Global Portfolio Diversification by Genetic Relation Algorithm," *Victor Parque (Waseda University), Shingo Mabu (Waseda University), Kotaro Hirasawa (Waseda University) 18:05

| 2D12-3 | "Forecasting the Effect of Stock Repurchase via an Artificial Neural Network," *Karn Meesomsarn (Mae Fah Luang University), Roungsan Chaisricharoen (King Mongkut's University of Technology Thonburi), Boonruk Chipipop (King Mongkut's University of Technology), Thongchai Yooyativong (King Mongkut's University of Technology Thonburi) | 18:25 |
| 2D12-4 | "A Genetic Relation Algorithm with Guided Mutation for the Large-scale Portfolio Optimization," *Yan Chen (Waseda University), Chuan Yue (Waseda University), Shingo Mabu (Waseda University), Kotaro Hirasawa (Waseda University) | 18:45 |

2D13　Fault Tolerant / Embedded System　Room 13
Chair(s): Piotr Kulczycki (Polish Academy of Sciences)

2D13-1	"Real-time Model Based Sensor Fault Tolerant Control System on a Chip," Soo Siang Yang (University of Malaya), *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Mahmoud Moghavvemi (University of Malaya), P. H. Ng (University of Malaya)	17:45
2D13-2	"A Novel Analytical Framework for Qualitative Model-based Fault Diagnosis," *Sobhi Baniardalani (Isfahan University Of Technology), Javad Askari (Isfahan University of Technology), Ali Akbar Afzalian (Department of Elec. Eng. Abbaspour University)	18:05
2D13-3	"Model Based Design of Inverter Power Supply," *Mona El-dahb Abo (Gunma University), Shintaro Iino (Gunma University), Yoichi Shiraishi (Gunma University), Michio Tatsuno (Tokyo Seiden Co. Ltd.)	18:25
2D13-4	"Test Methods of the AUTOSAR Application Software Components," *Gwangmin Park (Daegu Gyeongbuk Institue of Science&Tech), Daehyun Kum (DGIST), Seonghun Lee (DGIST), Woong-Jae Won (DGIST), Wooyoung Jung (DGIST)	18:45

2D14　Modeling and Estimation　Room 14
Chair(s): Mingcong Deng (Okayama University), Takami Matsuo (Oita University)

2D14-1	"Simulation of Spur Gear Pair Faults Using FEA," *Yimin Shao (Chongqing University), Zaigang Chen (Chongqing University), Sheming Wang (Chongqing University)	17:45
2D14-2	"Some Remarks Concerning Modified Inertial Generalized Velocity Components," *Przemyslaw Herman (Poznan University of Technology)	18:05
2D14-3	"Modeling of Torque Transmission Characteristics in Surgical Robot," *Tae Kyung Lee (Pusan National University), ChiYen Kim (Pusan National University), Min Cheol Lee (Pusan National University)	18:25

2D15　Manufacturing Systems　Room 15
Chair(s): Toru Eguchi (Hiroshima University), Min Young Kim (Kyungpook National University)

2D15-1	"Robotic Metal Spinning-experiments with Cascaded Position-velocity Control with an add-on Vibration Suppressor for Enhanced Trajectory Tracking," *Abdullah Ozer (National Institute of AIST), Hirohiko Arai (National Institute of AIST)	17:45
2D15-2	"Job Shop Scheduling Using Estimation of Distribution Algorithms," *Masahiro Fujimoto (Hiroshima University), Toru Eguchi (Hiroshima University)	18:05
2D15-3	"Integrated Production Planning and Scheduling Using Backward/Forward Scheduling Simulation," *Shinji Hirano (Hiroshima University), Shigeo Kobayashi (Hiroshima University), Toru Eguchi (Hiroshima University)	18:25
2D15-4	"Development and Application of Mobile Robot System for Marking Process in LNGC Cargo Tanks," *SeHwan Song (Samsung Heavy Industries co., ltd.), DooJin Choi (Samsung Heavy Industries co., ltd.), JongHeang Hur (Samsung Heavy Industries co., ltd.), MinSu Lee (Samsung Heavy Industries co., ltd.), Young Jun Park (Samsung Heavy Industries co., ltd.), JaeHoon Kim (Samsung Heavy Industries co., ltd.)	18:45

2D16　Monitoring and Observation Systems　Room 16
Chair(s): Hiromichi Fukui (Keio University), Ikuo Yamamoto (The University of Kitakyushu)

2D16-1	"Flood Monitoring and Early Warning System: Integrating Object Extraction Tool on Web-based," *Ponthip Limlahapun (Keio University), Hiromichi Fukui (Keio University)	17:45
2D16-2	"Research on network system of unmanned flying observation robot," *Naohiro Inagawa (The University of Kitakyushu), Ikuo Yamamoto (The University of Kitakyushu), Tomokazu Nakamura (TechPR Inc.)	18:05
2D16-3	"Stereo Disparity Measurement for Binocular Stereo Video Systems," *Kunio Takaya (University of Saskatchewan)	18:25
2D16-4	"An FPGA Based Temperature Controller for Differential Thermal Analyzer," Nandha Kumar T (University of Nottingham Malaysia Campus), AL Saleh Tarek Mohd A.K (University of Nottingham Malaysia Campus), SRS. Prabaharan (University of Nottingham Malaysia Campus), *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus)	18:45

2D17　Life Science　Room 17
Chair(s): Junping Du (Beijing University of Posts and Telecommunications)

2D17-1	"Adaptive Multi-class Support Vector Machine for Microarray Classification and Gene Selection," *Juntao Li (Beihang University), Yingmin Jia (Beihang University), Junping Du (Beijing University of Posts and Telecommunications), Fashan Yu (Henan Polytechnic University)	17:45
2D17-2	"Observation of Human Multi-joint Arm Movement from the Viewpoint of a Riemannian Distance," *Masahiro Sekimoto (Ritsumeikan University), Suguru Arimoto (Ritsumeikan University / RIKEN), Boris (Ritsumeikan University), Tadao Isaka (Ritsumeikan University), Sadao Kawamura (Ritsumeikan University)	18:05
2D17-3	"Construction of 3D Thai Monument Models Used for Google Earth," *Adisorn Leelasantitham (University of the Thai Chamber of Commerce), Supaporn Kiattisin (University of the Thai Chamber of Commerce), Prawat Chaiprapa (University of the Thai Chamber of Commerce)	18:25

2D18　Image Processing for Motion Detection　Room 18
Chair(s): Hiroo Wakaumi (Tokyo Metropolitan College of Industrial Technology)

2D18-1	"New Alpha Beta Filters in Terms of Steady State Velocity," *Yoshio Kosuge (Nagasaki University)	17:45
2D18-2	"Optical Flow Estimation using Compensation Method," *Yoshitaka Nishizaka (Kumamoto University), Teruo Yamaguchi (Kumamoto University), Hiroshi Harada (Kumamoto University)	18:05
2D18-3	"A Method of Object Tracking based on Particle Filter and Optical Flow," *Takahiro Kodama (Kumamoto University), Teruo Yamaguchi (Kumamoto University), Hiroshi Harada (Kumamoto University)	18:25
2D18-4	"Extraction of Moving Object Based on Fast Optical Flow Estimation," *Jun Hirai (Kumamoto University), Teruo Yamaguchi (Kumamoto University), Hiroshi Harada (Kumamoto University)	18:45

2D19	Biped and Multi-Legged Robots	Room 19

Chair(s): Keitaro Naruse (University of Aizu)

2D19-1	"Biped Walking Pattern by Virtual Muscle Oscillation in Growing Physical Parameter of Robot Model," *Keitaro Naruse (University of Aizu)	17:45
2D19-2	"Motion Control of Multi-legged Machines," *Naoya Okamoto (Hosei University), Yosuke Kurihara (Seikei Univ), Kajiro Watanabe (Hosei University)	18:05
2D19-3	"Control of Underactuared Biped Running Robot Via CPG," *Hiroyuki Oyama (Tokyo Institute of Technology), Masaki Yamakita (Tokyo Institute of Technology), Sang-Ho Hyon (ATR, Computational Neuroscience Laboratories), Susumu Ohtake (Tokyo Institute of Technology)	18:25

Oral Sessions 3A, Thursday, August 20

3A01	OS: Evolutionary and Distributed Systems Towards Real-world Applications	Room 01

Organizer(s): Keiki Takadama (The University of Electro-Communication)

Chair(s): Keiki Takadama (The Univerity of Electro-Communication), Tetsuya Maeshiro (JAIST)

3A01-1	"The Pacific Ocean Route Optimization by Pittsburgh-style Learning Classifier System," *Saori Iseya (The University of Electro-Communications), Keiji Sato (The University of Electro-Communications), Kiyohiko Hattori (The University of Electro-Communications), Keiki Takadama (The University of Electro-Communications)	9:00
3A01-2	"Sleep Stage Estimation by Learning Classifier System Towards Care Support for Aged Persons," *Kazuyuki Hirose (The University of Electro-Communications), Hiroyasu Matsushima (The University of Electro-Communications), Kiyohiko Hattori (The University of Electro-Communications), Keiki Takadama (The University of Electro-Communications)	9:20
3A01-3	"Fitness Function for Evolutionary System to Predict Unknown Gene Regulatory Networks," *Tetsuya Maeshiro (University of Tsukuba), Katsunori Shimohara (Doshisha University), Shin-ichi Nakayama (University of Tsukuba)	9:40
3A01-4	"Personalized Adaptive Strategies in Human-PC Learning Game," *Masao Morizane (Doshisha University), Yukiko Nakano (Doshisha University), Katsunori Shimohara (Doshisha University), Ivan Tanev (University of Huddersfield)	10:00
3A01-5	"Interactively Learned Probabilistic Context-sensitive Grammar in Genetic Programming for the Evolution of Snake-like Robot," *Ivan Tanev (Doshisha University), Katsunori Shimohara (Doshisha University)	10:20
3A01-6	"Proposal of Robust Wireless Overlay P2P Information Share System Based on Wireless Base Stations and Ad Hoc Devices," *Kiyohiko Hattori (The University of Electro-Communications), Nobuhiko Nakajima (The University of Electro-Communications), Tetuya Fujii (NICT), Youiti Kado (NICT), Bing Zhang (NICT), Takahiro Hazugawa (The University of Electro-Communications), Kieiki Takadama (The University of Electro-Communications)	10:40

3A02	OS: Trend of Service Engineering to Support High-Quality Life I	Room 02

Organizer(s): Hiroshi Hashimoto (Advanced Institute of Industrial Technol)

Chair(s): Sho Yokota (Setsunan University)

3A02-1	"Study on Evaluation in Service Engineering From the View of Monodzukuri," *Hiroshi Hashimoto (Advanced Institute of Industrial Technol), Masaya Ando (Advanced Institute of Industrial Technology), Katsutoshi Otsubo (Advanced Institute of Industrial Technology), Shintaro Ishijima (Advanced Institute of Industrial Technology)	9:00
3A02-2	"Application of DSD Mechanism to Robot Hand," *Chiharu Ishii (Shibaura Institute of Technology), Yosuke Nishitani (Kogakuin University), Hiroshi Hashimoto (Advanced Institute of Industrial Technology)	9:20
3A02-3	"Development of Intelligent Power Wheelchair Assisting for Frail Elderly People on Daily Life," *Atsuhiro Nakamura (Tokyo Metropolitan University), Gen Obayashi (Tokyo Metropolitan University), Yasunari Fujimoto (Tokyo Metropolitan University), Osamu Nitta (Tokyo Metropolitan University), Toru Yamaguchi (Tokyo Metropolitan University)	9:40
3A02-4	"Cooperative Estimation of Geometrical Placement by Decentralized Autonomous Robots as an Inter-robot Service," *Hiroyuki Kobayashi (Osaka Institute of Technology), Daichi Miyauchi (Osaka Institute of Technology), Hiroshi Hashimoto (Advanced Institute of Industrial Technology)	10:00
3A02-5	"Portable Life Support System Using Wearable Biosensor Worn by the Elderly," *Syunji Yazaki (Tokyo University of Technology), Toshio Matsunaga (Tokyo University of Technology)	10:20

3A03	OS: Recent Advancement of Process Control in Steel and Chemical Industries I	Room 03

Organizer(s): Manabu Kano (Kyoto University), Kazuya Asano (JFE Steel Corporation), Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.), Yoshiyuki Yamashita (Tokyo University of Agriculture and Tech.), Jietae Lee (Kyungpook National University)

Chair(s): Manabu Kano (Kyoto University)

3A03-1	"Defect Detection Algorithm for Corner Cracks in Steel Billet using Discrete Wavelet Transform," *Yong-Ju Jeon (Pohang University of Science & Technoloy), Jong Pil Yun (POSTECH), Doo-chul Choi (POSTECH), Sang Woo Kim (POSTECH)	9:00
3A03-2	"Newly Developed Fountain Pyrometer for a Running Hot Strip in the Cooling Banks of a Hot Strip Mill," *Tatsuro Honda (Sumitomo Metal Industries,Ltd), Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.), Chihiro Uematsu (Sumitomo Metal Industries Ltd), Hisayoshi Tachibana (Sumitomo Metal Industries Ltd), Yasuhiko Buei (Sumitomo Metal Industries Ltd), Koichi Sakagami (Sumitomo Metal Industries Ltd)	9:20
3A03-3	"Coiling Temperature Control Using Fountain Pyrometers in a Hot Strip Mill," *Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.), Tatsuro Honda (Sumitomo Metal Industries, Ltd.), Hisayoshi Tachibana (Sumitomo Metal Industries, Ltd.), Chihiro Uematsu (Sumitomo Metal Industries, Ltd.), Yasuhiko Buei (Sumitomo Metal Industries Ltd), Koichi Sakagami (Sumitomo Metal Industries Ltd)	9:40
3A03-4	"A New Prediction Error Identification Method for Multi-Input-Multi-Output Processes," *YuJin Cheon (Kyungpook National University), Jeon Chunho (Kyungpook National University), Changkyu Lee (Research Institute of Industrial Science and Technology), Jietae Lee (Kyungpook National University), Su W Sung (Kyungpook National University)	10:00
3A03-5	"Dynamic Trend Analysis for Ultrasonic Irradiation in Control of Suspension Polymerization Process," *Hideyuki Matsumoto (Tokyo Institute of Technology), Masaya Honda (Tokyo Institute of Technology), Hiroyuki Mori (Tokyo Institute of Technology), Chiaki Kuroda (Tokyo Institute of Technology)	10:20
3A03-6	"Relay Feedback Methods for Noisy Processes," *Jin-Su Kim (Kyungpook National University), Jeonguk Byeon (Kyungpook National University), Daewoong Chun (Kyungpook National University), Su Whan Sung (Kyungpook National University), Jietae Lee (Kyungpook National University)	10:40

3A04　OS: Recent Advances in Temperature Measurement I　　Room 04

Organizer(s): Masato Sugiura (Nippon Steel Corporation), Kazuaki Yamazawa (NMIJ/AIST)
Chair(s): Masato Sugiura (Nippon Steel Corporation), Kazuaki Yamazawa (NMIJ/AIST)

3A04-1	"Spectral Stability of 0.9 um Standard Radiation Thermometer," *Fumihiro Sakuma (AIST)	9:00
3A04-2	"A Realization of Co-C Eutectic Point by Using Small Fixed Point Furnace," *Tokio Hamada (Tanaka Kikinzoku Kogyo K.K.), Haryki Yamasaki (Tanaka Kikinzoku Kogyo K.K.)	9:20
3A04-3	"An Emissivity-invariant Condition of Silicon Wafers and Its Application to Radiation Thermometry," *Tohru Iuchi (Toyo University), Atsushi Gogami (Toyo University)	9:40
3A04-4	"Uncertainty of Radiation Thermometers Calibrated by Interpolation between Fixed Points," *Yoshiro Yamada (AIST)	10:00
3A04-5	"Study on the Realization of Zinc Point," *Januarius V.Widiatmo (National Metrology Institute of Japan), Muneo Sakai (NMIJ, AIST), Kazuaki Yamazawa (NMIJ, AIST), Kouichi Satou (NMIJ, AIST), Jun Tamba (NMIJ, AIST), Masaru Arai (NMIJ, AIST)	10:20
3A04-6	"Preliminary measurements of the precise comparison between a radiation thermometer and a platinum resistance thermometer," *Kazuaki Yamazawa (National Institute of Advanced Industria), Kiyoshi Anso (NMIJ, AIST), Januarius Vincentius Widiatmo (NMIJ, AIST), Masaru Arai (NMIJ, AIST)	10:40

3A05　Network Control　　Room 05

Chair(s): Xin Xin (Okayama Prefectural University), Takao Yoshimi (Natl. Res. Inst. of Fisheries Engineering)

3A05-1	"Connection Model for Synchronization between Two Applications via Web Browser," *Ken Ishii (Natl. Res. Inst.of Fisheries Engineering), Koki Abe (Natl. Res. Inst. of Fisheries Engineering), Yoshimi Takao (Natl. Res. Inst. of Fisheries Engineering)	9:00
3A05-2	"Applying Embedded System to Design Programmable Logic Controller Based on Ethernet Network," Kongratana Viriya (KMITL), Tipsuwanporn Vittaya (KMITL), *Vittaya Tipsuwanporn (KMITL)	9:20
3A05-3	"A Multicast Tunneling System for IP-based Control Systems," *Takanori Shimomura (Yokogawa Electric Corporation), Kazunori Miyazawa (Yokogawa Electric Corporation)	9:40
3A05-4	"Networked Control Systems Based on Grey Prediction Compensation for Network-induced Delay," *Chen Zaiping (Tianjin University of Technology), Wu Fan (Tianjin University of Technology), Yin Xunlei (Tianjin University of Technology)	10:00
3A05-5	"Stabilizing Control of TCP/AQM Networks with Time Delay in State Variables," *Seiji Tanaka (Takaya Corporation), Xin Xin (Okayama Prefectural University), Taiga Yamasaki (Okayama Prefectural University)	10:20
3A05-6	"A Novel Multicast Protocol for Avoiding ACK Conflicts in an Ad-hoc Network," *Wataru Uemura (Ryukoku University), Yumiko Nakakubo, Masashi Murata (Ryukoku University)	10:40

3A06　Fuzzy Control　　Room 06

Chair(s): Satean Tunyasrirut (PIT)

3A06-1	"Robust Tracking Control of T-S Fuzzy Systems Based on Fuzzy Lyapunov Approach," *Euiyoung Kim (POSTECH), Dongyeop Kang (POSTECH), Sangchul Won (POSTECH)	9:00
3A06-2	"Robust Fuzzy Output Feedback Control for Chaotic Systems with Time Delay," *Da-Un Jeong (POSTECH), Dongyeop Kang (POSTECH), Sangsu Yeh (POSTECH), Sangchul Won (POSTECH)	9:20
3A06-3	"Decentralized Fuzzy Logic Controller for TITO Coupled-tank Process," *Chatchaval Pornpatkul (Pathumwan Institute of Technology), Tianchai Suksri (Pathumwan Institute of Technology)	9:40
3A06-4	"Fuzzy Logic based on LabVIEW for Speed Control of Two-Inertia System," Sakda Prommeuan (Pathumwan Institute of Technology), Sitchai Boonpiyathud (Pathumwan Institute of Technology), *Tianchai Suksri (Pathumwan Institute of Technology)	10:00
3A06-5	"Autonomous Five Legs Robot Navigation in Cluttered Environment Using Fuzzy Q-Learning and Hybrid Coordination Node," *Pri Hastono (University of Bhayangkara), Khairul Anam (University of Jember), Handy Wicaksono (Petra Christian University), Rusdhianto Effendi (Institut Teknologi Sepuluh Nopember Surabaya), Indra Adji Sulistijo (Electronics Engineering Polytechnics Institute of Surabaya), Son Kuswadi (Electronics Engineering Polytechnics Institute of Surabaya), Achmad Jazidie (Institut Teknologi Sepuluh Nopember Surabaya), Mitsuji Sampei (Tokyo Institute of Technology)	10:20

3A07　Engine & Power Systems　　Room 07

Chair(s): Toru Namerikawa (Keio University), Satoru Goto (Saga University)

3A07-1	"H Infinity Filter Convergence and Its Application to SLAM," *Hamzah Ahmad (Kanazawa University), Toru Namerikawa (Keio University)	9:00
3A07-2	"The Multi-area Model and Application to Combustion Process in Gasoline Engines," *Yue-lin Li (Changsha University of Science and Technology), Zhi-qiang Liu (Changsha University of Science and Technology)	9:20
3A07-3	"Coal Type Selection for Thermal Power Plants through Combustion State Estimation," *Satoru Goto (Saga University), Shinji Katafuchi (Saga University), Mitsuhiro Sueyoshi (Kyushu Electric Power Co., Inc.), Toshihiko Furue (Kyushu Electric Power Co., Inc.), Yoshitaka Uchida (Kyushu Electric Power Co., Inc.), Hironori Hatazaki (Kyushu Electric Power Co., Inc.)	9:40
3A07-4	"Combustion Torque Estimation Utilizing Smoothed Implicit Derivatives from Crank Sensor Samples," *Takafumi Nagano (Mitsubishi Electric Corporation), Takashi Iwamoto (Mitsubishi Electric Corporation)	10:00
3A07-5	"Estimating Combustion Torque of a Reciprocating Engine Utilizing Samples of Crank Acceleration at Singularities," *Takashi Iwamoto (Mitsubishi Electric Corporation), Takafumi Nagano (Mitsubishi Electric Corporation)	10:20
3A07-6	"Development of Electronic Governor and Simulator for the Generating Diesel Engine," *Sung Hoon Ko (Hyundai Heavy Industries co., ltd.), Hyeong Soon Moon (Hyundai Heavy Industries co.,ltd.), Jong Cheol Kim (Hyundai Heavy Industries co.,ltd.), Byeong Yeol Lee (Hyundai Heavy Industries co.,ltd.), Si Eun Cho (Hyundai Heavy Industries co.,ltd.), Seung Hyup Ryu (Hyundai Heavy Industries co.,ltd.)	10:40

3A08　Genetic Algorithm Application　　Room 08

Chair(s): Hiroshi Kawakami (Kyoto University)

3A08-1	"Genetic Algorithm for Exam Proctor Schedule," *Somying Promcharoen (Eastern Asia University), Wirayut Pana (Eastern Asia University), Pimolorn Tanhan (Eastern Asia University)	9:00
3A08-2	"Optimal Classifier Design Method using Hierarchical Fair Competition Model Based Parallel Genetic Algorithm," *Heesung Lee (Yonsei University), Sungjun Hong (Yonsei University), Euntai Kim (Yonsei University)	9:20
3A08-3	"Development of a Simulation System for the Spread of Northern Hemisphere Forest Fires," *Wataru Uema (Univerity of the Ryukyu), Satoshi Endo (Univerity of the Ryukyu), Yuhei Akamine (Univerity of the Ryukyu), Keiji Kimura (Hokkaido University), Honma Toshihisa (Hokkaido University)	9:40
3A08-4	"Human Emotion Classification Using Genetic Algorithm," *Mohamed Rizon (King Saud University)	10:00

