# **2015 International Automatic Control Conference (CACS 2015)**

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## Table of Contents

WELCOME MESSAGE ······	ii
CONFERENCE ORGANIZATION	iii
SPONSORS	vi
CONFERENCE INFORMATION	vii
VENUE FLOOR PLAN	x
HOTEL INFORMATION	xii
PLENARY SPEECH	xiv
CACS2015 PROGRAM AT A GLANCE	xxii
CACS2015 TECHNICAL PROGRAM SCHEDULE	xxv

## CACS2015 TECHNICAL PROGRAM SCHEDULE

Session Name: ICROS-CACS Joint Session (I)

	ne: 9:00-10:15 Nov. 18, 2015 Session Chair: Prof. Kai-Tai So	ng	WEA01
Paper ID	Paper Title	Author(s)	Page no.
#1007	Passable Space Detection and Steering Control for Backward Driving Vehicle in Narrow Corridor	Chang-Woo Son, Changsun Ahn	N/A
#1008	Nonlinear Tire Inverse Model for Direct Tire Force Control	Boryeon Kang, Chagnsun Ahn	N/A
#1009	Terrain based Localization for Ground Vehicle	Juhui Gim, Changsun Ahn	N/A
#1060	Coverage Control with Density Function in Human-Swarm System	Wei-Tao Li and Yen-Chen Liu	N/A
#1062	A Shared-Control Design for Obstacle Avoidance of a Walk- Assistant Robot	Kai-Tai Song, Shang-Yang Wu and Sin-Yi Jiang	N/A

#### Session Name: TeenSize Humanoid Soccer Robots

	ne: 9:00-10:15 Nov. 18, 2015 Session Chair: Prof. Tzuu-Hser	ng S. Li V	VEA02
Paper ID	Paper Title	Author(s)	Page no.
#1103	Hybrid Particle Swarm Optimization Algorithm Based Obstacle Run for Humanoid Robot	Guan-Yu Chen, Ping-Huan Kuo, Ya-Fang Ho, and Tzuu-Hseng S. Li	N/A
#1117	Humanoid Robot Gait Imitation and Representation	Kao-Shing Hwang, Senior Member, IEEE, Hsin-Jung Hsu, and Wei-Cheng Jiang	N/A
#1120	Stability Margin for Robust Walking Gaits Constructed by Center Of Pressure (COP)	Kuo-Yang Tu, Yun-Hsiang Sun, and Cheng Hsiung Huang	N/A

## Session Name: Multiple Mobile Service Robotic Systems

	om: Sky Hall ne: 9:00-10:15 Nov. 18, 2015	h Tsai	WEA03
Paper ID	Paper Title	Author(s)	Page no.
#1055	OPTICAL FLOW-BASED OBSTACLE AVOIDANCE AND PATH	Xin-Zhong Peng, Huei-Yung Lin,	NI/A

#1055	PLANNING FOR QUADROTOR UAV	Jyun-Min Dai	N/A
#1090	EtherCAT-based Force Compliance Teaching of a 6-DOF Robotic Manipulator	Chun-An Lin ,Ching-Chih Tsai, Chih-Fu Chang, Feng-Chun Tai	N/A
#1099	Intelligent Cooperative Formation Control with Collision and Obstacle Avoidance Using RFWCMAC for Uncertain Multi-ballbot Systems	Ching-Chih Tsai, Feng-Chun Tai, Chang Hsuan Chiang	N/A
#1116	Multi-agents Cooperation System Based on a Layered Cooperation Model	Kao-Shing Hwang, Senior Member, IEEE, Hsin-Jung Hsu, and Wei-Cheng Jiang	N/A
#1001	A Reconfigurable A* Soft Computing for Path Planning of Embedded Robots	Hsu-Chih Huang, Yi-Ci Hunag, Jian-Cheng Chen. Cheng-En Lin, Jie-Ming Chen	N/A

