2013 IEEE/SICE International Symposium on System Integration

(SII 2013)

Kobe, Japan
15-17 December 2013

Content List of 2013 IEEE/SICE International Symposium on System Integration

Technical Program for Sunday December 15, 2013

SA1-I	Room I (501)
Control Technology (1) (Regular Session)	
Chair: Yamakita, Masaki	Tokyo Inst. of Tech.

10:00-10:20	SA1-I.1

Estimation of Systems with Multiple Sliding Surfaces, pp. 1-6.

Srang, Sarot	Tokyo Inst. of Tech.
Yamakita, Masaki	Tokyo Inst. of Tech.

10:20-10:40	SA1-I.2

Fluid Behavior Control on Die Casting Process by Optimization of Plunger Tip Shape Based on Practicable Damage Estimation Algorithm, pp. 7-12.

Takagi, Yuto	Mie Univ.
Kuriyama, Yoshifumi	Gifu National Coll. of Tech.
Sakamoto, Ryota	Mie Univ. Hospital
Yano, Ken'ichi	Mie Univ.
Baba, Shuhei	FLOW Science JAPAN

10:40-11:00	SA1-I.3

PMSM Model Discretization for Model Predictive Control Algorithms, pp. 13-18.

Vaclavek, Pavel	Brno Univ. of Tech.
Blaha, Petr	Brno Univ. of Tech.

11:00-11:20	SA1-I.4

Trajectory Control of Simple-Structured Flexible Mechanism Using Flexible Pneumatic Cylinders, pp. 19-24.

Mohd, Aliff	Okayama Univ. of Science
Dohta, Shujiro	Okayama Univ. of Science
Akagi, Tetsuya	Okayama Univ. of Secience

SA1-J	Room J (502)
OS1Autonomous Mobile Robot (1) (Invited Session)	
Chair: Lee, Min-Fan Ricky	National Taiwan Univ. of Science and Tech.

10:00-10:20	SA1-J.1

Mobile Robot Localization by GPS and Sequential Appearance-Based Place Recognition, pp. 25-30.

Saito, Takato	Meiji Univ.
Kuroda, Yoji	Meiji Univ.

10:20-10:40	SA1-J.2

A Hybrid Visual Servo Control System for the Autonomous Mobile Robot (I), pp. 31-36.

Lee, Min-Fan Ricky	National Taiwan Univ. of Science and Tech.
Chiu, Fu-Hsin Steven	National Taiwan Univ. of Science and Tech.

10:40-11:00	SA1-J.3

Real-Time Trajectory Generation for Mobile Robots in a Corridor-Like Space Using Bézier Curves, pp. 37-41.

SIMBA, KENNETH RENNY	TOYOHASHI Univ. OF Tech.
Uchiyama, Naoki	Toyohashi Univ. of Tech.
Sano, Shigenori	Toyohashi Univ. of Tech.

11:00-11:20	SA1-J.4

A Networked Intelligent Control System for the Mobile Robot Navigation (I), pp. 42-47.

Lee, Min-Fan Ricky	National Taiwan Univ. of Science and Tech.
Chiu, Fu-Hsin Steven	National Taiwan Univ. of Science and Tech.

11:20-11:40	SA1-J.5

Backward Path Following Control of an Articulated Vehicle, pp. 48-53.

Yoshimoto, Tatsuya	Kobe Univ.
Kaida, Kosuke	Kobe Univ.
Fukao, Takanori	Kobe Univ.
Ishiyama, Kenji	YAMAHA MOTOR CO., LTD.
Kamiya, Tsuyoshi	YAMAHA MOTOR CO., LTD.
Murakami, Noriyuki	NARO Hokkaido Agricultural Res. Center

SA1-K	Room K (503)
Human Modeling (1) (Regular Session)	
Chair: Ogawa, Kenichiro	Tokyo Inst. of Tech.

10:00-10:20	SA1-K.1

Recognizing Human Actions Using Histogram of Local Binary Patterns, pp. 54-59.

Ahsan, Sk Md Masudul	Kyushu Inst. of Tech.
Tan, Joo Kooi	Kyushu Inst. of Tech.
Kim, Hyoungseop	Kyushu Inst. of Tech.
Ishikawa, Seiji	Kyushu Inst. of Tech.

10:20-10:40	SA1-K.2

Contribution of Lower Extremity Joint Moment on Ground Reaction Force During Walking in Elderly and Younger People, pp. 60-65.

Toda, Haruki	Kobe Univ.
Nagano, Akinori	Kobe Univ.
Luo, Zhiwei	Kobe Univ.

10:40-11:00	SA1-K.3

Visual Motion Information Influences Audiovisual Simultaneity, pp. 66-69.

Kwon, Jinhwan	Tokyo Inst. of Tech.
Ogawa, Kenichiro	Tokyo Inst. of Tech.
Ogata, Taiki	The Univ. of Tokyo
Kim, JongHwan	Korea Advanced Inst. of Science and Tech.
Miyake, Yoshihiro	Tokyo Inst. of Tech.

11:00-11:20	SA1-K.4

Head Motion Synchronization in the Process of Consensus Building, pp. 70-75.

Inoue, Yuki	Tokyo Inst. of Tech.
Ono, Eisuke	Tokyo Inst. of Tech.
Kwon, Jinhwan	Tokyo Inst. of Tech.
Motohashi, Masanari	Tokyo Inst. of Tech.
Ikari, Daisuke	Tokyo Inst. of Tech.
Ogawa, Kenichiro	Tokyo Inst. of Tech.

Miyake, Yoshihiro	Tokyo Inst. of Tech.

11:20-11:40	SA1-K.5

Investigation of the Subjective Force Perception Based on the Estimation of the Muscle Activities During a Steering Operation, pp. 76-81.

Sato, Jumpei	Hiroshima Univ.
Takemura, Kazuhiro	Mazda Motor Corp.
Yamada, Naoki	Mazda Motor Corp.
Kishi, Atsuhide	Mazda Motor Corp.
Nishikawa, Kazuo	Mazda Motor Corp.
Nouzawa, Takahide	Mazda Motor Corp.
Tsuji, Toshio	Hiroshima Univ.
Kurita, Yuichi	Hiroshima Univ.

SA1-L	Room L (504)
OS2Language, Audio and Speech Processing for Affective Computing (1) (Invited Session)	
Chair: Takiguchi, Tetsuya	Kobe Univ.

10:00-10:20	SA1-L.1

Facial Expression Recognition Based on Multi-Scale Vector Triangle (I), pp. 82-87.

Jiang, He	Hefei Univ. of Tech.
Hu, Min	Hefei Univ. of Tech.
Chen, Hongbo	Hefei Univ. of Tech.
Li, Kun	Hefei Univ. of Tech.
Wang, Xiaohua	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

10:20-10:40	SA1-L.2

Facial Expression Recognition Algorithm Based on Feature Fusion Adaptive Weighted HLAC (I), pp. 88-93.

Li, Rui	Hefei Univ. of Tech.
Yu, Zhuguo	Hefei Univ. of Tech.
Hu, Min	Hefei Univ. of Tech.
Huang, Zhong	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

10:40-11:00	SA1-L.3

Facial Expression Recognition Based on Active Appearance Model & Scale-Invariant Feature Transform (I), pp. 94-99.

Huang, Zhong	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

11:00-11:20	SA1-L.4

Combine Sentiment Lexicon and Dependency Parsing for Sentiment Classification (I), pp. 100-104.

Quan, Changqin	HeFei Univ. of Tech.
Wei, Xiquan	HeFei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

SA1-M	Room M (505)
Recognition (1) (Regular Session)	
Chair: Aiyama, Yasumichi	Univ. of Tsukuba
Co-Chair: David, Kanny Krizzy	Univ. of Santo Tomas

10:00-10:20	SA1-M.1

On-Line Collision Avoidance between Two Robot Manipulators Using Collision Map and Simple Escaping

Method, pp. 105-110.

Afaghani, Ahmad Yasser	Univ. of Tsukuba
Aiyama, Yasumichi	Univ. of Tsukuba

10:20-10:40	SA1-M.2

Simple Obstacle Avoidance for a Mobile Robot Moving through Via Points, pp. 111-114.

