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TA04-2	Comparison and Estimation of Reaction Force of End Effector of 1-DOF Manipulator using PDSPO and SMCSPO without Sensor <i>Min Cheol Lee, Wang Jie, Hyun Hee Kim, Min Cheol Lee(Pusan National University, Korea)</i>	521
TA04-3	Study of the drive-timing for a standup motion-supporting mechanism for the elderly <i>Shuheii Nomura(Shibaura Institute of Technology, Japan), Naoya Nakanishi(Shibaura Institute of Technology, Japan), Nobuto Matsuhira, Takashi Oogawara, Takashi Yoshimi(Shibaura Institute of Technology, Japan), Hideichi Nakamoto(Toshiba Corporation, Japan)</i>	526
TA04-4	A Study of Candle Sticker Attachment Task by Dual Arm Robot System <i>Takashi Yoshimi, Shota Yamazaki(Shibaura Institute of Technology, Japan), Kunio Torii, Yusuke Yamaguchi(Torii Candle Co., Ltd., Japan)</i>	N/A
TA04-5	SMCSPO Based Reaction Force Estimation for 7 DOF Robot Arm <i>Hyun Hee Kim, Jie Wang, Karam Dad Kallu, Min Cheol Lee(Pusan National University, Korea)</i>	535
TA04-6	Arrangement of Haptic Device with Multi-Function for Teleoperation <i>Kengo Kikuchi, Masamitsu Kurisu(Tokyo Denki University, Japan)</i>	N/A

TA05 Sensor and Signal Processing I

Room 105, 09:00~10:30

TA05-1	Control of Switched Asynchronous Machines with Application to Dual Counters <i>SangSik Lee, Jung-Min Yang(Kyungpook National University, Korea)</i>	N/A
TA05-2	Development of a wearable soft sensor system for measuring finger motions <i>Kyongkwan Ro, Suin Kim, Wookeun Park, Joonbum Bae(Ulsan National Institute of Science and Technology, Korea)</i>	549
TA05-3	The measurement uncertainty evaluation of yaw sensor calibration <i>Vittaya Tipsuwanporn(King Mongkut's Institute of Technology Ladkrabang, Thailand), Wanchai Chinchusak, Supaporn Jaturunruangsri(Bangkok, Thailand)</i>	555
TA05-4	The Application of Yaw Sensor Measuring Carriage System <i>Vittaya Tipsuwanporn, Wanchai Chinchusak(King Mongkut's Institute of Technology Ladkrabang, Thailand)</i>	559
TA05-5	Multi-point Fuzzy Prediction for Load Forecasting in Green Buildings <i>Hsuan-Hao Chang, Wei-Yu Chiu(Yuan Ze University, Taiwan), Ting-Yen Hsieh(Industrial Technology Research Institute, Taiwan)</i>	562

TA06 Navigation and Process Design

Room 106, 09:00~10:30

TA06-1	Velocity Maximizing Suboptimal Control Law for Agile Turn of Air-to-Air Missiles <i>Seungyeop Han, Min Ki Kim, Min Jea Tahk(KAIST, Korea), Yun-Young Kim(LIG Nex1, Korea)</i>	568
TA06-2	Observer Motion Controls for Multiple Targets Considering Doppler-Bearing Measurements <i>Jonghoek Kim, Taeil Suh, Jonha Ryu(Agency for Defense Development, Korea)</i>	574
TA06-3	Terrain relative navigation for precise lunar landing using crater matching algorithm <i>Woosang Park, Youeyun Jung, Hyochoong Bang(KAIST, Korea)</i>	582
TA06-4	Optimal Design on Policies of Industrial Eco-Economic System in China under the Constraint of Energy Saving and Carbon Emission <i>Yingbo Qin, Wenping Wang, Wenwen Li(Southeast University, China)</i>	587
TA06-5	The Developing Tool for Heat Exchanger Education in Instrumentation	593

Engineering

Vittaya Tipsuwanporn, Nurawit Oranpaiboon, Viriya Krongratana(King Mongkut's Institute of Technology Ladkrabang, Thailand)

- TA06-6 [Design of functional safety model for tail gas treating process](#) 599
Teerawat Thepmanee, Prasit Julsereewong, Jirawat Poomhuang(King Mongkut's Institute of Technology Ladkrabang, Thailand)

TA07 [OS] Development of the Industrial Dual Arm Robot System

Room 201, 09:00~10:30

- TA07-1 [Application of Calibration for Bin-Picking in Cell Production System with Multi Dual-arm Robots](#) N/A
JuHan Park, GukHwa Kim, HyunMin Do, JinHo Kyung(Korea Institute of Machinery & Materials (KIMM), Korea)
- TA07-2 [Easy Estimation Method of Dynamic Parameters of Robots using Newton-Euler Formulation Regressor with Translated Coordinate](#) N/A
Dawoon Jung, Joono cheong(Korea University, Korea)
- TA07-3 [Dynamic Analysis for Human-Robot Collision and Robot Safety Index](#) N/A
Junewon Seo(Kyung Hee University, Korea), Heonseop Shin(Midas IT, Korea), Sungsoo Rhim(Kyung Hee University, Korea)
- TA07-4 [Posture Invariant Object Recognition Using Geometric and Statistical Features](#) N/A
Ji-Hyeong Pyo(Korea University of Science and Technology(UST), Korea), Sang-Seung Kang, Jae-Yeon Lee, Kye-Kyung Kim(Electronics and Telecommunications Research Institute, Korea)
- TA07-5 [The development of joint torque sensor for robot manipulator based on force control](#) N/A
BongSeok Kim, DongSub Kim, TaeKeun Kim, ChangWoo Park(Korea Electronic Technology Institute, Korea)

TC01 Nonlinear Control

Room 101, 17:00~18:30

- TC01-1 [Laguerre based design of fractional-order PD controller](#) 621
Mohammad Tabatabaei, Romina Salehi(Khomeinishahr Branch, Islamic Azad University, Iran, Islamic Republic of)
- TC01-2 [Reset Control of Pressure-Drop Oscillations in Boiling Micro-Channel Systems](#) 626
Masataka Iwai(MHI Nuclear Systems and Solution Engineering Co.,Ltd., Japan), Toshimitsu Ushio(Osaka University, Japan)
- TC01-3 [Proposal of Vibration Control by Varying Stiffness in Repulsive Magnetic Bearing Using the Motion Control of Permanent Magnets](#) N/A
Takeshi Mizuno, Yuji Ishino, Masaya Takasaki, Masayuki Hara, Daisuke Yamaguchi(Saitama University, Japan)
- TC01-4 [An Improved Algorithm for Computing Transfer Function Matrices of Descriptor Systems](#) 634
Akitoshi Mutsuro, Masanobu Koga(Kyushu Institute of Technology, Japan)
- TC01-5 [Robust PID Controller Design Using Convex-Concave Optimization: Application to an Unstable System](#) 638
Chawalit Thabthimratthana, Surachai Saelim, Suchol Tiewcharoen, Sudchai Boonto(King Mongkut's University of Technology Thonburi, Thailand)
- TC01-6 [Dynamics and Vibrational Control of an Underwater Inverted Pendulum](#) 644
Saqib Hasnain, Keum-Shik Hong(Pusan National University, Korea)