3A08-5   "A New Associative Classification Method by Integrating CMAR and an Evolutionary Three-layers Structure," *Guangfei Yang (Waseda University), Shingo Mabu (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)   10:20

3A09   Mobile Robot I   Room 09
Chair(s): Hisanori Amano (National Research Institute of Fire and Disaster)

3A09-1   "Analysis of a Geometric Path Tracking Method for a Nonholonomic Mobile Robots Based on Vector Pursuit," *Dong-Hyung Kim (Hanyang University), ByungGab Yu (Hanyang University), JiYeong Lee (Hanyang University), ChagSoo Han (Hanyang University)   9:00

3A09-2   "Design and Control of Mobile Robot with Mecanum Wheel," *Kyung-Lyong Han (POSTECH), Oh-Kyu Choi (POSTECH), Jinwook Kim (Pohang University of Science&Technology), Hyosin Kim (POSTECH), Jin S. Lee (POSTECH)   9:20

3A09-3   "Design of an Adaptive Cruise Control / Collision Avoidance with Lane Change Support for Vehicle Autonomous Driving," Dongwook Kim (Seoul National University), Seungwuk Moon (Seoul National University), Jaemann Park (Seoul National University), *Kim H Jin (Seoul National University), Kyongsu Yi (Seoul National University)   9:40

3A09-4   "Modified Fuzzy Behavior Coordination for Autonomous Mobile Robot Navigation System," *Handy Wicaksono (Sepuluh Nopember Institut of Technology), Prihastono (Sepuluh Nopember Institut of Technology), Khairul Anam (Universitas Bhayangkara), Rusdhianto Effendi (Sepuluh Nopember Institut of Technology), Indra Adji S (Politeknik Elektronika Negeri Surabaya), Son Suswadi (Politeknik Elektronika Negeri Surabaya)   10:00

3A09-5   "The Mobility Performances of New Wheeled and Legged Hybrid Mechanisms System Robot iSRo," Son Kuswadi (Electronics Engineering Polytechnics Institute of Surabaya), *Indra Adji Sulistijono (Electronics Eng. Polytec. Inst. Surabaya), Rachman Ardyansyah (Electronics Eng. Polytec. Inst. Surabaya), Ahmad Zulkarnain (Electronics Eng. Polytec. Inst. Surabaya), Tiyo Avianto (Electronics Eng. Polytec. Inst. Surabaya), Ilmi Rizki Imaduddin (Electronics Eng. Polytec. Inst. Surabaya), Achmad Luthfi (Electronics Eng. Polytec. Inst. Surabaya), Moh. Saifulloh (Electronics Eng. Polytec. Inst. Surabaya), Achmad Jazidie (Institut Teknologi Sepuluh Nopember),   10:20

3A10   PID Control   Room 10
Chair(s): Tetsuo Shiotsuki (Tokyo Denki University), Kanya Tanaka (Yamaguchi University)

3A10-1   "Integer Discretized PID Control for Continuous Plants with Time Delay," *Yoshifumi Okuyama (Humanitech Laboratory)   9:00

3A10-2   "Analytical Design of Robust Multi-loop PI Controller for Multivariable Processes," *Truong Nguyen Luan Vu (Yeungnam University), Seungtaek Hong (Yeungnam University), Moonyong Lee (Yeungnam University)   9:20

3A10-3   "Experimental Study of PID Auto-tuning for Unsymmetrical Processes," *Kazuhiro Mimura (KELK Ltd.), Tetsuo Shiotsuki (Tokyo Denki University)   9:40

3A10-4   "Simulation of Reverse Osmosis Plant using RCGA based PID Controller," *Jimo Park (Korea University), Goeun Kim (Korea University), Jinsung Kim (Korea University), Sanggun Na (Korea University), Hoon Heo (Korea University)   10:00

3A10-5   "PID Control of Reverse Osmosis Desalination Plant using Immune-genetic Algorithm," *Goeun Kim (Korea University), Jimo Park (Korea University), Jinsung Kim (Korea University), Heejae Lee (Korea University), Hoon Heo (Korea University)   10:20

3A10-6   "PID Controller Tuning Based on the Covariance Matrix Adaptation Evolution Strategy," *Akira Yoshida (Yamaguchi University), Shinji Kanagawa (Yamaguchi University), Yuji Wakasa (Yamaguchi University), Kanya Tanaka (Yamaguchi University), Takuya Akashi (Yamaguchi University)   10:40

3A11   OS: Fluid Power Control   Room 11
Organizer(s): Kyoung Kwan Ahn (University of Ulsan)
Chair(s): Kyoung Kwan Ahn (University of Ulsan), Kazuhiro Yoshida (Tokyo Institute of Technology)

3A11-1   "A Microgripper Using Electro-rheological Fluid," *Kazuhiro Yoshida (Tokyo Institute of Technology), Toru Ide (Tokyo Institute of Technology), Joon-wan Kim (Tokyo Institute of Technology), Shinichi Yokota (Tokyo Institute of Technology)   9:00

3A11-2   "Modeling and Simulation of Hydraulic System for a Wheel Loader Using AMESim," Sunghee Park (University of Ulsan), *Khairul Alam (University of Ulsan), Young Man Jeong (University of Ulsan), Chang Don Lee (University of Ulsan), Soon Yong Yang (University of Ulsan)   9:20

3A11-3   "A New Structure of MR Brake with the Waveform Boundary of Rotary Disk," *Tran Hai Nam (University of Ulsan), Kyoung Kwan Ahn (University of Ulsan)   9:40

3A11-4   "Modeling and Control of Electro Hydrostatic Actuator Systems," *Min Gyu Park (Pusan National University), Sung Hwan Park (Pusan National University), Jong Shik Kim (Pusan National University), Ho Gil Lee (LTD)   10:00

3A11-5   "A Study on Parallel Force/Position Control Applied to Hybrid Electro-hydrostatic Actuators," *Dinh Truong Quang (University of Ulsan), Ahn Kyoung Kwan (University of Ulsan)   10:20

3A11-6   "Clutch Slip Control of Automatic Transmission Using Backstepping Technique," *Bingzhao Gao (Yokohama National University), Hong Chen (Jilin University), Kazushi Sanada (Yokohama National University)   10:40

3A12   OS: Advanced Radar Technology for National Security   Room 12
Organizer(s): Hideaki Watanabe (Ministry Of Defense), Tetsuo Kirimoto (The University of Electro-Communications)
Chair(s): Tetsuo Kirimoto (The University of Electro-Communications), Kazuhiro Ueda (Ministry of Defense)

3A12-1   "Tracking Algorithm Inheriting Smoothing Vector in Splitting Target Tracking," *Yasushi Obata (Mitsubishi Electric Corporation), Ryoji Maekawa (Mitsubishi Electric Corp.), Masayoshi Ito (Mitsubishi Electric Corp.), Hiroshi Kameda (Mitsubishi Electric Corp.), Yoshio Kosuge (Nagasaki University)   9:00

3A12-2   "An Analysis of 2D/3D Data Fusion for a Sensor Resource Reduction," *Takashi Matsuzaki (Mitsubishi Electric Corp.), Mitsuhisa Ikeda (Mitsubishi Electric Corp.), Hiroshi Kameda (Mitsubishi Electric Corp.)   9:20

3A12-3   "Asynchronous Track Algorithm Using TDOA/FDOA Measurements in the Distributed Sensor Network," *Yuki Takabayashi (Mitsubishi Electric Corporation), Takashi Matsuzaki (Mitsubishi Electric Corporation), Hiroshi Kameda (Mitsubishi Electric Corporation), Masayoshi Ito (Mitsubishi Electric Corporation)   9:40

3A12-4   "Researches on Radar Technology," *Toshiharu Itoh (Ministry of Defense)   10:00

3A12-5   "A Simple Method for Estimation of Maximum Spurious Radiation Level from Phased Array Antennas," *Yasuharu Masuda (Toshiba Corporation), Masahiro Tanabe (Toshiba Corporation), Mitsuyoshi Shinonaga (Toshiba Corporation)   10:20

3A12-6   "X-Band GaN HEMT Advanced Power Amplifier Unit for Compact Active Phased Array Antennas," *Yuusuke Yamashita (Toshiba Corporation), Taihei Nakada (Toshiba Corporation), Tsuyoshi Kumamoto (Toshiba Corporation), Ryota Suzuki (Toshiba Corporation), Masahiro Tanabe (Toshiba Corporation)   10:40

3A12-7   "Research on a Wideband and High Gain Antenna Element for an Array Antenna," *Hirotaka Hayashi (TRDI, Ministry of Defense), Kazuhiro Ueda (TRDI, Ministry of Defense), Toshio Asai (Mitsubishi Electric Co. Ltd.), Akiomi Sato (Mitsubishi Electric Co. Ltd.)   11:00

3A13 OS: Control System Design with Input/Output Constraints — Room 13

Organizer(s): Kiyotsugu Takaba (Kyoto University)

Chair(s): Kiyotsugu Takaba (Kyoto University), Tsuyoshi Kiyama (Osaka University)

3A13-1 "An Approximation of Maximal Output Admissible Sets for Online Application: A Case Study," Yuta Doi (Nara Institute of Science and Technology), *Kiminao Kogiso (Nara Institute of Science and Technology) — 9:00

3A13-2 "Swing-up Control of an Inverted Pendulum with Limited Pivot Travel," *Ryosuke Tatsumi (Kyoto University), Kiyotsugu Takaba (Kyoto University) — 9:20

3A13-3 "Generalized Sector Synthesis of Reduced-order Output Feedback Controllers for Servosystems with Control Input Saturation," *Kenji Sawada (The University of Electro-Communications), Tsuyoshi Kiyama (Osaka University) — 9:40

3A13-4 "Compensation Law for Constrained Systems Based on a Decomposition of Finite-horizon Linear Systems," *Naoyuki Hara (Osaka Prefecture University), Hideki Kokame (Osaka Prefecture University), Keiji Konishi (Osaka Prefecture University) — 10:00

3A13-5 "An Output Synchronization Control Design for Systems with Input Magnitude Constraints," *Keigo Nishigami (Nagaoka University of Technology), Yoshihito Yasuda (Nagaoka University of Technology), Kenji Hirata (Nagaoka University of Technology) — 10:20

3A14 OS: Iterative Learning Control — Room 14

Organizer(s): Hyo-Sung Ahn (Gwangju Inst of Science and Technology), Masahiro Sekimoto (Ritsumeikan University)

Chair(s): Hyo-Sung Ahn (Gwangju Inst of Science and Technology), Masahiro Sekimoto (Ritsumeikan University)

3A14-1 "New Aspects of Iterative Learning Control," *Sadao Kawamura (Ritsumeikan University) — 9:00

3A14-2 "Precise Control of Underwater Vehicle Manipulator Systems Using Iterative Learning Control," *Norimitsu Sakagami (Tokai University) — 9:20

3A14-3 "Posture Control of a Multi-Joint Robot Based on Composition of Feedforward Joint-torques Acquired by Iterative Learning," *Masahiro Sekimoto (Ritsumeikan University), Sadao Kawamura (Ritsumeikan University), Tomoya Ishitsubo (Ritsumeikan University), Shinsuke Akizuki (Ritsumeikan University), Masayuki Mizuno (Ritsumeikan University) — 9:40

3A14-4 "Dual-rate Iterative Learning Control for Spiral Servo Track Writing," *Tae-Sik Lee (Hanyang University), Hyun Jae Kang (Hanyang University), Choong Woo Lee (Hanyang University), Chung Choo Chung (Hanyang University) — 10:00

3A14-5 "Fractional Order Iterative Learning Control," Yan Li (Utah State Univ), YangQuan Chen (Utah State Univ), *Hyo-Sung Ahn (Gwangju Institute of Science and Technology) — 10:20

3A14-6 "Iterative Learning Control for Multi-agent Formation," *Hyo-Sung Ahn (Gwangju Inst of Science and Technology), YangQuan Chen (Utah State University) — 10:40

3A15 OS: Biomimetic Approach in Robotics and Machines — Room 15

Organizer(s): Keigo Watanabe (Okayama University), Yutaka Maeda (Kansai University)

Chair(s): Keigo Watanabe (Okayama University), Yutaka Maeda (Kansai University)

3A15-1 "Multi-preview Configuration Control for Predictive Behavior of Redundant Manipulator," *Yusaku Nakamura (University of Fukui), Tongxiao Zhang (University of Fukui), Mamoru Minami (University of Fukui) — 9:00

3A15-2 "Grinding Experiment by Direct Position / Force Control with On-line Constraint Estimation," Guanghua Chen (Fukui University), Mamoru Minami (University of Fukui), *Geng Wang (University of Fukui) — 9:20

3A15-3 "Evaluating Fuzzy Voice Commands by Internal Rehearsal for Controlling a Robot Manipulator," *Anandasetti G. B. P. Jayasekara (Saga University), Keigo Watanabe (Saga University), Kiyotaka Izumi (Saga University) — 9:40

3A15-4 "Evaluating Fuzzy Voice Commands by User Guided Visual Attention for Controlling a Robot Manipulator," *Anandasetti G. B. P. Jayasekara (Saga University), Keigo Watanabe (Saga University), Kiyotaka Izumi (Saga University) — 10:00

3A15-5 "Pulse Coupled Oscillator with Learning Capability Using Simultaneous Perturbation and Its FPAA Implementation," Yutaka Maeda (Kansai University), *Taku Hiramatsu (Kansai University), Seiji Miyoshi (Kansai University), Hiroomi Hikawa (Kansai University) — 10:20

3A16 Human-Machine Interface I — Room 16

Chair(s): Daiji Kobayashi (Chitose Institute of Science & Technology)

3A16-1 "A Vehicle Driver Iris Detection Algorithm," *Artem A. Lenskiy (University of Ulsan), Jong-Soo Lee (University of Ulsan) — 9:00

3A16-2 "Construction of Simple Communication Method by Use of Neuro-biological Signals," *Takahiro Ihara (Saga University), Takenao Sugi (Saga University), Makoto Eriguchi (Saga University Hospital), Toyoko Asami (Saga University Hospital), Masatoshi Nakamura (Saga University) — 9:20

3A16-3 "Evaluation of On-board Ship Handling Training Using Salivary Amylase Activity," *Kousaku Hama (Kobe University), Yui Matsuo (Kobe University), Koji Murai (Kobe University), Laurie C.Stone (Maine Maritime Academy), Shin-ichi Wakida (National Institute of Advanced Industrial Science and Techno), Takashi Miyado (National Institute of Advanced Industrial Science and Techno) — 9:40

3A16-4 "User Recognition Via Keystroke Latencies Using SOM and Backpropagation Neural Network," *Sukree Sinthupinyo (Chulalongkorn University), Warut Roadrungwasinkul (Chulalongkorn University), Charoon Chantan (Chulalongkorn University) — 10:00

3A16-5 "Keystroke Timing Analysis for Individual Identification in Japanese Free Text Typing," *Toshiharu Samura (Akashi National College of Technology), Haruhiko Nishimura (University of Hyogo) — 10:20

3A16-6 "Fusion of Multiple Gait Cycles for Human Identification," *Sungjun Hong (Yonsei University), Heesung Lee (Yonsei University), Euntai Kim (Yonsei University) — 10:40

3A17 Path Planning — Room 17

Chair(s): Jae-bok Song (Korea University)

3A17-1 "Visibility Line Based Methods for UAV Path Planning," *Rosli B Omar (University of Leicester), Da-Wei Gu (University of Leicester) — 9:00

3A17-2 "Stochastic Path Generation for Anticipative Road Following in Naturally Complex Scene," *Kamejima Kohji (Osaka Institute of Technology) — 9:20

3A17-3 "Efficient and Intelligent Exploration for Room Finding in Large-scale Environments," *Joong-Tae Park (Korea University), Jae-bok Song (Korea University) — 9:40

3A17-4 "Real-time Optimized Obstacle Avoidance for Robotic Vehicles: Indoor Experiments," *Shunya Kobayashi (Musashi Institute of Technology), Kenichiro Nonaka (Musashi Institute of Technology) — 10:00

3A17-5 "Intelligent Obstacle Avoidance Control Strategy for Wheeled Mobile Robot," Yen-Sheng Chen (National Taiwan Ocean University), *Jih-Gau Juang (National Taiwan Ocean University) — 10:20

3A17-6 "Collaborative Nonlinear Model-predictive Collision Avoidance and Path Following of Mobile Robots," *Suparchoek Wangmanaopituk (Thammasat University), Holger Voos, Waree Kongprawechnon (Thammasat University) — 10:40

3A18	OS: Navigation, Guidance, and Control in Aerospace Systems I	Room 18

Organizer(s): Tsutomu Ichikawa (Japan Aerospace Exploration Agency), Yoshikazu Miyazawa (Kyushu University), Shin-ichiro Nishida (Japan Aerospace Exploration Agency), Chang-Kyung Ryoo (Inha University)

Chair(s): Yoshikazu Miyazawa (Kyushu University), Tsutomu Ichikawa (Japan Aerospace Exploration Agency)

3A18-1 "Flight Control Simulators for Unmanned Fixed-wing and VTOL Aircraft," *Naoharu Yoshitani (Teikyo University), Shin-ichi Hashimoto (Tokyo Keiki Inc.), Takehiro Kimura (JATCO Ltd.), Kazuki Motohashi (Tokyo Keiki Inc.), Shou Ueno (East Japan Railway Company) 9:00

3A18-2 "Disturbance Prediction and Its Application to H-infinity Flight Control," *Shuichi Okada (Osaka Prefecture University), Hiroshi Tokutake (Osaka Prefecture University), Shigeru Sunada (Osaka Prefecture University) 9:20

3A18-3 "H-infinity Control of Winged Rocket and Its Flight Test," *Koichi Yonemoto (Kyushu Institute of Technology), Shigeru Kaji (Toyota Motor Kyushu) 9:40

3A18-4 "Flight Envelope Protection Controller using Dynamic Trim Algorithm," *Hohyun Shin (Seoul National University), Youdan Kim (Seoul National University), Eung Tae Kim (Korea Aerospace Research Institute), Ki Jung Seong (Korea Aerospace Research Institute) 10:00

3A18-5 "Hybrid Optimal Trajectory Generation Using Genetic Algorithm and Sequential Quadratic Programming," *Koji Okuda (Kyushu Institute of Technology), Koichi Yonemoto (Kyushu Institute of Technology), Tomoki Akiyama (Toyota Motor Kyushu) 10:20

3A18-6 "Hybrid Tracking of Maneuvering Multiple-Aircraft in 3D Space," *Kyungho Yoo (Konkuk University), Daehee Won (Konkuk University), Sangkyung Sung (Konkuk University), Young Jae Lee (Konkuk University) 10:40

Oral Sessions 3B, Thursday, August 20

3B02	OS: Trend of Service Engineering to Support High-Quality Life II	Room 02

Organizer(s): Hiroshi Hashimoto (Advanced Institute of Industrial Technol)

Chair(s): Hiroyuki Kobayashi (Osaka Institute of Technology), Satoshi Suzuki (Tokyo Denki University)

3B02-1 "Development of Gaze Detection System for Multiple Users - Toward Realization of an Intelligent Service Interface -," *Satoshi Suzuki (Tokyo Denki University), Kunihiko Kuronuma (Tokyo Denki University), Fumio Harashima (Tokyo Metropolitan University) 13:15

3B02-2 "Localization for Indoor Service Robot by using Local-features of Image," *Satoshi Muramatsu (The University of Electro-Communications), Daisuke Chugo (Kwansei Gakuin University), Sonming Jia (The University of Electro-Communications), Kunikatsu Takase (The University of Electro-Communications) 13:35

3B02-3 "Hand Pose Estimation from Camera Images of Ring-shaped Markers," *Akinori Sasaki (Tokyo University of Technology), Sho Yokota (Setsunan University), Yasuhiro Ohyama (Tokyo University of Technology), Hiroshi Hashimoto (Advanced Institute of Industrial Technology) 13:55

3B02-4 "Gestural Interface and the Intuitive Interaction with Virtual Objects," *Hirofumi Takase (Kagawa University), Hideyuki Sawada (Kagawa University) 14:15

3B02-5 "Study on Human body Motion Interface," *Sho Yokota (Setsunan University), Hiroshi Hashimoto (AIIT), Yasuhiro Ohyama (Tokyo University of Tech.), Jin-Hua She (Tokyo University of Tech.), Daisuke Chugo (Kwansei Gakuin University), Hisato Kobayashi (Hosei University) 14:35

3B03	OS: Recent Advancement of Process Control in Steel and Chemical Industries II	Room 03

Organizer(s): Manabu Kano (Kyoto University), Kazuya Asano (JFE Steel Corporation), Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.), Yoshiyuki Yamashita (Tokyo University of Agriculture and Tech.), Jietae Lee (Kyungpook National University)

Chair(s): Jietae Lee (Kyungpook National University)

3B03-1 "Evolutionary Modeling of a Process System," *Kayoko Hayashi (Hiroshima University), Kazuo Kawada (Hiroshima University), Toru Yamamoto (Hiroshima University) 13:15

3B03-2 "A New Estimation Method by Utilizing On-line Tracking Simulator," *Makoto Nakaya (Yokogawa Electric Corporation), Akio Nakabayashi (Yokogawa Electric Corp.), Tetsuya Ootani (Yokogawa Electric Corp.), Yoshihiro Ikegaya (Yokogawa Electric Corp.), Satoshi Asawa (Yokogawa Electric Corp.), Nobuhiko Terashima (Yokogawa Electric Corp.) 13:35

3B03-3 "State and Parameter Estimation for Tubular Microreactors Using Particle Filter," *Jun-ichi Kano (Kyoto University), Osamu Tonomura (Kyoto University), Manabu Kano (Kyoto University), Shinji Hasebe (Kyoto University) 13:55

3B03-4 "Third Quadrant Nyquist Point for the Autotuning of PI Controllers," *Jeonguk Byeon (Kyungpook National University), Jin-Su Kim (Kyungpook National University), Daewoong Chun (Kyungpook National University), Su Whan Sung (Kyungpook National University), Jietae Lee (Kyungpook National University) 14:15

3B04	OS: Recent Advances in Temperature Measurement II	Room 04

Organizer(s): Masato Sugiura (Nippon Steel Corporation), Kazuaki Yamazawa (NMIJ/AIST)

Chair(s): Masato Sugiura (Nippon Steel Corporation), Kazuaki Yamazawa (NMIJ/AIST)

3B04-1 "Study on a Temperature Scale from 24,5561 K to 273,16 K by Comparison Calibration," *Kazuaki Kodaira (Japan Electric Meters Inspection Corp.) 13:15

3B04-2 "Fabrication of Ruby Thin Film for Temperature Indicator Application," *Hiroaki Aizawa (Toyo University), Ito Kenichi (Toyo University), Takahashi Sayaka (Toyo University), Komuro Shuji (Toyo University), Miyazaki Yukari (Toyo University), Katsumata Tooru (Toyo University) 13:35

3B04-3 "Uncertainty for the Realization of the Co-C Eutectic Point for Calibration of Thermocouples," *Hideki Ogura (AIST), Masaya Izuchi (AIST), Jun Tamba (AIST), Masaru Arai (AIST) 13:55