Subandi, Tresna Dewi	Toyohashi Univ. of Tech.
Uchiyama, Naoki	Toyohashi Univ. of Tech.
Sano, Shigenori	Toyohashi Univ. of Tech.

10:40-11:00	SA1-M.3

Obstacle Detection by the Kinect Cane System for the Visually Impaired, pp. 115-118.

Orita, Kazunori	Univ. of Tsukuba
Takizawa, Hotaka	Univ. of Tsukuba
Aoyagi, Mayumi	Univ. of Tsukuba
Ezaki, Nobuo	Toba National Coll. of Maritime Tech.
Mizuno, Shinji	Aichi Inst. of Tech.

11:00-11:20	SA1-M.4

Obstacle Detection for a Bipedal Walking Robot by a Fisheye Stereo, pp. 119-125.

Kita, Nobuyuki	National Inst. of AdvancedIndustrialScienceandTechnology
Kanehiro, Fumio	National Inst. of AIST
Morisawa, Mitsuharu	National Inst. of AIST
Kaneko, Kenji	National Inst. of AIST

11:20-11:40	SA1-M.5

Unmanned Underwater Vehicle Navigation and Collision Avoidance Using Fuzzy Logic, pp. 126-131.

David, Kanny Krizzy	Univ. of Santo Tomas
Vicerra, Ryan Rhay	De La Salle Univ.
Bandala, Argel	De La Salle Univ.
Gan Lim, Laurence A	De La Salle Univ.
Dadios, Elmer P	De La Salle Univ.

SP1-I	Room I (501)
Control Technology (2) (Regular Session)	

Chair: Yamakita, Masaki	Tokyo Inst. of Tech.
Co-Chair: Wang, Fu-Cheng	National Taiwan Univ.

14:00-14:20	SP1-I.1

Robust Optimal Control of Flexible Space Structures by a Proper Controller Using Displacement Output, pp. 132-137.

Kobayashi, Yohji	Kobe City Coll. of Tech.

14:20-14:40	SP1-I.2

Design and Control of a Long-Stroke Nano-Positioning Stage, pp. 138-143.

Wu, Ru-Chang	National Taiwan Univ.
Tsai, I-Haur	National Taiwan Normal Univ.
Wang, Fu-Cheng	National Taiwan Univ.
Yen, Jia Yush	National Taiwan Univ.

14:40-15:00	SP1-I.3

Control and Power Management of a Hybrid Stationary Fuel Cell System, pp. 144-149.

Guo, Yi-Fu	National Taiwan Univ.
kuo, Po-Cheng	National Taiwan Univ.

Chen, Hsueh-Ju	National Taiwan Univ.
Yu, Chung-Huang	National Yang-Ming Univ.
Wang, Fu-Cheng	National Taiwan Univ.

| 15:00-15:20 | SP1-I.4 |

A Study on the Reduction of Synchronization Error Using a Relay of Predictive Control Information in Wireless Control of Multiple Plants, pp. 150-154.

Tanaka, Atsushi	Nagoya Univ.
Kobayashi, Kentaro	Nagoya Univ.
Okada, Hiraku	Nagoya Univ.
Katayama, Masaaki	Nagoya Univ.

| 14:20-15:40 | SP1-I.5 |

Decomposition Method with Feedback Compensation for Parallel Computation of NMPC, pp. 155-160.

| Limkul, Suthira | Tokyo Inst. of Tech. |
| Yamakita, Masaki | Tokyo Inst. of Tech. |

| **SP1-J** | Room J (502) |

OS1Autonomous Mobile Robot (2) (Invited Session)

| Chair: Fukao, Takanori | Kobe Univ. |

| 14:00-14:20 | SP1-J.1 |

Novel Design of a Social Mobile Robot for the Blind Disabilities (I), pp. 161-166.

Lee, Min-Fan Ricky	National Taiwan Univ. of Science and Tech.
Chiu, Fu-Hsin Steven	National Taiwan Univ. of Science and Tech.
Chen, Zhuo	Univ. of British Columbia

| 14:20-14:40 | SP1-J.2 |

Navigation Method of a Mobile Robot in Daily Life Environment Considering Environmental Design, pp. 167-172.

| Namatame, Shogo | Shibaura Inst. of Tech. |
| Matsuhira, Nobuto | Shibaura Inst. of Tech. |

| 14:40-15:00 | SP1-J.3 |

6 DOF Manipulator Design for Maneuvering Autonomous Aerial Mobile Robot (I), pp. 173-178.

Lee, Min-Fan Ricky	National Taiwan Univ. of Science and Tech.
Chiu, Fu-Hsin Steven	National Taiwan Univ. of Science and Tech.
Chen, Zhuo	Univ. of British Columbia

| 15:00-15:20 | SP1-J.4 |

Analysis and Design of a Passive Steering Mechanism for a Pedaled, Self-Balanced, Personal Mobility Vehicle, pp. 179-184.

Hong, Jian-Hao	National Tsing Hua Univ.
Huang, Chun-Feng	National TsingHua Univ.
Lu, Kuan-Ying	National Tsing Hua Univ.
Yeh, T.-J.	National Tsing Hua Univ.

| 14:20-15:40 | SP1-J.5 |

Visual Sensor Integration on Servoing the Autonomous Mobile Robot (I), pp. 185-189.

| Lee, Min-Fan Ricky | National Taiwan Univ. of Science and Tech. |
| Feng, Lin-Shuang | Huazhong Univ. of Science and Tech. |

Yeh, Eric Chia-Wei	National Taiwan Univ. of Science and Tech.
Ivan, Ivan	National Taiwan Univ. of Science and Tech.

SP1-K   Room K (503)
Human Modeling (2) (Regular Session)

Chair: Nakauchi, Yasushi	Univ. of Tsukuba
Co-Chair: Lee, Joo-Ho	Ritsumeikan Univ.

14:00-14:20	SP1-K.1

Investigation on Work Motivation of Japanese Seniors and Skill Discovery from Their Resumes, pp. 190-197.

Miura, Takahiro	The Univ. of Tokyo
Hiyama, Atsushi	The Univ. of Tokyo
Kobayashi, Masatomo	IBM Res. - Tokyo
Takagi, Hironobu	IBM Res. - Tokyo
Yatomi, Naomi	The Univ. of Tokyo
Hirose, Michitaka	the Univ. of Tokyo

14:20-14:40	SP1-K.2

Comparison of Bipedal Humanoid Walking with Human Being Using Inertial Measurement Units and Force-Torque Sensors, pp. 198-203.

Narang, Gautam	Bharati Vidyapeeth's Coll. of Engineering
Kong, Weisheng	Waseda Univ.
PU, Xu	Waseda Univ.
Narang, Arjun	Birla Inst. of Tech. and Science
Singh, Soumya	Bharati Vidyapeeth's Coll. of Engineering
Hashimoto, Kenji	Waseda Univ.
Zecca, Massimiliano	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.

14:40-15:00	SP1-K.3

Measurement of Rotational Eye Movement under Blue Light Irradiation by Tracking Conjunctival Blood Vessel Ends, pp. 204-209.

Hoshino, Kiyoshi	Univ. of Tsukuba
Nakagomi, Hiroyuki	Univ. of Tsukuba

15:00-15:20	SP1-K.4

Human's Operation Modeling Based on Hidden Markov Model with Consideration for the Operation Change and Timing, pp. 210-215.

Ishida, Genya	Osaka City Univ.
Takubo, Tomohito	Osaka City Univ.
Ueno, Atsushi	Osaka City Univ.

14:20-15:40	SP1-K.5

A Smart Phone Based Interaction in Intelligent Space Using Object Recognition and Facing Direction of Human, pp. 216-221.

Ono, Kentaro	Ritsumeikan Univ.
Lee, Joo-Ho	Ritsumeikan Univ.

SP1-L   Room L (504)
OS2 Language, Audio and Speech Processing for Affective Computing (2) (Invited Session)

Chair: Takiguchi, Tetsuya	Kobe Univ.

14:00-14:20	SP1-L.1

Reduce the Dimensions of Emotional Features by Principal Component Analysis for Speech Emotion Recognition (I), pp. 222-226.