TC02 Realtime Networked Systems

Room 102, 17:00~18:30

TC02-1	Tracking of Multiple Moving Targets using Mobile Networks based on Mutual Information <i>Jinhong Lim, H. Jin Kim(Seoul National University, Korea)</i>	650
TC02-2	Delay Effects on Secondary Frequency Control of Micro-grids based on Networked Multi-agent <i>Seunghoon Lee, Ohmin Kwon, Myeongjin Park, Changho Lee(Chungbuk National University, Korea)</i>	655
TC02-3	Distributed coordination for optimal energy flow in smart grid networks: High-order polynomial approach <i>Hyo-Sung Ahn, Young-Hun Lim(GIST, Korea)</i>	660
TC02-4	Healthcare System for Elders with Automatic Drug Label Detection <i>Pikulkaew Tangtisanon(King Mongkut's Institute of Technology Ladkrabang, Faculty of Engineering, Thailand)</i>	666
TC02-5	On Development of Train Control and Signaling Simulation <i>Puthita Samootrut, Mayulee Lertwatechakul, Somsin Tongkrait, Thanavit Anuwongpinit, Alongkon Vijittanasan, Vanvisa Chutchavong(King Mongkut's Institute of Technology Ladkrabang, Thailand)</i>	671

TC03 [OS] SICE-ICROS Joint Organized Session: Advanced Control System Design and the Applications

Room 103, 17:00~18:30

TC03-1	Design of Switching State Observer for Irregularly Delayed Measurement <i>Kenji Sugimoto, Kentaro Noto(Nara Institute of Science and Technology, Japan)</i>	N/A
TC03-2	A preliminary study on gain-scheduled model predictive control of floating offshore wind turbines <i>Ryo Watanabe, Naoyuki Hara, Keiji Konishi(Osaka Prefecture University, Japan)</i>	N/A
TC03-3	Combined Feedforward/Disturbance Observer-Based Control of Pump-Controlled Electro-Hydrostatic Actuation System <i>Hyung-Tae Seo, Dae-Gyeom Kang, Yun-Pyo Hong, Kyung-Soo Kim(KAIST, Korea), Jae-Kwan Ryu, Junsik Lee(LIG nex1, Korea)</i>	684
TC03-4	Robust performance optimization for structural uncertainties in data-driven regulatory control parameter tuning <i>Riku Yoshino, Shiro Masuda(Tokyo Metropolitan University, Japan)</i>	N/A
TC03-5	The model-free PID gain tuning for regulatory control based on generalized minimum variance evaluation with a feedforward compensator <i>Shotaro Takahashi, Shiro Masuda(Tokyo Metropolitan University, Japan)</i>	N/A
TC03-6	Fuzzy Compensation Technique for Cooperative Control between Two Actuators of an One-wheel Robot <i>Sangdeok Lee, Seul Jung(Chungnam National University, Korea)</i>	692

TC04 [OS] SICE-ICROS Joint Organized Session : Advanced Robot Technology II

Room 104, 17:00~18:30

TC04-1	Analysis of Pedestrian Collision Risk using Fuzzy Inference Model <i>Joko Hariyono, Laksono Kurnianggoro, Wahyono Wahyono, Kang-Hyun Jo(University of Ulsan, Korea)</i>	696
TC04-2	Development of multicopter that equipped with semi-auto control	N/A

Tatsuya Yamazaki, Wan Azizul, Tadahiro Hasegawa, Shin'ichi Yuta(Shibaura Institute of Technology, Japan)

TC04-3	Dense Optical Flow in Stabilized Scenes for Moving Object Detection from a Moving Camera <i>Laksono Kurnianggoro(Intelligent Systems Lab., Korea), <u>Ajmal Shahbaz</u>, Kang-Hyun Jo(University of Ulsan, Korea)</i>	704
TC04-4	Fundamental numerical and experimental evaluation of attitude recovery control for a quad tilt rotor UAV against disturbance <i><u>Satoko Abiko</u>, Kengo Tashiro(Shibaura Institute of Technology, Japan)</i>	709
TC04-5	Flight Planning for Photovoltaic-Plant Inspection by Unmanned Aerial Vehicle <i><u>Geon-Hee Lee</u>, Seong-Hwan Kim, Hye-Jin Oh, Ji-Won Lee, Kee-Ho Yu(Chonbuk National University, Korea)</i>	N/A

TC05 Sensor and Signal Processing II

Room 105, 17:00~18:30

TC05-1	Further Improvement on Phase-Compensating-System Design <i><u>Tian-Bo Deng</u>(Toho University, Japan)</i>	N/A
TC05-2	Automatic Segmentation of Cell Candidate Regions in Microscopy Images Based on an Optimization Algorithm <i><u>Kouki Tsuji</u>, Hyoungseop Kim, Joo Kooi Tan(Kyushu Institute of Technology, Japan), Kazue Yoneda(University of Occupational and Environmental Health, Japan)</i>	720
TC05-3	Extraction of GGO candidate regions from the LIDC database using deep learning <i><u>Kazuki Hirayama</u>, Hyoungseop Kim, Joo Kooi Tan(Kyushu Institute of Technology, Japan)</i>	724
TC05-4	Pilot Hand Detecting and Tracking in the cockpit based on Depth Image Using the Intel RealSense Camera <i><u>Tao Wang</u>(Shanghai Jiao Tong University, China)</i>	N/A
TC05-5	A Combination of Independent Component Analysis, Relative Wavelet Energy, and Support Vector Machine for Mental State Classification <i><u>Hoang-Anh T. Nguyen</u>, Huy-Hoang Tran, Thang T. Vu(Institute of Information Technology-Vietnam Academy of Science and Technology, Viet Nam), Quyen T.T. Bui(Institute of Information Technology, Vietnam Academy of Science and Technology, Viet Nam)</i>	733

TP Interactive Poster Session I

2F Lobby, 13:00~14:30

TP-1	The Mixed H_{∞} and μ-synthesis for a Reverse Osmosis Desalination Process <i><u>Bui Duc Hong Phuc</u>, Hyeung-Sik Choi, Sam-Sang You, Ji-Youn Oh(Korea Maritime and Ocean University, Korea)</i>	N/A
TP-2	Robust stability of spacecraft traffic control system using Lyapunov functions <i><u>Vasyi Martsenyuk</u>(University of Bielsko-Biala, Poland), Gulzhan Uskenbayeva, Mamyrbek Beisenbi, Dana Satybalдина(L.N. Gumilyov Eurasian National University, Astana, Kazakhstan), Aigul Shaikhanova(Shakarim State University of Semey, Kazakhstan)</i>	743
TP-3	Comparison Study of Time Delay Control (TDC) and Uncertainty and Disturbance Estimation (UDE) Based Control <i><u>Yun-Joo Nam</u>(Korea Institute of Industrial Technology (KITECH), Korea)</i>	749
TP-4	A Controller Reduction via Structurally Balanced Truncation using Coprime Factorization <i><u>Katsuyuki Noso</u>, Jun Imai, Akiko Takahashi, Shigeyuki Funabiki(Okayama University, Japan)</i>	N/A

