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The University of Electro-Communications

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The University of Electro-Communications

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\textsuperscript{1}Kyoto University, \textsuperscript{2}Assiut University

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Bovine RFID Tracing System with Livestock Safety Remote Sensing

Ferruccio Giametta, Pasquale Catalano, Giovanna La Fianza, Andrea Simoni
University of Molise

Shading Compensation Methods for Robots to Harvest Strawberries in Tabletop Culture

Rajendra Peter¹, Mitsutaka Kurita¹, Kazunori Ninomiya¹, Gosei Okazaki², Shigehiko Hayashi²
¹Shibuya.Seiki Co.Ltd., ²Nisshin

Machine Vision Based Prediction of Serum Vitamin A Level in Japanese Black Cattle by Pupillary Light Reflex Analysis

Shuqing Han¹, Naoshi Kondo¹, Tateshi Fujiura¹, Yuichi Ogawa¹, Yoshie Takao¹, Shinya Tanigawa¹, Moriyuki Fukushima², Osamu Watanabe², Namiko Kohama²
¹Kyoto University, ²Hyogo Prefectural Hokubu Agricultural Institute

Correlation between Serum Vitamin A Level and Pupil Color of Beef Cattle

Yoshie Takao³, Naoshi Kondo³, Yuichi Ogawa³, Han Shuqing¹, Shinya Tanigawa¹, Tateshi Fujiura¹, Moriyuki Fukushima², Osamu Watanabe², Namiko Kohama²
¹Kyoto University, ²Hyogo Prefectural Hokubu Agricultural Institute
Velocity and Acceleration Estimation of an Electric Throttle System by Adaptive Differential Filter

Tsuyoshi Nimiya¹, Haruo Suemitsu¹, Takami Matsuo¹, Sawut Umeruan², Kazushi Nakano³
¹Oita University, ²NIKKI Co., Ltd., ³The University of Electro-Communications

A Method for Camera Type Touch Screen

Akinobu Shimoyama, Yue Bao, Fei Gu
Tokyo City University

Effects of ESD and EMI on TMR Heads during Bonding Process of Gold Ball Bonding Machines

Sarunya Puapairoj, Chiranut Sa-ngiamsak
Khon Kaen University

D1 : Swarm Robotics (OS5-1)  Dec. 20 (Tue.) 9:30-10:50
Foraging Effectiveness of the Altruistic Plugging Behavior of the Army Ants  
Sohei Hanamoto, Fumitoshi Matsuno  
Kyoto University

Reinforcement Learning Approaches for Acquiring Conflict Avoidance Behavior in Multi-Agent Systems  
Kazuaki Yamada, Satoru Takano, Satomi Watanabe  
Toyo University

Swarm Based Enclosure Model for Unspecified Number of Targets  
Masao Kubo¹, Akihiro Yamaguchi², Hiroshi Sato¹  
¹National Defense Academy of Japan  ²Fukuoka Institute of Technology

Cooperation among Multiple Robots by Collecting Broken Robots in Large-Scale Structure Assembly  
Masayuki Otani, Kiyohiko Hattori, Hiroyuki Sato, Keiki Takadama  
The University of Electro-Communications

Design and Control for Collision Avoidance of Power-assisted Omni-directional Mobile Wheelchair System  
Yuki Ueno¹, Hideo Kitagawa², Kiyoko Kakihara³, Kazuhiro Terasima¹  
¹Toyoohashi University of Technology, ²Gifu National College of Technology, ³KER CO., LTD.

Development of Intuitive Human-Machine Interface Based on Electromyography for Assistive Robot (KAAD)  
Tomasz Marek Lubecki, Fengjun Bai, Chee-Meng Chew, Chee Leong Teo  
National University of Singapore

Typical Risks and Protective Measures of Wearable Walking Assistant Robots  
Cota Nabeshima¹, Hiroaki Kawamoto², Yoshiyuki Sankai²  
¹CYBERDYNE Inc, ²The University of Tsukuba
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Guanghui Li, Yusuke Tamura, Hajime Asama
The University of Tokyo

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National Cheng Kung University

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Johannes Wienke, Sebastian Wrede
Bielefeld University

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Organizer: Naoshi Kondo (Kyoto University)

**B2-1**
The Relationship between Serum Vitamin A Level of Japanese Black Cattle and Light Reflection on the Pupil

Shinya Tanigawa¹, Naoshi Kondo¹, Yuichi Ogawa¹, Tateshi Fujiura¹, Han Shuqing¹, Yoshie Takao¹, Moriyuki Fukushima², Osamu Watanabe², Namiko Kohama²
¹Kyoto University, ²Hyogo Prefectural Hokubu Agricultural Institute

**B2-2**
Inspection of Milk Components by Terahertz Attenuated Total Reflectance (THz-ATR) Spectrometer Equipped Temperature Controller

Hirotaka Naito¹, Yuichi Ogawa¹, Keiichiro Shiraga¹, Naoshi Kondo¹, Tsunao Hirai², Ikuo Osaka², Asuka Kubota²
¹Kyoto University, ²Hokkaido Research Organization Agricultural Research Department

**B2-3**
Spectra Coupled with Color Features to Determine Sugar Content of Fragrant Pears Using LS-SVM

Huirong Xu, Yibin Ying
Zhejiang University

**B2-4**
Prediction of Vitamin C Using FTIR-ATR Terahertz Spectroscopy Combined with Interval Partial Least Squares (iPLS) Regression

Diding Suhandy, Meinilwita Yulia, Yuichi Ogawa, Naoshi Kondo
Kyoto University

**B2-5**
Evaluation of Maize Growth by Ground Based Multispectral Image

Hong Sun¹, Minzan Li¹, Lihua Zheng¹, Yane Zhang, Wei Yang
¹China Agricultural University

C2: Sensors and Actuators 2 Dec. 20 (Tue.) 13:00-15:20
Pinned Layer Reversal Effect on Tunneling Magnetoresistive Heads Caused by Dynamic Fly Height
Heater Voltage

Chiranut Sa-ngiamsak¹, Sanchai Harnsoongnoen², Duangporn Sompongse³
¹Khon Kaen University, ²Mahasarakham University, ³Western Digital

Control of Offset Pressure for Pneumatic Robots

Naoki Igo, Kiyoshi Hoshino
University of Tsukuba

Design and Fabrication of High Power Smart Actuator Module

Won-Je Choi¹, Min-Keun Yoon¹, Young-Bong Bang¹, Han-Sam Cho²
¹Seoul National University, ²KOMOTEK Co., LTD.