#### Session Name: Intelligent Transportation Systems

Room: RM 301 Time: 10:40-12:10 Nov. 18, 2015 Session Chair: Prof. Bing-Fei Wu			
Paper ID	Paper Title	Author(s)	Page no.
#1122	Fuzzy Accompanist Tracking with Human Comfort Assessment for Wheelchair Robots	Bing-Fei Wu, Po-Yen Chen, Chun-Hsien Lin, and Ching-Wei Huang	N/A
#1126	Application of Fuzzy Control on the Roll and Pitch Angle of a Hovering Quadcopter	Lin-Hua Jheng and Yi-Ching Huang	N/A
#1129	Two-Scan Labeling Algorithm of Connected Component using Efficient Block-Based Strategy	Wan-Yu Chang, Student Member, IEEE, Yun-Jiun Liu, Student Member, IEEE, Sheng-Yi Chiu, Student Member, IEEE, and Chung-Cheng Chiu, Member, IEEE	N/A
#1130	Intelligent Body and Chassis Control System for Electric Vehicles	Yi-Jiang Zhang, Yi-Jie Lin, Hsin-Han Chiang, and Lian-Wang Lee	N/A
#1037	Torque Control of Synchronous Reluctance Motor by Field Oriented Control	Ming-Shyan Wang, Min-Fu Hsieh, Ching-Tang Tsai, and Chih-Hung Wang	N/A
#1039	SOS-based $\ensuremath{H}\infty$ Control of Discrete-Time Interval Type-2 Polynomial Fuzzy Systems	Gwo-Ruey Yu and Zhuo-Rui Li	N/A

## Session Name: Intelligent Multi-function Wheelchairs

Room: RM 302 Time: 10:40-12:10 Nov. 18, 2015 Session Chair: Prof. Tsu-Tian Lee			NEB02
Paper ID	Paper Title	Author(s)	Page no.
#1044	Design and Implementation of a Robot Playing Tic-Tac-Toe Game	Tsu-Tian Lee, IEEE Fellow, Gi-Ming Liu, Yu-Hsiung Lin, Kai-Yi Wong, and Chun-Fei Hsu	N/A
#1045	Identifying Trembling Patterns of Parkinson's Disease Patients from Smart Cane by Intelligent Models	Yo-Ping Huang, Senior Member, IEEE, and Chih-Hang Chuang	N/A
#1046	Design of a Robot Balancing On a Ball	Chun-Fei Hsu, IEEE Member, Wei-Fu Kao, Bore-Kuen Lee, and Yi-Cheng Chen	N/A
#1047	Research on Noise Cancellation Stereo System for Serious Sleep	Cheng-Yuan Chang, Chung-Ying Ho, Kuo-Kai Shyu	N/A
#1070	Model-Based Control for Two-Wheeled Electronic Canes	Jenq-Lang Wu, Member, IEEE, and Hua-Yen Chiu	N/A
#1100	Fuzzy Obstacle Avoidance Control of A Two-Wheeled Mobile Robot	Chian-Song Chiu, Teng-Shung Chiang, and Yu-Ting Y	e 1

## Session Name: ICROS-CACS Joint Session (II)

Room: Sky Hall Time: 10:40-12:10 Nov. 18, 2015 Session Chair: Prof. Keum-Shik Hong			
Paper ID	Paper Title	Author(s)	Page no.
#1036	An Effective Teaching System for Industrial Robot Manipulators Based on Tablet PC	Yu-Hsuan Su, Chia-Chi Hsiao, Te-Zhih Liu, and Kuu-Young Young	N/A
#1024	Modeling and Control of High Speed Robotic Fish 'ICHTHUS V5.6'	Gi-Hun Yang	N/A
#1030	Modified Input Shaping Control of an Overhead Crane Moving Objects under Water	Umer Hameed Shah, Sang-Hei Choi, Seoung-Nam Kim, and Keum-Shik Hong	N/A
#1049	Driving Workload Measurements under Various Traffic Environments and Secondary Tasks	Ji Hyun Yang-IEEE Member, Sung Lae Kim	N/A
#1050	Driver Workload Analysis Using Physiological Metrics	Ji Hyun Yang-IEEE Member, Sung Lae Kim	N/A
#1091	Face-Tracking Control of an Aerial Selfie Robot	Wen-Chung Chang, Szu-Pei Chen, and Chia-Hung Wu	N/A