TP-5	Gravity Compensation Control and Force Control of Surgical Master Device <i>SeukWoo Ryu, Gi-Hun Yang(KITECH, Korea)</i>	N/A
TP-6	Adaptive Control Using Time Delay Control for Synchronization of Chaotic Systems <i>Soonwan Cho(Pohang University of Science and Technology, Korea), Jaemin Baek, Soohee Han(POSTECH, Korea)</i>	763
TP-7	Control and Structure of a 6-DOF Precision Positioning Stage <i>Jun-Hee Moon(Yuhan University, Korea), Hyunpyo Shin(Dongyang Mirae University, Korea)</i>	N/A
TP-8	Path Planning for a Group of Vehicles in 2D Obstructed Environment <i>Vyacheslav Pshikhopov, Mikhail Medvedev, Victor Shevchenko(Southern Federal University, Russian Federation)</i>	769
TP-9	Road Profile Estimation for Ground Vehicle based Localization <i>Juhui Gim, Changsun Ahn(Pusan National University, Korea)</i>	N/A
TP-10	Mill Load Control System Based on Chaotic Particle Swarm Neural Network <i>Jian-Xin Zhou(North China University of Science And Technology, China)</i>	778
TP-11	Stability Analysis for Time-Varying Positive Linear Systems with Delays <i>Minmin Zhao, Yuangong Sun(University of Jinan, China)</i>	782
TP-12	Numerical Algorithms for Differential-Algebraic Equations of Multibody Dynamics <i>Wei Sun(Xijing University, China)</i>	786
TP-13	LQR-based Adaptive Steering Control Algorithm of Multi-Axle Crane for Improving Driver's Steering Efficiency and Dynamic Stability <i>Kwangseok Oh(Seoul National University, Korea), Jaho Seo(Chungnam National University, Korea), Jeong-Woo Han(KIMM, Korea)</i>	792
TP-14	Research of high response control technology of a moving coil electromechanical converter <i>Gong Zhang(Guangzhou Institute of Advanced Technology, Chinese Academy of Science, China), Zheng Xu, Weijun Wang, Zhichen Hou, Xing Gu, Ning Lin, Liangwei Luo(Guangzhou Institute of Advanced Technology, Chinese Academy of Science, China), Jing Huang(Chengdu Technological University, China)</i>	797
TP-15	Optimized Implementation of a DC-DC Power Converter Modeling and Control Strategy for Efficient Operation of a Photovoltaic Application <i>Woonki Na, Pengyuan Chen(California State University, Fresno, United States), Jonghoon Kim(Chosun University, Korea)</i>	803
TP-16	The MPPT control of PV system using the Series-connected PI controller <i>Dong-Hwa Chung, Jae-sub Ko(Sunchon National University, Korea)</i>	807
TP-17	Quantifying benefits of alternative home delivery operations on transport in China <i>Liyang Song, Jun Wang, Cong Liu, Qian Bian(Beijing Jiaotong University, China)</i>	810
TP-18	Actuator Selection Methodology for Serial-type Manipulator <i>Soonwoong Hwang, Hyeonuk Kim, Younsung Choi, Boyoung An, Inhyuk Baek, Namwun Kim, Jeonghoon Choi, Kyoosik Shin, Changsoo Han(Hanyang University, Korea)</i>	N/A
TP-19	Application of EVCA algorithm in dynamic optimisation of the articulated vehicle motion for control of stability <i>Kornel Warwas, Krzysztof Augustynek, Vasyi Martsenyuk(University of Bielsko-Biala, Poland), Oleksandr Korchenko(University, Poland), Volodymyr Karpinskyi(Coventry University, United Kingdom)</i>	820
TP-20	Modeling and PID Control optimization for the crude oil network tanks <i>Haitham Osman(King Khalid University, Saudi Arabia)</i>	826
TP-21	Analyses of Unit Gravity Compensators	N/A

	<i><u>Sanghyung Kim</u>, Changhyun Cho(Chosun University, Korea)</i>	
TP-22	Design of Planar Static Balancer Using Baranov Truss <i><u>Sanghyung Kim</u>, Changhyun Cho(Chosun University, Korea)</i>	N/A
TP-23	Substitution Strategy of the Rolling Contact Joints Kinematics for the Robotic Applications <i><u>Sang-Hun Kim</u>, Kyujin Cho(Seoul National University, Korea)</i>	N/A
TP-24	Control Strategy of an Upper Limb Power-assist Robot for Meal Rehabilitation <i><u>Seungyeol Lee</u>(Daegu Gyeongbuk Institute of Science and Technology, Korea)</i>	N/A
TP-25	Graph SLAM for AGV using Geometrical Arrangement based on Lamp and SURF Features in a Factory Environment <i>Jae-Bok Song, <u>Minkuk Jung</u>(Korea University, Korea)</i>	844
TP-26	Systematic Design, Analysis, and Control of Mobile Robot Traveling Simulator Using Optical Mice <i>Sungbok Kim, <u>Seokgi Kim</u>(Hankuk Univ. of Foreign Studies, Korea)</i>	849
TP-27	An Algebraic Condition for the Interior-disjoint of Two Elliptic Robots <i><u>Jae Do Jeon</u>, Beom Hee Lee(Seoul National University, Korea)</i>	N/A
TP-28	Real-time Navigation for Multiple Mobile Robots in Dynamic Environments based on Fuzzy Logic <i><u>Ran Zhao</u>, Dong Hwan Lee, Hong Kyu Lee(Korea University of Technology and Education, Korea)</i>	859
TP-29	Mapping and Path Planning using Communication Graph of Unlocalized and Randomly Deployed Robotic Swarm <i><u>Jin Hyo Kim</u>, Ji-Wook Kwon, Jiwon Seo(Yonsei University, Korea)</i>	865
TP-30	Multi-floor Localization Method for Mobile Robots Using Elevator <i><u>Yu-Cheol Lee</u>(ETRI, Korea)</i>	869
TP-31	Efficient 3D Mapping with RGB-D Camera Based on Distance Dependent Update <i><u>HyungGi Jo</u>, Sungjin Jo, Hae Min Cho, Euntai Kim(Yonsei University, Korea)</i>	873
TP-32	Systematic Approach for Gain Selection of PID Control in Industrial Robot <i><u>Minsung Kang</u>, Youngwoo Choi(Korea University, Korea), Joono Cheong(Korea University (Sejong), Korea), Hyunmin Do(KIMM, Korea)</i>	N/A
TP-33	A Unified Virtual Fixture Model for Haptic Telepresence Systems based on Streaming Point Cloud Data and Implicit Surfaces <i><u>Seokyeol Kim</u>, Jinah Park(Korea Advanced Institute of Science and Technology, Korea)</i>	881
TP-34	Design of Violin-Playing Robot Arm <i><u>Jargalbaatar Yura</u>(Kyung Hee University, Korea), Bat-Erdene Byambasuren(Mongolian University of Science and Technology, Mongolia), Seung-Pyo Hong(Hankyong National University, Korea), Donghan Kim(Kyung Hee University, Korea)</i>	N/A
TP-35	Skin Color Difference Measurement between Real Faces and Face Images from Display according to Lighting Ratio <i><u>Mi-Young Cho</u>, Young-Sook Jeong(Electronics and Telecommunications Research Institute, Korea)</i>	889
TP-36	Assessment Of Robot Training for Social Cognitive Learning <i><u>Alvin Wong</u>, Zhong Zhaowei(Nanyang Technological University, Singapore)</i>	893
TP-37	Robot Arm Control Using an EMG Signal to Aid Hemiplegia Patient <i><u>JiWoong Han</u>, Gi-Hun Yang(Institution, Korea)</i>	N/A
TP-38	Comparison of Point Feature Matching and Graph Matching \\for Underwater Scene Matching <i><u>Youngji Kim</u>, Ayoung Kim(KAIST, Korea)</i>	N/A
TP-39	Automatic tuning of PID controller by using gain matching method	N/A