3B04-4 "Development of Sensor Materials for Fluorescence Thermometer Application using LED Excitation," *Toru Katsumata (Toyo University), Hiroaki Aizawa (Toyo University), Shuji Komuro (Toyo University) 14:15

3B04-5 "Performance Evaluation of WC-C Peritectic High-temperature Fixed Point," *Naohiko Sasajima (NMIJ, AIST), Yoshiro Yamada (NMIJ, AIST) 14:35

3B05	Control Design under Constraints	Room 05

Chair(s): Akira Yanou (Okayama University)

3B05-1 "A Simple Anti-windup Compensation Scheme for Systems with Rate-limited Actuators," *Jorge Sofrony (Universidad Nacional de Colombia), Matthew C Turner (University of Leicester), Ian Postlethwaite (University of Leicester) 13:15

3B05-2 　"Anti-windup Controller Design by Fractional Calculus for Linear Control Systems with Input Saturation," *Fujio Ikeda (Nagaoka National College of Technology), Ryota Toyama (Niigata University), Shigehiro Toyama (Nagaoka NCT)　13:35

3B05-3 　"Robust l^p stabilization under data rate constraints," *Yumiko Ishido (Kyoto University), Kiyotsugu Takaba (Kyoto University)　13:55

3B05-4 　"H2 Controller Design for Eliminating the Effect of Input Quantization," *Sung Wook Yun (POSTECH), Yun Jong Choi (POSTECH), Insun Song (POSTECH), PooGyeon Park (POSTECH)　14:15

3B05-5 　"Robust Anti-windup against LTI uncertainty using Frequency Dependent IQCs," *Rafael M. Morales (University of Leicester), William P. Heath (University of Manchester), Guang Li (University of Bristol)　14:35

3B06　Flow Measurement and Control　Room 06
Chair(s): Kazushi Sanada (Yokohama National University)

3B06-1 　"Sensorless Measurement of the Pulsatile Flow through an Implantable Maglev Centrifugal Blood Pump during Ventricular Assistance," *Chi Nan Pai (Tokyo Institute of Technology), Tadahiko Shinshi (Tokyo Institute of Technology), Akira Shimokohbe (Tokyo Institute of Technology)　13:15

3B06-2 　"Identification of Nonlinearity of Flow-induced Vibration for Structures Having Nonlinear Property by Using Wavelet Transform," *Subekti (Hokkaido University), Yukinori Kobayashi (Hokkaido University), Yohei Hoshino (Hokkaido University), Takanori Emaru (Hokkaido University)　13:35

3B06-3 　"3D Transient Analysis of Ultrasonic Propagation in Flow Field using Finite Difference Time Domain Method," *Kazuhiro Muramatsu (Saga University), Akira Kimoto (Saga University), Shinya Takahashi (Saga University)　13:55

3B06-4 　"Modeling of Gas Governor System with Venturi," *Kunio Okada (Tokyo Institute of Technology), Tomoaki Takeuti (Tokyo Gas), Chongo Youn (Tokyo Institute of Technology), Toshiharu Kagawa (Tokyo Institute of Technology)　14:15

3B07　Haptics and Perception　Room 07
Chair(s): Kentaro Hirata (Nara Institute of Science and Technology)

3B07-1 　"Teleoperation System with Haptic Feedback for Physical Interaction with Remote Environment," *Dzmitry Tsetserukou (The University of Tokyo), Katsunari Sato (The University of Tokyo), Naoki Kawakami (The University of Tokyo), Susumu Tachi (Keio University)　13:15

3B07-2 　"A Haptic Interface for Simulation of Catheter in Gastrointestinal Endoscopy," Yunjin Gu (KAIST), *Doo Yong Lee (KAIST)　13:35

3B07-3 　"Control Design Based on Analytical Stability Criteria for Optimized Kinesthetic Perception in Scaled Teleoperation," Hyoung Il Son (KAIST), Tapomayukh Bhattacharjee (KAIST), *Doo Yong Lee (KAIST)　13:55

3B07-4 　"Performance Analysis of Teleoperation Systems with Different Haptic and Video Time-delay," Ye-Seul Kim (Korea Aerospace Research Institute), *Jee-Hwan Ryu (Korea University of Technology and Edu.)　14:15

3B07-5 　"Emerging System for Affectively Charged Interpersonal Communication," *Alena Neviarouskaya (The University of Tokyo), Dzmitry Tsetserukou (The University of Tokyo), Helmut Prendinger (National Institute of Informatics), Naoki Kawakami (The University of Tokyo), Susumu Tachi (Keio University), Mitsuru Ishizuka (The University of Tokyo)　14:35

3B08　OS: Non Destructive Evaluation　Room 08
Organizer(s): Kenbu Teramoto (Saga University)
Chair(s): Kenbu Teramoto (Saga University), Shinji Ohyama (Tokyo Institute of Technology)

3B08-1 　"The Measurement Method and 3D Reconstruction Algorithm of X Ray CT Inspection for Flat Objects," *Mitsukuni Tanemura (Keio University), Toshiyuki Tanaka (Keio University), Kazuo Kikuchi (Comscan Tecno)　13:15

3B08-2 　"3D Image Reconstruction of Reinforcing Bar and Pipe Using Handy Microwave Radar Scanning System," *Junya Takayama (Tokyo Institute of Technology), Tsubasa Yoshinaga (Tokyo Institute of Technology), Akira Hayakawa (NTT Facilities Inc.), Shinji Ohyama (Tokyo Institute of Technology)　13:35

3B08-3 　"The Near-field Imaging Method Based on the Spatio-temporal Gradient Analysis," *Kenbu Teramoto (SagaUniversity), Akito Uekihara (Saga University)　13:55

3B08-4 　"A Method of Identifying the Diameters of Deformed Bars Nondestructively in Concrete Structures Using an Electromagnetic Wave Radar," *Halima Begum (Yamaguchi University), Masayuki Okamoto (Yamaguchi University), Shogo Tanaka (Yamaguchi University)　14:15

3B08-5 　"X Ray CT Inspection Algorithm to Correct Missing Data," *Toshiyuki Kaneko (Keio University), Toshiyuki Tanaka (Keio University), Kazuo Kikuchi (Comscan Tecno Co.)　14:35

3B09　Mobile Robot II　Room 09
Chair(s): Tokuji Okada (Niigata University), Tetsuya Kinugasa (Okayama University of Science)

3B09-1 　"Development of Autonomous Robot System for Indoor Messy Environments," *Haekwan Jeong (KAIST), Soohyun Kim (KAIST), Yoonkeun Kwak (KAIST)　13:15

3B09-2 　"Design and Implementation of a Multi-function Mobile Robot," *Ying-Jeh Huang (Yuan Ze University), Yuan-Ze Chen (Yuan Ze University), Tzu-Chun Kuo (Ching Yun University), Hong-Shou Yu (Indus. Tech. Res. Inst.)　13:35

3B09-3 　"Investigating Motion and Trajectory Forms of a Wheeled Mobile Robot on a Flat Surface with an Inclination Angle," *Abeer Mahmoud (Niigata University), Tokuji Okada (Niigata University), Wagner Tanaka Botelho (Niigata Univeristy)　13:55

3B09-4 　"The Autonomous Platoon Driving System of the On Line Electric Vehicle," *Youjun Choi (KAIST Institute for IT Convergence), Daejun Kang (KAIST Institute for IT Convergence), Sunjong Lee (KAIST Institute for IT Convergence), Youngmin Kim (KAIST Institute for IT Convergence)　14:15

3B09-5 　"Maneuverability of Flexible Mono-tread Mobile Track (FMT)," *Takafumi Haji (Okayama University of science), Tetsuya Kinugasa (Okayama University of Science), Koji Yoshida (Okayama University of Science), Hisanori Amano (National Research Institute of Fire and Disaster), Koichi Osuka (Kobe University)　14:35

3B10　Standard of Measurement I　Room 10
Chair(s): Kazuyuki Kobayashi (Hosei University)

3B10-1 　"Flow Evaluation of Pedestrians Field with Traffic Lines," *Hideto Nishikado (Ritsumeikan University), Takahiro Iwata (Ritsumeikan University), Shigeru Takayama (Ritsumeikan University)　13:15

3B10-2 　"A Study on Spin-rate Measurement Using a Uniquely Marked Moving Ball," *Sho Furuno (Housei Institute), Kazuyuki Kobayashi (Hosei University), Tomoyuki Okubo (Hosei University), Yosuke Kurihara (Hosei University)　13:35

3B10-3 　"Staircase Rectangular-slot Antenna with Fed Square Patch for WiMAX Applications," *Rachinan Pongchompoo (SIIT, Thammasat University), Vuttipol Santitewagul (SIIT, Thammasat University), Duangrat Eungdamrong (SIIT, Thammasat University)　13:55

3B10-4 　"Body Twist Estimation Algorithm Using 3-axis Acceleration Sensor and Magnetic Sensor," *Teruo Horikawa (Hosei Univercity), Yomoyuki Okubo (Hosei University), Yousuke Kurihara (Hosei University), Kazuyuki Kobayashi (Hosei University)　14:15

3B10-5　"A Laser Rangefinder with the Ability to Identify Surface Roughness and Detect the 3-D Shape of Metal Parts," *Kozo Ohtani (Hiroshima Institute of Technology), Mitsuru Baba (Ibaraki University)　14:35

3B11　Genetic Network I　Room 11

Chair(s): Haruhiko Nishimura (University of Hyogo)

3B11-1　"Genetic Network Programming with Estimation of Distribution Algorithms and its Application to Association Rule Mining for Traffic Prediction," *Xianneng Li (Waseda University), Shingo Mabu (Waseda University), Huiyu Zhou (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)　13:15

3B11-2　"Intrusion Detection System Combining Misuse Detection and Anomaly Detection Using Genetic Network Programming," *Yunlu Gong (Waseda University), Shingo Mabu (Waseda University), Ci Chen (Waseda University), Yifei Wang (Shanghai University), Kotaro Hirasawa (Waseda University)　13:35

3B11-3　"Time Related Association Rules Mining for Traffic Prediction Based on Genetic Network Programming Combined with Estimation of Distribution Algorithms," *Yang Wang (Waseda University), Shingo Mabu (Waseda University), Huiyu Zhou (Waseda University), Xianneng Li (Waseda University), Kaoru Shimada (Waseda University), Bofeng Zhang (Shanghai University)　13:55

3B11-4　"Genetic Network Programming with General Individual Reconstruction," *Fengming Ye (Waseda University), Shingo Mabu (Waseda University), Lutao Wang (Waseda University), Kotaro Hirasawa (Waseda University)　14:15

3B11-5　"Analysis of Fuzzy Class Association Rule Mining Based on Genetic Network Programming," *Ci Chen (Waseda University), Shingo Mabu (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University), Susumu Tachi (The University of Tokyo), Mitsuru Ishizuka (The University of Tokyo)　14:35

3B12　OS: Robot Vision　Room 12

Organizer(s): Kanghyun Jo (University of Ulsan), Yoshinori Kuno (Saitama University)

Chair(s): Kanghyun Jo (University of Ulsan), Yoshinori Kuno (Saitama University)

3B12-1　"Multiple Object Detection and Localization Using Range and Color Images for Service Robots," *Dipankar Das (Saitama University), Yoshinori Kobayashi (Saitama University), Yoshinori Kuno (Saitama University)　13:15

3B12-2　"Vision System for Cloth Handling Robot," *Seiji Hata (Kagawa University), Takehisa Hiroyasu (Kagawa University), Junichiro Hayashi (Kagawa University), Hirotaka Hojoh (PUREX Co), Toshihiro Hamada (Kagawa Prefecture Industrial Technology Center)　13:35

3B12-3　"Coordinated Task Execution by Humanoid Robot," *KangGeon Kim (Korea Institute of Science and Technology), Ji-Yong Lee (Korea Institute of Science and Technology), Seungsu Kim (Korea Institute of Science and Technology), Joongjae Lee (Korea Institute of Science and Technology), Mun-Ho Jeong (Korea Institute of Science and Technology), ChangHwan Kim (Korea Institute of Science and Technology)　13:55

3B12-4　"3D Mapping and Estimation from Moving Direction of Indoor Mobile Robot using Vanishing Points," *Sung Woo Song (Uinversity of Ulsan), Kang-Hyun Jo (University of Ulsan), (Tokyo Electron AT Limited), Takahiko Ooasa (Tokyo Electron AT Limited)　14:15

3B12-5　"Multiple Robot Formation Keeping and Cooperative Localization by Panoramic View," *Hyun-Deok Kang (Korea Institute of Science and Technology), Jae-Hyuk Kawk (Korea Institute of Science and Technology), Chang-Hwan Kim (Korea Institute of Science and Technology), Kang-Hyun Jo (University of Ulsan)　14:35

3B13　OS: Parameter/Parametric Design in Control　Room 13

Organizer(s): Masaaki Kanno (Niigata University), Young Chol Kim (Chungbuk National University)

Chair(s): Masaaki Kanno (Niigata University), Young Chol Kim (Chungbuk National University)

3B13-1　"Improvement of Youla Parameterization by Coefficient Diagram Method," *Shunji Manabe (Retired, formerly Tokai University)　13:15

3B13-2　"A Maple toolbox for parametric robust control system design using symbolic computation," *Noriko Hyodo (AlphaOmega Inc.), Hirokazu Anai (Fujitsu laboratories ltd./Kyushu University), Shinji Hara (The University of Tokyo)　13:35

3B13-3　"A Symbolic-numeric Approach to Multi-parametric Programming for Control Design," *Hirokazu Anai (Fujitsu lab / Kyushu University)　13:55

3B13-4　"Algebraic Computation of the Stability Radius of a Multilinear Polynomial," *Keisuke Hasegawa (The University of Tokyo), Masaaki Kanno (Niigata University), Shinji Hara (The University of Tokyo)　14:15

3B13-5　"A Parametric Design Method of Direct Digital Control with Transient Response Requirements," *Young Chol Kim (Chungbuk National University), Yeonsoo Lim (Techwin Co. Ltd)　14:35

3B14　OS: Recent Advances of Automotive Technology in Japan and Korea　Room 14

Organizer(s): Tielong Shen (Sophia University), Kyongsu Yi (Seoul National University)

Chair(s): Tielong Shen (Sophia University)

3B14-1　"Model-based Drive Shaft Torque Estimation and Control of a Hybrid Electric Vehicle in Energy Regeneration Mode," *Xiangpeng Yu (Wuhan University of Technology), Tielong Shen (Wuhan University of Technology), Gangyan Li (Wuhan University of Technology), Kunihiko Hikiri (Wuhan University of Technology)　13:15

3B14-2　"Development of Ecological Driving System Using Model Predictive Control," *Kamal Md. Abdus Samad (Fukuoka IST), Masakazu Mukai (Kyushu University), Junichi Murata (Kyushu University), Taketoshi Kawabe (Kyushu University)　13:35

3B14-3　"Forward Vehicle and Distance Detecting Using Image Processing Technology for Avoiding Traffic Jams," *Yanning Zhao (Wasda University), Yixiang Sun (Wasda University), Masatoshi Ogawa (Wasda University)　13:55

3B14-4　"A Design of Electromechanical Valve Control System using Model Predictive Controller," *Addy Wahyudie (Kyushu University), Taizo Nakao (Kyushu University), Masakazu Mukai (Kyushu University), Taketoshi Kawabe (Kyushu University)　14:15

3B14-5　"Automobile Optimal Driving Control Using Information of Traffic Jam and Signal Based on Model Prediction Control," *Dongmei WU (Waseda University), Yang Xia (Waseda University), Masatoshi Ogawa (Waseda University), Yi-Chun Yeh (Waseda University), Harutoshi Ogai (Waseda University), Taketoshi Kawabe (Kyushu University)　14:35

3B15　OS: GNSS Applications I　Room 15

Organizer(s): Akio Yasuda (Tokyo University of Marine Science and Technology), Nobuaki Kubo (Tokyo University of Marine Science and Tech.)

Chair(s): Takuji Ebinuma (Tokyo University of Marine Science and Technology), Akio Yasuda (Tokyo University of Marine Science and Technology)

3B15-1　"Application of Innovation-based Genetic Control Scheme to Signal Acquisition for Global Navigation Satellite Systems," *Chung-Liang Chang (Air Force Institute of Technology), Ho-Nien Shou (Air Force Institute of Technology), Jyh-Ching Juang (National Cheng Kung University)　13:15

3B15-2　"Realization of GPS Information Real-time Marking System," Zhiwei Yan (Beijing University of Posts and Telecommunications), *Du Junping (Beijing University of Posts and Telecommunications), Xu Feng (Beijing University of Posts and Telecommunications)　13:35

| 3B15-3 | "Airborne GPS Reflectometry from Low Altitude Aircraft," *Takuji Ebinuma (Tokyo University of Marine Sci & Tec), Akio Yasuda (Tokyo Univ of Marine Sci & Tec), Dinesh Manandhar (The University of Tokyo) | 13:55 |
| 3B15-4 | "Development of INS-aided GPS Tracking Loop and Preliminary Flight Test," *Toshiaki Tsujii (Japan Aerospace Exploration Agency), Takeshi Fujiwara (JAXA), Yoshimitsu Suganuma (JAXA), Hiroshi Tomita (JAXA), Ivan Petrovski (iP-Solutions) | 14:15 |

3B16 Human-Machine Interface II   Room 16

Chair(s): Hirohiko Mori (Tokyo City University)

3B16-1	"An Operation Support Interface by Visualization of Chemical Equations," *Ryosuke Kashiwa (Yokogawa Electric Corporation), Tetsuya Ootani (Yokogawa Electric Corp)	13:15
3B16-2	"Investigations on Fitness of Pointing Time Prediction Model," *Hidehiko Okada (Kyoto Sangyo University), Takayuki Akiba (Kyoto Sangyo University)	13:35
3B16-3	"Applying User Monitoring for Display Power Management," *Vasily G Moshnyaga (Fukuoka University), Koji Hasimoto (Fukuoka University), Tadashi Suetsugu (Fukuoka University)	13:55
3B16-4	"Comparison of Web Accessibility within Japanese Educational Institution Websites," *Hidehiko Okada (Kyoto Sangyo University), Hiroki Arakawa (Kyoyo Sangyo University), Toshiyuki Kondo (Kyoyo Sangyo University)	14:15
3B16-5	"User's Preference based Ellipse-shaped Sketch Recognition using Genetic and Winnow Algorithm," *V-ris Jaijongrak (SIIT), Cholwich Nattee (SIIT, Thammasat University)	14:35

3B17 OS: Advanced Pattern Measurement   Room 17

Organizer(s): Mitsuru Baba (Ibaraki University), Hiroyuki Ukida (The University of Tokushima)
Chair(s): Mitsuru Baba (Ibaraki University), Hiroyuki Ukida (The University of Tokushima)

3B17-1	"Bird Tracking and Flapping Motion Recognition for Monitoring System," *Kohei Maruyama (Tottori University), Takeshi Saitoh (Tottori University), Ryosuke Konishi (Tottori University)	13:15
3B17-2	"3D Depth Measurement by Phase Shifting Method Using Multiple Projection and Omni-directional Cameras," *Hiroyuki Ukida (The University of Tokushima)	13:35
3B17-3	"Vein Authentication Using Color Information and Image Matching with High Performance on Natural Light," *Taku Watanabe (Keio University), Toshiyuki Tanaka (Keio University)	13:55
3B17-4	"An Ultrasonic Shape Recognition Considering Change of Ambient Atmospheric Pressure," *Shinya Omori (Ibaraki University), Takayuki Yamamoto (Ibaraki University), Kozo Ohtani (Hiroshima Institute of Tecnology), Mitsuru Baba (Ibaraki University)	14:15

3B18 OS: Navigation, Guidance, and Control in Aerospace Systems II   Room 18

Organizer(s): Tsutomu Ishikawa (Japan Aerospace Exploration Agency), Yoshikazu Miyazawa (Kyushu University), Shin-Ichiro Nishida (Japan Aerospace Exploration Agency), Chang-Kyung Ryoo (Inha University)
Chair(s): Yoshikazu Miyazawa (Kyushu University), Chang-Kyung Ryoo (Inha University)

3B18-1	"Defense Strategy against Multiple Anti-ship Missiles," *Dowan Kim (Inha University), Chang-Kyung Ryoo (Inha University)	13:15
3B18-2	"Real Time Path-planning Algorithm and Guidance Law for Glider Bomb," *Chang-Hun Lee (KAIST), Tae-Hun Kim (KAIST), Min-Jea Tahk (KAIST)	13:35
3B18-3	"Terrain Data Aided Passive Target Tracking," *Chang-Hwan Kim (Inha University), Keeyoung Choi (Inha University), Chang-Kyung Ryoo (Inha University)	13:55
3B18-4	"Development of Skill-free Manual Control Module for Easy and Safe Flight of UAV," *Midori Maki (JAXA), Hideo Takei (Digital Plus Corporation Tokyo Office), Kazutoshi Ishikawa (JAXA)	14:15
3B18-5	"An Output Feedback Flight Control Based on Integral-type Optimal Servomechanism," *Hiroyuki Kondo (National Defense Academy), Yoshimasa Ochi (National Defense Academy)	14:35

Oral Sessions 3C, Thursday, August 20

3C02 OS: Artificial Life Systems: Theory and Applications   Room 02

Organizer(s): Noriyasu Homma (Tohoku University), Heehyol Lee (Waseda University), Sugisaka Masanori (ALife Robotics Co., Ltd.)
Chair(s): Noriyasu Homma (Tohoku University), Heehyol Lee (Waseda University)

3C02-1	"BP Network Modified by Particle Swarm Optimization and Its Application to Online-Tuning PID Parameters in Idle-Speed Engine Control System," *Jian-Lei Cao (Waseda University), Jia-Meng Yin (Waseda University), Ji-Sun Shin (Waseda University), Hee-Hyol Lee (Waseda University)	15:10
3C02-2	"Drain Pipe Inspection Robot using Wireless Communication System," Dongmei Wu (Waseda University), *Harutoshi Ogai (Waseda University), Yichun Yeh (Waseda University), Katsumi Hirai (Hakutsu Technolgy), Takahiko Abe (Hakutsu Technology), Gunkichi Sato (Wave Professional Inc.)	15:30
3C02-3	"Auto-detection of Non-isolated Pulmonary Nodules Connected to the Chest Walls in X-ray CT Images," *Satoshi Shimoyama (Tohoku University), Noriyasu Homma (Tohoku University), Masao Sakai (Tohoku University), Tadashi Ishibashi (Tohoku University), Makoto Yoshizawa (Tohoku University)	15:50
3C02-4	"Control method for Arm of Soft Humanoid Robot," *Masanori Sugisaka (ALife Robotics Co., Ltd.), Norrima Mokhtar (University of Malaya)	16:10
3C02-5	"An Automatic Model Building for Screening Functional Foods with GP," Kunihito Yamamori (University of Miyazaki), Ikuo Yoshihara (University of Miyazaki), *Mayumi Kamiguchi (University of Miyazaki), Kazuo Nishiyama (University of Miyazaki)	16:30

3C03 OS: Recent Advancement of Process Control in Steel and Chemical Industries III   Room 03

Organizer(s): Manabu Kano (Kyoto University), Kazuya Asano (JFE Steel Corporation), Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.), Yoshiyuki Yamashita (Tokyo University of Agriculture and Tech.), Jietae Lee (Kyungpook National University)
Chair(s): Shigemasa Nakagawa (Sumitomo Metal Industries, Ltd.)