## Session Name: Intelligent Augmented Reality Mini-invasive Surgical Systems

Room: RM 301 Time: 16:20-17:35 Nov. 18, 2015 Session Chair: Prof. Yung-Yaw Chen		WEC01	
Paper ID	Paper Title	Author(s)	Page no.
#1018	Motion Control and Globally Multi-Dimensional Reconstruction Algorithms for Endoscopic Video	Bo-Hsu Yang and Feng-Li Lian	N/A
#1075	Operational Comfort Evaluation in Port Placement Planning for Minimally Invasive Surgery	Hui-Hsuan Lu, Ming-Chih Ho, Feng-Li Lain, Jia-Yush Yen, Win-Li Lin, and Yung-Yaw Chen	N/A
#1077	Computation of Liver Deformations for Minimally Invasive Surgery	Wei-Ju Hsu, Ming-Chih Ho, Feng-Li Lian, Jia-Yush Yen, Win-Li Lin and Yung-Yaw Chen	7
#1022	Non-Negative Based Sparse Representation for Mobile Device Based Face Recognition System	Yon-Ping Chen, Hao-Chien Tsen Shih-Hung Yang, and Chi-Yang Huang	g, N/A
#1023	Development of Attitude and Heading Reference Systems	Yen-Hsiang Huang, Yusie Rizal, and Ming-Tzu Ho	13

#### Session Name: Relaxed Stability Criteria for Time-delay Systems

Room: RM 302 Time: 16:20-17:35 Nov. 18, 2015 Session Chair: Prof. Kuang-Yow Lian			NEC02
Paper ID	Paper Title	Author(s)	Page no.
#1025	Output-feedback Regulation of T-S Fuzzy Time-delay Systems	Chian-Song Chiu and Chien-Hung Liu	N/A
#1065	Robust Multiple-Feedback-Loop Controller Design for a Class of Nonlinear Uncertain Singular Time-Delay Systems	Chwan-Lu Tseng-IEEE Member, Shun-Yuan Wang-IEEE Member, and Mu-Hua Fu	N/A
#1066	Stability and Stabilization for Discrete Systems with Time-varying Delays: An Average Method	Kuang-Yow Lian, Chian-Song Chiu and Wen-Tsung Yang	N/A
#1098	Time-Delay Visual Servoing of Micro Aerial Vehicle	Sz-Jie Fang, Jung-Ting Hsu, and Cheng-Ming Huang	N/A
#1106	Stability Analysis of Genetic Regulatory Networks with Time-varying Delays	Cheng-Fa Cheng, Ching-Yuan Cheng and Tse-Han Chen	N/A

## Session Name: ICROS-CACS Joint Session (III)

	oom: Sky Hall me: 16:20-17:35 Nov. 18, 2015	n Sheng-Dong Xu	NEC03
Paper ID	Paper Title	Author(s)	Page no.
#1084	Autonomous Navigation of a Mobile Robot in Unknown Environment Based on Fuzzy Inference	Ran Zhao, Dong Hwan Lee, Ting Ting Li and Hong Kyu Lee	19
#1094	A Kalman-Filter-Based Tuning Method for Input Shapers in Servo Systems	J. Yoon, W. Bahn, T. Kim, J. Han, S. Lee, and D. Cho	25
#1109	Development of LLC Resonant Converter for Electrostatic Painting System	Byong Jo Hyon, Joon Sung Park, Jun-Hyuk Choi	N/A
#1097	Force Field Manipulation for an Ethernet-Case Assembly Task	Hsien-I Lin and Jui Hsin Liu	30

#### Session Name: Biomimetic Robotic Animals

Room: RM 301 Time: 9:00-10:15 Nov. 19, 2015 Session Chair: Prof. Wen-June Wang				
Paper ID	Paper Title	Author(s)	Page no.	
#1040	Design and Fabrication of a Wheel-typed Jumping Robot	Wen-June Wang, Shou-De Lu, Zheng-Mao Peng, and Hau-Goung Jou	N/A	
#1041	The design and implementation of a biomimetic flapping-wing robot(II)	Chih-Hui Chiu, Teng-I Wang, Ci-Yuang Wu, Yao-Ting Hung, Jie-Min Lin, and Yu-Siou Huang	N/A	
#1042	Design and Production of Amphibious Biomimetic Animal Robot	Rong-Jyue Wang, Yuan-Shun Shi, and Xian-Zhi Qiu	N/A	
#1057	Vision-based obstacle detection for mobile robot in outdoor environment	Ya-Han Huang, Chung-Chih Tsai, and Chin-Wang Tao	N/A	
#1015	Face Recognition System Based on Circularly Symmetrical Gabor Filter and SVM	Hung-Yuan Chung, Senior Member, IEEE, Chun-Cheng Hou, and Po-Sheng Chiu	N/A	