	<i>Dokyeong Ha, <u>Sojung Kim</u>, Hyung-Soon Park(KAIST, Korea)</i>	
TP-40	Neuro-sliding Mode Control for Robot manipulators <i><u>Seul Jung</u>(Chungnam National University, Korea)</i>	907
TP-41	Development of Active Stiffness Mechanism for Self-stabilizing Manipulator <i><u>Handdeut Chang</u>, Sangjoon Jonathan Kim, Jung Kim(KAIST, Korea)</i>	912
TP-42	Dynamic Analysis of a Flexible Parallel Mechanism Actuated by PAMs <i><u>Bong-Soo Kang</u>, Chang-Joon Oh, Hee-Nam Choi(Hannam University, Korea)</i>	N/A
TP-43	The vision based mind state recognition <i><u>Daeha Lee</u>(ETRI, Korea)</i>	920
TP-44	Face Recognition Enhancement by Employing Facial Component Classification and Reducing the Candidate Gallery Set <i><u>Jinsu Kim</u>, Usman Cheema, Seungbin Moon(Sejong University, Korea)</i>	923
TP-45	A Preliminary Result of Web-based User Study on the Emotion Expression of Social Robots <i><u>Junseok Oh</u>, Hye-Kyung Cho(Hansung Univ, Korea)</i>	N/A
TP-46	A Multi-level Task Scenarios for Usability Evaluation of Social HRI System <i><u>Sanghoon Ji</u>, Sujeong You(Korea Institute of Industrial Technology, Korea), Hye-Kyung Cho(Hansung Univ, Korea)</i>	N/A
TP-47	Human Interaction Recognition using Contextual Information <i>Se-Ho Park, <u>Nam-Gyu Cho</u>, Seong-Whan Lee(Korea University, Korea)</i>	N/A
TP-48	School Safety Management System for Abnormal Situations <i><u>Sang-Seok Yun</u>(Korea Institute of Science and Technology, Korea), Kang-Gu Park(Seoul National University of Science and Technology, Korea), Hoang Minh Do, Quang Nguyen, JongSuk Choi(Korea Institute of Science and Technology, Korea)</i>	N/A
TP-49	Deep Convolution Neural Network using Triplet of Faces for Face Recognition in the Wild <i><u>Bong-Nam Kang</u>, Daijin Kim(POSTECH, Korea)</i>	N/A
TP-50	Camera-based localization error estimation method for Kinect sensor calibration using mobile robot <i>Taemin Choi(Seoul National University of Science and Technology, Korea), <u>Yoonseob Lim</u>, Sung-Kee Park, JongSuk Choi(Korea Institute of Science and Technology, Korea)</i>	N/A
TP-51	Indoor Understanding Using Augmented Reality Display for Teleoperated Indoor Search and Rescue <i><u>Yoojin Oh</u>, Donghoon Kang, Shinsuk Park(Korea University, Korea)</i>	N/A
TP-52	Speed Modulation for FES System in Gait Rehabilitation <i><u>Suhun Jung</u>, Shinsuk Park(Korea University, Korea)</i>	N/A
TP-53	Conceptual Design Using Heartrate for IFF Device Operation <i><u>Hyokeun Lee</u>, Shinsuk Park(Korea University, Korea)</i>	N/A
TP-54	Evaluation of control console for use in robotic task while simple driving <i><u>Jangwoo Park</u>, Ilhwan Kim, Jangwoo Park(Korea university, Korea)</i>	N/A
TP-55	A study on the Path Planning and Control of Robot Manipulator with Six Joint for Forging Process Application <i><u>Min-Seong Kim</u>, Sang-Young Jo(Kyungnam University, Korea), Jong-Bum Won(SMEC, Korea), Sung Hyun Han(Kyungnam University, Korea)</i>	N/A
TP-56	A syudy on Precise Control of Robot Gripper Based on Pressure Sensor for Forging Automation Process <i><u>Sang-Young Jo</u>, Min-Seong Kim(Kyungnam University, Korea), Jeong-Suk Kang(SMEC, Korea), Jong-Dae Won(Young Chang Roboteck, Korea), Sung Hyun Han(Kyungnam University, Korea)</i>	N/A

TP-57	A Study on Intelligent Control of Mobile Robot with Two Arms for Smart FA <i>Yang-Keun Jeong(Sinla Information Technology Co., Ltd., Korea), <u>Sang-Young Jo</u>, Min-Seong Kim(Kyungnam University, Korea), In-Man Park(Intem Co., Ltd., Korea), Sung Hyun Han(Kyungnam University, Korea)</i>	N/A
TP-58	A Study on Robust Control of Vertical Articulated Robot Arm Based on Visual Feedback in Working Space <i>Haeng-Bong Shin(SG servo, Korea), Woo-Song Lee(Sungsanam Deco Co.,Ltd, Korea), <u>Min-Seong Kim</u>, Sang-Young Jo, Sung Hyun Han(Kyungnam University, Korea)</i>	N/A
TP-59	Characterization of a fluid-distributable cell culture module for bioreactor automation <i><u>Dong Yeol Han</u>, Kiso Kim, Won Gu Lee(Kyung Hee University, Korea)</i>	N/A
TP-60	Design of a fluid-controlled cell culture module for automated bioreactor <i>Kiso Kim, <u>Dong Yeol Han</u>, Won Gu Lee(Kyung Hee University, Korea)</i>	N/A
TP-61	Unconventional round wound generation methods <i><u>In Hyuk Jang</u>, Tae Young Kim, Dong Yeol Han, Won Gu Lee(Kyung Hee University, Korea)</i>	N/A
TP-62	Characterization of a wireless gait shoe device with motion and foot pressure sensors for walking pattern recognition <i><u>Jae Yeon Jung</u>, Dong Yeol Han, Ihn Sik Weon, Won Gu Lee, Soon-Geul Lee(Kyung Hee University, Korea)</i>	N/A
TP-63	Development and evaluation of ankle muscle trainer with malleolar and subtalar movement actuators and underfoot reaction force sensors during active ankle dorsi-plantarflexion <i>Sangwoo Cho, Hwiyoung Lee, <u>Hogene Kim</u>(National Rehabilitation Center, Korea)</i>	971
TP-64	Bovine Serum Albumin stability in the context of biosensors <i>Aleksandra Klos-Witkowska(University of Bielsko-Biala, Poland), Bakhytzhana Akhmetov, Nazym Zhumangalieva(Kazakh National Research Technical University after K.I. Satpayev, Kazakhstan), Volodymyr Karpinskyi(Coventry University, United Kingdom), <u>Tomasz Gancarczyk</u>(University of Bielsko-Biala, Poland)</i>	976
TP-65	Evaluation of the basic reproduction number of MERS-CoV during the 2015 Outbreak in South Korea <i><u>H.-J. Chang</u>(Kookmin University, Korea)</i>	981
TP-66	A Schematic Design of Wireless Surgical Information Sharing System for Supporting Intelligent Surgery <i><u>Jisang Park</u>, Su-Young Chi(Electronics & Telecommunication Research Institute, Korea)</i>	N/A
TP-67	Multispectral control of water bodies for biological diversity with the index of phytoplankton <i><u>Vasyi Martsenyuk</u>(University of Bielsko-Biala, Poland), V G Petruk, S M Kvaternyuk(Vinnitsa National Technical University, Ukraine), V D Pohrebennyk(Lviv Polytechnic National University, Ukraine), Y I Bezusiak, R V Petruk(Vinnitsa National Technical University, Ukraine), Aleksandra Klos-Witkowska(University of Bielsko-Biala, Poland)</i>	988
TP-68	A Baseball Game Analysis by an Extraction of Characteristic Play Sequence <i>Toshio Hira, <u>Mizuki Ban</u>, Shinichi Enoki, Shinji Uchida(National Institute of Technology, Nara College, Japan)</i>	994
TP-69	A Generic Architecture for Arbitrary View Generation from Various Sources <i><u>Inpyo Hong</u>, Youngbae Hwang, Byeongho Choi(Korea Electronics Technology Institute, Korea)</i>	N/A
TP-70	GNSS Jamming Propagation Prediction Simulator based on ITU-R P.1546 Model <i><u>Inone Joo</u>(ETRI, Korea)</i>	1002
TP-71	Impact-Angle-Constraint Look Angle Guidance for Miniature Missile <i><u>Jun-fang Fan</u>, Gang Wang, Ying Chen(Beijing Information Science & Technology University, China), Si-yu Dong(Officers College of CAPF, China)</i>	1005