TDOA/AOA Localization in RFID System Using Dual Indirect Kalman Filter

D.K. Kim, J.H. Ha, P.J. Kim, K.H. You
Sungkyunkwan University

Improvement of Novel Noninvasive Measurement of Endothelial Function: ezFMD

Teiji Ukawa¹, Tsuneo Takayanagi¹, Haruka Morimoto¹, Yukihito Higashi², Naomi Ider², Ryosuke Kubo², Masao Yoshizumi²
¹Nihon Kohden CO, ²Hiroshima University

Analysis of Bias Effects for a Capacitive-Micro-Ultrasonic-Transducer

Fu-Shin Lee, Shao-Chin Tseng
Huafan University
Connectivity and Stability in Robotic Swarm System with Anisotropic Neighbors  
Keitaro Naruse, Taku Kuwabara, Tatsuya Sato  
University of Aizu  

Effectiveness of Tuning of Pheromone Trail Lifetime in Attraction of Robot Swarm  
Ryusuke Fujisawa¹, Yusuke Shimizu², Fumitoshi Matsuno³  
¹Hachinohe Institute of Technology  ²The University of Electro-Communications  ³Kyoto University  

Evolving Robot Controllers for a Homogeneous Robotic Swarm  
Kazuhiro Ohkura¹, Toshiyuki Yasuda, Tomonori Sakamoto, Yoshiyuki Matsumura  
¹Hiroshima University  

Realization of Dynamic Interaction of Virtual Creatures with Neural Controller  
Kenji Iwadate, Ikuo Suzuki, Masahito Yamamoto, Masashi Furukawa  
Hokkaido University  

E2 : System Software  Dec. 20 (Tue.) 13:00-15:20
A Real-time Blind Source Separation for Speech Signals Based on the Orthogonalization of the Joint Distribution of the Observed Signals

Takara Katayama, Takaaki Ishibashi
Kumamoto National College of Technology

Noise Value Differences of DSLR Video between Editing Programs after Rendering Process

Byungjoo Cho, Hyung-Ju Park, Dong Hwan Har
Chung-Ang University

Ontology-based Semantic Similarity Measures for Product-Service System Design

Suriati Akmal, Yusuke Tsujioka, Rafael Batres
Toyohashi University of Technology

On Comparing SSA-based Change Point Discovery Algorithms

Yasser Mohammad¹,², Toyoaki Nishida²
¹Assiut University, ²Kyoto University

Expressing Implicit Figure-Ground Character Information from Explicit Literary Text Information

Eugene Kitamura, Yukio-Pegio Gunji
Kobe University

Capturing Multiview 3D Using A Lenticular Lens

Tatsuya Haga, Yue Bao, Fei Gu
Tokyo City University

F2 : Service Robots 2 Dec. 20 (Tue.) 13:00-15:20
People and Clothes Recognition Based on Topic Model  
Ryuhei Sakurai, Joo-Ho Lee  
Ritsumeikan University

Impedance-Based Contact Control of a Free-Flying Space Robot with Respect to Coefficient of Restitution  
Naohiro Uyama, Daichi Hirano, Hiroki Nakanishi, Kenji Nagaoka, Kazuya Yoshida  
1Tohoku University, 2JAXA

Development of Environment and Task Motion Framework for Finishing Robot System - Arrangement and Usage of Information in the Environment -  
Hajime Fujii, Syouhei Shimoyama, Takashi Yoshimi, Makoto Mizukawa, Yoshinobu Andou, Masakazu Fujii, Hiroki Murakami  
1Shibaura Institute of Technology, 2IHI Corporation

Proposed System of Unlocking Potentially Hazardous Function of Robot Based on Verbal Communication  
Toshihiro Nishizawa, Kazuki Kishita, Yosuke Takano, Yoshihiro Hujita, Shin'ichi Yuta  
1University of Tsukuba, 2NEC Corp.

Mobile Robot Vision Tracking System Using Unscented Kalman Filter  
Muhammad Muneeb Shaikh, Wook Bahn, Changhun Lee, Tae-il Kim, Tae-jae Lee, Kwang-soo Kim, Dong-il Cho  
1Seoul National University, 2Hanbat National University

Tracking with Pointing Gesture Recognition for Human-Robot Interaction  
Ren C. Luo, Shu-Ruei Chang, Yee-Pien Yang  
National Taiwan University

Human-Robot Interface with Instruction of Neck Movement Using Laser Pointer  
Satoru Shibata, Tomonori Yamamoto, Mitsuru Jindai  
1Ehime University, 2Okayama Prefectural University

B3 : Human Monitoring (OS9)  Dec. 20 (Tue.) 15:50-18:10
Organizers: Joo-Ho Lee (Ritsumeikan University), Kazuyuki Morioka (Meiji University)

**B3-1**
Human Following Robot Based on Control of Particle Distribution with Integrated Range Sensors
Fumiaki Hoshino, Kazuyuki Morioka
Meiji University

**B3-2**
Improvement of Person Identification Rules Based on Walking Behavior Association between Wearable Acceleration Sensors and Intelligent Space
Tomoyasu Takigawa, Kazuyuki Morioka
Meiji University

**B3-3**
Robust Methods for Head Orientation Estimation and User Identification Based on HOG and Codebook
Dinh Tuan Tran, Yusuke Koizumi, Ryuhei Sakurai, Joo-Ho Lee
Ritsumeikan University