3C03-1	"Non-interactive Control for Hot Rolling Mill using Nonlinear Disturbance Observer," *Hyunseok Park (POSTECH), Ilhwan Noh (POSTECH), Sangchul Won (POSTECH)	15:10
3C03-2	"Shield Effect of High-response Electromagnetic Sensor," *Keisuke Fujisaki (Nippon Steel Corporation), Shinpei Fujino (Nippon Mining & Metal), Shoji Sato (N-Teck Ohita), Shoji Taniguchi (Touhoku Univerisity)	15:30
3C03-3	"Common Interface Method for S/W Reuse Technology of Steel Making Process System," *Jonghyun Lee (POSCO), Youngbok Park (POSCO), Yongsoo Kim (POSCO)	15:50

3C03-4 "Development of A Supervisory Training Rule for Multilayered Feedforward Neural Network Using Local Linearization and Analytic Optimal Solution," *Chun H Jeon (Kyungpook National University), Yu J Cheon (Kyungpook National University), Su W Sung (Kyungpook National University), Changkyu Lee (RIST), Changkyoo Yoo (Kyung Hee University), Dae R Yang (Korea University) | 16:10

3C04　OS: Ubiquitous Sensor Node　　　　　　　　　　　　　　　Room 04

Organizer(s): Kuniaki Kawabata (RIKEN)
Chair(s): Kuniaki Kawabata (RIKEN)

3C04-1 "Evaluating People's Attention in the Real World," *Niwat Thepvilojanapong (Tokyo Denki University), Yasunori Yakiyama (Tokyo Denki University), Oru Mihirogi (Tokyo Denki University), Masayuki Iwai (The University of Tokyo), Kazunori Umeda (Chuo University), Yoshito Tobe (Tokyo Denki University) | 15:10

3C04-2 "Wireless Sensor Networks for Monitoring the Daily Interactions between User and Objects," *Masayuki Nakamura (NTT), Masayuki Tsuda (NTT), Kazue Takahashi (NTT), Jiro Nakamura | 15:30

3C04-3 "Distinction of Landslide by Monitoring Acceleration to Autonomous Node in Wireless Sensing Network," *Yasutaka Nakajima (Ritsumeikan UniversityBKC), Riki Ohbayashi (Ritsumeikan UniversityBKC), Shigeru Takayama (Ritsumeikan UniversityBKC) | 15:50

3C04-4 "Mobile Robot Teleoperation via Multi Robot Sensor Network," Yuji Kimitsuka (Tokyo Denki University), Kei Sawai (Tokyo Denki University), *Tsuyoshi Suzuki (Tokyo Denki University) | 16:10

3C04-5 "Wireless Camera Nodes Deployment by a Teleoperated Mobile Robot for Construction of Sensor Network," *Hideo Sato (Tokyo Denki University), Kuniaki Kawabata (RIKEN), Tsubota Yugo (RIKEN), Hayato Kaetsu (RIKEN), Tsuyoshi Suzuki (Tokyo Denki University) | 16:30

3C05　Transportation Systems　　　　　　　　　　　　　　　　Room 05

Chair(s): Shin-Ichi Tadaki (Saga University)

3C05-1 "Global Optimal Routing for Traffic Systems with Multiple ODs Using Genetic Algorithm," *Yu Wang (Waseda University), Shingo Mabu (Waseda University), Chuan Yue (Waseda University), Manoj Kanta Mainali (Waseda University), Kotaro Hirasawa (Waseda University) | 15:10

3C05-2 "Q Value-based Dynamic Programming with Evolving Penalties for Road Networks," *Manoj K Mainali (Waseda University), Shingo Mabu (Waseda University), Yu Wang (Waseda University), Shanqing Yu (Waseda University), Kotaro Hirasawa (Waseda University) | 15:30

3C05-3 "Reversal of Travel Time between "Zipper" and "Non-Zipper" Merging in Traffic Flow," *Ryosuke Nishi (The University of Tokyo), Hiroshi Miki (Freelance Scientist), Akiyasu Tomoeda (The University of Tokyo), Katsuhiro Nishinari (The University of Tokyo, and PRESTO JST) | 15:50

3C05-4 "Application of Multiobjective Genetic Algorithms for Optimizing Aircraft Crew Pairing Problems," *Tung-Kuan Liu (Natl Kaoh. First University of Scie. an Tech.), Chiu-Hung Chen (Natl Kaoh. First University of Scie. an Tech.), Jyh-Horng Chou (Natl Kaoh. First University of Scie. an Tech.), Shinn-Horng Chen (Natl. Kaohsiung University of Applied Sciences), Ta-Yuan Chou (Natl. Sun Yat-sen University) | 16:10

3C05-5 "Signal Control System of Congestion Lengths along an Arterial in Hiroshima City," *Haruko Fujii (Yuge National College of Maritime Techno), Hikaru Shimizu (Fukuyama University) | 16:30

3C06　Predictive Control　　　　　　　　　　　　　　　　　　Room 06

Chair(s): Atsushi Satoh (Iwate University), Kyoung Kwan Ahn (Ulsan University)

3C06-1 "Time-domain Response Shaping in Constrained RHC with Response Model: Direct Response Design via ILQ Approach," *Atsushi Satoh (Iwate University) | 15:10

3C06-2 "Model Predictive Control for Shape Memory Alloy Cylinder," *Nguyen Trong Tai (University of Ulsan), Nguyen Bao Kha (University of Ulsan), Kyoung Kwan Ahn (University of Ulsan) | 15:30

3C06-3 "Application of Modified Model Predictive Control to a Gantry System," Masood Askari (University of Malaya), *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Mahmoud Moghavvemi (University of Malaya), Soo Siang Yang (University of Malaya) | 15:50

3C06-4 "Robust Model Predictive Control for Discrete Uncertain Time-varying Systems with Delay," *Tu Anh Thi Do (Hanoi University of Technology), Shinji Hara (The University of Tokyo) | 16:10

3C07　Force Control and Haptic Devices　　　　　　　　　　　　Room 07

Chair(s): R.P.C. Janaka Rajapakse (Tokyo Polytechnic University), Sang Bong Kim (Pukyong National University)

3C07-1 "Haptic Force Simulation for Cardiac Muscle Palpation Training System," *Yusuke Nakagawa (Kyushu Institute of Technology), Ryuichi Oguro (Kyushu Institute of Technology) | 15:10

3C07-2 "Shake It : a Portable Haptic Mouse and Shaking Application," *Seong-Man Cho (Korea University of Tech. and Edu.), Sang-Youn Kim (Interaction Lab. Korea University of Tech.and Edu.) | 15:30

3C07-3 "Force Adjustment of an Active Pipe Inspection Robot," *DaeWon Kim (Pukyong National University), Chul-Han Park (Mechanical Engineering. Pukyong National University), Hak-Kyeong Kim (Mechanical Engineering. Pukyong National University), Sang-Bong Kim (Mechanical Engineering. Pukyong National University) | 15:50

3C07-4 "Development of an AFM-Based Nanomanipulation System and Stable Haptic Interaction using Modified Energy-Bounding Algorithm," *Yo-An Lim (Gwangju Institute of Sci. and Tech.), Chang Gyu Lee (GIST), Jong-Phil Kim (KIST), Jeha Ryu (GIST) | 16:10

3C07-5 "Torque Display Method for Free-form Deformation with Haptic Device," Yoshimasa Tokuyama (Tokyo Polytechnic University), *R.P.C. Janaka Rajapakse (Tokyo Polytechnic University), Yuji Nakazawa (Tokyo Polytechnic University), Kouichi Konno (Tallinn University of Technology) | 16:30

3C08　OS: FLUCOME-J SICE　　　　　　　　　　　　　　　　Room 08

Organizer(s): Kenji Kawashima (Tokyo Institute of Technology), Tatsuya Funaki (AIST)
Chair(s): Tatsuya Funaki (AIST), Kotaro Tadano (Tokyo Institute of Technology)

3C08-1 "Effective Feedback Algorithm for Application of MI-simulation to Turbulent Orifice Flow," *Mitsuhiro Nakao (Tokyo Institute of Technology), Kenji Kawashima (Tokyo Institute of Technology), Toshiharu Kagawa (Tokyo Institute of Technology) | 15:10

3C08-2 "Development of a Pneumatically Driven Forceps Manipulator IBIS IV," *Kotaro Tadano (Tokyo Institute of Technology), Kenji Kawashima (Tokyo Institute of Technology) | 15:30

3C08-3 "Study on a performance evaluation of oscillatory gas flow generator with highly precise inlet flow control system," *Funaki Tatsuya (AIST), Tomonori Kato (Tokyo Metropolitan College of Industrial Technology), Kenji Kawashima (Tokyo Institute of Technology), Toshiharu Kagawa (Hanyang University) | 15:50

3C08-4 "A Study on An Energy Saving Electro-hydraulic Excavator," *Jong Il Yoon (University of Ulsan), Kyoung Kwan Ahn (University of Ulsan), Dinh Quang Truong (University of Ulsan) | 16:10

3C10 Standard of Measurement II — Room 10

Chair(s): Mitsuru Baba (Ibaraki University)

3C10-1	"Development and Experiment of walking by 6-axis Force Sensor for Simultaneous Measuring of Plantar Deformation," *Kentaro Sekiguchi (Tokyo University of Science), Sinichiro Suzuki (Tokyo University of Science), Hiroshi Takemura (Tokyo University of Science), Hiroshi Mizoguchi (Tokyo University of Science)	15:10
3C10-2	"Simulation of Human Body Motion under the Condition of Weightlessness," Wei Kailai (Kyushu Institute of Technology), *Yoshihiko Tagawa (Kyushu Institute of Technology), Naoto Shiba (Kurume University)	15:30
3C10-3	"Evaluation of Multilayered Pain Sensor Model of Human Skin," Nobutomo Matsunaga (Kumamoto University), *Aydin T Zengin (Kumamoto University), Shigeyasu Kawaji (Kumamoto University)	15:50
3C10-4	"Recovering 3-D Shape of a Non-rigid Object by a Single Mobile Camera," *Tsukasa Horinouchi (Kyushu Institute of Technology), Joo Kooi Tan (Kyushu Institute of Technology), Hyoungseop Kim (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	16:10

3C11 Genetic Network II — Room 11

Chair(s): Kenta Tachibana (Kogakuin University)

3C11-1	"Class Association Rule Mining with Correlation Measures Using Genetic Network Programming," *Eloy Gonzales (Waseda University), Shingo Mabu (Waseda University), Karla Taboada (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	15:10
3C11-2	"Agent Bidding Strategy of Multiple Round English Auction Based on Genetic Network Programming," *Chuan Yue (Waseda University), Shingo Mabu (Waseda University), Yan Chen (Waseda University), Yu Wang (Waseda University), Kotaro Hirasawa (Waseda University)	15:30
3C11-3	"Fuzzy Association Rule Mining and Classifier with Chi-squared Correlation Measure using Genetic Network Programming," *Karla S Taboada (Waseda University), Shingo Mabu (Waseda University), Eloy Gonzales (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	15:50
3C11-4	"Adaptive Controller for Double-deck Elevator System Using Genetic Network Programming," *Johanna V Mansilla (Waseda University), Shingo Mabu (Waseda University), Lu Yu (Waseda University), Kotaro Hirasawa (Waseda University)	16:10
3C11-5	"A New Associative Classification Method by Integrating CMAR and RuleRank Model Based on Genetic Network Programming," *Guangfei Yang (Waseda University), Shingo Mabu (Waseda University), Kaoru Shimada (Waseda University), Kotaro Hirasawa (Waseda University)	16:30

3C12 OS: Underwater Robots and Marine Systems — Room 12

Organizer(s): Hiroyuki Kajiwara (Kyushu University), Ikuo Yamamoto (The University of Kitakyushu)

Chair(s): Hiroyuki Kajiwara (Kyushu University), Ikuo Yamamoto (The University of Kitakyushu)

3C12-1	"Unified Motion Planning Method using Random Network and Gradient Method for Multifunctional Underwater Robots," *Koichiro Shiraishi (Kyushu University), Hajime Kimura (Kyushu University)	15:10
3C12-2	"Research on Fluid Analysis Simulator for Elastic Oscillating Fin of Biomimetic Underwater Robots," Tomokazu Nakamura (The University of Kitakyushu), *Ikuo Yamamoto (The University of Kitakyushu)	15:30
3C12-3	"Property Evaluation and Motion Control of a Biomimetic Actuator Using Electroconductive Polymer," *Kimikazu Sugiyama (Kyushu Institute of Technology), Kazuo Ishii (Kyushu Institute of Technology), Keiichi Kaneto (Kyushu Institute of Technology)	15:50
3C12-4	"Reentry Control System Design for a Riser Pipe Experimental Model under Steady Current," *Hiroyuki Kajiwara (Kyushu University), Kenzo Noridomi (Kyushu University)	16:10

3C13 OS: SOS and LMI in Control — Room 13

Organizer(s): Hiroyuki Ichihara (Kyushu Institute of Technology), Yoshio Ebihara (Kyoto University)

Chair(s): Hiroyuki Ichihara (Kyushu Institute of Technology), Yoshio Ebihara (Kyoto University)

3C13-1	"Polynomial Programming Approach to Weak Approximation of Levy-driven Stochastic Differential Equations with Application to Option Pricing," *Kenji Kashima (Tokyo Institute of Technology), Reiichiro Kawai (Osaka University)	15:10
3C13-2	"Robustness Analysis of Uncertain Discrete-time Linear Systems Based on System Lifting and LMIs," *Yoshio Ebihara (Kyoto University), Dimitri Peaucelle (LAAS-CNRS, Universite de Toulouse), Denis Arzelier (LAAS-CNRS, Universite de Toulouse)	15:30
3C13-3	"Computational Approach to Input-to-state Stability Analysis of a Class of Nonlinear Systems," *Hiroyuki Ichihara (Kyushu Institute of Technology)	15:50
3C13-4	"Gain-scheduled State-feedback Controller Design for LPV Systems via SV Approach," *Masayuki Sato (Japan Aerospace Exploration Agency)	16:10
3C13-5	"Performance Bounds for Optimal Control of Polynomial Systems: A Convex Optimization Based Approach," *Tanagorn Jennawasin (Toyota Technological Institute), Michihiro Kawanishi (Toyota Technological Institute), Tatsuo Narikiyo (Toyota Technological Institute)	16:30

3C14 OS: Behavioral Approach to Systems and Control — Room 14

Organizer(s): Kiyotsugu Takaba (Kyoto University), Chiaki Kojima (The University of Tokyo)

Chair(s): Kiyotsugu Takaba (Kyoto University), Chiaki Kojima (The University of Tokyo)

3C14-1	"A Note on the Regulation Problem in the Behavioral Framework," *Kiyotsugu Takaba (Kyoto University)	15:10
3C14-2	"Lyapunov Stability Analysis of Higher-order 2-D Systems," Chiaki Kojima (The University of Tokyo), *Paolo Rapisarda (University of Southampton), Kiyotsugu Takaba (Kyoto University)	15:30
3C14-3	"Graph Theoretic Methods in the Study of Structural Issues in Control," *Madhu N Belur (Indian Institute of Technology Bombay), Debraj Chakraborty (Indian Institute of Technology Bombay)	15:50
3C14-4	"The Parameterization of Stabilizing Canonical Controllers : The Observable Case," *Osamu Kaneko (Kanazawa University)	16:10
3C14-5	"Semidefinite Programming Duality on n-D Behaviors," *Chiaki Kojima (The University of Tokyo)	16:30

3C15 OS: GNSS Applications II — Room 15

Organizer(s): Akio Yasuda (Tokyo University of Marine Science and Technology), Nobuaki Kubo (Tokyo University of Marine Science and Technology)

Chair(s): Akio Yasuda (Tokyo University of Marine Science and Technology), Takuji Ebinuma (Tokyo University of Marine Science and Technology)

3C15-1	"High Accuracy Positioning of Two-wheeled Vehicle at High Speed Travelling Using GPS," *Masaki Hayashi (Keio University)	15:10
3C15-2	"The High-precision Measuring Method for Motorcycle Trajectory Using GPS," *Yuichiro Koyama (Keio University), Toshiyuki Tanaka (Keio University)	15:30

| 3C15-3 | "Method for Accuracy Improvement of GPS Measurement in the City," *Takashi Matsushita (Keio University), Toshiyuki Tanaka (Keio University), Masashi Yonekawa (Keio University) | 15:50 |
| 3C15-4 | "The Pedestrian Navigation System using Vision and Inertial Sensors," *Sang-Kyeong Park (University of Ulsan), YoungSoo Suh (University of Ulsan), Tri Nhut Do (University of Ulsan) | 16:10 |

3C16　Human Characteristics & Motion Analysis　Room 16
Chair(s): Hideyuki Tanaka (AIST)

3C16-1	"Effects of the Body and Eye-position Conditions for Sound Localization in the Frontal Vertical Plane.," *Satoshi Futakuchi (Kanazawa Seiryo University), Hironobu Takano (Toyama Prefectural University), Kiyomi Nakamura (Toyama Prefectural University)	15:10
3C16-2	"Via Point Extraction by a Tracing Minimum Jerk Trajectory," *Takashi Oyama (Okayama Prefectural University)	15:30
3C16-3	"Robust Human Motion Recognition Employing Adaptive Database Structure," *S. M. A Eftakhar (Kyushu Institute of Technology), Joo K Tan (Kyushu Institute of Technology), Hyongseop Kim (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	15:50
3C16-4	"Attitude Motion Estimation Using Semisupervised Dimensionality Reduction," *Masao Joko (The University of Tokyo), Yairi Takehisa (The University of Tokyo), Kazuo Machida (The University of Tokyo)	16:10

3C17　3D Shape Measurement　Room 17
Chair(s): Hiroshi Maeda (Kyushu Institute of Technology), Hideaki Kawano (Kyushu Institute of Technology)

3C17-1	"Correction Method for Geometric Image Distortion with Application to Printed Circuit Board Inspection Systems," *Wan-young Lee (Chungbuk National University), Tae-Hyoung Park (Chungbuk National University)	15:10
3C17-2	"Generation of Panoramic Image based on Planar Image Features using Side-view In-vehicle Camera," Hideaki Kawano (Kyushu Institute of Technology), *Hiroto Kuwano (Kyushu Institute of Technology), Tohru Irie (GEO Technical Laboratory Co., Ltd.), Hiroshi Maeda (Kyushu Institute of Technology), Yoshiya Fukuda (Kyushu Institute of Technology), Norikazu Ikoma (Kyushu Institute of Technology)	15:30
3C17-3	"Entire 3-D Modeling of an Object by Surround Cameras," *Toshimasa Sone (Kyusyu Institute of Technology), Joo Kooi Tan (Kyushu Institute of Technology), Hyongseop Kim (Kyushu Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)	15:50
3C17-4	"Stereo Based Vision System for Cardiac Auscultation Tele-diagnostic System," *Supawan Kumpituck (SIIT, Thammasat University), Waree Kongprawechnon (SIIT Thammasat University), Toshiaki Kondo (SIIT Thammasat University), Itthisek Nilkhamhang (SIIT Thammasat University), Kanokvet Tungpimolrut (Industrial Control and Automation Laboratory National), Akinori Nishihara (Tokyo Institute of Technology)	16:10
3C17-5	"Biped Robot Walking Control Using Image Processing," *Stephen Karungaru (University of Tokushima), Masakazu Sugizaki (University of Tokushima), Minoru Fukumi (University of Tokushima)	16:30

3C18　Vision and Recognition　Room 18
Chair(s): Ryo Kurazume (Kyushu University), Takatsugu Hirayama (Kyoto University)

3C18-1	"Comparison of PCA and LDA based Recognition Algorithms under Illumination Variations," *Hyunjong Cho (Sejong University), Seungbin Moon (Sejong University)	15:10
3C18-2	"PCA-based Face Recognition in an Embedded Module for Robot Application," Minkoo Kang (Sejong University), *Hyunjong Cho (Sejong University), Seungbin Moon (Sejong University)	15:30
3C18-3	"Non-delayed Visual Tracking of Hand-eye Robot for a Moving Target Object," *Masahide Ito (Seikei University), Masaaki Shibata (Seikei University)	15:50
3C18-4	"Indoor Air Quality Monitoring via IT Network-Colorimetric Monitoring of Formaldehyde in Indoor Environment using Image Transmission of Mobile Phone-," *Yoshika Sekine (Tokai University), Risa Katori (Tokai University)	16:10

Oral Sessions 4A, Friday, August 21

4A02　OS: Braking Technology for Vehicles　Room 02
Organizer(s): Chul-Goo Kang (Konkuk University), Hiro-o Yamazaki (Tokyo City University)
Chair(s): Chul-Goo Kang (Konkuk University)

4A02-1	"Vehicle Braking Control Using Sliding Mode Control -Switching Control for Speed and Slip Ratio-," *Misawa Kasahara (TMCIT), Yuki Kanai (Tokyo Metropolitan University), Yasuchika Mori (Tokyo Metropolitan University)	9:00
4A02-2	"A Study of Integrated Chassis Control Algorithm with Brake Control and Suspension Control Systems for Vehicle Stability and Handling Performance," *Kangwon Lee (GM Daewoo Auto&Technology), Youngwoo Kim (GM Daewoo Auto&Technology), Jinhee Jang (GM Daewoo Auto&Technology)	9:20
4A02-3	"Development of HIL Simulator for the Sensitivity Analysis of Factors Influencing ESC Performance," *Jihoon Roh (GM Daewoo Auto & Technology), Kangwon Lee (GM Daewoo Auto & Technology), Jongil Lee (GM Daewoo Auto & Technology), Seungkyu Oh (GM Daewoo Auto & Technology), Hyoungsoo Kim (GM Daewoo Auto & Technology), Jinhee Jang (GM Daewoo Auto & Technology)	9:40
4A02-4	"A Self Manufacturing Hybrid Electric Vehicle Using Magnetic Clutch," *Hack-Sun Kim (University of Ulsan), Chan-se Jeong (University of Ulsan), Chang-Don Lee (University of Ulsan), Soon Yong Yang (University of Ulsan)	10:00
4A02-5	"Modeling and Stabilization of Motorcycle Shimmy," *Tetsuya Kubota (Kawasaki Heavy Industries), Eiichi Yagi (Wakayama University)	10:20
4A02-6	"Real-time Simulations of a Railroad Brake System using a dSPACE Board," *Chul-Goo Kang (Konkuk University), Ho-Yeon Kim (Konkuk University), Min-Soo Kim (KRRI), Byeong-Choon Goo (KRRI)	10:40