TP-72	Precise Localization of a Vehicle within a Driving Lane by Combining the Vehicle Trajectory with Vision Information <i>Ihn-Sik Weon, Soon-Geul Lee, Sang-Chan Moon(KyungHee University, Korea)</i>	1010
TP-73	Autonomous Navigation and Map building Using an ultrasonic sensor and beacons. <i>Donghwan Kim, Taehyun Shim, Jihoon Jung(College of electronics & information, KYUNG HEE University, Korea)</i>	N/A
TP-74	Attitude determination and disturbance estimation based on adaptive Kalman filter for nano-satellite <i>Sung Hyuk Choi, Chan Gook Park(Seoul National University, Korea)</i>	1020
TP-75	TLE Data-based Precise Estimation of Satellite's Orbital Parameters <i>Ju-Hyeon Hong, Jeong-Hun Kim(Inha University, Korea), Seonggyun Kim(LIG Nex1, Korea), Chang-Kyung Ryoo(Inha University, Korea)</i>	1025
TP-76	Efficient Path Planning Algorithm for Indoor Mobile Robot <i>Jung Kyu Park(UNIST, Korea), Daeyoung Na(Konkuk, Korea), Heung Seok Jeon(Konkuk University, Korea)</i>	N/A
TP-77	Development of the Physical 3-Dimensional Dot Module System Composed of Self-Folding Origami Modules <i>Sa-Reum Kim, Dae-Young Lee(Seoul National University, Korea), Je-Sung Koh(Harvard University, United States), Kyujin Cho(Seoul National University, Korea)</i>	N/A
TP-78	A Vision-based 6-DOF Displacement Measurement System using Multiple Planar Markers for Precise Assemble of PC members <i>Suyoung Choi, Wancheol Myeong, Hyun Myung(Korea Advanced Institute of Science and Technology, Korea)</i>	N/A
TP-79	Vertical Thrusting Unmanned Surface Vehicle for Stable and Close Inspection of Bridge Structure <i>Kyukwang Kim, Jieum Hyun, Duckyu Choi, Hyun Myung(KAIST, Korea)</i>	1040
TP-80	A study on dynamics of cable driven parallel robot for various external forces <i>Hyundong Do(Gachon University, Korea), Jun-Ho Seo(Yonsei University, Korea), Kyoung-Su Park(Gachon University, Korea)</i>	N/A
TP-81	Cable Configuration Analysis to Increase the Rotational Range of Suspended 6-DOF Cable Driven Parallel Robots <i>Jeong-An Seon(Robot Research Initiative in Chonnam National University, Korea), Sukho Park, Seong Young Ko(Chonnam National University, Korea), Jong-Oh Park(Robot Research Initiative, Chonnam National University, Korea)</i>	1047
TP-82	Analysis of Cable Tension of High Speed Parallel Cable Robot: High Speed Position Tracking of Winch <i>Jinwoo Jung, Jinlong Piao, Sukho Park, Jong-Oh Park, Seong Young Ko(Chonnam National University, Korea)</i>	1053
TP-83	Sliding-Mode Control of Cable-Driven Parallel Robots with Elastic Cables <i>Jong Hyeon Park, Jeong-Hyeon Bak(Hanyang University, Korea)</i>	1057
TP-84	H_infinity filtering for T-S fuzzy systems with random multiple delays and packet dropouts subject to sensor saturations <i>Xiu-Ying Li, Yue Xu, Shu-Li Sun(Heilongjiang University, China)</i>	1061
TP-85	Design of Two Degree of Freedom Controller Using Data Conversion Method <i>Shota Higuchi, Ryota Arimura(Tokyo University of Science, Japan), Chinthaka Premachandra(Shibaura Institute of Technology, Japan), Kiyotaka Kato(Tokyo University of Science, Japan)</i>	1067

Room 101, 09:00~10:30

WA01-1	Self-Tuning Control with Neural Network for Robot Manipulator <i>Nattapon Jaisumroum(KMITL, Thailand)</i>	1073
WA01-2	Simulation Control of an Active Suspension System Using Fuzzy control & H ∞ Control Methods <i>Khalil Ali Khalil Ibrahim(Assiut University, Egypt), Nouby Ghazaly(South Valley University, Egypt), Ahmed Saad Ali(Assiut University, Egypt)</i>	1077
WA01-3	The Stabilization Condition of Continuous Affine Fuzzy Systems Under Imperfect Premise Matching <i>Hyeon Jun Lim, Jin Bae Park(Yonsei University, Korea), Young Hoon Joo(Kunsan National University, Korea)</i>	1083
WA01-4	Medical Decision Making Diagnosis System Integrating k-means and Naïve Bayes algorithms <i>Young Im Cho, Aigerim Altayeva, Zharas Suleimenov(Gachon University, Korea)</i>	1087
WA01-5	Autonomous Offshore Container Crane System Using a Fuzzy-PD Logic Controller <i>Ngo Phong Nguyen(Can Tho University of Technology, Viet Nam), Quang Hieu Ngo(Can Tho University, Viet Nam)</i>	1093
WA01-6	Fuzzy Logic Model for Degumming and Bleaching Troubleshooting in Palm Oil Refining <i>Nur Syuhada' Mohamad Ali, Khairiyah Mohd Yusof(Universiti Teknologi Malaysia, Malaysia)</i>	1099

WA02 [OS] Recent Advances in Brain-Machine Interface

Room 102, 09:00~10:30

WA02-1	Face-Machine Interface (FMI) for Communication of Patients with Amyotrophic Lateral Sclerosis (ALS) <i>Chang-Hwan Im(Hanyang University, Korea)</i>	N/A
WA02-2	Threeclass Classification of fNIRS Signals for RGB Color Stimulus in Visual Cortex <i>Xiaolong Liu, Keum-Shik Hong(Pusan National University, Korea)</i>	1107
WA02-3	Bundled-Optode Method for Detection of Brain Activity in Functional Near-Infrared Spectroscopy <i>Hoang-Dung Nguyen, Keum-Shik Hong(Pusan National University, Korea)</i>	1112
WA02-4	A Simulation Study on Decoding Algorithms for Brain-Machine Interfaces with the Non-Stationary Neuronal Ensemble Activity <i>Min-Ki Kim, Sung-phil Kim(UNIST, Korea)</i>	1118
WA02-5	Investigation of initial dip in mental arithmetic task: an fNIRS study <i>Amad Zafar, Keum-Shik Hong, Muhammad Jawad Khan(Pusan National University, Korea)</i>	1122

WA03 Humanoid and Field Robots

Room 103, 09:00~10:30

WA03-1	Gait Pattern Generation under Disturbance Force <i>Rio Ozawa, Yuki Kamogawa, Yasuto Tamura, Hun-ok Lim(Kanagawa University, Japan)</i>	1127
WA03-2	Mechanism and Jumping Pattern of One-Legged Jumping Robot with Pneumatic Actuators <i>Yuya Yamamoto, Haruyoshi Nishi(Kanagawa University, Japan), Yusuke Torii(Fuji Xerox Corporation, Japan), Atsuo Takanishi(Waseda University, Japan), Hun-ok Lim(Kanagawa University, Japan)</i>	1132

WA03-3	Gesture Reconfiguration from Joint Failure using Genetic Algorithm <i>Wisanu Jutharee, Thavida Maneewarn(King Mongkut's University of Technology Thonburi, Thailand)</i>	1137
WA03-4	A nonlinear H-infinity control approach for autonomous navigation of underactuated vessels <i>Gerasimos Rigatos(Industrial Systems Institute, Greece), Pierluigi Siano(University of Salerno, Italy), Nikolaos Zervos(Industrial Systems Institute, Greece)</i>	1143
WA03-5	Development of a Human Detecting System Based on Three-Dimensional Point Cloud - Proposal of a Detecting Method in the Vicinity of a Sensor (about 0.3m~5m) - <i>Yushi Iwama, Yoshinobu Ando(Shibaura Institute of Technology, Japan)</i>	1149
WA03-6	Safety Integrity Evaluation of Human Detection Systems <i>Bong Keun Kim(National Institute of Advanced Industrial Science and Technology, Japan)</i>	N/A