**B3-4**
A Robust Finger Pointing Interaction in Intelligent Space
Yusuke Koizumi, Dinh Tuan Tran, Joo-Ho Lee
Ritsumeikan University

**B3-5**
Relationship between Fractal Property of Gait Cycle and Severity of Parkinson's Disease
Leo Ota¹, Kazuki Suzuki¹, Hirotaka Uchitomi¹, Michael J. Hove², Satoshi Orimo³, Yoshihiro Miyake¹
¹Tokyo Institute of Technology, ²Max Planck Institute, ³Kanto Central Hospital

**B3-6**
Movement Imagery Classification Based on Subband BSS
Manoj Mukul¹, Fumitoshi Matsuno²
¹Birla Institute of Technology Mesra, ²Kyoto University

**B3-7**
Relationship between Social Interaction and Mental Health
Eisuke Ono¹, Takayuki Nozawa², Taiki Ogata¹,³, Masanari Motohashi¹, Naoki Higo¹, Yoshihiro Miyake¹
¹Tokyo Institute of Technology, ²Tohoku University, ³The University of Tokyo

C3 : Mobile Robot 1 Dec. 20 (Tue.) 15:50-18:10
Development and Evaluation of Autonomous Mobile Manipulator for Large Scale Outdoor Environment

Takeshi Ohki, Kiichiro Sato, Keiji Nagatani, Kazuya Yoshida
Tohoku University

A 75-Variable MIQP Solver Processor for Real-Time Autonomous Robot Control

Masanori Nishino, Hiroki Noguchi, Yusuke Shimai, Shintaro Izumi, Hiroshi Kawaguchi, Masahiko Yoshimoto
Kobe University

Dynamic Vehicle Routing in Distributed Manufacturing Environments

Christopher Möller
Hamburg University of Technology

Development of High Mobility in-Pipe Inspection Robot

Woongsun Jeon, Jungwan Park, Inho Kim, Yoon-Koo Kang, Hyunseok Yang
Yonsei University

Exploring Movable Space Using Rhythmical Active Touch in Disordered Obstacle Environment

Kenri Kodaka¹, Tetsuya Ogata², Hirotaka Ohta¹, Shigeki Sugano¹
¹Waseda University, ²Kyoto University

Washout Control for Inverted Pendulum Mobile Robots with Sensor Drifts

Wataru Hori, Takashi Takimoto
Kitakyushu National College of Technology

Modified Particle Petri Nets for Hybrid Dynamical Systems Monitoring Under Environmental Uncertainties

Leila Zouaghi, Alexander Alexopoulos, Achim Wagner, Essam Badreddin
University of Heidelberg

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The University of Tokyo

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1Seoul National University 2Samsung Electronics

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Kitakyushu National College of Technology

Control Translation Strategy for a Submersible Vehicle  403

E3-3
Shane Pinder¹, Jo Borchsenius²
¹Auckland University of Technology, ²Aker Clean Carbon AS

Sliding Mode Leader Following Control for Autonomous Air Robots  409

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Touraj Soleymani, Fariborz Saghafi
Sharif University of Technology

A Path Following Control Method under Wind Disturbances for Outdoor Blimp Robots  415

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Hitomu Saiki¹, Takanori Fukao¹, Taketeru Urakubo¹, Takashi Kohno²
¹Kobe University, ²JAXA

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Kobe University

Design, Development and Flight Experiment of a Small Reusable Rocket that Glides Using Two-stage parachute  428

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Kyushu Institute of Technology

F3 : SLAM  Dec. 20 (Tue.) 15:50-18:10
Map Building from Laser Ranger Sensor Information Using Mixed Data Clustering and Singular Value Decomposition in Noisy Environment

Ankit Ravankar, Yohei Hoshino, Takanori Emaru, Yukinori Kobayashi
Hokkaido University

On Simulation and Analysis of Mobile Robot SLAM Using Rao-Blackwellized Particle Filters

Peng Qi, Lu Wang,
KTH Royal Institute of Technology

DSM Update for Robust Outdoor Localization Using ICP-based Scan Matching with COAG Features of Laser Range Data

Yong-Hoon Ji¹, Sung-Ho Hong¹, Jae-Bok Song¹, Ji-Hoon Choi²
¹Korea University, ²Agency for Defense Development

Multi-Robot Exploration Framework Using Robot Vision and Laser Range Data

Youssef Ktiri, Tomoaki Yoshikai, Masayuki Inaba
University of Tokyo

Robust Scan Matching with Curvature-based Matching Region Selection

Heon-Cheol Lee, Seung-Hee Lee, Jimin Kim, Beom-Hee Lee
Seoul National University
Vision-Based Robot Navigation and Map Building Using Active Laser Projection  
Wen-Chung Chang, Chun-Yi Chuang  
National Taipei University of Technology

Camera Localization by CAD Model Matching  
Chuantao Zang, Koichi Hashimoto  
Tohoku University

Application of Image Processing Technology for Unloading Automation of Robot Combine Harvester  
Hiroki Kurita, Michihisa Iida, Masahiko Suguri, Ryo Uchida, Huaping Zhu, Ryohei Masuda  
Kyoto University

Improved Sub-block Encoder of Irregular LDPC Code for Image Transmission  
Tanaporn Payommai, Werapon Chiracharit, Kosin Chamnongthai  
King Mongkut’s University of Technology Thonburi

Zhongli Wang, Yunhui Liu, Bogen Cai  
Beijing Jiaotong University, the Chinese University of Hong Kong

B4 : Semiotic Analysis and Design of Human-Environment Interactions (OS11)  
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**Double Articulation Analyzer for Unsegmented Human Motion Using Pitman-Yor Language model and Infinite Hidden Markov Model**

Tadahiro Taniguchi, Shogo Nagasaka
Ritsumeikan University

**Identification of Self-body Based on Dynamic Predictability Using Neuro-Dynamical System**

Harumitsu Nobuta, Shun Nishide, Hiroshi Okuno, Tetsuya Ogata
Kyoto University

**Menu System Design Based on Conceptual Dependency Structures between Functional Elements**

Yukio Horiguchi, Wataru Gejo, Tetsuo Sawaragi, Hiroaki Nakanishi
Kyoto University