4A03　OS: Formation and Cooperative Control of Multi-Agent Systems　Room 03
Organizer(s): Kazunori Sakurama (The University of Electro-Communications), Yasushi Iwatani (Tohoku University)
Chair(s): Kazunori Sakurama (The University of Electro-Communications), Yasushi Iwatani (Tohoku University)

4A03-1	"Impedance Control for Force - reflecting Teleoperation with Communication Delays Based on IOS Small Gain Theorem," *Nam Duc Do (Kanazawa University), Toru Namerikawa (Keio University)	9:00
4A03-2	"Nonlinear Control for Column Formation of Wheeled Mobile Robots Based on Vector Field Method," *Ji-Wook Kwon (Ajou University), Cheol-Joong Kim (Ajou University), Ho-Won Lee (Ajou University), Dongkyoung Chwa (Ajou University), Suk-Kyo Hong (Ajou University)	9:20
4A03-3	"Adaptive Synchronization Control of Spacecraft with Fixed Rotational Axis," *Tomohisa Hayakawa (Tokyo Institute of Technology)	9:40
4A03-4	"Stability of Switched Stochastic Systems in Discrete-time," *Yasushi Iwatani (Tohoku University), Shogo Arai (Tohoku University), Koichi Hashimoto (Tohoku University)	10:00
4A03-5	"Formation Control for Multi-vehicle System using Adaptive Control Method," *Kazuya Sato (Saga University), Toru Saito (Saga University), Nobuhisa Maeda (Saga University)	10:20

| 4A03-6 | "Collision-free Leader-Following Formation Navigation with Consideration of Initial Movements of Followers," *Kazunori Sakurama (The University of Electro-Communications), Manabu Suzuki (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications) | 10:40 |

4A04 OS: Recent Advances in Engine Control Technology — Room 04

Organizer(s): Tielong Shen (Sophia University), Junichi Kako (Toyota Motor Corporation)

Chair(s): Tielong Shen (Sophia University), Junichi Kako (Toyota Motor Corporation)

4A04-1	"Nonlinear Observer-based Torque Control for SI Engine," Munan Hong (Tsinghua University), *Tielong Shen (Sophia University), Minggao Ouyang (Tsinghua University)	9:00
4A04-2	"Model-based Control for High-pressure Fuel Pumps," *Yoichi Iihoshi (Hitachi. Ltd.), Shin Yamauchi (Hitachi Reearch Lab. Hitachi Ltd.), Ryusei Miura (Hitachi Reearch Lab. Hitachi Ltd.), Yoshiyuki Nakashima (Automotive Systems Hitachi Ltd.), Toshio Hori (Automotive Systems Hitachi Ltd.)	9:20
4A04-3	"Design of Compensator for Engine Intake System Model with Turbocharger by Extended Kalman Filter," *Masatoshi Ogawa (Waseda University), Harutoshi Ogai (Waseda University), Yasuaki Inoue (Waseda University), Naozumi Okuda (Toyota Motor Corporation), Akira Ohata (Toyota Motor Corporation)	9:40
4A04-4	"Speed Control of Vehicles with Variable Valve Lift Engine by Nonlinear MPC," *Akihiro Murayama (Tokyo Institute of Technology), Masaki Yamakita (Tokyo Institute of Technology)	10:00
4A04-5	"Development of a New Model Based Air-fuel Ratio Control System," *Junichi Kako (Toyota Motor Corporation), Shuntaro Okazaki (Toyota Motor Corporation), Naoto Kato (Toyota Motor Corporation)	10:20
4A04-6	"Adaptive Torque Demand Control of SI Engine with a Continuous Variable Valve Train," Shigehiro Sugihira (Keio University), Noriaki Sato (Keio University), *Hiromitsu Ohmori (Keio University)	10:40

4A05 OS: Intelligent Human-Machine Systems — Room 05

Organizer(s): Toshihiro Hiraoka (Kyoto University), Yoshitaka Marumo (Nihon University)

Chair(s): Toshihiro Hiraoka (Kyoto University), Yoshitaka Marumo (Nihon University)

4A05-1	"Experimental Evaluation on Effect of Steering Reactive Torque of SBW Vehicle on Driving Behavior," *Toshihiro Hiraoka (Kyoto University), Hidenori Kusabe (Kyoto University), Hiromitsu Kumamoto (Kyoto University)	9:00
4A05-2	"Proposal on Risk Communication for Safe Driving Support System," *Kohei Okabe (The University of Tokyo), Minoru Kamata (The University of Tokyo)	9:20
4A05-3	"Comparison of Car Following Behavior between UK and Japan," *Toshihisa Sato (AIST), Motoyuki Akamatsu (AIST), Pengjun Zheng (University of Southampton), Mike McDonald (University of Southampton)	9:40
4A05-4	"Analysis of Head Tilt Strategy of Car Drivers," *Satoru Fujisawa (Kagawa University), Takahiro Wada (Kagawa University), Norimasa Kamiji (Kagawa University), Shunichi Doi (Kagawa University)	10:00
4A05-5	"Evaluation of Operator Competence to Identify System State in Conditioning Automated Processes," *Yukio Horiguchi (Kyoto University), Hiroaki Nakanishi (Kyoto University), Tetsuo Sawaragi (Kyoto University)	10:20
4A05-6	"Design of Human-machine System for Estimating Pattern of White Cane Walking," *Akitoshi Honda (Kyoto University), Takayuki Shiose (The Kyoto University Museum/Keio Research Institute at SFC), Yasuhiko Kagiyama (Kyoto University), Hiroshi Kawakami (Kyoto University), Osamu Katai (Kyoto University)	10:40

4A06 Adaptive & Learning Control I — Room 06

Chair(s): Toru Yamamoto (Hiroshima University), Masanori Takahashi (Tokai University)

4A06-1	"Robust Iterative Learning Control for Linear Systems with Time-invariant Parametric Uncertainties," *Dinh Hoa Nguyen (Chulalongkorn University), David Banjerdpongchai (Chulalongkorn University)	9:00
4A06-2	"Adaptive Output Feedback of a Class of Uncertain Nonlinear Systems," *Min-Sung Koo (KAIST), Ho-lim Choi (Dong-A University), Jong-Tae Lim (KAIST)	9:20
4A06-3	"An Adaptive Radius Adjusting Method for RBF Networks Considering Data Densities and Its Application to Plant Control Technology," *Toru Eguchi (Hitachi Ltd.), Takaaki Sekiai (Hitachi Ltd.), Akihiro Yamada (Hitachi Ltd.), Satoru Shimizu (Hitachi Ltd.), Masayuki Fukai (Hitachi Ltd.)	9:40
4A06-4	"Self-tuning PID Controller Designs for Multivariable Systems," *Xin Yang (National University of Singapore), Yasuki Kansha (The University of Tokyo), Min-Sen Chiu (National University of Singapore)	10:00
4A06-5	"Nonlinear Network-induced Time Delay Systems with Online Dynamic Bayesian Learning," *Hyun Cheol Cho (Ulsan College), M. Sami Fadali (University of Nevada-Reno), Dae Yeon Yeo (Dong-A University), Hyun Tae Han (Dong-A University), Kwon Soon Lee (Dong-A University)	10:20

4A07 OS: Navigation, Guidance, and Control in Aerospace Systems III — Room 07

Organizer(s): Tsutomu Ichikawa (Japan Aerospace Exploration Agency), Yoshikazu Miyazawa (Kyushu University), Shin-Ichiro Nishida (Japan Aerospace Exploration Agency), Chang-Kyung Ryoo (Inha University)

Chair(s): Tsutomu Ichikawa (Japan Aerospace Exploration Agency), Yoshikazu Miyazawa (Kyushu University)

4A07-1	"Position and Attitude Feedback Controller of a Planar Satellite with Two Thrusters," *Takashi Matsuno (Kyushu University), Shinji Hokamoto (Kyushu University)	9:00
4A07-2	"Development of Real-time Heading Estimation Algorithm using Magnetometer/IMU," *Wonmo Koo (Konkuk University), Sangkyung Sung (Konkuk University), Young Jae Lee (Konkuk University)	9:20
4A07-3	"Design and Performance test of Relative Navigation of a low cost inertial SLAM," *Sukchang Yun (Konkuk University), *Sangkyung Sung (Konkuk University), Young Jae Lee (Konkuk University)	9:40
4A07-4	"Real-Time Guidance Law for Quasi-minimum Time Maneuver for a Missile," *Seiya Ueno (Yokohama National University), Seiji Yamaoka (Yokohama National University)	10:00
4A07-5	"Constrained Trajectory Optimization for Lunar Landing during the Powered Descent Phase," *Bong-Gyun Park (KAIST), Daekyu Sang (KAIST), Min-Jea Tahk (KAIST)	10:20

4A08 Robots and Acoustic Systems — Room 08

Chair(s): Kenji Ueda (The University of Tokyo)

| 4A08-1 | "Voice Activated Wheelchair with Collision Avoidance Using Sensor Information," *Akira Murai (Tottori University), Masaharu Mizuguchi (Tottori University), Masato Nishimori (Tottori University), Takeshi Saitoh (Tottori University), Tomoyuki Osaki (Tottori University), Ryosuke Konishi (Tottori University) | 9:00 |

4A08-2 "Emergent Melody Composition Model using Mutually Coupled Oscillators," *Yuichi Aizawa (The University of Tokyo), Yuriko Hoteida (The Univeristy of Tokyo), Takeshi Takenaka (The University of Tokyo), Kanji Ueda (The University of Tokyo) 9:20

4A08-3 "UPnP Robot Middleware for Dynamic Services," *Ki-Woong Lim (KIST), Sang Chul Ahn (KIST), Yong-Moo Kwon (KIST), Heedong Ko (KIST), Hyoung-Gon Kim (KIST), KwangHoon Sohn (Yonsei University) 9:40

4A08-4 "Acoustic Based Safety Emergency Vehicle Detection for Intelligent Transport Systems," *Bruno Fazenda (University of Huddersfield), Hidajat Atmoko (University of Huddersfield), Fengshou Gu (University of Huddersfield), Luyang Guan (Bridgestone Corporation), Andrew Ball (Bridgestone Corporation) 10:00

4A08-5 "Control of Robot Manipulator for Storing Cord Blood in Cryogenic Environments," *Seung-Heui Lee (Pusan National University), Do-Young Jeong (Pusan National University), Ik-Soo Kim (ENK CO., LTD), Dong-In Lee (ENK CO., LTD), Dong-Yeon Cho (ENK CO., LTD), Min Cheol Lee (Pusan National University) 10:20

4A09   New Technologies in Robotics I   Room 09
Chair(s): Makoto Katoh (Osaka Institute of Technology), Koichi Osuka (Osaka University)

4A09-1 "Component Design Patterns for Robot Platform Standardization: Anatomical studies and a Proposal," *Heejune Ahn (Seoul National University of Technology), Sang Hyuk Kang (University of Seoul), Sang Chul Ahn (KIST) 9:00

4A09-2 "An Educational Methodology for Sustainable Development," *Kazutoshi Fujihira (Institute of Environmentology), Koichi Osuka (Kobe University) 9:20

4A09-3 "Design of CRBRE for Double Agent Convoying Simulation Stage," *Makoto Katoh (Osaka Institute of Technology) 9:40

4A09-4 "Optimal Design of the Task-oriented Wearable Robot for the Upper Extremity," *Young-Su Lee (Hangyang University), SeungHoon Lee (Hanyang Unviversity), SeungNam Yu (Hanyang Unviversity), JaeHo Jang (Hanyang Unviversity), ChangSoo Han (Hanyang Unviversity), JungSoo Han (Hansung University) 10:00

4A09-5 "Trajectory Generation of CPM Device for the Elbow Joint Considering Constraint Caused by Joint Disorder," *Shota Miyaguchi (Kumamoto University), Nobutomo Matsunaga (Kumamoto University), Shigeyasu Kawaji (Kumamoto University) 10:20

4A09-6 "Improving Robotic Machining Accuracy by Real-time Compensation," *Zengxi Pan (University of Wollongong), Hui Zhang (ABB Corporate Research China) 10:40

4A10   Industrial Automation Systems   Room 10
Chair(s): Valery Sklyarov (University of Aveiro)

4A10-1 "Modeling and Implementation of Automatic System for Garage Control," *Valery Sklyarov (University of Aveiro), Iouliia Skliarova (University of Aveiro), Abílio Neves (University of Aveiro) 9:00

4A10-2 "A Method of Torque & Speed Estimation for Line-start IM with Electrical Parameter Identification," *Akiko Takahashi (Kyushu Institute of Technology), Ryuichi Oguro (Kyushu Institute of Technology) 9:20

4A10-3 "Skill Succession Scheduling for Post-OJT in Anthropocentric Cell Manufacturing System," *Bandit Suksawat (King Mongkut's University of Technology), Tohru Ihara (Chuo University) 9:40

4A10-4 "A Method of High Efficient Control for Induction Motor," *Keisuke Iwasaki (Kyushu Institute of Technology), Akiko Takahashi (Kyushu Institute of Technology), Ryuichi Oguro (Kyushu Institute of Technology) 10:00

4A10-5 "Slide-bending Formation of Thin Metal Sheet by Using Force Control," *Hikaru Nishimura (Kumamoto University), Hiroshi Harada (Kumamoto University), Yasuo Marumo (Kumamoto University), Teruo Yamaguchi (Kumamoto University) 10:20

4A10-6 "Auto Line Defect Detection System for LCD Panel Review & Repair Machine," *Lee Woo Chul (LG Enlectronics), Song Jun Bong (LG Enlectronics), Lim In Sik (LG Enlectronics), Hwang Jae Ho (LG Enlectronics), Jung Tae Joong (LG Enlectronics) 10:40

4A11   OS: Women in Engineering on Virtual Reality, Vers.2   Room 11
Organizer(s): Michiko Ohkura (Shibaura Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)
Chair(s): Michiko Ohkura (Shibaura Institute of Technology), Seiji Ishikawa (Kyushu Institute of Technology)

4A11-1 "Development of BrushDevice Facilitating Painting Operation in 2D/3D Space," *Mai Otsuki (Ritsumeikan University), Masashi Tsukadaira (Ritsumeikan University), Asako Kimura (Ritsumeikan University), Fumihisa Shibata (Ritsumeikan University), Hideyuki Tamura (Ritsumeikan University) 9:00

4A11-2 "Somatotopic Distortion of Tactile Temporal Interval Estimation," *Shinobu Kuroki (The University of Tokyo), Junji Watanabe (NTT Communication Science Laboratories), Naoki Kawakami (The University of Tokyo), Susumu Tachi (Keio University) 9:20

4A11-3 "Effect of Haptic Feedback on Pseudo-haptic Feedback for Arm Display," *Mari Tatezono (The University of Tokyo), Katsunari Sato (The University of Tokyo), Kouta Minamizawa (The University of Tokyo), Hideaki Nii (The University of Tokyo), Naoki Kawakami (The University of Tokyo), Susumu Tachi (The University of Tokyo) 9:40

4A11-4 "Virtual Object for Evaluating Adaptable K-nearest Neighbor Method Solving Various Conditions of Object Recognition," *Wittayathawon Kanlaya (Shibaura Institute of Technology), Le Dung (Shibaura Institute of Technology), Makoto Mizukawa (Shibaura Institute of Technology) 10:00

4A11-5 "Systematic Study for "Kawaii" Products (Fifth Report):
Relation between Kawaii Feelings and Biological Signals," *Michiko Ohkura (Shibaura Institute of Technology), Sayaka Goto (Shibaura Institute of Technology), Tetsuro Aoto (Shibaura Institute of Technology) 10:20

4A12   OS: Advanced Techniques in Autonomous Mobile Robots   Room 12
Organizer(s): Ching-Chih Tsai (National Chung Hsing University)
Chair(s): Ching-Chih Tsai (National Chung Hsing University), Jin-lin Lin (Shih-Hsin University)

4A12-1 "Real-time Target Tracking and Obstacle Avoidance for Mobile Robots using Two Cameras," Chan-Hong Chao (National Cheng Kung Univ), Bo-Yan Hsueh (National Cheng Kung Univ), Ming-Ying Hsiao (National Cheng Kung Univ), Shun-Hung Tsai (National Cheng Kung Univ), *Tzuu-Hseng S. Li (National Cheng Kung Univ) 9:00

4A12-2 "Hybrid Navigation of a Four-wheeled Tour-guide Robot," Yuan-Pao Hsu (National Formosa University), *Ching-Chih Tsai (National Chung Hsing University), Zeng-Chung Wang (National Chung Hsing University), Yi-Jiang Feng (National Chung Hsing University) 9:20

4A12-3 "Cooperative Patrol Planning of Multi-Robot Systems by a Competitive Auction System," *Kao-Shing Hwang (National Chung Cheng University), Jin-Ling Lin (Shih-Hsin University), Hui-Ling Huang (National Chung Cheng Univ) 9:40

4A12-4 "The Real-time Video Stabilization for the Rescue Robot," Jen-Pin Hsiao (National Chiao-Tung University), *Cheng-Chung Hsu (National Chiao-Tung University), Tzu-Chiang Shih (National Chiao-Tung University), Pau-Lo Hsu (National Chiao-Tung University), Syh-Shiuh Yeh (National Taipei University of Technology), Bor-Chyun Wang (China University of Technology) 10:00

4A12-5 "Object Grasping of a Mobile Robot using Image Features and Virtual Points," *Kai-Tai Song (National Chiao Tung University), Hong-Tze Chen (National Chiao Tung University) 10:20

4A13　OS: Analysis and Control of Quantized Systems　　　Room 13

Organizer(s): Shun-ichi Azuma (Kyoto University), Koichi Kobayashi (Japan Advanced Inst. of Sci. & Tech.)

Chair(s): Koichi Kobayashi (Japan Advanced Inst. of Sci. & Tech.)

4A13-1	"Optimal Design of Delta-Sigma Modulators via Generalized KYP Lemma," *Masaaki Nagahara (Kyoto University), Yutaka Yamamoto (Kyoto University)	9:00
4A13-2	"Analysis of Dynamic Quantizer in 2-DOF Internal Model Control System with Dead-time," *Hiroshi Okajima (Kumamoto University), Tatsuya Umemoto (Kumamoto University), Nobutomo Matsunaga (Kumamoto University), Shigeyasu Kawaji (Kumamoto University)	9:20
4A13-3	"Motorized Pan/Tilt Head Control Over the Internet: Stabilization under Existence of Pointwise-in-time Constraints and Unforeseeable Delays and Losses," *Kiminao Kogiso (Nara Institute of Science and Technology), Naofumi Hirade (Nara Institute of Science and Technology), Masanori Tatsumi (Takaroi Denki. Co., Ltd.)	9:40
4A13-4	"Dynamic Quantizers for SIMO Control Systems with Unstable Zeros: A Multirate-sampling Based Approach," *Yuki Minami (Maizuru National College of Technology), Shun-ichi Azuma (Kyoto University), Toshiharu Sugie (Kyoto University)	10:00
4A13-5	"Observability Analysis of Boolean Networks with Biological Applications," *Koichi Kobayashi (Japan Advanced Inst. of Sci. & Tech.), Jun-ichi Imura (Tokyo Institute of Technology)	10:20

4A14　OS: Magnetic Levitation Systems　　　Room 14

Organizer(s): Myoungyu Noh (Chungnam National University), Takeshi Mizuno (Saitama University), Mochimitsu Komori (Kyushu Institute of Technology), Tetsuzo Sakamoto (Kyushu Institute of Technology)

Chair(s): Myoungyu D. Noh (Chungnam National University), Mochimitsu Komori (Kyushu Institute of Technology)

4A14-1	"Study on Estimation of the Instantaneous Disturbance Values of EMS," *Tetsuzo Sakamoto (Kyushu Institute of Technology), Chiharu Furuta (Kyushu Institute of Technology), Toyokazu Hanamoto (Kyushu Institute of Technology), Yoshinobu Kubo (Kyushu Institute of Technology)	9:00
4A14-2	"Optimal Design of Magnetically-levitated Flywheel Energy Storage System Considering System Stability," *Jung-wan Kim (Chungnam National University), Seong-yeol Yoo (Chungnam National University), Yong-chae Bae (Korea Electric Power Research Institute), Myounggyu D Noh	9:20
4A14-3	"Flux-path Control Module Using a Single Actuator," *Takeshi Mizuno (Saitama University), Yuta Nagano (Saitama University), Yuji Ishino (Saitama University), Masaya Takasaki (Saitama University)	9:40
4A14-4	"Robust Adaptive Control of Nonlinear Systems with Convex Input Constraints: Case Study on the Magnetic Levitation System," *Yasuyuki Satoh (Nara Institute of Science and Technology), Hisakazu Nakamura (Nara Institute of Science and Technology), Nami Nakamura (Nara Institute of Science and Technology), Hitoshi Katayama (Shizuoka University), Hirokazu Nishitani (Nara Institute of Science and Technology)	10:00
4A14-5	"Magnetically Levitated Linear Conveying System ---Magnetization from Upper Superconductor Surface---," Yoshihito Miyatake (Kyushu Institute of Technology), *Ryouhei Jinno (Kyushu Institute of Technology), Mochimitsu Komori (Kyushu Institute of Technology)	10:20

4A15　OS: Soft Computing Techniques and Their Applications I　　　Room 15

Organizer(s): Norio Baba (Osaka Kyoiku University)

Chair(s): Norio Baba (Osaka Kyoiku University)

4A15-1	"Utilization of Many NNs for Constructing an Intelligent Decision Support System for Dealing Stocks," *Norio Baba (Osaka Kyoiku University), Kou Nin (Osaka Kyoiku University), Yasuhiro Komori (Osaka Kyoiku University), Kokutan Ryuu (Osaka Kyoiku University), Keisuke Kogawa (Osaka Kyoiku University)	9:00
4A15-2	"Dexterous Motions of Japanese Dance by a Miniature Humanoid Robot," *Yuuki Osamu (Tokai University Professional Graduate S), Seiya Yamazaki (Tokai University Professional Graduate School), Kunihiro Yamada (Tokai University), Naoyuki Kubota (Tokyo Metropolitan University)	9:20
4A15-3	"Identification of Wrist EMG Signals using Dry Type Electrodes," *Tadahiro Oyama (University of Tokushima), Hillary Choge (University of Tokushima), Stephen Karungaru (University of Tokushima), Satoru Tsuge (University of Tokushima), Yasue Mitsukura (Tokyo University of Agriculture and Technology), Minoru Fukumi (University of Tokushima)	9:40
4A15-4	"Finding Error Data for Linear Separable Model," Yuki Ota (Konan University), *Masahiro Tanaka (Konan University)	10:00
4A15-5	"The Extraction of Riding Condition System using the EEG," *Yasue Mitsukura (Tokyo University of Agriculture and Tech.), Hironobu Fukai (Tokyo University of Agriculture and Technology), Satoru Ito (Tokyo University of Agriculture and Technology), Yohei Tomita (Tokyo University of Agriculture and Technology), Hirokazu Watai (Bridgestone Corporation), Katsumi Tashiro (Bridgestone Corporation)	10:20

4A16　OS: GNSS Backup and Complementary Systems　　　Room 16

Organizer(s): Chansik Park (Chungbuk National University), Satoshi Kogure (JAXA)