## Session Name: Lightweight Robot Manipulators

Room: RM 302 Time: 9:00-10:15 Nov. 19, 2015 Session Chair: Prof. Ching-Chang Wong				
Paper ID	Paper Title	Author(s)	Page no.	
#1110	Mechanism Design of Seven-Axis Robot Manipulator	Ching-Chang Wong, Chia-Jun Yu, Yu-Cheng Lai, Yueh-Lung Li, and Cheng-Chun Lin	N/A	
#1113	Trajectory Planning in Joint Space for Robot Manipulators	Ching-Chang Wong, Shih-An Li, Chia-Jun Yu, Li-Hsiang Chou, Wen-Hung Huang, I-Shen Yeh	N/A	
#1118	Fuzzy Controller Hardware Implementation on FPGA For DC-DC Buck Converter	Peter Liu- Member, IEEE, Kuan Yi Lin	N/A	
#1119	6-DOF Object Posture Estimation Based on a 3D Hough Voting Algorithm	Chi-Yi Tsai, Chih-Hung Huang, and Shu-Hsiang Tsai	N/A	
#1002	M-PAM Receiver with Successive Approximation Register Analog-To-Digital Converter on Robotic Control Systems	Wen Cheng Lai	N/A	

#### Session Name: Group Autonomous Mobile Robot Systems

Room: Sky Hall Time: 9:00-10:15 Nov. 19, 2015 Session Chair: Prof. Wei-Yen Wang				
Paper ID	Paper Title	Author(s)	Page no.	
#1074	Cloud-Based Improved Monte Carlo Localization Algorithm	Chung-Ying Li, Chen-Chien Hsu, Wei-Yen Wang, Yi-Hsing Chien, and I-Hsum Li	N/A	
#1020	A New Technique to Maintain Diversity in Global Localization of Mobile Robots	Chiang-Heng Chien, Chen-Chien Hsu, and Wei-Yen Wang	N/A	
#1031	Path Planning Using Enhanced Vector form A* Algorithm with Trapezoidal Velocity Profile	Wei-Jen Chen, Bing-Gang Jhong, and Mei-Yung Chen	N/A	
#1058	Improved Monte Carlo Localization Algorithm with an Error Correction Mechanism	Yen-Cheng Kung, Chen-Chien Hsu, and Wei-Yen Wang	N/A	
#1059	Energy-based Path Planning Using Ant Colony Optimization	Kuan-Tung Lee, Shih-Hua Huang, Shih-HsunSun, and Yih-Guang Leu	N/A	

## Session Name: Best Student Paper Competition

Paper ID	Paper Title	Author(s)	Page no
#1111	Development of a Biped Teen-Size Humanoid Robot for Participating in RoboCup 2015 Competition	l Wayan Dani Pranata, Adhi Catur Widagdo, Andika Pramanta Yudha, Chung-Hsien Kuo	N/A
#1026	Novel Pulse-Width Modulation for Motor Speed Control Driven by VSI	Jau-Nan Lin, Keng-Yuan Chen, and Jwu-Sheng Hu	N/A
#1107	Design and Implementation of a Bidirectional Converter Using Robust Polynomial Systems	Bo-Yu Chiu, Gwo-Ruey Yu	N/A
#1096	Iterative Learning Control for Nonlinear Distributed Parameter Switched Systems with Time Delay	Zhang Jianxiang, Dai Xisheng, Chiang-Ju Chien	N/A
#1101	Improving the Wavelet Shrinkage Method by Cascading the Adaptive Filter	Teng-Chieh Yang, Yi-Te Chiang, Fan-Ren Chang	N/A
#1085	Developing a Robotic Exoskeleton For Stroke's Finger	Mao-Hsiu Huang, Zheng-Lin He, Ting-Wei Huang, Jin-Chern Chiou, Jeng-Ren Duann, Nai-Xin Meng, and Mang Ou-Yang	N/A