**Human Gait Control Suggested by the Evaluation of the Fluctuation of Synergy**

Tetsuro Funato¹, Shinya Aoi¹, Nozomi Tomita², Kazuo Tsuchiya²
¹Kyoto University, ²Doshisha University

**Changes in Coordinative Structure through Human-Environmental Interaction and its Role in Estimation of Dynamics**

Hiroaki Nakanishi¹, Sayaka Kanata², Tetsuo Sawaragi¹, Yukio Horiguchi², Hirofumi Hattori¹
¹Kyoto University, ²Osaka Prefecture University

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C4 : New Actuators and Motion Control Systems (OS3)  Dec. 21 (Wed.) 9:00-10:40
Control of Bilateral Force Feedback System with Flexible Mechanism Based on Resonant Ratio Control

C4-1
Eiichi Saito, Seiichiro Katsura
Keio University

Investigation of Transport Layer Protocols for Wireless Haptic Communication System

C4-2
Nozomi Suzuki, Seiichiro Katsura
Keio University

Velocity Based Motion-Copying System for Grasping/Manipulation Motion Reproduction

C4-3
Shunsuke Yajima, Seiichiro Katsura
Keio University

Thermal Bilateral Control with Scaled Thermal Information Using Peltier Device

C4-4
Hidetaka Morimitsu, Seiichiro Katsura
Keio University

Threshold Test on Grasping Diameter for Evaluation of Passive Force Display Glove System Precision

C4-5
Naohiro Sato, Ken'ichi Koyanagi, Tatsuo Motoyoshi, Toru Oshima
Toyama Prefectural University

D4 : Management and Supply Chains   Dec. 21 (Wed.) 9:00-10:40
A Relaxation Method for the Three-dimensional Loading Capacitated Vehicle Routing Problem  

Jidong Ren, Yajie Tian, Tetsuo Sawaragi  
Kyoto University  

An Integrated Model and its Extension for Disassembly Leveling and Lot-sizing for Multiple Product Types  

Kyung-Wan Kang\textsuperscript{1}, Hyoung-Ho Doh\textsuperscript{2}, Jung-Hyeon Park\textsuperscript{2}, Dong-Ho Lee\textsuperscript{2}  
\textsuperscript{1}LSIS, Ltd., \textsuperscript{2}Hanyang University  

A Heuristic for Multi-Period Disassembly Leveling and Scheduling  

Dong-Hyun Kim, Dong-Ho Lee  
Hanyang University  

The Management Performance Assessment of Taiwan’s Camping Park Based on DEA Technique  

Chung-Ling Kuo, Chia-Li Lin  
Taiwan Hospitality & Tourism College  

New Integrated Hybrid Evaporative Cooling System for HVAC Energy Efficiency Improvement  

Vahid Vakiloroaya, Mina Khatibi, Quang Ha, Bijan Samali  
University of Technology, Sydney  

E4 : Mechatronics and Control 1  Dec. 21 (Wed.) 9:00-10:40
Improved Performance Using Discrete Rotating and Shifting Switching Manifolds of Single-Phase PWM Inverters

En-Chih Chang¹, Fu-Juay Chang², Yen-Ku Lin¹
¹I-Shou University, ²National United University

A Roll Gap Adjustment For Uniform Thickness of Dough Sheets of Instant Ramen Noodles

Byung Kook Yoo¹, Dong Sang Yoo²
¹Nongshim Co. Ltd., ²Hankyong National University

Development of a Tweezers-type Device for a Multi-fingered Haptic Interface Robot

Takahiro Endo, Satoshi Tanimura, Haruhisa Kawasaki
Gifu University

Optimization of the Depth of Field for Enhanced 3D Images

Har DongHwan, Chun KookJin, Song KwangChan
Chung-Ang University

The Strategic Improvements of Social Networking Services Based on SIA-NRM Approach

Chia-Li Lin
Taiwan Hospitality & Tourism College

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¹The University of Electro-Communications, ²Kyoto University, ³Nagoya Institute of Technology, ⁴Okayama University

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University of Heidelberg

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Brno University of Technology

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Taku Sahashi¹, Akira Sahashi², Hisashi Uchiyama¹, Ichiro Fukumoto¹
¹Nagaoka University of technology, ²Project-I Co. Ltd.

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Kazuyuki Ishida, Tetsushi Kamegawa, Akio Gofuku
Okayama University

A5 : Vision 2  Dec. 21 (Wed.) 15:10-16:30
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Rong-Seng Chang¹, Tung-Yen Li¹, Li-Wei Ho², Jang-Zern Tsai¹, Ching-Fu Yang¹  
¹National Central University, ²HY Neural Technologies, Ltd.

Distant Object Recognition with Grabcut for an Active-Zooming Camera  

Doojin Kim, Kyung Sik Park, Heon Cheol Lee, Kong Woo Lee, Beom Hee Lee  
Seoul National University

Kinect-based Obstacle Detection for Manipulator  

Panjawee Rakprayoon¹, Miti Ruchanurucks¹, Ada Coundoul²  
¹Kasetsart University, ²ESIREM, U De Bourgogne

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Kazuyoshi Wada¹, Eiji Kubo¹, Nobukazu Nakashio¹, Keisuke Takayama¹, Toshihiko Suzuki²
¹Tokyo Metropolitan University, ²Kogakuin University

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1AIST, 2NISE, 3Shiga Prefectural Mikumo School for the Physically and Mentally Impaired, 4psychotherapist, 5physician therapist, 6University of Tsukuba Education Bureau of Laboratory Schools and Senior High School at Otsuka, University of Tsukuba, 7NAMCO BANDAI Games Inc.