Quan, Changqin	HeFei Univ. of Tech.
Wan, Dongyu	HeFei Univ. of Tech.
Zhang, Bin	HeFei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

14:20-14:40	SP1-L.2

Feature Fusion of HOG and WLD for Facial Expression Recognition (I), pp. 227-232.

Wang, Xiaohua	Hefei Univ. of Tech.
Jin, Chao	Hefei Univ. of Tech.
Liu, Wei	Hefei Univ. of Tech.
Hu, Min	Hefei Univ. of Tech.
Xu, Liangfeng	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima

14:40-15:00	SP1-L.3

Microblogging Hot Events Emotion Analysis Based on Ren-CECps (I), pp. 233-238.

Liu, Ning	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima
Sun, Xiao	Hefei Univ. of Tech.
QUAN, changqin	HeFei Univ. of Tech.

15:00-15:20	SP1-L.4

A New Preprocessing Algorithm and Local Binary Pattern Based Facial Expression Recognition (I), pp. 239-244.

Qian, Yao	Hefei Univ. of Tech.
Ren, Fuji	Univ. of Tokushima
Quan, Changqin	HeFei Univ. of Tech.

SP1-M	Room M (505)
Recognition (2) (Regular Session)	
Chair: Nitta, Kouichi	Kobe Univ.

14:00-14:20	SP1-M.1

Research on Geological Survey System Based on Robotic Fish Technology, pp. 245-249.

Shin, Nobuhiro	The Univ. of Kitakyushu
Kiyota, Takanori	The Univ. of Kitakyushu
Yamamoto, Ikuo	Nagasaki Univ.
Tsuruga, Kayoko	Tokyo Univ. of Marine Science and Tech.
Inagawa, Naohiro	Nippon Bunri Univ.

14:20-14:40	SP1-M.2

Detection of Road Surface Damage Using Mobile Robot Equipped with 2D Laser Scanner, pp. 250-256.

Yamada, Taichi	Univ. of Tsukuba
Ito, Takeru	ORIENTAL MOTOR Co. , Ltd.
Ohya, Akihisa	Univ. of Tsukuba

14:40-15:00	SP1-M.3

Under-Vehicle Inspection Utilizing a Mobile Robot with a LRF Sensor, pp. 257-262.

Sanngoen, Wanayuth	Univ. of Tsukuba
Yamada, Taichi	Univ. of Tsukuba
Ohya, Akihisa	Univ. of Tsukuba

Tsubouchi, Takashi	Univ. of Tsukuba

15:00-15:20	SP1-M.4

Matching Evaluation of 2D Laser Scan Points Using Observed Probability in Unstable Measurement Environment, pp. 263-269.

Yamada, Taichi	Univ. of Tsukuba
Ohya, Akihisa	Univ. of Tsukuba

14:20-15:40	SP1-M.5

Trajectory Tracking Method Using Low Cost Magnetic Sensors, pp. 270-275.

Sam Ann, Rahok	Oyama National Coll. of Tech.
TANAKA, Akio	Oyama National Coll. of Tech.
Ozaki, Koichi	Utsunomiya Univ.

SP2-I	Room I (501)
Welfare Systems (1) (Regular Session)	

Chair: Huang, Jian	Huazhong Univ. of Science and Tech.

16:00-16:20	SP2-I.1

Automatic Adjustment of Initial Drop Speed of Foot for Intelligently Controllable Ankle Foot Orthosis, pp. 276-281.

Kikuchi, Takehito	Oita Univ.
Tanida, Sosuke	Bukkyo Univ.
Yasuda, Takashi	Shiga School of Medical Tech.
FUJIKAWA, Takamitsu	Bukkyo Univ.

16:20-16:40	SP2-I.2

Study of Reinforcement Learning Based Shared Control of Walking-Aid Robot, pp. 282-287.

Xu, Wenxia	Huazhong Univ. of Science and Tech.
Huang, Jian	Huazhong Univ. of Science and Tech.
wang, yongji	Huazhong Univ. of Science and Tech.
Cai, Hong	Huazhong Univ. of Sci. and Tech.

16:40-17:00	SP2-I.3

Lower Limb Motion Support Integrated System for Prevention of Deep Vein Thrombosis, pp. 288-293.

Shiraishi, Ryoichiro	Univ. of Tsukuba

17:00-17:20	SP2-I.4

Study on Life-Supporting Balloon Walking and Jumping Robots for the Elderly and Children, pp. 294-299.

Toyoda, Nozomi	Yokohama National Univ.
Nishida, Mami	Kanto Gakuin Univ.

17:20-17:40	SP2-I.5

Wearable Dummy to Simulate Joint Impairment: Severity-Based Assessment of the Simulated Spasticity of Knee Joint, pp. 300-305.

Ishikawa, Shun	Nagoya Univ.
Okamoto, Shogo	Nagoya Univ.
Isogai, Kaoru	Tokoha Univ.
Akiyama, Yasuhiro	Nagoya Univ.
Yanagihara, Naomi	Nagoya Univ.
Yamada, Yoji	Nagoya Univ.

SP2-J	Room J (502)
Locomotion (Regular Session)	

Chair: Zhong, Chenxing	Nanjing Univ. of Science and Tech.

16:00-16:20	SP2-J.1

Design of a Kangaroo Robot with Dynamic Jogging Locomotion, pp. 306-311.

Liu, Guan-Horng	National Taiwan Univ.
Lin, Hou-Yi	National Taiwan Univ.
Lin, Huai-Yu	National Taiwan Univ.
Chen, Shao-Tuan	National Taiwan Univ.
Lin, Pei-Chun	National Taiwan Univ.

16:20-16:40	SP2-J.2

Turn Control of a Three-Dimensional Quasi-Passive Walking Robot Based on Forced Entrainment, pp. 312-317.

Cao, Ying	Graduate School of Engineering,Kitami Inst. of Tech.
Suzuki, Soichiro	Kitami Inst. of Tech.
Hoshino, Yohei	Kitami Inst. of Tech.

16:40-17:00	SP2-J.3

On Attitude Maneuver Control of Flexible Spacecraft without Angular Velocity Sensors, pp. 318-323.

Zhong, Chenxing	Nanjing Univ. of Science and Tech.
Lai, Aifang	School of Automation, Nanjing Univ. of Science and Tech.
Guo, Yu	School of Automaton, Nanjing Univ. Science&Tech.
Chen, Qingwei	Nanjing Univ. of Science and Tech.

17:00-17:20	SP2-J.4

Least Square Based Sliding Mode Control for a Quad-Rotor Helicopter, pp. 324-328.

Sumantri, Bambang	Toyohashi Univ. of Tech.
Uchiyama, Naoki	Toyohashi Univ. of Tech.
Sano, Shigenori	Toyohashi Univ. of Tech.

17:20-17:40	SP2-J.5

Study on Navigation System to Arbitrary Direction for Autonomous Aerial Robot with Quad-Rotor, pp. 329-334.

Morimoto, Mitsuka	Gunma National Coll. of Tech.
Suda, Kentaro	Gunma National Coll. of Tech.
Hirakoso, Nobuto	Gunma National Coll. of Tech.

SP2-K	Room K (503)
Human Interaction (Regular Session)	

Chair: Luo, Zhi-Wei	Kobe Univ.

16:00-16:20	SP2-K.1

Psychological Impact on Human When a Robot Makes Mistakes, pp. 335-339.

Yasuda, Hiroyuki	The Univ. of Electro-Communications
Matsumoto, Mitsuharu	The Univ. of Electro-Communications

16:20-16:40	SP2-K.2

Analysis of Manipulating Other's Attention for Smooth Interaction between Human and Robot, pp. 340-345.

Akashi, Takafumi	Chuo Univ.
Tamura, Yusuke	Chuo Univ.
Yano, Shiro	Ritsumeikan Univ.
Osumi, Hisashi	Chuo Univ.

| 16:40-17:00 | SP2-K.3 |

Change of Personal Space Induced by Operation of Android Robot Synchronized with Operator, pp. 346-351.