Chair(s): Chansik Park (Chungbuk National University), Satoshi Kogure (JAXA)

4A16-1	"Methodology for Deploying ASF Monitor Sites in South Korea," *Donghui YU (Catholic University of Pusan), Chansik Park (Chungbuk University), Sangjeong Lee (Chungnam University), Sunghoon Yang (KRISS), Changbok Lee Changbok Lee (KRISS)	9:00
4A16-2	"RESSOX Experiments Using a Low-elevation-angle Geostationary Satellite," *Toshiaki Iwata (AIST), Tomonari Suzuyama (AIST), Michito Imae (AIST), Yuji Hashibe (SED)	9:20
4A16-3	"How QZSS Contributes to Positioning Performance in Large Asian Cities ?," *Nobuaki Kubo (Tokyo University of Marine Science and T)	9:40
4A16-4	"Development of QZSS L1-SAIF Augmentation Signal," *Takeyasu Sakai (Electronic Navigation Research Institute), Sonosuke Fukushima (Electronic Navigation Research Institute), Ken Ito (Electronic Navigation Research Institute)	10:00

4A17　Analytical Measurement I　　　Room 17

Chair(s): Shigeru Ando (The University of Tokyo)

4A17-1	"A Study of the Collision Detection of Robot Manipulator without Torque Sensor," *Hwan Wook-Je (Pusan National University), Jun-Young Baek (Pusan National University), Min-cheol Lee (Pusan National University)	9:00
4A17-2	"Estimation Method of Contact Wheels for Unmanned Ground Vehicle with Actively Articulated Suspensions," *Kyeong B Lim (KAIST), Sukhoon Park (KAIST), Yong-San Yoon (KAIST)	9:20
4A17-3	"Stiffness Analysis of Crank Motion Task Using Musculoskeletal Model with Six Muscles," Nobutomo Matsunaga (Kumaoto University), *Ryohei Mera (Kumamoto University), Hiroshi Okajima (Kumaoto University), Shigeyasu Kawaji (Kumaoto University)	9:40
4A17-4	"Measurement Methods for Indoor Pollutants to Manage Indoor Air Quality.," *Takashi Amagai (University of Shizuoka), Takeshi Ohura (University of Shizuoka)	10:00
4A17-5	"Biomonitoring of Indoor Particle Contamination by Detection of Bioluminescence Reduction of Marine Bacterium Vibrio Fischeri," *Shiro Ikeda (Tokai University), Masafumi Oikawa (Tokai University), Yoshika Sekine (Tokai University)	10:20

| 4A17-6 | "Extensive Power Factor Calculation Method Using FPGA Considering Power Quality Disturbance," *Shu-Chen Wang (Taipei College of Maritime Technology), Chi-Jui Wu (National Taiwan University of Science and Technolog) | 10:40 |

Chair(s): Kenji Ikeda (The University of Tokushima)

4A18-1	"Unscented Gaussian Sum Filtering for Interval Constrained Nonlinear Systems," *Shinji Ishihara (Tokyo Institute of Technology), Masaki Yamakita (Tokyo Institute of Technology)	9:00
4A18-2	"Asymptotic System Identification Method Based on Particle Swarm Optimization," *Hideo Muroi (Keio University), Shuichi Adachi (Keio University)	9:20
4A18-3	"New Simple Filtered-x Algorithm for Parallel Hammerstein Systems," *Tomohiro Ohno (Keio University), Akira Sano (Keio University), Hiromitsu Ohmori (Keio University)	9:40
4A18-4	"A Simple Online Identification Method using Sliding Mode Technique," *Shinichiro Nakagawa (SANTEST Co., Ltd.), Eiko Furutani (Kyoto University)	10:00
4A18-5	"Identification of Nonlinear Parameters by Using Low-pass Filtered M-sequence," *Hideki Tsukino (Kumamoto University), Hiroshi Harada (Kumamoto University), Yukio Toyozawa (FANUC Corp.), Hiroshi Kashiwagi (Kumamoto Study Center, The Open University of Japan), Reishi Ohtsubo (Kumamoto University)	10:20
4A18-6	"Constrained Robust Kalman Filtering for Passive Source Localization," *Won-Sang Ra (Handong Global University), Ick-Ho Whang (Agency for Defense Development), Tae-Sung Yoon (Changwon National University)	10:40

4A19 Neural Network   Room 19

Chair(s): Yasuaki Kuroe (Kyoto Institute of Technology), Aiyoshi Eitarou (Keio University)

4A19-1	"Determine of Appropriate Neural Networks Structure Using Ant Colony System," *Nikorn Pokdom (Eastern Asia University)	9:00
4A19-2	"Revised RBF Network Algorithm and Its Application to the Interactive Art System," *Chihiro Kondo (Keio University), Tadashi Kondo (The University of Tokushima)	9:20
4A19-3	"Inverse Kinematics of an Equal Length Links Planar Hyper Redundant Manipulator Using Neural Networks," Samer Yahya (University of Malaya), *Haider Abbas F. Mohamed (University of Nottingham Malaysia Campus), Mahmoud Moghavvemi (University of Malaya), Soo Siang Yang (University of Malaya)	9:40
4A19-4	"Machine-learning-based Mechanical Properties Prediction in Foundry Production," *Igor Santos (Deusto Technology Foundation), Javier Nieves (Deusto Technology Foundation), Yoseba Koldobika Penya (Deusto Technology Foundation), Pablo Garcia Bringas (Deusto Technology Foundation)	10:00
4A19-5	"Difficulty Estimation of Number Place Puzzle and Its Problem Generation Support," *Satoshi Ono (Kagoshima University), Ryuji Miyamoto (Kagoshima University), Shigeru Nakayama (Kagoshima University), Kazunori Mizuno (Takushoku University)	10:20

Oral Sessions 4B, Friday, August 21

4B02 OS: Control Applications in Mechatronics and Powertronics   Room 02

Organizer(s): Kohji Higuchi (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications)
Chair(s): Kohji Higuchi (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications)

4B02-1	"An Emulation of Autonomous Parallel Parking System Using Fuzzy Logic Control," *Benjamas Panomruttanarug (King Mongkut's University Thonburi), Sarayut Tungporntawee (King Mongkut's University Thonburi), Parnupong Thongsuk (King Mongkut's University Thonburi), Kohji Higuchi (The University of Electro-Communications)	13:15
4B02-2	"Parameter Determining Method of Robust Digital Controller for PWM Power Amplifier," *Tokubai Ki (The University of Electro-Communications), Kohji Higuchi (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications), Tatsuyoshi Kajikawa (The University of Electro-Communications), Satoshi Yoshizawa (NF Corporation), Koji Matsushita (NF Corporation)	13:35
4B02-3	"Digital Robust Controller of DC-DC Converter Using at Remote Sensing," *Eiji Takegami (TDK-Lambda Corporation), Kohji Higuchi (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications), Satoshi Tomioka (TDK-Lambda Corp.), Kazushi Watanabe (TDK-Lambda Corporation)	13:55
4B02-4	"Microwave-based Soybean Meal Moisture Classification Using Resonance Cavity," *Navapadol Kittiamornkul (King Mongkut University of technology Thonburi), Kosin Chamnongthai (King Mongkut University of technology Thonburi), Supaporn Kiattisin (University of the Thai Chamber of Commerce), Adisorn Leelasantitham (University of the Thai Chamber of Commerce), Kohji Higuchi (The University of Electro-Communications)	14:15
4B02-5	"Parameters Estimation in Neural Networks by Improved Version of Simultaneous Perturbation Stochastic Approximation Algorithm," *Jorge Ivan Medina Martinez (The University of Electro-Communications), Kazushi Nakano (The University of Electro-Communications), Kohji Higuchi (The University of Electro-Communications)	14:35
4B02-6	"Optimization of PID Controller Using Transient Responses," *Yosihiro Matsui (Tokyo National College of Technology)	14:55
4B02-7	"Constant Voltage Control of Electronic Load Using Robust Digital Controller," *Yasuhiko Morishita (Keisoku Giken Co., Ltd.), Takahide Suzuki (Keisoku Giken Co., Ltd.), Etsunao Ohtsuzi (Keisoku Giken Co., Ltd.), Yukinari Fukumoto (Keisoku Giken Co., Ltd.), Kohji Higuchi (UEC)	15:15

4B03 OS: Technologies and Standardization for Information Cooperation in PA and FA   Room 03

Organizer(s): Yoichi Takayanagi (TOSHIBA Corporation), Tsutomu Yamada (Hitachi, Ltd.), Akio Ito (Yokogawa Electric Corporation)
Chair(s): Yoichi Takayanagi (TOSHIBA Corporation), Tsutomu Yamada (Hitachi, Ltd.)

4B03-1	"The Requirements for Device Integration and the Current Status," *Shinichi Motoyoshi (Japanese PROFIBUS Organization)	13:15
4B03-2	"FDT Technology for Proprietary Protocol Pield Devices," *Tetsuo Takeuchi (Yokogawa Electric Corporation)	13:35
4B03-3	"Wireless Technology for Process Automation," *Hisanori Hayashi (Yokogawa Electric Corporation), Toshi Hasegawa (Yokogawa Electric Corporation), Koji Demachi (Yokogawa Electric Corporation)	13:55
4B03-4	"Up-to-date Trend of Real-time Ethernet for Industrial Automation Systems," *Yoichi Takayanagi (TOSHIBA Corporation), Mariko Ichikawa (TOSHIBA Corporation)	14:15
4B03-5	"Conformance Tests of Several Open Networks and Related Noise Tests for Electronic Signals with High Frequency Bands," *Iko Miyazawa (Kanagawa Industrial Technology Center), Tatsuaki Nagao (Kanagawa Industrial Technology Center), Hideaki Sugama (Kanagawa Industrial Technology Center)	14:35
4B03-6	"Control System Security in the Shift to Open Systems," *Toshio Miyachi (JPCERT/CC), Yurie Ito (JPCERT/CC)	14:55
4B03-7	"Security Technologies, Usage and Guidelines in SCADA System Networks," *Mai Kiuchi (CRIEPI), Yoshizumi Serizawa (CRIEPI)	15:15

4B04 OS: Sensing, Control and Safety System for Intelligent Vehicle — Room 04

Organizer(s): Naoki Suganuma (Kanazawa University)

Chair(s): Naoki Suganuma (Kanazawa University), Masafumi Hashimoto (Doshisha University)

4B04-1	"Guide Following Control Using Laser Range Sensor for a Smart Wheelchair," *Koji Miyazaki (Doshisha University), Masafumi Hashimoto (Doshisha University), Masanari Shimada (Doshisha University), Kazuhiko Takahashi (Doshisha University)	13:15
4B04-2	"Obstacle Detection Based on Occupancy Grid Maps From Virtual Disparity Image," *Kenji Kohara (Kanazawa University), Naoki Suganuma (Kanazawa University)	13:35
4B04-3	"Clustering and Tracking of Obstacles Using Stereo Vision System," *Naoki Suganuma (Kanazawa University)	13:55
4B04-4	"Making of Free Viewpoint 3D Images Using One Camera," *Gu Fei (Tokyo City University), Takayuki Nakata (Toyama Prefectural University), Yue Bao (Tokyo City University)	14:15
4B04-5	"Human-like Patient Robot with Chaotic Emotion for Injection Training," *Yoshiro Kitagawa (University of Fukui), Tomohito Ishikura (University of Fukui), Wei Song (University of Fukui), Yasushi Mae (Osaka University), Mamoru Minami (University of Fukui), Kanji Tanaka (University of Fukui)	14:35
4B04-6	"Fastest Guidance Control Avoiding Slipping of Carrying Objects and Experimental Evaluation," *Masanori Mukono (University of Fukui), Mamoru Minami (University of Fukui)	14:55
4B04-7	"Human Behavior Recognition using Regression Models," *Mamoru Saito (Osaka Municipal Technical Research Insti), Katsuhisa Kitaguchi (Osaka Municipal Technical Research Insti), Hiroyuki Nishida (Doshisha University), Masafumi Hashimoto (Doshisha University)	15:15

4B05 Biological Engineering — Room 05

Chair(s): Masaaki Makikawa (Ritsumeikan University)

4B05-1	"Automatic Detection of Apnea and EEG Arousals for Sleep Apnea Syndrome," *Genya Matsuoka (Saga University), Takenao Sugi (Saga University), Fusae Kawana (Toranomon Hospital), Masatoshi Nakamura (Saga University)	13:15
4B05-2	"Feature Extraction of Light Sleep State in Polysomnogram by Use of Conditional Probability," *Hiroaki Yoshiyama (Saga University), Takenao Sugi (Saga University), Bei Wang (East China University of Science and Technology), Shuichiro Shirakawa (National Center of Neurology and Psychiatry), Masatoshi Nakamura (Saga University)	13:35
4B05-3	"Automatic Sleep Stage Determination for Sleep Apnea Syndrome Patients: Multivariate Probability Distribution based on Expert Knowledge," *Bei Wang (East China University of Science & Technology), Takenao Sugi (Saga University), Fusae Kawana (Toranomon Hospital), Xingyu Wang (East China University of Science & Technology), Masatoshi Nakamura (Saga University)	13:55
4B05-4	"Bioelectric Potential Characteristic of Pothos under Light Emitting Diode," *Shinichi Shibata (Kanazawa Seiryo University), Takashi Oyabu (Kanazawa Seiryo University), Haruhiko Kimura (Kanazawa University)	14:15
4B05-5	"An Improved Backtracking Method for EDAs Based Protein Folding," *Benhui Chen (Waseda University), Long Li (Waseda University), Jinglu Hu (Waseda University)	14:35
4B05-6	"A Comparison of Sequence Generation Power in Cellular Automata," *Naoki Kamikawa (University of Osaka Electro-Communication), Hiroshi Umeo (University of Osaka Electro-Communication)	14:55
4B05-7	"Neural Prostheses: Linking Brain Signals to Prosthetic Devices," Carlos Pedreira (University of Leicester), Juan Martinez (University of Leicester), *Rodrigo Quian Quiroga (University of Leicester)	15:15

4B06 Adaptive & Learning Control II — Room 06

Chair(s): Tatsuo Narikiyo (Toyota Technological Institute)

4B06-1	"Adaptive Backstepping Control for a Two-wheeled Autonomous Robot," *Tatsuya Nomura (Oita University), Yuta Kitsuka (Oita University), Haruo Suemitsu (Oita University), Takami Matsuo (Oita University)	13:15
4B06-2	"Adaptive Transition Disturbance Observer for Winding Machine," Jinwook Kim (Pohang University of Science&Technology), *Oh-Kyu Choi (Pohang University of Science&Technology), Jin S. Lee (Pohang University of Science&Technology)	13:35
4B06-3	"Road Adaptive Control of Semi-Active Suspension," *Le Hoa Nguyen (Pusan National University), Seonghun Park (Pusan National University), Keum-Shik Hong (Pusan National University)	13:55
4B06-4	"Robust Adaptive Position/Force Control of Mobile Manipulators with Kinematic and Dynamic Uncertainties," *Tatsuo Narikiyo (Toyota Technological Institute), Michihiro Kawanishi (Toyota Technological Institute), Tomohito Mizuno (Toyota Technological Institute)	14:15
4B06-5	"A Closed-Loop D-type Iterative Learning Control for Electro- hydraulic Position Servo Systems with Uncertainties," *Suolin Duan (Jiangsu Polytechnic University), Yonghong Wu (Taiyuan University of Science and Technology), Zhenghua Ma (Jiangsu Polytechnic University), Guirong Lu (Jiangsu Polytechnic University)	14:35

4B07 OS: Navigation, Guidance, and Control in Aerospace Systems IV — Room 07

Organizer(s): Tsutomu Ichikawa (Japan Aerospace Exploration Agency), Yoshikazu Miyazawa (Kyushu University), Shin-Ichiro Nishida (Japan Aerospace Exploration Agency), Chang-Kyung Ryoo (Inha University)

Chair(s): Masaaki Murata (National Defense Academy of Japan)

4B07-1	"A Mobility System for Lunar Rough Terrain," *Shin-Ichiro Nishida (Japan Aerospace Exploration Agency), Sachiko Wakabayashi (JAXA)	13:15
4B07-2	"An Assessment of GPS-based Precise Point Positioning of the Low Earth-orbiting Satellite CHAMP," *Takahiro Yoshioka (National Defense Academy), Masaaki Murata (National Defense Academy)	13:35
4B07-3	"GPS Overlay Experiment Using Geostationary Satellite, ETS-VIII," *Shinichi Nakamura (JAXA), Takahiro Inoue (JAXA), Ryo Nakamura (JAXA), Seiji Katagiri (Fujitsu), Suthichai Noppanakeepong (KMITL), Yanming Feng (QUT)	13:55
4B07-4	"A Study of Orbit Determination for the Low-thrust Spacecraft," *Tsutomu Ichikawa (Japan Aerospace Exploration Agency)	14:15

4B08 OS: Artificial Muscle Actuators and Sensors — Room 08

Organizer(s): Kinji Asaka (AIST), Kentaro Takagi (Nagoya University), Norihiro Kamamichi (Tokyo Denki University)

Chair(s): Kinji Asaka (AIST), Kentaro Takagi (Nagoya University)

4B08-1	"Development of an Active Micro Catheter Using a Polymer Actuator," *Takeshi Yokota (Wakayama University), Kosaku Maeda (Wakayama University), Kunitomo Kikuchi (Wakayama University), Shigeki Tsuchitani (Wakayama University)	13:15
4B08-2	"Anisotropic Strain and Memory Effect in Conducting Polymer Soft Actuators under High Tensile Stresses," *Keiichi Kaneto (Kyushu Institute of Technology), Tomokazu Sendai (Kyushu Inst. Tech.)	13:35
4B08-3	"Effects of Environmental Humidity on Electrical Properties of Ionic Polymer-Metal Composite with Ionic Liquid," *Kunitomo Kikuchi (Wakayama University), Shigeki Tsuchitani (Wakayama University)	13:55
4B08-4	"Variable-focal Length Lens Using IPMC," *Ippei Shimizu (Wakayama University), Kunitomo Kikuchi (Wakayama University), Shigeki Tsuchitani (Wakayama University)	14:15
4B08-5	"Training Effect of Polyaniline Soft Actuators," *Hikaru Hashimoto (Kyushu Institute of Technology), Kazuo Tominaga (Kyushu Institute of Technology), Keiichi Kaneto (Kyushu Institute of Technology)	14:35

4B08-6　"Efficiency of a Micro Pump Driven by Conducting Polymer Soft Actuator with Open/Close Movement," *Yoshitaka Naka (Kyushu Institute of Technology), Masaki Fuchiwaki (Kyushu Institute of Technology), Kazuhiro Tanaka (Kyushu Institute of Technology)　14:55

4B09　New Technologies in Robotics II　Room 09
Chair(s): Nobutomo Matsunaga (Kumamoto University), Toru Oshima (Toyama Prefectural University)

4B09-1　"Modeling of an ER Fluid's Time Delay for Servo Systems," *Tomohiro Terada (Toyama Prefectural University), Ken'ichi Koyanagi (Toyama Prefectural University), Toru Oshima (Toyama Prefectural University)　13:15

4B09-2　"Development of an Open Software Platform for Robotics Services," *Hong Seong Park (Kangwon national University), Soohee Han (Konkuk University)　13:35

4B09-3　"Interactive Flocking Simulator based on Deterministic Kinetic Model," *Ken Sugawara (Tohoku Gakuin University), Kanako Hata (Tohoku Gakuin University)　13:55

4B09-4　"Virtual Environment for Prototyping and Experiments," *Valery Sklyarov (University of Aveiro), Iouliia Skliarova (University of Aveiro/IEETA)　14:15

4B09-5　"Unimanual and Bimanual Weight Discrimination in Lifting Objects with a Power Assist System," *S.M. M Rahman (Mie University), Ryojun Ikeura (Mie University), Masaya Nobe (Mie University), Hideki Sawai (Mie University)　14:35

4B10　Vision and Sensing　Room 10
Chair(s): Yasushi Mae (Osaka University)

4B10-1　"Computer-aided Diagnosis of Gastrointestinal Radiographs Using Adaptive Differential Filter," *Nobumichi Nagano (Oita University), Takami Matsuo (Oita University)　13:15

4B10-2　"An On-line Calibrated Visual Intelligent Space for Navigation and Control of Mobile Robots," *Wen C Chang (National Taipei University of Technology)　13:35

4B10-3　"Improvement of Robustness of the Dual Floor Image Tracking Odometry Measurement," *Takasu Takahiro (Shibaura Institute of Technology), Makoto Mizukawa (Shibaura Institute of Technology), Yoshinobu Ando (Shibaura Institute of Technology)　13:55

4B10-4　"Development of Low-cost and Flexible Vegetation Monitoring System Using Small Unmanned Aerial Vehicle," *Taro Suzuki (Waseda University), Yoshiharu Amano (Waseda University), Jun-ichi Takiguchi (Waseda University), Takumi Hashizume (Waseda University), Shinji Suzuki (The University of Tokyo), Atsushi Yamaba (Hiroshima Pref. Technology Research Institute)　14:15

4B10-5　"Laser Speckle Measurement System for Plant Vigor Detection," *Satoshi Shintani (Shinshu University), Hiroaki Ishizawa (Shinshu University), Takashi Miki (Japan Textile Products Quality and Technology Center), Hiroyuki Kanai (Shinshu University)　14:35

4B10-6　"Increase Visibility for Observation of Micro Objects in Microassembly by an Active Imaging System," Xiaodong Tao (KAIST), *Hyungsuck Cho (Professor, KAIST)　14:55

4B10-7　"Vision-based Estimation of Bolt-hole Location using Circular Hough Transform," *Yun-Geun Choe (Korea University), Hoo-Cheol Lee (Korea University), Young-Joong Kim (Korea University), Dae-Hie Hong (Korea University), Sin-Suk Park (Korea University), Myo-Taeg Lim (Korea University)　15:15

4B11　OS: Modeling, Analysis and Synthesis of Hybrid Systems　Room 11
Organizer(s): Tatsuya Suzuki (Nagoya University), Guisheng Zhai (Osaka Prefecture University)
Chair(s): Tatsuya Suzuki (Nagoya University), Guisheng Zhai (Osaka Prefecture University)

4B11-1　"On Less Conservativeness in Approximating Maximal Output Admissible Sets for Online Application: A Case Study," Yuta Doi (Nara Institute of Science and Technology), *Kiminao Kogiso (Nara Institute of Science and Technology)　13:15

4B11-2　"Stabilizing Model Predictive Control of Hybrid Systems with Discrete Dynamics," *Koichi Kobayashi (Japan Advanced Inst. of Sci. & Tech.), Jun-ichi Imura (Tokyo Institute of Technology), Kunihiko Hiraishi (Japan Advanced Institute of Science and Technology)　13:35

4B11-3　"Identification of Hybrid System Based on Probability Weighted Multiple ARX Model," Shun Taguchi (Nagoya University), *Tatsuya Suzuki (Nagoya University), Soichiiro Hayakawa (Toyota T.I.), Shinkichi Inagaki (Nagoya University)　13:55