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Daido University

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Keiko Homma1, Mariko Usuba2
1AIST, 2Tsukuba University of Technology

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Mata Khalili1, Eric Monacelli1, Yasuhsa Hirata2
1University of Versailles, 2Tohoku University

D5 : Humanoid Robots 1  Dec. 21 (Wed.) 15:10-16:30
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Meng-Hung Wu, Atsushi Konno, Masaru Uchiyama  
Tohoku University

Construction of an Anthropomorphic Robot and Its Intelligent Control for Vision-Guided Feeding Tasks  
T. I. James Tsay, Y. M. Liu  
National Cheng Kung University

Separation of Tactile Information from Multiple Sources Based on Spatial ICA and Time Series Clustering  
Kyuhee Lee¹, Tetsushi Ikeda², Takahiro Miyashita², Hiroshi Ishiguro¹, Norihiro Hagita²  
¹ATR/Osaka University, ²ATR

Personal Space of Humans in Relation with Humanoid Robots Depending on the Presentation Method  
Mika Yasumoto¹, Hiroko Kamide¹, Yasushi Mae¹, Koji Kawabe², Satoshi Shigemi², Masato Hirose², Tatsuo Arai¹  
¹Osaka University, ²Honda R&D Co., Ltd.
Steering Assist Control for Stabilization of a Motorcycle during Braking (Verification of the Control System on Cornering Simulations)

Shintaroh Murakami¹, Hidekazu Nishimura¹, Shaopeng Zhu²
¹Keio University, ²Zhejiang University

Collision Avoidance of Two Manipulators Using RT-Middleware

Zhou Jianing, Kazuyuki Nagase, Shinya Kimura, Yasumichi Aiyama
University of Tsukuba

Development of Inverter-less FPP Electric Propulsion System

Masanori Ito¹, Feifei Zhang¹, Hiroshi Sato², Shigeo Mita³, Kyoko Narukawa¹
¹University of Marine Science and Technology, ²Daiichi Electric Co. LTD.

OpenVR: A Software Tool Contributes to Research of Robotics

Wei Wang, Yuki Suga, Hiroyasu Iwata, Shigeki Sugano
Waseda University

F5 : Learning  Dec. 21 (Wed.) 15:10-16:30

Entropy-weighted Bayesian Approach to Edge Finding for Object Perception

Chun-Shun Tseng, Jung-Hua Wang
National Taiwan Ocean University

Robust Localization System Using Online / Offline Hybrid Learning

Yuto Fujii, Yoji Kuroda
Meiji University

Learning Attentive-Depth Switching While Interacting with an Agent

Chyon Hae Kim¹, Hiroshi Tsujino¹, Hiroyuki Nakahara²
¹Honda Research Institute Japan, ²Integrated Theoretical Neuroscience RIKEN Brain Science Institute

Caterpillar Robot Locomotion Based on Q-Learning Using Objective/Subjective Reward

Ryota Yamashina, Masafumi Kuroda, Tetsuro Yabuta
Yokohama National University
Facial Recognition Using Partial Log-Polar Transformation  768
Yue Bao¹, Bin Qi², Fei Gu¹
¹Tokyo City University, ²Toshiba Corporations

Brick Path Detection from Shape Pattern and Texture Feature  772
Byung-Seok Woo, Sung-Min Yang, Kang-Hyun Jo
University of Ulsan

Significant Edge Finding in View of Human Perception  778
Chun-Shun Tseng, Jung-Hua Wang
National Taiwan Ocean University

Robot Localization under Perceptual Aliasing Conditions Based on Laser Reflectivity Using Particle Filter  784
Dong Xiang Zhang, Ryo Kurazume, Yumi Iwashita, Tsutomu Hasegawa
Kyushu University

B6 : Robot Service and Platform Technology (OS6)  Dec. 21 (Wed.) 17:00-18:20
Verification of the Effectiveness of Robots for Sales Promotion in Commercial Facilities

Yoshihiko Murakawa, Keiju Okabayashi, Shinji Kanda, Miwa Ueki
Fujitsu Laboratories Limited

Research and Development Environments for Robot Services and its Implementation

Yuka Kato¹, Toru Izui¹, Yoshihiko Murakawa², Keiju Okabayashi², Miwa Ueki², Yosuke Tsuchiya¹, Masahiko Narita¹
¹Advanced Institute of Industrial Technology, ²Fujitsu Laboratories Ltd.

Rapid Data Processing Pipeline Development Using OpenRTM-aist

Geoffrey Biggs, Noriaki Ando, Tetsuo Kotoku
AIST

The Ubiquitous Network Robot Platform: Common Platform for Continuous Daily Robotic Service

Miki Sato, Koji Kamei, Shuichi Nishio, Norihiro Hagita
ATR

C6 : Mobile Robot 2 Dec. 21 (Wed.) 17:00-18:20
Project-Based Learning Using LabVIEW and Embedded Hardware  815

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Yucel Ugurlu, Tatsuro Nagano
National Instruments Japan

Multi-Robot Enclosing Formation for Moving Target Capture  821

C6-3
Jimin Kim, Heon-Cheol Lee, Beom-Hee Lee
Seoul National University

A Visual Landmark Design Method for High Speed Multiple Robots  827

C6-4
Tae-Seok Lee¹, Jae-Guk Lee², Beom-Hee Lee¹
¹Seoul National University, ASRI, ²Seoul National University

D6 : Humanoid Robots 2  Dec. 21 (Wed.) 17:00-18:20

Initial Study of Bipedal Robot Locomotion Approach on Different Gravity Levels  833

D6-1
Aiman Omer¹, Kenji Hashimoto¹, Hun-ok Lim², Atsuo Takanishi¹
¹Waseda University, ²Kanagawa University

Grasp Observation and Reproduction by Humanoid Robots Using Color Camera and 3D Sensor  839

D6-2
Tien Cuong Kieu, Kimitoshi Yamazaki, Ryo Hanai, Kei Okada, Masayuki Inaba
The University of Tokyo

Learning of Tool Affordances for Autonomous Tool Manipulation  845

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Raghvendra Jain, Tetsunari Inamura
The Graduate University for Advance Studies