Tanaka, Kaori	Univ. of Tsukuba
Yoshikawa, Masahiro	Nara Inst. of Science and Tech. (NAIST)
Matsumoto, Yoshio	AIST

| 17:00-17:20 | SP2-K.4 |

Motion Sickness Due to Vibration on Water Massage Bed, pp. 352-357.

| Seki, Akihito | Kobe Univ. |
| Luo, Zhi-Wei | Kobe Univ. |

SP2-L	Room L (504)
Information Technology (Regular Session)	
Chair: Nakamura, Masahide	Kobe Univ.

| 16:00-16:20 | SP2-L.1 |

A Novel Method for Recognizing Emotions of Weblog Sentences, pp. 358-363.

Wang, Lei	Tongji Univ.
Ren, Fuji	Univ. of Tokushima
Miao, Duoqian	Tongji Univ.

| 16:20-16:40 | SP2-L.2 |

The Concept of Cooperative Sidewalk Supporting System That Manages Sensory Information from Mobile Terminals and Personal Mobility, pp. 364-369.

Muto, Shin-yo	NTT
Iwamoto, Hideaki	NTT
Ito, Tatsuaki	NTT
Uchida, Noriyoshi	NTT
Urata, Masakazu	NTT
Takenaka, Hikaru	NTT
Nakagawa, Jun-ichi	NTT
Satou, Takashi	NTT

| 16:40-17:00 | SP2-L.3 |

Trend Analysis for Flaming of SNS, pp. 370-375.

Yamagata, Seishi	Hokkaido Univ.
Kawamura, Hidenori	Hokkaido Univ.
Suzuki, Keiji	Hokkaido Univ.

| 17:00-17:20 | SP2-L.4 |

Accident-Data-Aided Design: Visualizing Typical and Potential Risks of Consumer Products by Data Mining an Accident Database, pp. 376-381.

Hirata, Akihisa	Tokyo Univ. of Science & National Inst. of Advanced Ind
Kitamura, Koji	National Inst. of Advanced Industrial Science andTechnology
Nishida, Yoshifumi	National Inst. of AdvancedIndustrialScienceandTechnology
Motomura, Yoichi	National Inst. of Advanced Industrial Science andTechnology
Mizoguchi, Hiroshi	Tokyo Univ. of Science

SP2-M	Room M (505)
Recognition (3) (Regular Session)	

Chair: Leu, Adrian	Univ. of Bremen

16:00-16:20	SP2-M.1

Facial Expression Recognition Using Constrained Local Models and Hidden Markov Models with Consciousness-Based Architecture, pp. 382-387.

Chumkamon, Sakmongkon	Kyushu Inst. of Tech.
Hayashi, Eiji	Kyusyu Inst. of Tech.

16:20-16:40	SP2-M.2

'See What I See' Sharing the Cognition with an Intelligent Machine, pp. 388-393.

Adiba, Amalia Istiqlali	Osaka Univ.
Hatta, Kazuyuki	Osaka Univ.
Ryuzo, Baba	Osaka Prefecture Univ. Coll. of Tech.
Kaneda, Tadahiro	Osaka Prefecture Univ. Coll. of Tech.
Miyake, Jun	Osaka Univ.

16:40-17:00	SP2-M.3

CORBYS Cognitive Control Architecture for Robotic Follower, pp. 394-399.

Leu, Adrian	Univ. of Bremen
Ristic-Durrant, Danijela	Univ. of Bremen
Slavnic, Sinisa	Univ. of Bremen
Glackin, Cornelius	Univ. of Hertfordshire
Salge, Christoph	Univ. of Hertfordshire
Polani, Daniel	Univ. of Hertfordshire
Badii, Atta	Univ. of Reading
Khan, Ali	Univ. of Reading
Raval, Rajkumar	Univ. of Reading

17:00-17:20	SP2-M.4

Development of Nodding Detection System Based on Active Appearance Model, pp. 400-405.

Nakamura, Kazuaki	Okayama Prefectural Univ.
Watanabe, Tomio	Okayama Prefectural Univ.
Jindai, Mitsuru	Univ. of Toyama

17:20-17:40	SP2-M.5

A Method of State Recognition of Dressing Clothes Based on Dynamic State Matching, pp. 406-411.

Yamazaki, Kimitoshi	Shinshu Univ.
Nagahama, Kotaro	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo

Technical Program for Monday December 16, 2013

MA1-I	Room I (501)
Welfare Systems (2) (Regular Session)	

Chair: Tada, Yukio	Kobe Univ.
Co-Chair: Hirata, Yasuhisa	Tohoku Univ.

10:40-11:00	MA1-I.1

Analysis and Control of the Step Climbing Control of a Wheeled Inverted Pendulum Type Assistant Robot, pp. 412-417.

Canete, Luis	Fukushima Univ.
Takahashi, Takayuki	Fukushima Univ.

11:00-11:20	MA1-I.2

Assistive Motion Control of Cycling Wheelchair Based on Investigation of Load on User, pp. 418-423.

Kaisumi, Aya	Tohoku Univ.
Hirata, Yasuhisa	Tohoku Univ.
Kosuge, Kazuhiro	Tohoku Univ.

11:20-11:40	MA1-I.3

Modeling and Analysis of Walking Chair ``Ikkyu-San'', pp. 424-429.

Kaku, Yuta	Tokyo Denki Univ.
Sawaguchi, Eita	Tokyo
Ichikawa, Takahito	Tokyo Denki Univ.
Iwase, Masami	Tokyo Denki Univ.

MA1-J	Room J (502)
Robot Control and Applications (1) (Regular Session)	

Chair: Cannella, Ferdinando	Istituto Italiano di Tecnologia

10:40-11:00	MA1-J.1

Design and Simulation of the Piezoelectric Actuator Using Taguchi Method, pp. 430-435.

Chang, Shyang-Jye	National Yunlin Univ. of Science and Tech.
Shen,, Sheng Chih	National Cheng Kung Univ.

11:00-11:20	MA1-J.2

Design of Underactuated Hand for Caging-Based Grasping of Free-Flying Object, pp. 436-442.

Hirano, Daichi	Tohoku Univ.
Nagaoka, Kenji	Tohoku Univ.
Yoshida, Kazuya	Tohoku Univ.

11:20-11:40	MA1-J.3

Design of an Industrial Robotic Gripper for Precise Twisting and Positioning in High-Speed Assembly, pp. 443-448.

Cannella, Ferdinando	Istituto Italiano di Tecnologia
Chen, Fei	ISTITUTO ITALIANO DI TECNOLOGIA
Canali, Carlo	Department of Advanced Robotics, Istituto Italiano di Tecnologia
Caldwell, Darwin G.	Istituto Italiano di Tecnologia

MA1-K	Room K (503)
OS3 Advanced Pattern Measurement Toward System Integration (Invited Session)	

| Chair: Kimachi, Akira | Osaka Electro-Communication Univ. |

| 10:40-11:00 | MA1-K.1 |

Eyelid and Iris Tracking Method with Novel Eye Models (I), pp. 449-453.

| Tamura, Kimimasa | Keio Univ. |
| Aoki, Yoshimitsu | Keio Univ. |

| 11:00-11:20 | MA1-K.2 |

Determining Surface Shape of Translucent Objects by Using Laser Rangefinder (I), pp. 454-459.

Ohtani, Kozo	Hiroshima Inst. of Tech.
Baba, Mitsuru	Ibaraki Univ.
Li, Li	Wuhan Textile Univ.

| 11:20-11:40 | MA1-K.3 |

Enhancement of Spectral Matching Imager Output for Discriminating Multiple Similar Spectra by Time-Nonlinear Wavelength Sweeping (I), pp. 460-465.

Kimachi, Akira	Osaka Electro-Communication Univ.
Doi, Motonori	Osaka Electro-Communication Univ.
Nishi, Shogo	Osaka Electro-Communication Univ.

| 11:40-12:00 | MA1-K.4 |

Community Detection in Real Communication Using Body Sway and Voice Information with Ambient Sensing Chair (I), pp. 466-471.