### Session Name: SICE-CACS Joint Session (I)

Room: RM 302 Time: 10:40-12:10 Nov. 19, 2015 Session Chair: Prof. Kenji Sawada			
Paper ID	Paper Title	Author(s)	Page no.
#1012	Proposal of a Wireless Control System of Assist Cart for Aged People	Susumu Hara-IEEE Member, Kenta Suzuki, Yoji Yamada-IEEE Member and Hiroki Yoshimura	35
#1017	Studies on Software Model Checking via Kalman Decomposition	Kento Tsukada, Kenji Sawada, Seiichi Shin	N/A
#1019	Continuous-time System Identification for Discrete Data by Curve Fitting	Toshio Ito, Yosuke Senta, and Fumio Nagashima	40
#1105	Contouring control of 5-DOF Manipulator Robot Arm Based on Equivalent Errors	Thanana Nuchkrua, Shou-Yen Chang, and Shyh-Leh Chen, IEEE Member	48
#1108	Optimization of S-curve acc/dec for CNC machine tools	Tzyy-Chyang Lu, Shyh-Leh Chen	N/A
#1069	Implementation of EtherCAT Under LinuxCNC Controller for Real-Time Communication over Motion Control System	Chih-Chao Wen, Che-Hsuan Yu, Shi-Wu Lo, and Yuan-Sun Chu, IEEE Member	N/A

## Session Name: Intelligent Monitoring Platforms

Room: Sky Hall Time: 10:40-12:10 Nov. 19, 2015 Session Chair: Prof. Der-Cherng Liaw				
Paper ID	Paper Title	Author(s)	Page no.	
#1038	Application of Four-Wheel Steering Control to Vehicle Lateral Stabilization and Rollover Prevention	Chung-Chen Yao, and Tesheng Hsiao, IEEE Member	N/A	
#1053	Development of a Wireless Sensor Network Monitoring Platform for Positioning Systems	Der-Cherng Liaw, Sung-Ming Lo and Chih-Hsiang Tsai	N/A	
#1054	A Reliable Design for Automotive Network Control Systems	Der-Cherng Liaw-IEEE Senior Member, Kuo-Chen Wu, Ting-Je Wu and Jia-Hong Liao	N/A	
#1079	A Study on Fusion of Omni-directional Cameras and Laser Range Finders for Object Detection	Sheng-Fuu Lin, Yi-Hong Peng, Po-Hsiang Liao and Yi-Chieh Sun	N/A	
#1095	Study on Aging-Free Balancing Control Mechanism for Inductor-based Equalization	Zhe-Yuan Song and Lan-Rong Dung, IEEE Member	N/A	
#1028	Simulation of the Magnetic Field Distribution and Design of Control Signals for a Linearly Reciprocating Electromagnetic Driving Coils Pump	Shu-Sheng Lee, Shih-Yuan Lin, Jyun Liao, Jie-De Liu, Ting-Chia Chang, Jen-Yu Huang	N/A	

## Session Name: Intelligent Robotic Leg Exoskeleton Rehabilitation

	oom: RM 301 ne: 15:50-16:35 Nov. 19, 2015 Session Chair: Prof. Shun-Feng	g Su 7	HC01
Paper ID	Paper Title	Author(s)	Page no.
#1014	On-line Adaptive T-S Simplified Decomposed Fuzzy Neural Control for Exoskeleton Devices	Shun-Feng Su, Follow, IEEE, Ming-Chang Chen, and Chih-Wei Lin	N/A
#1114	MXGs: Novel Accelerometer-based Body Sensor Network System for Physiological Signal Acquisition in Medical Applications	B. Panigrahi, M.Y. Lee (IET fellow), W.Y. Lin, C.S. Lee and N.H. Chen	N/A
#1115	Mechanical Design and Implementation of a Lower-limb Exoskeleton Rehabilitation System	Chen-Yun Kuo, Kung-Fong Lin, Kai-An Yu, Chung-Wei Su, Chung-Hsien Kuo	N/A

THC03

## Session Name: Walking Assistive Exoskeleton

Room: RM 302 Time: 15:50-16:35 Nov. 19, 2015 Session Chair: Prof. Jwu-Sheng Hu					
Paper ID	Paper Title	Author(s)	Page no.		
#1034	Design and Implementation of an Upper-Extremity Exoskeleton Robot	Jian-Bin Huang, Chen-Yin Lin, Juin-Je Huang, Kuu-Young Young, and Chun-Hsu Ko	N/A		
#1063	Development of a Lower Limb Exoskeleton Using a Dynamic Model and Center of Pressure Estimation	Kai-Tai Song, Yu-Lin Chien and Susanto	N/A		
#1021	Real-Time Face Recognition System Design Based on Depth Detection	Yon-Ping Chen, Yen-Yang Chou, Kuan-Yu Chou and Qi-Hui Chen	N/A		