E6 : Mechatronics and Control 3  Dec. 21 (Wed.) 17:00-18:20
Proposal of Redundant Drive Wire Mechanisms for Producing Motions with High Acceleration and High Precision

Kiyoshi Nagai, Le Nhat Tam
Ritsumeikan University

Transferring and Tilt Motion Control of the Liquid Container to Suppress Sloshing by Using Generalized Predictive Control Method

Ryota Shibuya, Hisashi Okatsuka, Yoshiyuki Noda, Kazuhiko Terashima
Toyohashi University of Technology

Swing-Up Control of a Inverted Pendulum by Two Step Control Strategy

Junichi Yokoyama, Kotaro Mihara, Haruo Suemitsu, Takami Matsuo
Oita University

Residual Vibration Suppression Conditions for Mechanical System Motion Using Simple Trajectory

Huimin Ouyang, Naoki Uchiyama, Shigenori Sano
Toyohashi University of Technology
Firmware Implementing of a Dual-wheel Drive Electrical Bicycle  874

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Chienkuo Technology University

Modeling, Control and Implementation of a Pedaled, Self-balanced Unicycle  880

F6-2
Chun-Feng Huang, T.-J. Yeh
National Tsing Hua University

Smooth Tilting Motion Control of a Train Using Two Hydraulic Actuators  886

F6-4
Manh-Tuan Ha1, Chul-Goo Kang1, Ho-Yoen Kim2, Joon-Hwan Lee2, Nam-Jin Lee3, Jun-Ho Lee3, Sung-Ho Han4
1Konkuk University, 2Shalom Engineering Co., 3Hyundai Rotem Co., 4Korea Railroad Research Institute

A7 : Human-Robot Interaction    Dec. 22 (Thu.) 9:00-11:20
Adaptive Nonlinear Principle Component Analysis Based Multilayer Neural Network for P300 Detection

Arjon Turnip, Keum-Shik Hong, Sukhyun Yoon
Pusan National University

Temporal Relationship between Pause and Utterance Durations in Speech of Short Sentence

Kazuto Kamoi\textsuperscript{1}, Tomohito Yamamoto\textsuperscript{2}, Yumiko Muto\textsuperscript{1}, Yoshihiro Miyake\textsuperscript{1}
\textsuperscript{1}Tokyo Institute of Technology, \textsuperscript{2}Kanazawa Institute of Technology

Clarification of Transition Conditions for Eye Movement While Generating a Trajectory Using the Upper Limb

Nozomi Toyoda, Ryoei Yamamoto, Tetsuro Yabuta
Yokohama National University

Experimental Studies on Prediction in Air Hockey Games

Yusuke Arai, Shingo Kagami, Koichi Hashimoto
Tohoku University

A Novel, MRI Compatible Hand Exoskeleton for Finger Rehabilitation

Zhen Jin Tang, Shigeki Sugano, Hiroyasu Iwata
Waseda University

Gait Measurement System to Develop Control Model of Intelligently Controllable Ankle-Foot Orthosis

Takehito Kikuchi\textsuperscript{1}, Toshimasa Tanaka\textsuperscript{1}, Akihito Shoji\textsuperscript{1}, Sousuke Tanida\textsuperscript{2}, Morimasa Kato\textsuperscript{3}
\textsuperscript{1}Yamagata University, \textsuperscript{2}Bukkyo University, \textsuperscript{3}Yonezawa Women's College

A Functional Near-infrared Spectroscopy Based Lie Detector

Xiao-Su Hu\textsuperscript{1}, Keum-Shik Hong\textsuperscript{1}, Shuzhi Ge\textsuperscript{2}
\textsuperscript{1}Pusan National University, \textsuperscript{2}The National University of Singapore

B7 : Social Robotics and System Integration (OS10) Dec. 22 (Thu.) 9:00-11:20
Mechanical Design of Social Robot Nancy  
Shuzhi Sam Ge, Mohammad Reza Safizadeh, Yanan Li  
National University of Singapore

An Integrated Kinetic Energy Recovery System for Peak Power Transfer in 3-DOF Mobile Crane Robot  
Jiakai Xu, Jiaqiang Yang, Jian Gao  
Zhejiang University

System Design and Hardware Integration of Social Robot Nancy  
Shuzhi Sam Ge, Chun Fui Liew, Yanan Li  
National University of Singapore

Dynamic Modeling and System Identification for the Lower Body of a Social Robot with Flexible Joints  
Shuzhi Sam Ge, Jie Zhang, Wei He  
National University of Singapore

A Survey of Biologically Inspired Chemical Plume Tracking Strategies for Single Robot in 2-D Turbulence Dominated Flow Environments  
Siqi Zhang, Demin Xu  
Northwestern Polytechnical University
A Sensor Fusion System Using Enhanced Extended Kalman Filter with Double Fuzzy Logics for Autonomous Robot Guidance

Seung-Hwan Lee, Tae-Seok Lee, Beom-Hee Lee
ASRI and Seoul National University

Robust Projection Method for a Mobile Robot with Camera and Projector Based on a Structured-Environment Approach

Tomohiro Izumi, Satoshi Iwaki, Kazuya Tsuji, Takatoshi Sugiyama
Hiroshima City University

FPGA-Based Control Architecture Integration for Multiple-Axis Tracking Motion Systems

Nguyen Khanh Quang¹, Ying Shieh Kung², Q. P. Ha¹
¹University of Technology Sydney, ²Southern Taiwan University

Autonomous Mobile System Unaffected by Moving Obstacles in Urban Environments

Yuya Nagata, Masahito Mitsuhashi, Yoji Kuroda
Meiji University

Trajectory Generation of a Mobile Robot Using Inertial Sensors and Vision

Quoc Khanh Dang, Young Soo Suh
University of Ulsan

Factorial Analysis to Improve the Travel Time of a Wheeled Mobile Robot Operated via Internet