Wataya, Ryo	Osaka Univ.
Iwai, Daisuke	Osaka Univ.
Sato, Kosuke	Osaka Univ.

| **MA1-L** | Room L (504) |

OS5Computational Intelligence for System Analysis and Modeling (Invited Session)

| Chair: Chen, Yen-Wei | Ritsumeikan Univ. |

| 10:40-11:00 | MA1-L.1 |

Adaptive Optimization by Dynamic Programming Heuristics for Logistics Planning in Dynamic Environments (I), pp. 472-476.

| Sakakibara, Kazutoshi | Toyama Prefectural Univ. |

| 11:00-11:20 | MA1-L.2 |

A Study on Tactile Texture Recognition Using Magnetic Type Tactile Sensor (I), pp. 477-481.

| Matsumoto, Takuya | Hyogo Prefectural Inst. of Tech. |
| NAKAMOTO, Hiroyuki | Kobe Univ. |

| 11:20-11:40 | MA1-L.3 |

Food Recognition Using Codebook-Based Model with Sparse-Coding (I), pp. 482-485.

Wazumi, Minami	Ritsumeikan Univ.
Han, Xianhua	Ritsumeikan Univ.
Chen, Yen-Wei	Ritsumeikan Univ.

| 11:40-12:00 | MA1-L.4 |

Global and Local Features for Accurate Impression Estimation of Cloth Fabric Images (I), pp. 486-489.

| Huang, Xinyin | Soochow Univ. |
| Chen, Dingye | Ritsumeikan Univ. |

| Han, Xianhua | Ritsumeikan Univ. |
| Chen, Yen-Wei | Ritsumeikan Univ. |

| **MA1-M** | Room M (505) |
| **Voice Applications** (Regular Session) | |

| Chair: Nitta, Kouichi | Kobe Univ. |
| Co-Chair: Togashi, Yuichi | Kobe Univ. |

| 10:40-11:00 | MA1-M.1 |

Acoustic Feature Selection Utilizing Multiple Kernel Learning for Classification of Children with Autism Spectrum and Typically Developing Children, pp. 490-494.

Kakihara, Yasuhiro	Kobe Univ.
Takiguchi, Tetsuya	Kobe Univ.
Ariki, Yasuo	Kobe Univ.
Nakai, Yasushi	Kawasaki Coll. of Allied Health Professions
Takada, Satoshi	Kobe Univ.

| 11:00-11:20 | MA1-M.2 |

Voice Conversion Based on Non-Negative Matrix Factorization in Noisy Environments, pp. 495-498.

Fujii, Takao	Kobe Univ.
Aihara, Ryo	Kobe Univ.
Takashima, Ryoichi	Kobe Univ.
Takiguchi, Tetsuya	Kobe Univ.
Ariki, Yasuo	Kobe Univ.

| 11:20-11:40 | MA1-M.3 |

Development of a System for Location Finding of Low-Level Sound Source by Using Human Acoustic System with Stochastic Resonanceresonance, pp. 499-504.

| Tsujita, Katsuyoshi | Osaka Inst. of Tech. |
| Miyaji, Kousuke | Osaka Inst. of Tech. |

| **MP1-I** | Room I (501) |
| **Welfare Systems (3)** (Regular Session) | |

| Chair: Zheng, Xin-Zhi | ASTEM RI |
| Co-Chair: Kobayashi, Futoshi | Kobe Univ. |

| 14:00-14:20 | MP1-I.1 |

Clinical Tests on Bioinstrumentation Using Shape Deformation of Amputated Upper Limb, pp. 505-510.

Mori, Takahiko	Gifu National Coll. of Tech.
Tanaka, Yuya	Gifu National Coll. of Tech.
Mito, Misaki	Gifu National Coll. of Tech.

| 14:20-14:40 | MP1-I.2 |

Development of a Robot System for Rehabilitation of Upper Limbs Cooperative Movement Functions, pp. 511-515.

Nishida, Kazuki	Kobe Univ.
Luo, Zhi-Wei	Kobe Univ.
Nagano, Akinori	Kobe Univ.

| 14:40-15:00 | MP1-I.3 |

Cervical Spine Simulation Model for Traction Therapy Analysis, pp. 516-520.

Wong, Lawrence KF	Kobe Univ.
Luo, Zhi-Wei	Kobe Univ.
Kurusu, Nobuyuki	Kobe Factory of MINATO MEDICAL SCIENCE CO.,LTD

Fujino, Keiji   Fujino Orthopedics Hospital

MP1-J	Room J (502)
Robot Control and Applications (2) (Regular Session)	

Chair: Blaha, Petr	Brno Univ. of Tech.
Co-Chair: Nagano, Akinori	Kobe Univ.

14:00-14:20	MP1-J.1

Dynamic Movement by Admittance Control of a Multi-Finger-Arm Robot with Manipulability Control of Fingers, pp. 521-526.

Yamada, Daisuke	Yokohama National Univ.
Sano, Yoshinori	Yokohama National Univ.
Hori, Ryota	Yokohama National Univ.
Huang, Jian	Kinki Univ.
Yabuta, Tetsuro	Yokohama National Univ.

14:20-14:40	MP1-J.2

Design of Control Systems Using Quaternion Neural Network and Its Application to Inverse Kinematics of Robot Manipulator, pp. 527-532.

CUI, Yunduan	Doshisha Univ.
Takahashi, Kazuhiko	Doshisha Univ.
Hashimoto, Masafumi	Doshisha Univ.

14:40-15:00	MP1-J.3

Analysis of Robotic Arm's Behavior Using Self Organizing Map Combined with Consciousness-Based Architecture Module, pp. 533-538.

JITVIRIYA, WISANU	Kyushu Inst. of Tech.
Hayashi, Eiji	Kyusyu Inst. of Tech.

15:00-15:20	MP1-J.4

Motion Planning of a Redundant Manipulator for the Purpose of Speed-Up of the Hands Constant Speed Tasks, pp. 539-544.

Okabe, Kousuke	Univ. of Tsukuba
Aiyama, Yasumichi	Univ. of Tsukuba

MP1-K	Room K (503)
OS4Kukanchi and Human Sensing (Invited Session)	

Chair: Wada, Kazuyoshi	Tokyo Metropolitan Univ.

14:00-14:20	MP1-K.1

Integrating Monitor Functions of Physiological Data into the Robotics Service Grid (I), pp. 545-549.

Yu, Chi-Chih	Tokyo Metropolitan Univ.
Yamaguchi, Toru	Tokyo Metropolitan Univ.
Takama, Yasufumi	Tokyo Metropolitan Univ.

14:20-14:40	MP1-K.2

Path Planning for Multi Spatial Configuration Modules in Smart Variable Space (I), pp. 550-555.

Wada, Kazuyoshi	Tokyo Metropolitan Univ.
Suganuma, Yusuke	Tokyo Metropolitan Univ.
Tanaka, Takayoshi	Tokyo Metropolitan Univ.

14:40-15:00	MP1-K.3

An Fnirs Study of Taste Cortical Areas in Human Brain: Sweetness and Sourness, pp. 556-561.

Hu, Chenghong	kobe Univ.
Kato, Yoshiko	Kobe Univ.

Luo, ZhiWei	Kobe Univ.

15:00-15:20	MP1-K.4

Research and Development of the Wearable Respiration Sensor, pp. 562-566.

Shi, Yi	Kobe Univ.
Kawahara, Yasuhiro	The Open Univ. of Japan
Luo, Zhi-Wei	Kobe Univ.

MP1-L	Room L (504)
Manufacturing and Software Development (Regular Session)	

Chair: Fujii, Nobutada	Kobe Univ.
Co-Chair: Ansaloni, Matteo	Univ. degli Studi di Modena e Reggio Emilia

14:00-14:20	MP1-L.1

Dynamic Integration of ALM Tools for Agile Software Development, pp. 567-573.

Wielsch, Max	Saxonia Systems AG
Bieniek, Raik	Saxonia Systems AG
Grams, Bernd	Saxonia Systems AG
Lässig, Jörg	Univ. of Applied Sciences Zittau/Görlitz

14:20-14:40	MP1-L.2

Equalization Control of Machining Surface by Cutting Depth Estimation Using Machining Support System, pp. 574-579.