#### Session Name: 2015 UK-Taiwan Robotics Workshop

<b>.</b>	Room: Sky Hall	
	Room: Sky Hall Time: 15:20-18:40 Nov. 19, 2015	

Time	Program
15:20~15:30	Opening, Prof. Kai-Tai Song, National Chiao Tung University
15:30~16:00	Speech: Robotics in the Melting Pot: The Sheffield Approach to Robotics and Autonomous Systems   Prof. Tony Prescott   Director of Sheffield Robotics
16:00~16:30	Speech: Consequential Robotics Dr. Sebastian Conran Director, Marker Block Ltd, United Kingdom
16:30~16:50	Speech: Shayang Ye's Vision of Robots and Life Mr. F. C. Tsai President Shayang Ye Industrial Co. Ltd, Taiwan
16:50~17:10	Tea Break & Robot Demo
17:10~17:30	Speech: Smart home mobile platform–IOT+ big data driving force Mr. Charles Wu Vice President Matsutek Enterprises Co.,Ltd., Taiwan
17:30~17:50	Speech: EtherCAT-based Impedance Control and Force Compliance Teaching of a 6-DOF Industrial Robotic Manipulator for Industry 4.0 Prof. Ching-Chih Tsai National Chung-Hsing University, Taichung Taiwan.
17:50~18:40	Panel Discussion Next Smart Robots for Industries and Home Chair: Prof. Kai-Tai Song Panelist: Prof. Tony Prescott Dr. Sebastian Conran Mr. F. C. Tsai Mr. Charles Wu Prof. Ching-Chih Tsai

Remark: The content may be modified by the organizing committee.

## Session Name: Intelligent Computation on Symbolic Data Analysis

Room: RM 301 Time: 16:35-18:05 Nov. 19, 2015	1	Session Chair: Prof. Shun-Feng Su	THD01

Paper ID	Paper Title	Author(s)	Page no.
#1040i	Moment fuzzy control methods for selecting the shortest path	Ted Tao	N/A
#1086i	Symbolic Data Processing with Physical Meanings of Interval Values for Clustering	Yi-Ru Li, Shun-Feng Su, Fellow, IEEE, Ming-Chang Chen	N/A
#1142i	Linear interval regression models with locally weights for the interval-valued data	Chen-Chia Chuang, Chih-Wen Li, Chih-Ching Hsiao, Jin-Tsong Jeng and Shun-Feng Su	N/A
#1149i	Intelligent Computation on Symbolic Data Analysis: the Proposed Clustering Technologies for the Real Symbolic Data	Jin-Tsong Jeng, Chen-Chia Chuang, Sheng-Chieh Chang and Nai-Cheng Shih	N/A
#1154i	A Weighted Feature Selection Algorithm for Interval-Value Data	Chih-Ching Hsiao	N/A
#1092	Motor Control Using FSK Modulation in Power Line Communication Networks	Min-Huei Lu, Chun-Liang Lin and Yu-Ju Shen	N/A

## Session Name: Brain Wave Controlled Exercise Rehabilitation Systems

	Room: RM 302 Time: 16:35-18:05 Nov. 19, 2015 Session Chair: Prof. Kuo-Kai Shyu				
Paper ID	Paper Title	Author(s)	Page no.		
#1123	Brain wave controlled exercise rehabilitation system with bio- feedback: Assistive mechanism design and accomplishment	Tung, Pi-Cheng and Chiu, chien-yeh	N/A		
#1125	Alteration of Electroencephalography during moderate-intensity and high-intensity sustained cycling exercise	Szu-Yu Lin, Chih-l Hung, Hsin-l Wang, Po-Shan Wang, and Yu-Te Wu	N/A		
#1127	Brain Wave Controlled Exercise Rehabilitation System with Biosignals Feedback: Circuit System Design	Kuo-Kai Shyu, Po-Lei Lee, Chung-Ying Ho, Tai-Yen Cho, Yu-Wei Liu	N/A		
#1128	Evaluate the feasibility of using frontal SSVEP to implement an SSVEP-based BCI	Hao-Teng Hsu, Po-Lei Lee, and Kuo-Kai Shyu	N/A		
#1033	Implementation of Emergency Vehicle Preemption Control Systems Using VHDL	Yi-Sheng Huang,Yi-Shun Weng, Weimin Wu and Jiliang Luo	N/A		
#1102	Design of One Computationally Improved Deadlock Prevention Based on MFFP Technology in Flexible Manufacturing System	Yen-Liang Pan, Member, IEEE, Ching-Yun Tseng, and Yi-Sheng Huang, Senior Member, IEEE	54		