Gerson Beristain¹, Emilio Gabino², Hector Vargas¹, Luis Cuatle¹
¹UPAEP, ²OSU

D7 : Grey System Theory, Rough Set and GA (OS1)  Dec. 22 (Thu.) 9:00-11:20
Appling Rough Set Method to Analyze the Weighting of Influence Factor in Resource Recycling

Ying-Yi Lyu¹, Mei-Li You¹, Kun-Li Wen¹, Huei-Chu Wen²
¹Chienkuo Technology University, ²National Taiwan Ocean University

The Study of Stress Relieving Essential Oils by Aromatherapy in Autonomic Nervous by Rough Set Method

Ya-Ting Lee¹, Li-Nuo Wu¹, Tsai-Fong Tan², Hsiao-Chin Chen¹
¹Chienkuo Technology University, ²Ching Kuo Institute of Management and Health

Apply the Optimal Design of Assessment Performed on Bike Lamp

Jung-Chin Liang¹, Yung-Hu Lee², Wei-Ling Liu³, Masatake Nagai⁴
¹Ling Tung University, ²Dahan Institute of Technology, ³Chienkuo Technology University, ⁴National Taichung University of Education

Appling Semantic Method to Windows Detection in Façade

Xi Wang¹, Kun-Li Wen², Xiang-Hua Ying³, Jee-Ray Wang², Huo-Cheng Chen²
¹University of Science & Technology Beijing, ²Chienkuo Technology University, ³Peking University

Apply GM(0,N) to Analyze the Weighting of Influence Factor in the Feminization of Poverty—An Example in Taiwan

Mei-Chuan Wei¹, Mei-Hui Chen¹, Wen-Hui Fang¹, Shu-Chen Huang²
¹Chienkuo Technology University, ²Asia University

Applying ANN to Analyze the Influence on the Recovery of Chrome After Silicon and Aluminums' Melting of 15-5PH(V) in EAF

Jee-Ray Wang, Pin-Yu Hsueh, Ping-You Zeng, Pin-Hung Chu
Chienkuo Technology University
Wireless Multi-Channel Near-Infrared Spectroscopy for Monitoring Middle Cerebral Artery Occlusion 1025

Ming-Hsien Chang¹, Chih-Lun Cheng¹, Han-Ming Huang¹, Jinn-Rung Kuo², Bor-Shyh Lin¹
¹National Chiao Tung University, ²Chi-Mei Medical Center

Identification and Control of Temperature in a Zero Energy Cool Chamber for Fruits and Vegetables 1031

Md. Parvez Islam, Tetsuo Morimoto
Ehime University

Control of Biological Clock in Crassulacean Acid Metabolism Using Nullcline Design 1037

Akira Goto, Yusuke Totoki, Haruo Suemitsu, Takami Matsuo
Oita University

Parameter and Input Estimation in Hindmarsh-Rose Neuron by Adaptive Observer 1043

Jun Mukae, Yusuke Totoki, Haruo Suemitsu, Takami Matsuo
Oita University

Comparing Intra- and Inter-Personal Coordination Systems: Perceptual Effect on Stability of Finger Tapping Movement 1049

Kentaro Kodama¹, Nobuhiro Furuyama¹,²
¹The Graduate University For Advanced Studies (SOKENDAI), ²National Institute of Informatics, Tokyo Institute of Technology

Hybrid GMDH-type Neural Network Using Artificial Intelligence and its Application to Medical Image Diagnosis of Liver Cancer 1054

Tadashi Kondo, Junji Ueno, Shoichiro Takao
The University of Tokushima

Medical Image Diagnosis of Lung Cancer by Revised GMDH-type Neural Network Self-selecting Optimum Neuron Architectures 1060

Tadashi Kondo, Junji Ueno, Shoichiro Takao
The University of Tokushima
Motion Control of the Electric Wheelchair Powered by Rim Motors Based on Event-based Cross-coupling Control Strategy

Shin-Hung Chen, Jui-Jen Chou
National Taiwan University

A Novel Dual-arm Motion Discrimination Method Using Recurrent Probability Neural Networks for Automatic Gesture Recognition

Yuki Hiramatsu, Taro Shibanoki, Keisuke Shima, Toshio Tsuji
Hiroshima University

Emergnet Functions of HDL-based Controller of Inverted Pendulum in Consideration for Disturbance

Kazuyuki Kojima
Saitama University

Design of Fuzzy Switching Control for An Underactuated Planar Manipulator

Kiyotaka Izumi¹, Takeshi Tsujimura¹, Keigo Watanabe²
¹Saga University, ²Okayama University

Control of Autonomous Bicycle System with ZMP Tracking

Mei-Wen Fang, Yen-Ting Chen, Jui-Jen Chou
National Taiwan University

A Highly Re-Configurable Instruments-in-Matlab Software-Defined Radio Platform for 4G SC-FDMA Signal Measurements and Analysis

Jeng-Kuang Hwang, Yu-Tai Tsai, Jeng-Da Li
Yuan Ze University
Wearable ECG Terminal and its Telemedicine-Health Services

A8-1
Jun Dong, Hong-hai Zhu
Chinese Academy of Sciences

Transformable Lung Positioner for Thoracoscopic Surgery

A8-2
Mikio Osaki¹, Toru Omata¹, Toshio Takayama¹, Hiroyuki Ohizumi ²
¹Tokyo Institute of Technology, ²Yamagata University

Parallel Processing for Object Oriented Robotic Simulation of Tracheal-Oesophageal Puncture

A8-3
Chee-Kong Chui¹, Chin-Boon Chng², David PC Lau²
¹National University of Singapore, ²Singapore General Hospital

A Novel Handheld Device for Tracheo-esophageal Puncture and Prosthesis Insertion

A8-4
Chin Boon Chng¹, Chee Kong Chui¹, David PC Lau²
¹National University of Singapore, ²Singapore General Hospital

Assemblable Hand for Laparoscopic Surgery with Ultrasound Probes

A8-5
Mikio Osaki¹, Toru Omata¹, Toshio Takayama¹, Tadashi Sawanobori ²
¹Tokyo Institute of Technology, ²Toshiba Medical Systems Corp.