Kawaguchi, Tomoyuki	Mie Univ.
Sakamoto, Ryota	Mie Univ. Hospital
Yano, Ken'ichi	Mie Univ.
Fofana, Mustapha. S	Worcester Pol. Inst.

14:40-15:00	MP1-L.3

Integration of CAM Off-Line Programming in Robot High-Accuracy Machining, pp. 580-585.

Leali, Francesco	Univ. of Modena and Reggio Emilia
Pini, Fabio	Univ. of Modena and Reggio Emilia
Ansaloni, Matteo	Univ. degli Studi di Modena e Reggio Emilia

MP1-M	Room M (505)
OS7Digital Holography for Sensing Applications (Invited Session)	

Chair: Yokota, Masayuki	Shimane Univ.

14:00-14:20	MP1-M.1

Refractive Index & Physical Thickness Distributions Measurement and Consideration of Dependence of Measurement Accuracy on Scanning Interval Using Low-Coherence Digital Holography (I), pp. 586-591.

Watanabe, Kaho	Wakayama Univ.
Nomura, Takanori	Wakayama Univ.

14:20-14:40	MP1-M.2

Single-Shot 3-D Sensing of Micro-Meter Height by Multi-Wavelength Parallel Phase-Shifting Digital Holography (I), pp. 592-597.

Lee, Yonghee	Kyoto Inst. of Tech.
Ito, Yasunori	Kyoto Inst. of Tech.
Tahara, Tatsuki	Kyoto Inst. of Tech.

Inoue, Junichi	Kyoto Inst. of Tech.
Xia, Peng	Kyoto Inst. of Tech.
Awatsuji, Yasuhiro	Kyoto Inst. of Tech.
Nishio, Kenzo	Kyoto Inst. of Tech.
Ura, Shogo	Kyoto Inst. of Tech.
Matoba, Osamu	Kobe Univ.

14:40-15:00	MP1-M.3

Study of Hologram Transmission by a High Core-Number Plastic Optical Fiber (POF) Image Guide in Phase-Shifting Digital Holography (I), pp. 598-603.

Nomura, Keisuke	Shimane Univ.
Yokota, Masayuki	Shimane Univ.

15:00-15:20	MP1-M.4

Motion-Picture Recording of Polarized Light Propagating in Optical Medium (I), pp. 604-609.

Funahashi, Akinori	Kyoto Inst. of Tech.
Awatsuji, Yasuhiro	Kyoto Inst. of Tech.
Okuda, Tatsuya	Kyoto Inst. of Tech.
Itoh, Seiya	Kyoto Inst. of Tech.
Ura, Shogo	Kyoto Inst. of Tech.
Nishio, Kenzo	Kyoto Inst. of Tech.
Kubota, Toshihiro	Kubota Holography Lab. Corp.

MP2-I	Room I (501)
OS6Control and Applications of Intelligent Systems (Invited Session)	

Chair: Shieh, Ming-Yuan	Southern Taiwan Univ. of Science and Tech.

15:40-16:00	MP2-I.1

The Implementation of an Assistive Robot with Real-Time Image Recognition Functions (I), pp. 610-615.

Chiang, Kuo-Hsiang	Company
Chen, Shih-Chung	Southern Taiwan Univ. of Science and Tech.
Wu, Chung-Min	Kun-Shan Univ.
Luo, Ching-Hsing	Univ.

16:00-16:20	MP2-I.2

Fast Object Detection for Human-Robot Interaction Control (I), pp. 616-619.

Shieh, Ming-Yuan	Southern Taiwan Univ. of Science and Tech.
Chiou, Juing-Shian	Southern Taiwan Univ. of Science and Tech.
Li, Jeng-Han	Industrial Tech. Res. Inst.
Pai, Neng-Sheng	National Chin-Yi Univ. of Tech.
Chen, Yen-Hao	Southern Taiwan Univ. of Science and Tech.

16:20-16:40	MP2-I.3

The Fuzzy Schmitt Trigger Algorithm Regulates Physiological Action Signals for Disabilities Auxiliary Input Devices (I), pp. 620-623.

Wu, Chung-Min	Kun-Shan Univ.
Chen, Shih-Chung	Southern Taiwan Univ. of Science and Tech.

16:40-17:00	MP2-I.4

Control of a Feeding Robot (I), pp. 624-628.

Wang, Ming-Shyan	Southern Taiwan Univ. of Science

	and Tech.
Mi, Che-Min	Southern Taiwan Univ. of Science and Tech.
Wang, Chich-Hung	Southern Taiwan Univ. of Science and Tech.
Tsai, Pei-Lin	Southern Taiwan Univ. of Science and Tech.

MP2-J	Room J (502)
Robot Control and Applications (3) (Regular Session)	
Chair: Urakubo, Takateru	Kobe Univ.
Co-Chair: Huang, Jian	Kinki Univ.

15:40-16:00	MP2-J.1

Rapid Prototyping of Robust Motor Control Algorithms on Freescale Targets, pp. 629-634.

Blaha, Petr	Brno Univ. of Tech.
Vaclavek, Pavel	Brno Univ. of Tech.

16:00-16:20	MP2-J.2

On Energy-Based Robust Passive Control of a Robot Manipulator, pp. 635-640.

Cao , Sheng	Kobe Univ.
Luo, Zhi-Wei	Kobe Univ.

16:20-16:40	MP2-J.3

Predictive Functional Controller Design for Pneumatic Actuator with Stiffness Characteristic, pp. 641-646.

Osman, Khairuddin	Univ. Teknikal Malaysia Melaka
Mohd Faudzi, Ahmad `Athif	Univ. Teknologi Malaysia
Rahmat, Mohd Fua'ad	Univ. Teknologi Malaysia
Mustafa, Nu'man Din	Univ. Teknologi Malaysia
Suzumori, Koichi	Okayama Univ.

16:40-17:00	MP2-J.4

Experiments of a Variable Stiffness Robot Using Shape Memory Gel, pp. 647-652.

Yamano, Mitsuhiro	Yamagata Univ.
Goto, Daisuke	Yamagata Univ.
Ujiie, Kenji	Yamagata Univ.
Akiba, Naoki	Yamagata Univ. School of Science and Engine
Gong, Jin	Graduate School of Science and Engineering, Yamagata Univ.
Furukawa, Hidemitsu	Yamagata Univ.
Tadakuma, Riichiro	Yamagata Univ.

MP2-K	Room K (503)
Learning (Regular Session)	
Chair: Ishikawa, Seiji	Kyushu Inst. of Tech.
Co-Chair: Seki, Kazuhiro	Kobe Univ.

15:40-16:00	MP2-K.1

Automatic Classification of Seabed Sediments Based on HLAC, pp. 653-658.

Tan, Yasuhiro	Kyushu Inst. of Tech.
TAN, Joo Kooi	Kyushu Inst. of Tech.
KIM, Hyoungseop	Kyushu Inst. of Tech.
Ishikawa, Seiji	Kyushu Inst. of Tech.

16:00-16:20	MP2-K.2

Learning and Association of Synaesthesia Phenomenon Using Deep Neural Networks, pp. 659-664.

Yamaguchi, Yuki	Kyoto Univ.
Noda, Kuniaki	Waseda Univ.
Nishide, Shun	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.
Ogata, Tetsuya	Waseda Univ.

16:20-16:40	MP2-K.3

Classification Based Person Identification in Group Living Environment, pp. 665-670.

Sakurai, Ryuhei	Ritsumeikan Univ.
Lee, Joo-Ho	Ritsumeikan Univ.

MP2-M	Room M (505)
Sensing (Regular Session)	
Chair: Matoba, Osamu	Kobe Univ.

15:40-16:00	MP2-M.1

An Efficient Method of Constructing Cell Graph in Arrangement of Quadrics in 3-Dimensional Space of Rotations, pp. 671-676.

Dobrowolski, Przemysław	Warsaw Univ. of Tech.

16:00-16:20	MP2-M.2

Calibration Method for Extending Single-Layer LIDAR to Multi-Layer LIDAR, pp. 677-681.