4B11-4　"Slow Switching Design of Switched Linear Systems," *Zhendong Sun (South China University of Technology)　14:15

4B11-5　"Optimal control of PMSMs using model predictive control with integrator," *Shintaro Matsutani (Mie University), Tadanao Zanma (Mie University), Yuji Sumiyoshi (Mie University), Muneaki Ishida (Mie University), Akihiro Imura (Denso Corporation), Masami Fujitsuna (Denso Corporation)　14:35

4B11-6　"An Optimal Start-up Phase Tension and Looper Control in Hot Strip Finishing Mills with Sequential Mode Transition Using Decoupling Control," *Shiro Masuda (Tokyo Metropolitan University), Kazuya Asano (JFE Corp.)　14:55

4B12　Remote Sensing　Room 12
Chair(s): Atsushi Iwashita (Kyushu Tokai University), Kohei Arai (Saga University)

4B12-1　"Decentralized Automatic Speed Control System of Controlled Retarder based on Genetic Algorithm," Ji Yundong (Harbin Institute of Technology), *Sun Jinwei (Harbin Institute of Technology), Wei Guo (Harbin Institute of Technology)　13:15

4B12-2　"A Study on Energy-Efficient Tree Routing Protocol Based on Link Quality Metrics for Remote Air Environmental Monitoring System," *Jongwon Kwon (University of Seoul), Gwanghoon Ahn (University of Seoul), Seoklae Kim (University of Seoul), Sanghyuk Kang (University of Seoul), Hiesik Kim (University of Seoul)　13:35

4B12-3　"A Prediction Method of the Global Distribution Map of CO_2 Column Abundance Retrieved from GOSAT Observation Derived from Ordinary Kriging," *Mitsuhiro Tomosada (The Institute of Statistical Mathematics), Koji Kanefuji (The Institute of Statistical Mathematics), Yukio Matsumoto (The Institute of Statistical Mathematics), Hiroe Tsubaki (The Institute of Statistical Mathematics)　13:55

4B12-4　"Semi-Supervised Land Cover Classification of Remotely Sensed Data Using Two Different Types of Classifiers," *Senya Kiyasu (Nagasaki University), Yuki Yamada (Nagasaki University), Sueharu Miyahara (Nagasaki University)　14:15

4B12-5　"Evaluation of GMR Saturation for High Current Estimation," *Osama E Elmatboly (NC A&T State Univesity), A. Homaifar (NC A&T State Univesity), M. Kesharz Talebi (NC A&T State Univesity)　14:35

4B12-6　"Dynamic Laser Scanning Method for Mobile Robot Navigation," *Oleg Y Sergiyenko (Autonomous University of Baja California), Vera V Tyrsa (2Polytechnic University of Baja California,), Luis F. Devia (Autonomous University of Baja California), Wilmar Hernandez (Polytechnic University of Madrid), Oleg Starostenko (UDLA), Moises L Rivas (Polytechnic University of Baja California)　14:55

4B12-7　"Motor Current Signal Analysis using a Modified Bispectrum for Machine Fault Diagnosis," *Fengshou Gu (University of Huddersfiled), Yimin Shao (Chonqing University), Niaoqin Hu (National Univ ersity of Defense Technology), Bruno Fazenda (University of Huddersfiled), Andrew Ball (University of Huddersfiled)　15:15

4B13 OS: Recent Advances in System Identification — Room 13

Organizer(s): Yang Zi-Jiang (Ibaraki University)
Chair(s): Yang Zi-Jiang (Ibaraki University), Takami Matsuo (Oita University)

4B13-1 "Simultaneous Parameter and Input Estimation of Hindmarsh-rose Neuron by Adaptive Observer," Ryuta Ito (Oita University), Yusuke Totoki (Oita University), Haruo Suemitsu (Oita University), *Takami Matsuo (Oita University) — 13:15

4B13-2 "Experiment on Closed-loop Subspace Model Identification of an Unstable Underactuated System," *Hiroshi Oku (Osaka Insitute of Technology), Shun Ushida (Osaka Institute of Technology) — 13:35

4B13-3 "Versatility of Particle Swarm Optimization in Identification for Continuous-time Systems," *Toshiharu Sugie (Kyoto University), Takashi Wada (Kyoto University) — 13:55

4B13-4 "Resonance Frequency Estimation of Time-series Data by Subspace Method," *Tomoko Hirao (Keio University), Shuichi Adachi (Keio University) — 14:15

4B13-5 "New Recursive Identification Algorithm for Time-varying Systems," *Lianming Sun (The University of Kitakyushu), Lin Li (Xi'an Shiyou University) — 14:35

4B13-6 "Bias-compensated Least Squares Method in Closed Loop Environment," *Kenji Ikeda (The University of Tokushima), Yoshio Mogami (The University of Tokushima), Takao Shimomura (The University of Tokushima) — 14:55

4B13-7 "Identification of Hammerstein Model with VRFT in the Virtual Two-degree of Freedom Control System," *Osamu Kaneko (Kanazawa University) — 15:15

4B14 System/Information III — Room 14

Chair(s): Masahiro Tanaka (Konan University)

4B14-1 "Real-time Railway Network Simulation and Alleviating Congestion of Crowded Trains," *Akiyasu Tomoeda (The University of Tokyo), Mitsuhito Komatsu (The University of Tokyo), Il Y Yoo (The University of Tokyo), Makoto Uchida (The University of Tokyo), Ryo Takayama (The University of Tokyo), Rui Jiang (University of Science and Technology of China) — 13:15

4B14-2 "A Method for Improving Paired Collaborative Learning Through Approaches of Computational Intelligence," *Kazuhiro Shinike (Maizuru National Callege od Technology), Hitoshi Iima (Kyoto Institute of Technology) — 13:35

4B14-3 "Basic Simulation Platform Design for TDLS Relative Navigation," *Heon Ho Choi (Chungnam national University), Sung Lyong Cho (Chungnam national University), Sang Wook Hwang (Chungnam national University), Mi Young Shin (Chungnam national University), Jeen Sang Jang (Agency for Defense Development), Chansik Park (Chungbuk national University) — 13:55

4B14-4 "Comparison of the Future Power Plants in Thailand Utilizing MARKAL Model," *Artite Pattanapongchai (Thammasat University), Bundit Limmeechokchai (Thammasat University) — 14:15

4B14-5 "Determining Optimal Gait Transitions via Dynamic Simulation," *Hyuk Kang (Seoul National University), Frank Chongwoo Park (Seoul National University) — 14:35

4B14-6 "Mathematical Programming of City and Urban Traffic," *Takuya Matsumoto (Kobe University), Hisashi Tamaki (Kobe University), Tsutomu Inamoto (Kobe University) — 14:55

4B14-7 "Improvement of Bonding Driver and Application to Parallel Processing on Commodity PC Cluster," *Takafumi Fukunaga (Kumamoto Prefectural College of Technology) — 15:15

4B15 OS: Soft Computing Techniques and Their Applications II — Room 15

Organizer(s): Norio Baba (Osaka Kyoiku University)
Chair(s): Norio Baba (Osaka Kyoiku University), Minoru Fukumi (University of Tokushima)

4B15-1 "Adaptive Friction Observer and Sliding Mode Controller Development with RFNN for Nonlinear Friction Compensation," Seong Ik Han (Suncheon First College), *Young Su Cho (University of Ulsan), Seong Min Jin (University of Ulsan), Chang Don Lee (University of Ulsan), Soon Yong Yang (University of Ulsan) — 13:15

4B15-2 "Environmental Games Made Much More Exciting by Soft Computing Techniques," *Norio Baba (Osaka Kyoiku University), Kenta Nagasawa (Osaka Kyoiku University), Keizou Kogawa (Osaka Kyoiku University), Hisashi Honda (Okayama Kyoiku University) — 13:35

4B15-3 "Integration of Intelligent Technologies for Simultaneous Localization and Mapping," *Naoyuki Kubota (Tokyo Metropolitan University), Kodai Yuki (Tokyo Metropolitan University), Norio Baba (Osaka Kyoiku University) — 13:55

4B15-4 "An Application of the Mutually Complementary network to Small Office Buildings," *Motoaki Sakakibara (Tokai University), Taizo Miyachi (Tokai University), Masanori Kojima (Osaka Institute of Technology), Tadanori Mizuno (Shizuoka University), Kunihiro Yamada (Tokai University) — 14:15

4B15-5 "A Circle-Based Region-Of-Interest Segmentation Method for Palmprint Recognition," *Hillary Kipsang Choge (The University of Tokushima), Tadahiro Oyama (The University of Tokushima), Stephen Karungaru (The University of Tokushima), Satoru Tsuge (The University of Tokushima), Minoru Fukumi (University of Tokushima) — 14:35

4B15-6 "Driver Dozing Detection System Using the Near-infrared Camera Images," *Yasue Mitsukura (Tokyo University of Agriculture and Tech.), Hironobu Fukai (Tokyo University of Agriculture and Tech.), Minoru Fukumi (University of Tokushima) — 14:55

4B16 OS: Computational Intelligence: New Trends and Its Application — Room 16

Organizer(s): Eitaro Aiyoshi (Keio University), Mamoru Minami (University of Fukui), Kazuaki Masuda (Kanagawa University)
Chair(s): Eitaro Aiyoshi (Keio University), Mamoru Minami (University of Fukui)

4B16-1 "Particle Swarm Optimization with External Chaotic Noise," *Kazuaki Masuda (Kanagawa University), Kenzo Kurihara (Kanagawa University) — 13:15

4B16-2 "Effect of number of hidden neurons on learning in large-scale layered neural networks," *Katsunari Shibata (Oita University), Yusuke Ikeda (Oita University) — 13:35

4B16-3 "Classification of Process Data and Images by Human Assisted Fuzzy Similarity Analysis," *Gancho Vachkov (Kagawa University), Hidenori Ishihara (Kagawa University), (Gunma University) — 13:55

4B16-4 "Fish-catching by Robot Using Prediction Neural Network -Reducing Steady-state Error to Zero-," Mamoru Minami (University of Fukui), *Tongxiao (University of Fukui) — 14:15

4B16-5 "Applying Particle Filter to Genetic Regulatory Networks Identification," *Kotaro Miake (Osaka University), Toshiharu Hatanaka (Osaka University), Katsuji Uosaki (Fukui University of Technology) — 14:35

4B16-6 "Voice Instructions for Controlling a Robotic Forceps with Image and Auxiliary Information," *Kiyotaka Izumi (Saga University), Takuya Tokunaga (Saga University), Keigo Watanabe (Saga University) — 14:55

4B16-7 "Manual Control of a Nonholonomic System by Multiple Predictor-controller Pair Architecture," *Shinpei Kato (Tohoku University), Takakuni Goto (Tohoku University), Noriyasu Homma (Tohoku University), Makoto Yoshizawa (Tohoku University) — 15:15

4B17　Analytical Measurement II/Ecological and Social Network　Room 17

Chair(s): Kazuya Sato (Saga University), Koichi Hidaka (Tokyo Denki University)

4B17-1 ″Analysis on Pedestrian Outflow through an Exit with an Obstacle,″ *Daichi Yanagisawa (The University of Tokyo and DC, JSPS), Ayako Kimura (The University of Tokyo), Akiyasu Tomoeda (The University of Tokyo), Ryosuke Nishi (The University of Tokyo), Yushi Suma (The University of Tokyo), Kazumichi Ohtsuka (The University of Tokyo), Katsuhiro Nishinari (The University of Tokyo and PRESTO, JST)　13:15

4B17-2 ″Performance Analysis of Vector Delay Lock Loop,″ *Deok Won Lim (Chungnam National University), Hee Won Kang (Chungnam National University), Dong-Hwan Hwang (Chungnam National University), Chansik Park (Chungbuk National University), Sang Jeong (Chungnam National University)　13:35

4B17-3 ″Numerical Estimation of Characteristics of Voltage-current Sensor of Resin Molded Type for 22kV Power Distribution Systems,″ *Takuro Kubo (Saga University), Tatsuya Furukawa (Saga University), Hisao Fukumoto (Saga University), Masashi Ohchi (Chiba Institute of Technology)　13:55

4B17-4 ″A Sensor Network using Content-Aware Messaging Network Architecture,″ Junya Terazono (University of Aizu), *Hideyuki Fukuhara (NetOne Systems), Takuto Yamada (University of Aizu), Toshiaki Nihei (University of Aizu), Kazunori Suzuki (University of Aizu), Isamu Koseda (NetOne Systems), Ryutaro Fujita (NetOne Systems), Toshiaki Miayazki (University of Aizu), Senro Saito (University of Aizu), Atsushi Kara (Nara National College of Technology), Takafumi Hayashi (University of Aizu)　14:15

4B17-5 ″The Effective Kinematic Calibration Method of Industrial Manipulators Using IGPS,″ *Min-su Lee (Samsung Heavy Industries), Dongsoo Kang (Samsung Heavy Industries), Young-suk Cho (Samsung Heavy Industries), Youngjun Park (Samsung Heavy Industries), Jae-Hoon Kim (Samsung Heavy Industries)　14:35

4B17-6 ″Behavior Analyses of Stochastic Predator-prey Systems under Fish Predation,″ *Masaaki Ishikawa (Yamaguchi University)　14:55

4B17-7 ″Evaluated Green Supply Chain Supplier Selection by Loss Function,″ *Chakthong Thongchattu (Naresuan Phayao University), Adcharawadee Keawwandee (Naresuan Phayao University), Panu Buranajarukorn (Naresuan University)　15:15

4B18　System Identification/Estimation II　Room 18

Chair(s): Zhuang Hui Qiang (Pusan National University), Hirotada Honda (Keio University)

4B18-1 ″Decay Rate Estimation of Continuous Time Series Using Instantaneous Lyapunov Exponent,″ *Yusuke Totoki (Oita University), Haruo Suemitsu (Oita University), Takami Matsuo (Oita University)　13:15

4B18-2 ″Simulation Model of Integrated OTEC and Desalination Plant and Its Application,″ *Syo Nakamura (Saga University), Satoru Goto (Saga University), Takenao Sugi (Saga University), Yasuyuki Ikegami (Saga University), Masatoshi Nakamura (Saga University)　13:35

4B18-3 ″Estimation of Corrosion Rates on Outside Surface of Pipes,″ *Satoshi Kibata (Waseda University), Hisayoshi Matsuyama (Waseda University), Shigeyuki Tateno (Waseda University)　13:55

4B18-4 ″A Method of Goodness-of-fit Test for Stochastic Processes,″ *Hirotada Honda (Keio University)　14:15

4B18-5 ″An Improvement of Quasi-ARX Predictor to Control of Nonlinear Systems Using Nonlinear PCA network,″ *Lan Wang (Waseda University), Jinglu Hu (Waseda University)　14:35

4B18-6 ″Target Tracking Algorithm with Application to Naval Fire Control Technology,″ *Hui Qiang Zhuang (Pusan National University), Hongping Gao (Pusan National University), Chang Ho Yu (Pusan National University), Yong Il Jin (Pusan National University), Jae Weon Choi (Pusan National University), Tae Il Seo (ADD)　14:55

4B19　OS: Perspectives of Transdisciplinary Approach　Room 19

Organizer(s): Hidenori Kimura (RIKEN), Koichiro Deguchi (Tohoku University)
Chair(s): Koichiro Deguchi (Tohoku University)

4B19-1 ″Strategy and Methodology of Science Integration in Transdisciplinarity,″ *Koichiro Deguchi (Tohoku University)　13:15

4B19-2 ″Towards a Common Principle of Biological Control --- How Control Weaves the String of Life,″ *Hidenori Kimura (RIKEN), Shingo Shimoda (RIKEN), Lu Gaohua (RIKEN), Reiko J. Tanaka (Imperial College London)　13:35

4B19-3 ″Transdisciplinary Approach for Industrial Innovation Management,″ *Motohisa Funabashi (Hitachi, Ltd.), Koichi Homma (Hitachi, Ltd.)　13:55

4B19-4 ″Pattern-oriented Agent-based Simulation for Analyzing Family Strategies in Civil Service Examination in Imperial China,″ *Chao Yang (Tokyo Institute of Technology), Toru Takahashi (Tokyo Institute of Technology), Takashi Yamada (Tokyo Institute of Technology), Setsuya Kurahashi (Tokyo Institute of Technology), Isao Ono (Tokyo Institute of Technology), Takao Terano (Tokyo Institute of Technology)　14:15

Interactive Sessions (2I01–07)

Wednesday, August 19, 13:15–15:15, Gallery   Chair: Atsushi Satoh (Iwate University)

2I01   Control Engineering I

2I01-1   Sliding Mode Control Based on Pole-Placement Method for Position Control of Linear Stage
∗Tae Dong Park, Kiheon Park (SungKyunKwan Univ.)

2I01-2   Development of a Fuzzy-Q control for achieving robust inverter systems
∗Yu-Kai Chen, Chau-Chung Song (National Formosa Univ.)

2I01-3   Inverse Problem of a Modified LQ Control
∗Mitsuyuki Saito, Takahiko Ono, Shinichi Hikita (Hiroshima City Univ.), Kazuo Yamanaka (Ibaraki Univ.), Naoya Kawasaki (Joetsu Univ. of Edu.)

2I01-4   Sliding Mode Stabilization of a Centrifugal Compressor with Spool Dynamics
∗Chau-Chung Song (National Formosa Univ.), Song-Shyong Chen (Hsiu-Ping Inst. of Tech.), Der-Cherng Liaw (National Chiao Tung Univ.)

2I01-5   Asymptotic Stability of Time Delay Systems With Unknown Uncertainty Bounds Using Adaptive Robust Control
∗Mojtaba Hosseini Toodeshki, Javad Askari, Saeed Hosseinnia (Isfahan Univ. of Tech.)

2I01-6   Design, Analysis and Implementation of H-Infinity Loop Shaping Control Design for Small Scale Helicopter
∗Hardian Reza Dharmayanda, Taesam Kang, Youngjae Lee, Sangkyung Sung (Konkuk Univ.)

2I02   Control Engineering II

2I02-1   Robust and Nonfragile H_inf Decentralized Fuzzy Model Control Method for Nonlinear Interconnected System with Time-Delay
∗J. K. Kim, Y. S. Kwon (LIG Nex1 Co., Ltd.), S. T. Park, H. B. Park (Kyungpook National University), K. H. Bang (Myongji College)

2I02-2   Semi-Global Output Feedback Tracking Control for Fully Actuated Ships
Jialu Du, ∗Shuanghe Yu, and Xingru Wang (Dalian Maritime Univ.)

2I02-3   Neural Networks Based Adaptive Control for a Class of Uncertain Nonlinear Processes
∗Emil Petre, Dan Selisteanu, Dorin Sendrescu (Univ. of Craiova)

2I02-4   Adaptive Time-varying Sliding Surface for Second-Order Variable Structure Control
∗Zhu Zhiping, Yuan Kui (CASIA), Huosheng Hu (Univ. of Essex)

2I02-5   Integral Sliding Mode Control with Adaptive Boundary of Nonlinearities for Robot Manipulators
∗Dong Sang Yoo (Hankyong National Univ.)

2I02-6   Redundancy of the Giant Swing Backward Movement on the High Bar
∗Yoshinori Kanemoto, Taiga Yamasaki, Xin Xin, Kiyoshi Gotoh (Okayama Prefectural Univ.)

2I03   Control Engineering III

2I03-1   Target Pointing of Rigid Spacecraft with Two Control Torques under Attitude Sensor Failure Situations
∗Yee-Jin Cheon, Jong-Hwan Kim (Korea Advanced Inst. of Sci. and Tech.)

2I03-2   A tabu-search approach for generating safer operations sequences
Mikiya Suzuki, ∗Rafael Batres (Toyohashi Univ. of Tech.)

2I03-3   Design and Simulation of Self-tuning PI-type Temperature Control for an Injection Molding Machine
∗Chin Sheng Chen, Yen Ting Chen (National Taipei Univ. of Tech.)

2I03-4   Two-DOF Controller Designed by CDM Incorporating FFC for a Smith Predictor Scheme
∗Tianchai Suksri, Satean Tunyasrirut (Pathumwan Inst. of Tech.)

2I03-5   The Relative humidity control
∗Santi Wangnipparnto, Tianchai Suksri (Pathumwan Inst. of Tech.)

2I03-6   A new control strategy for induction motor based on linear predictive control with Constraints
∗Bektache Abdeldjebar (Ferhat Abbes Univ. Setif)

2I04   Modeling, System Identification and Estimation I

2I04-1   Adaptive Estimation of Mass Flow Rate of a Four-Cylinder Spark Ignition Engine
∗Yuta Kitsuka, Tatsuya Nomura, Haruo Suemitsu, Takami Matsuo (Oita Univ.)

2I04-2   Adaptive Input Estimation of a Hodgkin-Huxley Neuron
∗Ryuta Ito, Yusuke Totoki, Haruo Suemitsu, Takami Matsuo (Oita Univ.)

2I04-3   High-Gain Observers for Estimation of Kinetics in a Nonlinear Bioprocess
∗Dan Selisteanu, Emil Petre, Constantin Marin, Dorin Sendrescu (Univ. of Craiova)

2I04-4   Low-order Model for Tokamak Plasma Current Control
∗Aitor J. Garrido, Izaskun Garrido, M. Goretti Sevillano, Modesto Amundarain, Mikel Alberdi (EUITI de Bilbao. UPV/EHU.), Oscar Barambones (EUI de Vitoria. UPV/EHU.), Itziar Martija (EUITI de Bilbao. UPV/EHU.)

2I04-5   Identification of Multi-Input Multi-Output Wiener-type Nonlinear Systems
∗Yuzuru Shiotani, Yasuhide Kobayashi (Hiroshima City Univ.)

2I04-6   A Wavelet-Based Approach in Detecting Visual Defects on Wafer Dies
∗Yeh Chihao (National Taipei Univ. of Tech.), Wu Fulchiang (Va-Nung Univ.), Chang Chinglan (INER), Chiu Chuiyu, Ji Weilung (National Taipei Univ. of Tech.)

2I05 Modeling, System Identification and Estimation II

2I05-1 Detecting Nonlinearity in Prediction Residuals of Snoring Sounds
∗Tsuyoshi Mikami (Tomakomai College of Tech.)

2I05-2 Localization Method of Space Rover using Two-Way Range Measurements under Uncertainties in Rotational Parameters
∗Sayaka Kanata, Hiroaki Nakanishi and Tetsuo Sawaragi (Kyoto Univ.)

2I05-3 Estimation of Hamstring Tendon Slack Length for Knee Flexor Moment Approximations
∗Hyun Woo Uhm, Han Soon Choi, Yoonsu Nam (Kangwon National Univ.)

2I05-4 Extracting Extrinsic Parameters of a Laser Scanner and a Camera Using EM
∗Jae-Han Park, Yong-Deuk Shin, Kyung-Wook Park, Seung-Ho Baeg, Moon-Hong Baeg (Korea Inst. of Indust. Tech.)