WA04 [OS] Robot Safety

Room 104, 09:00~10:30

WA04-1	Preliminary experimental results for neck injury in mobile robot-human constrained-collision <i>SooYong Yun, Jong-Hyeok Park, Ho-Yeon Kim, Kwan-Woong Gwak(Sejong University, Korea)</i>	1161
WA04-2	Assessment of chest injury in unconstraint frontal collision between human-mobile robot using CTI and VC index: Preliminary results by MADYMO simulation <i>Jong-hyeok Park, SooYong Yun, Ho-Yeon Kim, Seungbin Moon, Kwan-Woong Gwak(Sejong University, Korea)</i>	1164
WA04-3	Pressure ulcer breakout time estimation model in association with wearable robot use : first analysis <i>Chang-Hwan Lee, Kwan-Woong Gwak(Sejong university, Korea)</i>	1167
WA04-4	Human Injury Estimation Approach for Human-Robot Collision Safety <i>Sungsoo Rhim(KyungHee University, Korea), Heonseop Shin(MidasIT, Korea), Junewon Seo, Jin-Hwan Choi(KyungHee University, Korea)</i>	N/A
WA04-5	Experimental Study to Determine Quasi-Static Constitutive Parameters of the Pig-skin for Robot Collision Safety Estimation <i>Sanghoon Kim, Junewon Seo, Junsuk Choi, Sungsoo Rhim(KyungHee University, Korea)</i>	N/A

WA05 [OS] Steel Control and Measurement

Room 105, 09:00~10:30

WA05-1	Localization of slab identification numbers using deep learning <i>Sang Jun Lee, Jaepil Ban, Hyeyeon Choi, Sang Woo Kim(POSTECH, Korea)</i>	1174
WA05-2	Systems Engineering Approach to Designing Smart Condition Monitoring Systems for Smart Manufacturing <i>Kee-Young Shin(POSCO Technical Research LABs, Korea)</i>	1177
WA05-3	Vibration control of a strip in a Continuous Galvanizing Line using Self-Tuning Neuro-PID controller <i>Junmin Park, Hyungwoong Lee, Poogyeon Park(POSTECH, Korea)</i>	1183
WA05-4	Deep learning based modeling for the lateral movement of a strip in hot finishing mill <i>Wookyong Kwon, Jaemin Baek, Soohee Han, Sangchul Won(POSTECH, Korea)</i>	1189
WA05-5	Control Methodology for Stabilized Strip Tracking in Tandem Cold Strip Mill	

System

Jae-Min Baek, Wookyong Kwon(POSTECH, Korea), Jung-Hun Park(POSCO, Korea), Soohee Han(POSTECH, Korea)

WA06 Sensor-data Analysis and Adaptive Control

Room 106, 09:00~10:30

WA06-1	Comparison of Piezoelectric Limit Sensors with FEM Analysis Results of Compression Failure of Brick Masonry Specimens <u>Takuya Sasaki</u> , Calros Cuadra, Hirokazu Madokoro, Kazuhisa Nakasho, Nobuhiro Shimoi(Akita Prefectural University, Japan)	1197
WA06-2	An Improved Hybrid Multilevel Converter Topology as a Utility Interface for Photovoltaic Systems <u>Seved Hossein Hosseini</u> , Amirreza Zarrin, Sasan Karimiyeh(University of Tabriz, Iran, Islamic Republic of)	1202
WA06-3	Robust Discrete-time Control for Uncertain time-delay Systems with Nonlinearities Under Hölder Continuity <u>Xin Wang</u> (China University of Petroleum, Beijing, China), Xin Zuo, Jianwei Liu, Huaqing Liang, Qi Pan(Department of Automation, China University of Petroleum, China)	1208
WA06-4	Static Properties of Bayesian Inference on Phase Unwrapping for Remote Sensing Using SAR Interferometry <u>Yohei Saika</u> (National Institute of Technology, Gunma College, Japan)	N/A
WA06-5	Dynamic Set Point Feedback Control using Steady State Detection <u>Somsin Tongkrirat</u> , Boonchana Purahong, Vanvisa Chutchavong(King Mongkut's Institute of Technology Ladkrabang, Thailand)	1217
WA06-6	Nonlinear Control of Thermoacoustic Oscillations in Rijke-Type Systems William MacKunis, <u>Mahmut Reyhanoglu</u> , Krishna Bhavithavya Kidambi(Embry-Riddle Aeronautical University, United States), Jaime Rubio Hervas(Infinium Robotics Pte Ltd, Singapore)	1221

WB01 [OS] Control Design for Intelligent Systems

Room 101, 13:00~14:30

WB01-1	Continuous Finite-Time Fault-Tolerant Control for a Class of Nonlinear Systems <u>Chih-Chiang Chen</u> , Yew-Wen Liang, Lian-Cyun Li(National Chiao Tung University, Taiwan)	N/A
WB01-2	Pedestrians and Vehicles Recognition Based on Image Recognition and Laser Distance Detection Sheng Fuu Lin, <u>Chung Han Lee</u> (National Chiao Tung University, Taiwan)	1232
WB01-3	Learning Human-Robot Collaboration with POMDP <u>Hsien-I Lin</u> , Xuan-Anh Nguyen(National Taipei University of Technology, Taiwan)	1238
WB01-4	A Design of IOT platform for Environment Monitoring Der-Cherng Liaw, Jia-Hong Liao, <u>Yu-Chia Chang</u> , Chin-Wen Tung(National Chiao Tung University, Taiwan)	N/A
WB01-5	A Guidance Control Design for Golf-Cart Der-Cherng Liaw, Chih-Hsiang Tsai, Chieh Tsao, <u>Chin-Wen Tung</u> (National Chiao Tung University, Taiwan)	N/A
WB01-6	Hybrid Visual Servoing Design for a Continuum Robot under Visibility Constraint and Voice Commands <u>Kai-Tai Song</u> , Chien-Yu Wu(National Chiao Tung University, Taiwan)	1255

WB02 [OS] Disturbance Rejection Related Control

Room 102, 13:00~14:30

- | | | |
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| WB02-1 | Can continuous-time disturbance be represented by sampled input disturbance?
<i>Gyunghoon Park, Hyungbo Shim(Seoul National University, Korea), Kyoungchul Kong(Sogang University, Korea)</i> | 1261 |
| WB02-2 | On Extended State Predictor Observer based Active Disturbance Rejection Control for Uncertain Systems with Sensor Delay
<i>Wenchao Xue, Ping Liu, Sen Chen, Huang Yi(Chinese Academy of Sciences, China)</i> | 1267 |
| WB02-3 | Tuning ADRC for Multi-Variable System Based on Existing PID Parameters
<i>Chunzhe Zhao(Chongqing Three Gorges University, China), Donghai Li(Tsinghua Univ, China), Chun-E Huang(Beijing Union University, China)</i> | 1272 |
| WB02-4 | Disturbance Rejection of Steam Superheated Temperature in a Utility Boiler: A Cascaded Disturbance Observer based Control Solution
<i>Li Sun, Yali Xue, Donghai Li(Tsinghua University, China), Kwang Y. Lee(Baylor University, United States)</i> | 1278 |
| WB02-5 | Active Disturbance Rejection Control for Nanopositioning Systems with Piezoelectric Actuators
<i>Wei Wei, Ran Zhang(Beijing Technology and Business University, China), Jing Wang(University of Science and Technology Beijing, China), Guangbo Hao(University College Cork, Ireland)</i> | 1282 |
| WB02-6 | Active Disturbance Rejection Control for Fluidized Bed Combustor
<i>Zhenlong Wu, Donghai Li(Tsinghua University, China), Lingmei Wang(Shanxi University, China), Jing Wang(University of Science and Technology Beijing, China)</i> | 1286 |