Lin, Chien-Chou	Dept. of Computer Science and InformationEngineering,National Yu
Liao, Yan-Deng	National Yunlin Univ. of Science & Tech. Department o
Luo, Wun-Jhih	National Yunlin Univ. of Science & Tech. Department o

16:20-16:40	MP2-M.3

Monte Carlo Localization Using Magnetic Sensor and LIDAR for Real World Navigation, pp. 682-687.

Akai, Naoki	Utsunomiya Univ.
Hoshino, Satoshi	Utsunomiya Univ.
Inoue, Kazumichi	Utsunomiya Univ.
Ozaki, Koichi	Utsunomiya Univ.

16:40-17:00	MP2-M.4

Basic Study of Magnetic Resonance Coupling-Based Distance Sensor with Adjustable Sensing Range Using Active Quality Factor Control, pp. 688-693.

Nakamura, Sousuke	Chuo Univ.
Hashimoto, Hideki	Chuo Univ.

TA1-J	Room J (502)
OS8Swarm Robotics (1) (Invited Session)	
Chair: Ohkura, Kazuhiro	Hiroshima Univ.

09:40-10:00	TA1-J.1

Relationship between Survivability of Ant Colony and Rate of State Transition to Rest (I), pp. 694-699.

Ogawa, Yuichi	Kyoto Univ.
Dobata, Shigeto	Univ. of Tokyo
Matsuno, Fumitoshi	Kyoto Univ.

10:00-10:20	TA1-J.2

An Object Manipulation by Swarm Robots Inspired by Granular Convection Phenomenon (I), pp. 700-705.

Sugawara, Ken	Tohoku Gakuin Univ.

10:20-10:40	TA1-J.3

A Self Adaptive Hybrid Artificial Bee Colony Algorithm for Solving CEC 2013 Real-Parameter Optimization Problems (I), pp. 706-711.

Shan, Hai	Hiroshima Univ.
Yasuda, Toshiyuki	Hiroshima Univ.
Ohkura, Kazuhiro	Hiroshima Univ.

TA1-K	Room K (503)
Human Interface (1) (Regular Session)	
Chair: Ando, Hideyuki	Osaka Univ.

09:40-10:00	TA1-K.1

Assessment of Visual Space Recognition in Patients with Unilateral Spatial Neglect Using Head Mounted Display (HMD) System: Case Study with Left Unilateral Spatial Neglect, pp. 712-716.

Sugihara, Shunichi	Hokkaido Univ.
Koichi, Shimizu	Hokkaido Univ.
Tanaka, Toshiaki	The Univ. of Tokyo
Miyasaka, Tomoya	Hokkaido Inst. of Tech.
Izumi, Takashi	Tokai Univ.

10:00-10:20	TA1-K.2

Evaluation of Force Display Touch Pad for the Visually Impaired, pp. 717-722.

Aoki, Makoto	Toyama Prefectural Univ.
Koyanagi, Ken'ichi	Toyama Prefectural Univ.
Oshima, Toru	Toyama Prefectural Univ.
Motoyoshi, Tatsuo	Toyama Prefectural Univ.

10:20-10:40	TA1-K.3

Experimental Verification for Maneuverability of Man-Machine Interface Based on EMG, pp. 723-728.

HIrata, Yasuhiro	Tokyou denki Univ.
Hayashi, Masamichi	Tokyo Denki Univ.
Iwase, Masami	Tokyo Denki Univ.

TA1-L	Room L (504)
OS9Grey System Theory and Its Applications (1) (Invited Session)	
Chair: You, Mei-Li	Chienkuo Tech. Univ.

09:40-10:00	TA1-L.1

Application of Rough Set Method to the Weightings of High Temperature Creep Factors of Boiler Water Wall (I), pp. 729-734.

You, Mei-Li	Chienkuo Tech. Univ.
Wen, Kun-Li	Chienkuo Tech. Univ.
Liu, Wei-Ling	Chienkuo Tech. Univ.
Lin, Chen-En	Chienkuo Tech. Univ. Electrical Engineering

10:00-10:20	TA1-L.2

Appling GM(0, N) in the User's Cognition of Design Research - an Example in Smart Phone Holster (I), pp. 735-740.

Liang, Jung-chin	Ling Tung Univ.
Huang, Shu-Chen	Asia Univ.
Liang, Jun-Chun	Tech. Univ. Changhua, Automation Engineering
Nagai, Masatake	National Taichung Univ. of Education

10:20-10:40	TA1-L.3

Apply GM(0N) to Analyze EFL Learners' Uses of Listening Comprehension Strategies (I), pp. 741-746.

Chen, Kate Tzu-ching	Chaoyang Univ. of Tech.
Chen, Hsin-I	Chinese Culture Univ.
Chen, Hsiao-Ching	Chien-Kuo Tech. Univ.
Huang, Cheng-Shen	Tainan Univ. of Tech.

TA1-M	Room M (505)
Vision Systems (1) (Regular Session)	
Chair: Matoba, Osamu	Kobe Univ.

10:20-10:40	TA1-M.1

A Novel TIR-R Concentration Module of Uniformly Solar Energy for HCPV Systems, pp. 747-752.

Shen,, Sheng Chih	National Cheng Kung Univ.
Chang, Shyang-Jye	National Yunlin Univ. of Science and Tech.

10:40-11:00	TA1-M.2

Spatio-Temporal Bird's-Eye View Images Using Multiple Fish-Eye Cameras, pp. 753-758.

Sato, Takaaki	The Univ. of Tokyo
Moro, Alessandro	Ritecs Inc.
Sugahara, Atsushi	Toshiba Corp.
Tasaki, Tsuyoshi	Toshiba Corp.
Yamashita, Atsushi	The Univ. of Tokyo
Asama, Hajime	The Univ. of Tokyo

11:00-11:20	TA1-M.3

A Method of 3D Model Generation of Indoor Environment With Manhattan World Assumption Using 3D Camera, pp. 759-765.

Yaguchi, Hiroaki	The Univ. of Tokyo
Takaoka, Yutaka	Toyota Mortor Corp.
Yamamoto, Takashi	Toyota Motor Corp.
Inaba, Masayuki	The Univ. of Tokyo

11:20-11:40	TA1-M.4

Object Recognition Using Lighting Condition Database Based on Long-Time Observation in Virtual Environment,

pp. 766-771.

Hagiwara, Yoshinobu	National Inst. of Infomatics
Inamura, Tetsunari	National Inst. of Informatics

TA2-I	Room I (501)
Medical Systems (Regular Session)	
Chair: Luo, Zhi-Wei	Kobe Univ.

11:00-11:20	TA2-I.1

Incremental Potential Field Based Haptic Guidance for Medical Simulation, pp. 772-777.

Xiong, Linfei	National Univ. of Singapore
Chui, Chee Kong	National Univ. of Singapore
Teo, Chee Leong	National Univ. of Singapore
Lau, David Pang Cheng	Raffles Hospital

11:20-11:40	TA2-I.2

Design of a 4-DOF Forceps Manipulator for Robotic Surgery, pp. 778-783.

Kanno, Takahiro	Tokyo Medical and Dental Univ.
Haraguchi, Daisuke	Tokyo Inst. of Tech.
Tadano, Kotaro	Tokyo Inst. of Tech.
Kawashima, Kenji	Tokyo Medical and Dental Univ.

11:40-12:00	TA2-I.3

Assistive Surgical Manipulator for Cochlear Implant Surgery, pp. 784-789.

Mendis, Arjuna	Univ. of Moratuwa
Dedduwa Pathiranage, Chandima	Univ. of Moratuwa
Yasawardena, ADKSN	Lady Ridgeway Hospital

TA2-J	Room J (502)
OS8Swarm Robotics (2) (Invited Session)	
Chair: Naruse, Keitaro	Univ. of Aizu

11:00-11:20	TA2-J.1

Behavior Sequence Analysis of Incrementally Evolving Robotic Swarms in a Foraging Task (I), pp. 790-795.

Yasuda, Toshiyuki	Hiroshima Univ.
Ohkura, Kazuhiro	Hiroshima Univ.
Wada, Nanami	Hiroshima Univ.
Matsumura, Yoshiyuki	Shinshu Univ.

11:20-11:40	TA2-J.2

Swarm EKF Localization for a Multiple Robot System with Range-Only Measurements (I), pp. 796-801.