2I05-5 Application of Multi-Valued AdaBoost to Control of Autonomous Mobile Robot
∗Hisahiro Itani (Nagoya Municipal Indust. Research Inst., Nagoya Univ.), Takeshi Furuhashi (Nagoya Univ.)

2I05-6 Target Search Method for a Torpedo to the Evading Ship Using Fuzzy Inference
∗Jung-Min Pak, Dong-Gi Woo, Bonhwa Ku (Korea Univ.), Wooyoung Hong (Korea Naval Academy), Hanseok Ko, Myo-Taeg Lim (Korea Univ.)

2I06 Modeling, System Identification and Estimation III

2I06-1 Simple Initial Rotor Position Estimation Method for Three-Phase Star-Connected Switched Reluctance Machine
∗Pakasit Somsiri (National Electronics and Computer Technology Center, Thammasat Univ.), Ruchao Pupadubsin, Prapon Jitkreeyan, Seubsuang Kachapornkul, Kanokvate Tungpimolrut, Nattapon Chayopitak (National Electronics and Computer Technology Center), Pichai Aree (Thammasat Univ.)

2I06-2 Effective Computation Algorithms for Fusion Estimation
∗Seokhyoung Lee and Vladimir Shin (Gwangju Inst. of Sci. and Tech.)

2I06-3 Discrete Mathematical Model for ECG Waveform Using Kernel Function
∗Phayung desyoo, Sukanya Praesomboon, Wanida Sangpetch, Wichai Suracherdkiati (King Mongkut's Univ. of Tech. North Bangkok)

2I06-4 The Frequency Estimation of Weak Signal Based on Chaotic System Fusion Technology
∗Yanchun Xu (Harbin Inst. of Tech., Heilongjiang Univ.), Chunling Yang (Harbin Inst. of Tech.), Xiaodong Qu (Heilongjiang Univ.), Mengda Yang, Quan Yang (Harbin Inst. of Tech.)

2I06-5 HIL Simulation Approach for Feasibility Study of a Tram with an Onboard Hybrid Energy Storage System
∗Jeeho Lee, Namju Jeon, Hyeongcheol Lee (Hanyang Univ.)

2I06-6 Input Signal Reconstruction based on Improved Moving Least Squares for Nonlinear Multiple-input Multiple-output Sensor
∗Jinwei Sun, Dan Liu, Xin Liu, Guo Wei (Harbin Inst. of Tech.)

2I07 Neural Networks and Computational Intelligence

2I07-1 Study on Interpretable Fuzzy Classification System Based on Neural Networks
∗Qin Yong (Beijing Jiaotong Univ.), Xing Zong-yi (Nanjing Univ. of Sci. and Tech.), Jia Li-min (Beijing Jiaotong Univ.), Wu Ying-ying (Nanjing Univ. of Sci. and Tech.)

2I07-2 Water Management Simulation for Electric Current Generation by Max-Min Ant System
P. Roengruen, B.Ploysuk, T. Suesut, S. Gulphanich (King Mongkut' Inst. of Tech. Lakrabang.)

2I07-3 Parameters Estimation of Automotive Ignition Coil Based on Support Vector Regression
∗Qisong Wang, Song Li, Yongping Zhao (Harbin Inst. of Tech.)

2I07-4 Real-time End Point Detection Specialized for Acceleration Signal
∗Jong Gwan Lim (KAIST), Sang-Youn Kim (Korea Univ. of Tech. and Edu.), Dong-soo Kwon (KAIST)

2I07-5 The development of Genetic Algorithm for minimizing a wastewater
∗Jin Soo Park, Wonshoup So, Jae Hak Jung (Yeungnam Univ.)

2I07-6 Gas Classification and Fault Diagnosis of the Gas Sensor in the Gas Monitoring System Using Neural Networks
∗In-Soo Lee (Kyungpook National Univ.)

Interactive Sessions (3I01–07)
Thursday, August 20, 13:15–15:15, Gallery   Chair: Kenji Ikeda (Tokushima University)

3I01 Intelligent Systems

3I01-1 Banknote Recognition Based on Continuous Change in Strictness of Examination
∗Kazuo Nishimura (Kanagawa Inst. of Tech.)

3I01-2 Criteria Classification Intelligent Decision Support Systems
∗Kuceba Robert, Kieltyka Leszek (Czestochowa Univ. of Tech.)

3I01-3 The concept of the expert system diagnosing intuitive skills of the managing staff in an enterprise
∗Jedrzejczyk Waldemar, Kieltyka Leszek (Czestochowa Univ. of Tech.)

3I01-4 Cybernetic Integrators of Created Value Creation
∗Kieltyka Leszek, Kuceba Robert, Jedrzejczyk Waldemar (Czestochowa Univ. of Tech)

3I01-5 Mapping the macroeconomic conditionings of running a business in Poland with the use of Kohonen's networks
∗Kieltyka Leszek, Jedrzejczyk Waldemar, Kuceba Robert (Czestochowa Univ. of Tech)

3I01-6 Comparison of Different Decision Making Strategies by Simulation on Variant of "Snakes and Ladders Board Game"
∗Khan Muhammad Badruddin, Takashi Yamada, Takao Terano (Tokyo Inst. of Tech.)

3I02　Image Processing I

3I02-1　Object Recognition Based on Modified Intuitive Corner Detection and Two-stage Corner Matching
*Chin Sheng Chen, Ming Fu Tsai, Chun Chan Chiu (National Taipei Univ. of Tech.)

3I02-2　Comparison of Color Spaces in Fitting Robustness of Active Appearance Model
*Jong-Min Park, Hyun-Chul Choi, Se-Young Oh (Pohang Univ. of Sci. and Tech.)

3I02-3　Convergent Floating Thresholding Method
*Tomoko Fujidai, Kazuhiro Kunishi, Jun'ichi Yamaguchi (Kagawa Univ.)

3I02-4　An Improved Corner Point Detection Using Extreme Value of Susan Method for measuring a displacement
*Byung-Seung Jeon, Dong-Gi Woo, Young-Hak Mo, Myo-Taeg Lim (Korea Univ.)

3I02-5　Analysis of Hough Data Behavior for Scene Recognition
*Kazuki Ueno Jun'ichi Yamaguchi (Kagawa Univ.)

3I02-6　Human Activity Analysis: Concentrating on Motion History Image and Its Variants
*Md. Atiqur Rahman Ahad, J.K. Tan, H. Kim and S. Ishikawa (Kyushu Inst. of Tech.)

3I03　Image Processing II

3I03-1　SIFT-Based 3D Feature Matching and Reconstruction with Binocular Stereo Vision
*Shuanghe Yu, Jialu Du, Siyuan Wang (Dalian Maritime Univ.), He Xu (Harbin Eng. Univ.)

3I03-2　Self-Aligning-Calibration of a Stereo Vision System
*Dong-Hwan Lim, Tae-Yong Kuc (SungKyunKwan Univ.)

3I03-3　Motion Analysis of Nihon Buyo using Motion Capture System
*Yukitaka Shinoda, Shingo Murakami,Yuki Mito, Reishi Watanuma, Mieko Marumo (Nihon Univ.)

3I03-4　Fast 3D feature extraction method for moving stereo
*In Hwan Jung, Won-Seok Choi, Se-young Oh (Pohang Univ. of Sci. and Tech.)

3I03-5　Image Selection from Streaming Video Images Based on 3 Axes Acceleration Data for the Use in Agricultural Management
*Juichi Takizawa, Kazuki Kobayashi, Yasunori Saito (Shinshu Univ.)

3I03-6　Autonomous Identification of Debris' Impact Craters Utilizing Range Image Sequence
*Fujita Koki (Kyushu Univ.)

3I04　Remote Sensing

3I04-1　Detection of Sulfur-Containing Gases by MODIS
*Yoshimine Tanabu, Takanori Sasaki, Tomohisa Takasugi and Shigetaka Fujita (Hachinohe Inst. of Tech.)

3I04-2　Z-R relation for snowfall using small Doppler radar and high sensitive snow gauges
M. Kubo, *A. Sougen, K. Muramoto (Kanazawa Univ.), Y. Fujiyoshi (Hokkaido Univ.)

3I04-3　Visualization of water vapor distribution in the lower atmosphere using two lidars
M. Kubo, *K. Nakamura, K. Muramoto (Kanazawa Univ.), T. Ohigashi, T. Shinoda (Nagoya Univ.), Y. Fujiyoshi (Hokkaido Univ.)

3I04-4　Shape classification of snow particle into snowflake and graupel using image processing
M. Kubo, *K. Seto, K. Muramoto, Y. Fujiyoshi (Kanazawa Univ.), T. Shinoda, T. Ohigashi (Nagoya Univ.)

3I04-5　Speckle Noise Filtering with Generalized Gamma Distribution
*Sathit Intajag, Sakreya Chitwong, Nopparat Sukkasem (King Mongkut's Inst. of Tech. Ladkrabang)

3I05　Sensor Information Processing

3I05-1　3-Dimensional CFD Simulation Modeling for Optimal Flow Field Design of Direct Methanol Fuel Cell Bipolar Plate
*Minsu Kim, Wonsub Lim, Minhye Lee, Il Moon (Yonsei Univ.)

3I05-2　Nondestructive Measurement System for Welding Residual Stress by Ultrasonic Method
*Zhang Shiping (Harbin Inst. of Tech.), Li Ying (Local Tax Office of Nangang district in Harbin), Sun Jinwei, Fang Hongyuan (Harbin Inst. of Tech.)

3I05-3　Estimating Accelerated Body's Attitude Using an Inertial Sensor
*Oh Chul, Heo, Kiheon, Park (Sungkyunkwan Univ.)

3I05-4　Detection Method of Mobile Terminal Spatial Location Using Audio Watermark Technique
*Toshio Modegi (Dai Nippon Printing Co., Ltd.)

3I05-5　Detection of Human Walking Motion Based on Measurement System of Current Generated by Electrostatic Induction
*Koichi Kurita (Kochi National College of Tech.), Ryo Takizawa, Hitoshi Kumon (Toyota Motor Corporation)

3I05-6　Real time Monitoring System for Prediction of Tool Wear and Failure in Machining Processes Using ART2
*Min-Seok Noh, Jung-Hee Kwon, U-il Jang, Dae Sun Hong (Changwon National Univ.), Hae Young Jung (President, Forex Ind. Co. Ltd)

3I06　Components and Devices

3I06-1　Design of On-line UPS Based on Boost Converter
Chunyang Gu, Zhibing Yang, *Chunling Yang, Mengda Yang (Harbin Inst. of Tech.)

3I06-2　Lowest Power optimal dynamic range continuous time MOSFET-C filter in submicron CMOS tehnology compared with experimental measurement results
Kittipong Tripetch, *Gunyakorn Khunead (Rajamangala Univ. of Tech.)

3I06-3　Feasibility Determination of OTA for Active Floating Inductor Based Application
*Rawid Banchuin (Siam Univ.), Roungsan Chaisricharoen (Mae Fah Luang Univ.), Boonruk Chipipop (King Mongkut's Univ. of Tech. Thonburi)

3I06-4 Development of Remote Alarm Module with Playback functions in Voyage Data Recorder
∗Jonggu Kang, Bokjin Youm, Deokhwan Cho, Hangsoeb Choe (Hyundai Heavy Industries Co., Ltd.)
3I06-5 Energy Harvester using PZT Actuator with a Cantilever
∗So-Nam Yun, Young-Bog Ham, Jung-Ho Park (Korea Inst. of Machinery and Materials)
3I06-6 Reducing Hysteresis Effect of Force Actuator in a Scanning Probe Microscope
Po-Kuang Chang, ∗Jium-Ming Lin (Chung-Hua Univ.)

3I07 Miscellaneous Topics
3I07-1 An Automated Microscope Inspection System for Inspecting the Status of Ball Spacer and Seal in the Cell Process of LCD Panel
∗Yoon-Gu Kim, Jinung An (Daegu Gyeongbuk Inst. of Sci. and Tech.), Ki-Dong Lee (Yeungnam Univ.)
3I07-2 Mechanical Performances of a Piezo-driven Stage with 4-PP Compliant Guide Mechanism
∗Kee-Bong Choi, Jae Jong Lee, Gee Hong Kim (Korea Inst. of Machinery and Materials), Seiichi Hata (Tokyo Inst. of Tech.)
3I07-3 Enhancement of I/O Network Based on RTE Technology by Loop HUB Technology
∗Koji Shibata, Hiroyuki Fujikata (Toshiba Corp.), Akira Nojima (Toshiba Mitsubishi-Electric Industrial Systems Corp.)
3I07-4 Empirical Evaluation of Object-Oriented Programming Effectiveness in Different Types of Program
∗Kazuo Nishimura (Kanagawa Inst. of Tech.)
3I07-5 Performance Evaluations of PC Clusters for Large Scale Numerical Analyses
∗Kohei Honda, Tatsuya Furukawa, Hisao Fukumoto(Saga Univ.), Masashi Ohchi (Chiba Inst. of Tech.)
3I07-6 A Verification of Fault Tree for Safety Integrity Level Evaluation
∗Younghee Lee, Jinkyung Kim, Junghwan Kim, Il Moon (Yonsei Univ.)

Interactive Sessions (4I01–07)
Friday, August 21, 13:15–15:15, Gallery   Chair: Yuji Wakasa (Yamaguchi University)

4I01 Sensors and Measurements I
4I01-1 Development of a Human Motion Measurement System for Application to the Human Machine Interface
∗Koichi Kurita, Kenta Nishikubo (Kochi National College of Tech.)
4I01-2 Measurement of Scale Defects on Steel Plate in Pickling Line
Myoung Koo Kang, ∗Hyun Chul Park, Ho Mun Bae, and Se Ho Choi (POSCO Technical Research Lab.)
4I01-3 A dead reckoning sensor system and a tracking algorithm for mobile robot
∗Hye Ri Park, Dongjun Hyun, Hyun Seok Yang (Yonsei Univ.), Hyuk Sung Park (Yonsei Eng. Research Park)
4I01-4 3D Localization System for Indoor Flying Robot Using Ultrasonic and RF
∗Kuk Cho (Univ. of Sci. and Tech.), Jin-Ok Shin, Woong-Hee Shon, Sangdeok Park (Korea Inst. of Indust. Techn.)
4I01-5 Construction of a Wireless Sensor Networking Platform with Vibration Sensing and GPS Positioning
∗Chau-Chung Song (National Formosa Univ.), Yin-Chieh Hsu (Chung Hua Univ.), Chen-Fu Feng, Yu-Kai Chen (National Formosa Univ.)
4I01-6 High-resolution optical measurement of fiber optics transmission line length
∗Takeshi Tsujimura, Koichi Yoshida, Kuniaki Tanaka, Kazunori Katayama, Yuji Azuma (NTT Access Network Service Systems Lab.), Masahiko Mikawa (Tsukuba Univ.)

4I02 Sensors and Measurements II
4I02-1 Real-time Measurement of Multi-point Strain by Fiber Bragg Gratings using Optical Frequency Sweeping
Yukitaka Shinoda, ∗Yu Sasaki, Kenichi Nagai (Nihon Univ.), Izumi Ogura (Tokyo Metropolitan Univ.), Takashi Higo (Nihon Univ.)
4I02-2 A new compound sensor for optical, electrical and ultrasonic measurements in the liquid
∗Takayuki Kitajima, Akira Kimoto (Saga Univ.)
4I02-3 Design and Implementation of Novel Impedance Measurement using Digital Sine-wave Oscillator with Optimum Phase and Amplitude
∗Sukanya Praesomboon, Thitaphan Jongsataporn, Surapun Yimman (King Mongkut's Univ. of Tech. North Bangkok), Fusak Cheevasuvit (King Mongkut's Univ. of Tech. Ladkrabang)
4I02-4 Deliberation of fluorescent material by used in low temperature measurement
∗Yukari Miyazaki, Megumi Watabiki, Takayuki Sindo, Hiroaki Aizawa, Toru Katsumata, Syuji Komuro (Toyo Univ.)
4I02-5 Experimental study on wind-based vehicle speedometer applying the whistle principle
∗Tomonari Kaneko, Tomoyuki Ohkubo, Yousuke Kurihara, Kazuyuki Kobayashi (Hosei Univ.)

4I03 Man-Machine and Embedded Systems
4I03-1 Experimental Study on Reactive Switch by Using Piezoelectric Devices
∗Yuuki Takehana, , Kazuyuki Kobayashi, Tomoyuki Okubo, Yousuke Kurihara (Hosei Univ.)
4I03-2 Virtual Game and Collaborative Learning for Packaging Design
∗Ratchadawan Nimnual, Surachai Suksakulchai (King Mongkut's Univ. of Tech. Thonburi)
4I03-3 Towards a BSN-based gesture interface for intelligent home applications
∗V-ris Jaijongrak (Thammasat Univ.), Sarit Chantasuban, Surapa Thiemjarus (Sirindhorn International Inst. of Tech.),
4I03-4 Design and Implementation Procedure of AUTOSAR I_O Driver Cluster
∗Woong-Jae Won(Daegu-Gyeongbuk Inst. of Sci. and Tech.), Jangkyung Son (Next Power & Network), Gwangmin Park, Daehyun Kum, Seonghun Lee (Daegu-Gyeongbuk Inst. of Sci. and Tech.)

4I03-5 Software Architecture of Human-like Robot
∗Tae-Geun Lee (SoluBot Inc.), Kwang-Woong Yang, Moo-Sung Choi, Un-Chol Shin (Korea Inst. of Indust. Tech.)

4I04 Industrial Systems

4I04-1 Design and Development of an Open Architecture CNC Controller for Milling Machine Retrofitting
∗Kittipong Ekkachai, Udom Komin, Wuttikorn Chaopramualkul, Apicit Tantaworrasilp, Phanuphan Kwansud,
Pongsakorn Seekhao, Teesid Leelasawassuk, Kamonwan Tanta-Ngai, Kanokvate Tungpimolrut (National Electronics
and Computer Technology Center)

4I04-2 Distributed Control of Industrial Robot Systems using Petri Net Based Multitask Processing
∗Gen'ichi Yasuda (Nagasaki Inst. of Appl. Sci.)

4I04-3 A Multi-objective Constraint Programming for Centralized Production-distribution Planning
∗Hang-Min Cho, In-Jae Jeong (Hanyang Univ.)

4I04-4 Software Development Tool Design For Automotive Applications
∗Hyun Chul Jo, Shiquan Piao, Sung Ho Jin, Woo Young Jung (Daegu-Gyeongbuk Inst. of Sci. and Tech.)

4I04-5 Design and Implementation of the Behaviour Inspection System for Rajjaprabha Dam
∗U. Lewlomphaisarl, K. Ekkachai, K. Suksomboon, J. Kudtongngam, W. Laungnarutai, U. Supakchukul, P.
Komeswarakul, S. Thirachai, S. Karukanan, P. Saengsatcha, A. Jomtarax and K. Tungpimolrut (National Electronics
and Computer Technology Center)

4I04-6 The Development of High Performance Remote Terminal Unit Using RT-Linux for Distribution System
∗Jasada Kudtongngam, Pasakorn Tiwatthanont and Udom Lewlomphaisarl (National Electronics and Computer
Technology Center)

4I05 Robotics and Mechatronics Systems

4I05-1 Dependable Grasping Strategy for Service Robots using Fine Approaching Positions and Adaptive Hands
∗Moosung Choi, Byunghun Hwang, Eun-Cheol Shin, Kwang-Woong Yang, Hong-Seok Kim (Korea Inst. of Indust.
Tech.)

4I05-2 Unmanned Driving of Robotic Vehicle(Robicle)using Magnetic Position Sensor
∗Dae-Yeong Im, Young-Jae Ryoo, Sun-Kil Park (Mokpo National Univ.)

4I05-3 Real-time Velocity Optimization of a Group of Autonomous Members via Ant Colony Optimization (ACO)
Ramin Vatankhah, Shahram Etemadi, Aria Alasty, mehrdad Boroushaki, ∗Gholamreza Vossoughi (Sharif Univ. of
Tech.)

4I05-4 Fault Tolerant Control Using Self-Diagnostic Smart Actuator
∗Inseok Yang, Kyungmin Kang, Dongik Lee (Kyungpook National Univ.)

4I05-5 An Enhanced Path Planning of Fast Mobile Robot based on Data Fusion of Image Sensor and GPS
∗Jin-Hwan Joo, Dae-Han Hong (Yeungnam Univ.), Yoon-Gu Kim (Daegu Gyeongbuk Inst. of Sci. and Tech.),
Ho-Geun Lee (Electronics and Telecommunication Research Inst.), Ki-Dong Lee, Suk-Gyu Lee (Yeungnam Univ.)

4I06 Robot Technology System and Integration I

4I06-1 Design and Implementation of Vision-Based Transport for a Mobile Robot via Kalman Filter
∗Shuanghe Yu, Yuqing Chen, Dan Wang, Jialu Du (Dalian Maritime Univ.)

4I06-2 A Wall Climbing Robot with Simple Suckers
Nobuhiro Okada, ∗Kyohei Yamanaka, Eiji Kondo (Kyushu Univ.)

4I06-3 The Formation-Keeping of Multiple Mobile Robots using Chained-Poles
∗JaeHyuk Kwak, HyunDuk Kang, ChangHwan Kim (Korea Inst. of Sci. and Tech.)

4I06-4 Development of Task Planner for u-Intelligent Educational Robots
Woohyun Ko, Jaeseong Han, ∗Sanghoon Ji, Kyungtae Nam, Sangmoo Lee, Woonghee Shon (Korea Inst. of Sci. and
Tech.)

4I06-5 An Emotion Engine for Intelligent Robot
∗Cheonshu Park, Jaehong Kim (Electron. Telecom. Research Inst.)

4I06-6 Prediction method of an in-pipe robot's orientation to pass in a curved pipe
∗Jungwan Park, Sangyong Park, Dongwoo Lee, Hyunseok Yang (Yonsei Univ.)

4I07 Robot Technology System and Integration II

4I07-1 Development of Human-Friendly Robot with Collision Force Suppression Mechanism
Hun-ok Lim, Masahiko Sunagawa, ∗Naoki Takeuchi (Kanagawa Univ.)

4I07-2 Development of Pipe Inspection Robot
Hun-ok Lim, ∗Taku Ohki (Kanagawa Univ.)

4I07-3 Mechanism and Control of Personal Motor Vehicle Capable of Using for Passenger and Baggage Conveyance
Hun-ok Lim, Yoshiyuki Ohta, ∗Shoji Machida (Kanagawa Univ.)

4I07-4 Development of Biped Walking Robot KBR-1R
Hun-ok Lim, Kensuke Tajima, ∗Tetsuya Yoshida, Katsuhiro Watanabe (Kanagawa Univ.)

4I07-5 A Modified Nonlinear Guidance Logic for a Leader-Follower Formation Flight of Two UAVs
∗Do-Myung Kim, Suhyun Nam, Jinyoung Suk (Chungnam National Univ.)

4I07-6 A design of onboard multi-channel sonar signal processing system for autonomous mobile robots
Hiroyuki Takai, ∗Kiyoshi Okuda, Masamichi Miyake (Hiroshima City Univ.), Keihachiro Tachibana (Osaka Gakuin
Univ.)