WB03 Human-Robot Interaction

Room 103, 13:00~14:30

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| WB03-1 | Circumventing the Fundamental Tradeoff Between Stability and Performance in Haptic Rendering - Successive Force Augment Approach
<i>Harsimran Singh, Jee-Hwan Ryu(Korea University of Technology and Education, Korea)</i> | 1292 |
| WB03-2 | Mobile Robot Navigation for Human-Robot Social Interaction
<i>Pakpoom Patompak, Sungmoon Jeong, Nak Young Chong(Japan Advanced Institute of Science And Technology, Japan), Itthisek Nilkhamhang(Sirindhorn International Institute of Technology, Thailand)</i> | 1298 |
| WB03-3 | Detecting Pilot's Utterance: An Adaptive Keyword Spotting Approach
<i>Xinyang Zhu(Shanghai Jiao Tong University, China)</i> | N/A |
| WB03-4 | N-best List Re-ranking Using Syntactic Score: An Approach for Improving Speech Recognition Accuracy in Air Traffic Control
<i>Van Nhan Nguyen, Harald Holone(Østfold University College, Norway)</i> | 1309 |
| WB03-5 | N-best List Re-ranking Using Semantic Relatedness and Syntactic Score: An Approach for Improving Speech Recognition Accuracy in Air Traffic Control
<i>Van Nhan Nguyen, Harald Holone(Østfold University College, Norway)</i> | 1315 |

WB04 [OS] Soft Mechatronics

Room 104, 13:00~14:30

- | | | |
|--------|---|-----|
| WB04-1 | Array of Touch Sensor: Elimination of Shadowing-Effect for Robotic Applications
<i>Tuan Anh Luong, Hyungpil Moon, Sungwon Seo, June-Sup Yi(Sungkyunkwan University, Korea), Seonggi Kim(Korea Institute of Machinery and Materials, Korea)</i> | N/A |
| WB04-2 | Computational Modeling of Actin Network Organization under Mechanical Flow | N/A |

Byungjun Kang, Seunghan Jo, Hyungsuk Lee(Yonsei University, Korea)

WB04-3	Position Control of Thermistor-embedded Twisted and Coiled Polymer Actuator <i>Kyeong Ho Cho, Min Geun Song, Hosang Jung, Sang Yul Yang, Hyouk Ryeol Choi(Sungkyunkwan University, Korea)</i>	N/A
WB04-4	Efficient Cooling of Thermally-Actuated Soft Actuators Using Carbon Nanocomposites <i>Chengxu Piao, Kyeong Ho Cho, Min Geun Song, Vishakha Kaushik, Hyouk Ryeol Choi, Ji Won Suk(Sungkyunkwan University, Korea)</i>	N/A
WB04-5	Fabrication of High-resolution Bridge-like 3D Interconnects using Electrohydrodynamic Inkjet Printing <i>Byeong Wan An, Jang-Ung Park(UNIST, Korea)</i>	N/A
WB04-6	Biomimetic Skin-type Shear Sensor <i>Seonggi Kim, Cho-long Jung, Youngdo Jung(Korea Institute of Machinery and Materials, Korea), Hyungpil Moon(Sungkyunkwan University, Korea), Hyuneui Lim(Korea Institute of Machinery and Materials, Korea)</i>	1331

WB05 [OS] Advanced Applications on Robotics

Room 105, 13:00~14:30

WB05-1	A Comparative Study of Foreground Detection using Gaussian Mixture Models- Novice to Novel <i>Aimal Shahbaz, Kang-Hyun Jo(University of Ulsan, Korea), Laksono Kurnianggoro(Intelligent Systems Lab., Korea)</i>	1333
WB05-2	PID Compensating Model for Design of Ship's Autopilot <i>Youngkuk Kwon(Busan National Univ., Korea), Seon-Ho Park, Jang Myung Lee(Pusan National University, Korea)</i>	1337
WB05-3	Performance Evaluation of Tactile Sensor-based Grip Control using 3D-printed Flexible Tactile Sensor <i>Ju Kyoung Lee, Hyeong-Jun Kim, Suk Lee(Pusan National University, Korea), Kyung Chang Lee(Pukyong National University, Korea)</i>	N/A
WB05-4	Region Segmentation and Classification Using Convolutional Neural Network <i>Jang Sik Park, Hyun Gon Kang, Jong Kwan Song, Byung Woo Yoon(Kyungsung University, Korea)</i>	N/A
WB05-5	A Video Based People Counting Using Detection and Tracking Algorithm <i>Jang Sik Park, Baris H Baydarqil(Kyungsung University, Korea)</i>	N/A
WB05-6	Video Based Gender Recognition Using Convolutional Neural Network In Night Time <i>Jang Sik Park, Omer Faruk Ince(Kyungsung University, Turkey)</i>	N/A

WB06 [OS] Statistical Inference, Data Mining and Control

Room 106, 13:00~14:30

WB06-1	3D-Odometry Using Tactile Wheels and Gyros: Localization Simulation of a Bike Robot <i>Tomoyasu Ichimura(National Institute of Technology, Gunma College, Japan)</i>	1349
WB06-2	Performance Estimation of Time-series Prediction on Environmental Factors Using Multiple Similar Time-series Due to Mean-field Analysis Via Random Couplings and Fields <i>Yohei Saika(National Institute of Technology, Gunma College, Japan)</i>	N/A
WB06-3	Evaluation of Transmission Quality of Visible Light Communication using Bit Error Rate Measurement	1362

Nobuo Sasaki, Hiroki Shimada, Syunpei Shimada, Hiroki Kobayashi(National Institute of Technology, Gunma College, Japan)

WB06-4	Statistical Analysis of Feminine Movements in Japanese Traditional Dance <i>Nao Shikanai(Japan Women's University, Japan)</i>	N/A
WB06-5	Individual Identification by Gait Vibration Data Transmitted Floor <i>Yuichi Nakamura, Kazuki Ito, Tatsuo Hasegawa, Shin Itami(National Institute of Technology, Anan College, Japan), Yohei Saika(National Institute of Technology, Gunma College, Japan), Masahiro Nakagawa(Nagaoka University of Technology, Japan)</i>	1371
WB06-6	Probability Distribution of an Image Dictionary for Compressed Sensing <i>Yuhei Ashida, Toshiaki Aida(Okayama University, Japan)</i>	1377

WP Interactive Poster Session II

2F Lobby, 14:40~16:10

WP-1	Control and Implementation of Underwater Vehicle Manipulator System <i>Jin-Il Kang(KIOST-KMOU, Korea), Hyeung-Sik Choi(Korea Maritime and Ocean University, Korea), Bong-Huan Jun(Korea Research Institute of Ship and Ocean Engineering, Korea), Ngoc-Duc Nguyen(Korea Maritime and Ocean University, Korea), Dong-Hee Kim(Hanwha Thales, Korea), Ngoc-Huy Tran(Ho Chi Minh city University of Technology, Viet Nam), Dae-Hyeong Ji(Korea Maritime and Ocean University, Korea)</i>	N/A
WP-2	A study of H infinity controller for a motor-variable heavy load system <i>Byoungil Jeon, Myung-kook Moon(Korea Atomic Energy Research Institute, Korea)</i>	N/A
WP-3	Dimensional Analysis of Scaled Vehicle for Vehicle Dynamics Control Test <i>YeaYoung Park, Changsun Ahn(Pusan National University, Korea)</i>	N/A
WP-4	H∞ fuzzy filter for nonlinear sampled-data system using fuzzy Lyapunov <i>Ho Jun Kim, Jin Bae Park(Yonsei University, Korea), Young Hoon Joo(Kunsan National University, Korea)</i>	1393
WP-5	Backstepping Control Using Self-aligning Torque for Lateral Control of Autonomous Vehicles <i>Joori Lee(Hanyang University, Korea), Wonhee Kim(Chung-Ang University, Korea), ChangMook Kang(Hanyang University, Korea), Young-Seop Son(CAMSYS Corporation, Korea), Chung Choo Chung(Hanyang University, Korea)</i>	N/A
WP-6	Stability Analysis of Nonlinear Ball on Beam System and Controller Using LQG Algorithm <i>Boc Minh Hung, Sam-Sang You, Hyeung-Sik Choi, Mai The Vu, Sang-Ki Jeong, Hyun-Joong Son(Korea Maritime and Ocean University, Korea)</i>	N/A
WP-7	A preliminary study on stabilization of a parallel inverted pendulum by model predictive control <i>Masanori Nakamoto, Naoyuki Hara, Keiji Konishi(Osaka Prefecture University, Japan)</i>	N/A
WP-8	Implementation of Sliding Mode Control for an Excavator System <i>Myeong Sik Oh(Chungnam National University, Korea), Ja Ho Seo(Korea Institute of Machinery & Materials, Korea), Seul Jung(Chungnam National University, Korea)</i>	N/A
WP-9	A Nonlinear Parameter of Aerodynamic Torque And Its Application to a Torque Controller for a MW Wind Turbine <i>Chae Wook Lim(Hanbat National University, Korea)</i>	N/A
WP-10	Modeling and Residual Vibration Control of a Quayside Container Crane <i>Mingxu Piao, Umer Hameed Shah, Keum-Shik Hong(Pusan National University, Korea)</i>	1414
WP-11	Optimal Brake Distribution for Electronic Stability Control Using Weighted Least Square Allocation Method <i>Giseo Park, Seibum Ben Choi(Korea Advanced Institute of Science and Technology, Korea)</i>	1420