## Session Name: SICE-CACS Joint Session (II)

	om: RM 301 ne: 09:00-10:30 Nov. 20, 2015	1	Session Chair: Prof. Shyh Leh (	Chen	F	RA01
Paper ID	Pa	aper Title		Author(s)		Page no.

ruperib	Tuper file	/ action (5)	ruge no.
#1011	Design, Modeling and Control of Magnetic Bearings for Ring-type Flywheel Energy Storage System	Chow Shing Toh, Student Member, IEEE, Shyh Leh Chen, Member, IEEE	N/A
#1089	Adaptive trajectory tracking control with finite-time stability for robot manipulators	Juro Fujishiro, Yoshiro Fukui and Takahiro Wada	60
#1093	Data-Driven Controller Tuning Using Closed-Loop Data by TS4SID Method	Haruki Matsumoto, Kazuhiro Yubai, Daisuke Yashiro and Junji Hirai	N/A
#1035	Environment Perception and Path Planning for Intelligent Vehicles in Urban Scenarios	Chunzhao Guo, Kiyosumi Kidono, and Masaru Ogawa	N/A
#1051	On-Demand Type Feedback Controller for State Space Based Generalized Minimum Variance Control Using Coprime Factorization	Akira Yanou, Mamoru Minami and Takayuki Matsuno	67
#1043	Space design for the multilayer minimum projection method in nonsmooth control Lyapunov function design	Yoshiro Fukui	72

## Session Name: Regular (I)

Room: RM 302 Time: 09:00-10:30 Nov. 20, 2015 Session Chair: Prof. Chun-Fei Hsu			RA02
Paper ID	Paper Title	Author(s)	Page no.
#1067	Output-Feedback Switching Control of DC-DC Ćuk Converters Using Multiple Sampling	Xingda Yan, Zhan Shu, and Suleiman M. Sharkh, and Tongwen Chen	N/A
#1068	A Simple Single Shunt Current Reconstruction Approach for Low-Cost Permanent Magnet Synchronous Motor Drives	Chao-Min Wang and Shir-Kuan Lin	79
#1071	Control Laws with Integral Action for Marine Vessels	Maria A. Smirnova, Mikhail N. Smirnov, Tatyana E. Smirnova, and Nikolay V. Smirnov	N/A
#1072	Modernization of the Approach for Bounded External Disturbances Compensation	Mikhail N. Smirnov, Maria A. Smirnova, Tatyana E. Smirnova, and Nikolay V. Smirnov	N/A
#1073	Optimal Robot Path Planning System by Using a Neural Network-Based Approach	Yi-Wen Chen and Wei-Yu Chiu	85
#1076	External Control for Paralleling Different Rated Power Systems	Ping-Hui Lee, Yi-Te Chiang and Fan-Ren Chang	N/A

## Session Name: Regular (II)

	5			
Room: Sky Hall Time: 09:00-10:30 Nov. 20, 2015 Session Chair: Prof. Sendren Sheng-Dong Xu				
Paper ID	Paper Title	Author(s)	Page no.	
#1032	A Novel RFID-Based Wireless Thermal Convection Angular Accelerometer for Environmental Safety Monitoring	Jium-Ming Lin, Cheng-Hung Lin, and Chia-Hsien Lin	N/A	
#1104	Heart Rate Detection on a Green LED Based Wearable Device	Cheng-Ta Chuang, Tom Chang, Yi -Te Chiang, and Fan-Ren Chang	N/A	
#1088	Vision-Based 3D Point Cloud Reconstruction for Objects on a Rotating Platform	Wen-Chung Chang, Chia-Yo Yen, Chi-Fan Chiang	N/A	
#1048	Improvement of Harmonic Dissector for Minimal Invasive Surgery, Modeling and the Stiffness Identification of the Clipped Object	Shih Tabg Liu, Yo Ting Liao, Jia Yush Yen, Yung Yaw Chen, Feng Li Lian, Ming Chih Ho	91	
#1121	Dynamic Gait Generation and Posture Stabilization on Rough Terrain for a Leg-wheel Transformable Robot	Hung-Sheng Lin and Pei-Chun Lin	N/A	
#1016	Application of the RRT and AFS Algorithms with Danger Degree in Path Planning	Hung-Yuan Chung, Senior Member, IEEE, Chun-Cheng Hou, and Yu Ting Shen	N/A	