Naruse, Keitaro	Univ. of Aizu

11:40-12:00	TA2-J.3

A $(mu, Lambda)$ Evolutionary and Particle Swarm Hybrid Algorithm Over Cloud Computing, with an Application to Dinosaur Gait Optimization (I), pp. 802-807.

Matsumura, Yoshiyuki	Shinshu Univ.
Sugiyama, Kiyotaka	Shinshu Univ.
Yasuda, Toshiyuki	Hiroshima Univ.
Ohkura, Kazuhiro	Hiroshima Univ.

12:00-12:20	TA2-J.4

Lévy Walk Enhances Efficiency of Group Foraging in Pheromone-Communicating Swarm Robots (I), pp. 808-813.

| Fujisawa, Ryusuke | Hachinohe Inst. of Tech. |
| Dobata, Shigeto | Univ. of Lausanne |

TA2-K — Room K (503)
Human Interface (2) (Regular Session)

| Chair: Nagano, Akinori | Kobe Univ. |
| Co-Chair: Ando, Hideyuki | Osaka Univ. |

11:00-11:20 — TA2-K.1

Detection of Pinching Gestures Using a Depth Sensor and Its Application to 3D Modeling, pp. 814-819.

| Hamamatsu, Keita | Univ. of Tsukuba |
| Hoshino, Kiyoshi | Univ. of Tsukuba |

11:20-11:40 — TA2-K.2

Development of Haptic Device for Five-Fingered Robot Hand Teleoperation, pp. 820-825.

Fujimoto, Kouhei	Kobe Univ.
Kobayashi, Futoshi	Kobe Univ.
Nakamoto, Hiroyuki	Kobe Univ.
Kojima, Fumio	Kobe Univ.

11:40-12:00 — TA2-K.3

A Simple Pen-Type Device Based Interaction for the Low Cost Calculation Power, pp. 826-831.

| Iwamoto, Kenji | Ritsumeikan Univ. |
| Lee, Joo-Ho | Ritsumeikan Univ. |

TA2-L — Room L (504)
OS9Grey System Theory and Its Applications (2) (Invited Session)

| Chair: Lee, Ya-Ting | National Taichung Univ. of Science and Tech. |

11:00-11:20 — TA2-L.1

Appling GM(0, N) in the Ranking of Aromatherapy by Using Heart Chakra Essential Oils (I), pp. 832-837.

Lee, Ya-Ting	National Taichung Univ. of Science and Tech.
Hwang, Chii-Fang	National Taichung Univ. of Science and Tech.
Chen, Mei-Hui	Chienkuo Tech. Univ.
Luo, Ju-Zhen	Chien Kuo Tech. Univ.
Chen, Hsin-I	Chinese Culture Univ.

11:20-11:40 — TA2-L.2

The Power System Design of Small Unmanned Aerial Vehicle (I), pp. 838-843.

Wang, Jee-Ray	ChienKuo Tech. Univ.
Tsai, Yu-Lung	ChienKuo Tech. Univ.
Wu, Li-Nuo	ChienKuo Tech. Univ.
Lin, Yu-Cheng	ChienKuo Tech. Univ.

11:40-12:00 — TA2-L.3

Apply Grey Entropy to Analyze the Weighting of Influence Factor in Sexual Harassment on Campus in Taiwan (I), pp. 844-849.

Wei, mei-chuan	Chienkuo Tech. Univ.
Fang, Wen-Hui	whfang@cc.ctu.edu.tw
Chen, Show-Feng	Chang Jung Christian Univ.
Hsiao, Yang-Fang	Chienkuo Tech. Univ.

Tong, Chia-Chang   Chienkuo Tech. Univ.

TP1-I	Room I (501)
Rescue and Communication Systems (Regular Session)	

Chair: Watanabe, Tomio	Okayama Prefectural Univ.

14:00-14:20	TP1-I.1

Development of Crawler Type Rescue Robot with 2 DOF Flipper Arms, pp. 850-854.

Sato, Noritaka	Nagoya Inst. of Tech.
Torii, Katsuma	Nagoya Inst. of Tech.
Morita, Yoshifumi	Nagoya Inst. of Tech.

14:20-14:40	TP1-I.2

Development of a Tele-Operation Simulator Based on Virtual Reality Environment for Advanced Unmanned Construction, pp. 855-860.

Kamezaki, Mitsuhiro	Waseda Univ.
Aguirre Dominguez, Gonzalo	Waseda Univ. Sugano Lab.
Yang, Junjie	Waseda Univ.
Iwata, Hiroyasu	Waseda Univ.
Sugano, Shigeki	Waseda Univ.

14:40-15:00	TP1-I.3

Tele-Operation System for Rescue Robot by Inputting Target Position of End Effector, pp. 861-866.

Okabe, Daisuke	Nagoya Inst. of Tech.
Morita, Yoshifumi	Nagoya Inst. of Tech.
Sato, Noritaka	Nagoya Inst. of Tech.

15:00-15:20	TP1-I.4

A Note on Adaptive Coding Scheme for Minimizing Tracking Error in Wireless Feedback Control Systems, pp. 867-872.

Hattori, Shingo	Nagoya Univ.
Kobayashi, Kentaro	Nagoya Univ.
Okada, Hiraku	Nagoya Univ.
Katayama, Masaaki	Nagoya Univ.

15:20-15:40	TP1-I.5

Video Communication System with Speech-Driven Embodied Entrainment Audience Characters with Partner's Face, pp. 873-878.

Nakayama, Shiho	Okayama Prefectural Univ.
Watanabe, Tomio	Okayama Prefectural Univ.
Ishii, Yutaka	Okayama Prefectural Univ.

15:40-16:00	TP1-I.6

Laser Beam Tracking System for Active Free-Space Optical Communication, pp. 879-884.

Muta, Shigeki	Saga Univ.
Tsujimura, Takeshi	Saga Univ.
Izumi, Kiyotaka	Saga Univ.

TP1-J	Room J (502)
Swarm Robotics (3) (Regular Session)	

Chair: Murayama, Toru	Wakayama National Coll. of Tech.

14:00-14:20	TP1-J.1

Comparison of Two Interval Models for Interval-Valued Particle Swarm Optimization, pp. 885-888.

Okada, Hidehiko	Kyoto Sangyo Univ.

14:20-14:40	TP1-J.2

Trajectory Planning for Multi-Vehicle System Considering Network Connectivity and Collision Avoidance, pp. 889-894.

Murayama, Toru	Wakayama National Coll. of Tech.

14:40-15:00	TP1-J.3

Cooperative Stochastic Position Estimation of Multiple Mobile Robots Equipped with Omnidirectional Cameras, pp. 895-900.

Sasahara, Kosuke	Kobe Univ.
Nagano, Akinori	Kobe Univ.
Luo, Zhiwei	Kobe Univ.

TP1-M	Room M (505)
Vision Systems (2) (Regular Session)	

Chair: Matoba, Osamu	Kobe Univ.

14:00-14:20	TP1-M.1

A Vision System for Daily Assistive Robots Using Character Information in Daily Environments, pp. 901-906.

Yamazaki, Kimitoshi	Shinshu Univ.
Nishino, Tomohiro	the Univ. of Tokyo
Nagahama, Kotaro	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo

14:20-14:40	TP1-M.2

Color Mixing and Random Search for Optimal Illumination in Machine Vision, pp. 907-912.

HyungTae, Kim	KITECH
KyeongYong, Cho	KAIST
SeungTaek, Kim	KITECH
Jongseok, Kim	KITECH

14:40-15:00	TP1-M.3

High-Speed Object Tracking across Multiple Networked Cameras, pp. 913-918.

Noda, Akihito	The Univ. of Tokyo
Yamakawa, Yuji	Univ. of Tokyo
Ishikawa, Masatoshi	Univ. of Tokyo

15:00-15:20	TP1-M.4

A Phase Estimation Method for Workflow Based on Optical Flow and Hidden Markov Model, pp. 919-924.

Yoshimura, Akira	Ritsumeikan Univ.
Lee, Joo-Ho	Ritsumeikan Univ.