WP-12	A Soft Computing Approach for Brake Pedal Behavior Identification in Brake-By-Wire System <i>Junhyung Bae, Seonghun Lee, Dong-Hwan Shin, Jaeseung Hong, Jaeseong Lee(DGIST, Korea), Jong-Hae Kim(Catholic University of Daegu, Korea)</i>	N/A
WP-13	Direct Tire Force Control using Pseudo Inverse Model of Vehicle Dynamics <i>Boryeon Kang, Changsun Ahn(Pusan National University, Korea)</i>	N/A
WP-14	Performance Evaluation of Analytical Hybrid Redundancy System for Advanced Driver Assistance Systems <i>Ji Hoon Kwon, Sang Hyeop Lee(Pusan National University, Korea), Man Ho Kim(Dong-eui Institute of Technology, Korea), Suk Lee(Pusan National University, Korea)</i>	N/A
WP-15	Omni-directional Mobile Robot with Six-axes Force and Torque Sensor <i>Tae Hun Kang, Hee Jin Park, Hyun Ju Lee, Jeon IL Moon(DGIST, Korea)</i>	N/A
WP-16	Analysis of the mechanical behavior of the rubber spring with air pressure <i>Dong Il Park, Chanhoon Park, Hwsu Kim, Doohyung Kim, Byungin Kim(Korea Institute of Machinery & Materials, Korea)</i>	N/A
WP-17	Observer Based Nonlinear Control using Barrier Lyapunov Function for Position Tracking of Sawyer Motor under Yaw Constraint <i>Donghoon Shin(Mando Corporation, Korea), Youngwoo Lee(Hanyang university, Korea), Wonhee Kim(Chung-Ang University, Korea), Chung Choo Chung(Hanyang University, Korea)</i>	1440
WP-18	Study on Cartesian Robot for Deep-hole Drilling with M20 Tapping <i>Hee Jin Park, Hyun Ju Lee, Tae Hun Kang, Jeon IL Moon(DGIST, Korea)</i>	N/A
WP-19	Development of the Air Cushion Transporter for Heavy Load Transportation <i>Dongwon Yun, Heechang Park, Byungin Kim, Sunghwi Lee, Hyunmok Jeong(Korea Institute of Machinery & Materials (KIMM), Korea)</i>	N/A
WP-20	Pose Estimation and Picking Operation of Candidate Objects for Randomized Bin Picking <i>Sangseung Kang(ETRI, Korea)</i>	N/A
WP-21	Decoupled Disturbance Compensation Under Control Saturation with Discrete-Time Variable Structure Control Method in Industrial Servo Systems <i>Ji-Seok Han, Dong-Il Dan Cho, Wook Bahn, Tae-Il Kim, Ji-Ho Park(Seoul National University, Korea), Sang-Sub Lee, Sang-Hoon Lee(RS Automation, Korea)</i>	1453
WP-22	Study on Monitoring Method for Laser Welding Process by using UV and IR sensors <i>Heeshin Kang(Korea Institute of Machinery and Materials, Korea)</i>	N/A
WP-23	The Thermal Effect of DAM Structure in Wafer Level Packaging Process <i>Jong Hyeong Kim(Seoul Tech., Korea), Dong Hwi Jang, Kyung-Jae Jang, Seung-Yong Lim(Seoul Tech, Korea)</i>	N/A
WP-24	Engine stoppage mechanism of small boats during stormy weather <i>Naohiro Yamatani(National Institute of Technology, Toyama College, Japan), Atumu Yezaki(Toyama University, Japan), Toshihiko Nakatani, Noriko Nishii, Hiroshi Mikami(National Institute of Technology, Toyama College, Japan)</i>	1463
WP-25	Temporary Primary Frequency Control Support by Deloaded Wind Power Plant Using Input-Output Linearization <i>Yonghao Gui, Chunghun Kim, Chung Choo Chung(Hanyang University, Korea)</i>	1467
WP-26	Wireless Sensor Networks with randomized parameters <i>Vasyl Martsenyuk, Mikolaj Karpiński(University of Bielsko-Biala, Poland), Pawel Raif(Silesian University of Technology, Poland), Stanisław Rajba, Teresa Rajba(University of Bielsko-Biala, Poland)</i>	1470
WP-27	Method of Algorithm Building for Modular Reducing by Irreducible Polynomial <i>Andrew Okhrimenko(Cipher Ltd, Ukraine), Maria Kovtun(National Aviation University, Ukraine),</i>	1476

Tomasz Gancarczyk(University of Bielsko-Biala, Poland), Volodymyr Karpinskyi(Coventry University, United Kingdom)

WP-28	A Design of Cyber Security Test-bed for DPPS and PMAS in Korean Operating Nuclear Power Plant <u>Yongsik Kim</u> , Insun Moon, Sooil Lee(the Central Research Institute of KHNP, Korea)	1480
WP-29	Advanced method of factorization of multi-bit numbers based on Fermat's theorem in the system of residual classes Mikołaj Karpiński(University of Bielsko-Biala, Poland), Stepan Ivasiev, Ihor Yakymenko, Mykhajlo Kasianchuk(Ternopil National Economic University, Ukraine), <u>Tomasz Gancarczyk</u> (University of Bielsko-Biala, Poland)	1484
WP-30	Control of Fuzzy Technological Objects Based on Mathematical Models Erbol Ospanov, Batyr Orazbayev(L.N. Gumilyov Eurasian National University, Kazakhstan), Kuhlman Orazbayeva(Kazakh University of Economics, Kazakhstan), <u>Tomasz Gancarczyk</u> (University of Bielsko-Biala, Poland), Aigul Shaikhanova(Shakarim State University of Semey, Kazakhstan)	1487
WP-31	Neuro-Fuzzy Control for Balancing A Two-wheel Mobile Robot <u>SangHwa Lee</u> , Seul Jung(Chungnam National University, Korea)	N/A
WP-32	Continuous gesture recognition by using gesture spotting <u>Daeha Lee</u> (ETRI, Korea)	1496
WP-33	An Efficient Plane Extraction Method using Smoothed Surface Normals <u>Hyeonwoo Yu</u> , Beom Hee Lee(Seoul National University, Korea)	N/A
WP-34	Traffic Sign Recognition using Color Segmentation and Hierarchically Combined Classifiers <u>Joon-Pill Jeong</u> , Ju Hong Yoon, Sung-Joon Jang, Byeongho Choi, Youngbae Hwang, Jungho Kim(Korea Electronics Technology Institute, Korea)	N/A
WP-35	A Study on object tracking for mobile robot using image and distance information <u>Jong Hyeon Kim</u> (Seoul Tech., Korea)	1506
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