## Session Name: Regular (III)

Room: RM 301 Time: 10:50-12:05 Nov. 20, 2015 Session Chair: Prof. Chung-Hsien Kuo			
Paper ID	Paper Title	Author(s)	Page no.
#1112	A Visual Evoked Potential Based Brain Computer Interface for Commanding Humanoid Robots	Hung-Chyun Chou, Chien-Hsiu Chen and Chung-Hsien Kuo	N/A
#1080	DSP-based Direct Neural Control for Thrust Active Magnetic Bearing Learned through Adaptive Differential Evolution	Syuan-Yi Chen and Min-Han Song	96
#1081	Adaptive Cross Coupling Control for CNC Machines	Anumat Engkaninan and Chun-Liang Lin	102
#1082	Vehicle sideslip angle estimation using nonlinear parameter-varying observers	Boulaid BOULKROUNE, Sebastiaan v. Aalst, Erwin Rademakers, Koen Sannen, Norddin El Ghouti	108
#1087	Implementation and Evaluation of Bidirectional DC-AC Inverter Using SiC-MOSFET	Ming-Hung Yu, Paul CP. Chao	N/A

## Session Name: Regular (IV)

Room: RM 302 Time: 10:50-12:05 Nov. 20, 2015 Session Chair: Prof. I-Hsum Lee			
Paper ID	Paper Title	Author(s)	Page no.
#1003	IMC-PID Controller Design for Turbine Control Loop Based on Closed-loop Identification	Xiao-Feng Li, Ya-Gang Wang, Member, IEEE	N/A
#1004	Optimal Parameters for Generalized Predictive Control of Vibration Suppression with Stability Constraints	Jiann-Shiun Lew	N/A
#1006	The interval-parametric synthesis of a linear controller of control system with ensured robust degree of stability	Gayvoronskiy Sergey An., Ezangina Tatiana and Khozhaev Ivan	N/A
#1056	Structured Longitudinal Control for Automated Vehicles String	Sad'd Mammar, Senior Member IEEE	N/A
#1083	Can we use Beremiz real-time engine for Robot Programmable Logic Controller?	S. Chu, E. Shin, S. Lee, K. Lee, K. Nam	114

### Session Name: SICE-CACS Joint Session (III)

FR Time: 10:50-12:05 Nov. 20, 2015 Session Chair: Prof. Hisakazu Nakamura				
Paper ID	Paper Title	Author(s)	Page no	
#1052	Position Control of Four-wheeled Mobile Vehicle via Locally Semiconcave Control Lyapunov Function	Kohei Kawamura and Hisakazu Nakamura	119	
#1061	Multivariable Controller Tuning Based on Closed-Loop Interaction Using Frequency Responses	Shogo Shinoda, Kazuhiro Yubai, Daisuke Yashiro and Junji Hirai	125	
#1064	Sequential Model Predictive Control for Leg/Wheel Mobile Robot using Single Leg Model	Yuki Hagimori, Kenichiro Nonaka- IEEE Member and Kazuma Sekiguchi-IEEE Member	N/A	
#1086	End-effector Position Feedback Torque Control of Robot Manipulator via Minimum Projection Method	Hikaru Shibuya, Yu Koyama and Hisakazu Nakamura	N/A	
#1029	End-effector Orientation Control of Robot Manipulators via Finite-Time P-PI Control	Toshiaki Muraki, Naoki Sugito, Yasuyuki Satoh and Hisakazu Nakamura	131	
#1010	Study on Pitch Angle Control for Hovering Tilt Rotor Aircraft on One Side Thrust Reduction	Yasuhiro Osa, Shigeru Uchikado and Kanya Tanaka	N/A	