Design of a Gough-Stewart Platform for Micro-surgical Operations

A8-6
Sung Mok Kim¹, Joono Cheong¹, Byung Ju Yi², Whee Kuk Kim¹
¹Korea University, ²Hanyang University

B8 : Ambient Intelligence and its Applications (OS8)  Dec. 22 (Thu.) 13:30-15:30
A Decision-making Modeling for Home Ambient Intelligent System and its Extension to Multi-agent Modeling

Takashi Nishiyama¹, Tetsuo Sawaragi²
¹Panasonic Electric Works Co., Ltd., ²Kyoto University

Recognizing Participants in Interaction from Observation of Office Environments

Yuki Kizumi¹, Koh Kakusho¹, Takeshi Okadome¹, Takuya Funatomi², Masaaki Iiyama²
¹Kwansei Gakuin University, ²Kyoto University

Benefit of Inconvenience for Ambient Interface

Hiroshi Kawakami
Kyoto University

Human Daily Behavior Accumulation in Real Home Environment via Distributed Sensors in a Long Term

Hiroshi Noguchi, Taketoshi Mori, Tomomasa Sato
The University of Tokyo

Ambient Intelligence for Energy Conservation

Keisuke Kobayashi, Mina Tsukahara, Akira Tokumasu, Kousuke Okuyama, Kouhei Sai'tou, Yasushi Nakauchi
University of Tsukuba

C8 : Mobile Robot 4 Dec. 22 (Thu.) 13:30-15:30
Forming an Artificial Pheromone Potential Field Using Mobile Robot and RFID Tags
Piljae Kim, Daisuke Kurabayashi
Tokyo Institute of Technology

Jacobian-Matrix-Based Motion Control of an Omni-Directional Mobile Robot with Three Active Caster
Ahmad Yasser Afaghani\textsuperscript{1}, Shin’ichi Yuta\textsuperscript{1}, Jae Hoon Lee\textsuperscript{2}
\textsuperscript{1}University of Tsukuba, \textsuperscript{2}University of Ehime

Vision System for Mobile Robots for Tracking Moving Targets, Based on Robot Motion and Stereo Vision Information
Tae-Il Kim\textsuperscript{1}, Wook Bahn\textsuperscript{1}, Changhum Lee\textsuperscript{1}, Tae-jae Lee\textsuperscript{1}, Muhammad Shaikh\textsuperscript{1}, Kwang-soo Kim\textsuperscript{2}, Dong-il "Dan" Cho
\textsuperscript{1}Seoul National University, \textsuperscript{2}Hanbat National University

Hybrid Electro-Pneumatic Robotic Arm - Integration of Pneumatic Muscle Actuator
Lukas Kopecny, Ludek Zalud
Brno University of Technology

Integrated Path Planning for Partially Unknown Outdoor Environments
Joon-Hong Seok\textsuperscript{1}, Changmok Oh\textsuperscript{1}, Ju-Jang Lee\textsuperscript{1}, Ho Joo Lee\textsuperscript{2}
\textsuperscript{1}KAIST, \textsuperscript{2}ADD

D8: Micro-Nano Systems  Dec. 22 (Thu.) 13:30-15:30
Iterative Feedback Tuning of Optical Proximity Correction Mask in Lithography

Yifan Qu, Arthur Tay, Tong Heng Lee
National University of Singapore

Automatic Pickup and Release of Particle by Depth Estimation Method with Micromanipulators for Particle Sorting System

Shigeji Osawa, Koichi Ozaki
Utsunomiya University

Development of an Active Micro Catheter Using a Conducting Polymer Actuator and Silicone Tube

Yuu Hanayama, Shigeki Tsuchitani, Kunitomo Kikuchi
Wakayama University

Motion Simulator for a Multi-Degree-of-Freedom Magnetically Levitated Robot

Susumu Tarao¹, Moein Mehrtash², Naoaki Tsuda³, Behrad Khamesee²
¹Tokyo National College of Technology, ²University of Waterloo, ³Wakayama National College of Technology

Oscillatory MHD Gas Flows in the Slip Flow Regimes

Alireza Taklifi, Abbas Aliabadi
MAPNA GROUP

E8 : Network Systems 1  Dec. 22 (Thu.) 13:30-15:30
E8-1
Md. Abdullah-al Mamun, Naoshi Nakaya, Yuji Koi, Yukari Hagihara
Iwate University

Practical Mobile Electronic Election  1224

E8-2
Xun Yi\textsuperscript{1}, Eiji Okamoto\textsuperscript{2}
\textsuperscript{1}Victoria University, \textsuperscript{2}Tsukuba University

Organize Metadata Servers by Using Quorum System  1230

E8-3
Tzong-Jye Liu, Wei-Chan Wang, Chuan-Mu Tseng
Feng Chia University

Feasibility of a Watermark Application for Real-Time-Encoding Video-On-Demand Service  1236

E8-4
Takaaki Yamada\textsuperscript{1}, Michiro Maeta\textsuperscript{2}, Fuminori Mizushima\textsuperscript{2}
\textsuperscript{1}Hitachi.,Ltd., \textsuperscript{2}Hitachi Government & Public Corporation System Engineering

F8 : Automation Systems and Control  Dec. 22 (Thu.) 13:30-15:30
A Study on a High Quality CAE Analysis Approach Model -Automotive Bolts Tightening Analysis Using Contact Stress Simulation-
Takehiro Onodera, Kakuro Amasaka  
Aoyama Gakuin University

A CAE Method of Design Optimization for Quality Assurance: Analyzing Cavitation Caused by Metal Particles in the Transaxle
Yasuaki Nozawa, Ryosuke Yamashita, Kakuro Amasaka  
Aoyama Gakuin University

Sway Suppression of an Offshore Container Crane
Quang Hieu Ngo, Giyong Hong, Keum-Shik Hong  
Pusan National University

B9: Control Systems  Dec. 22 (Thu.) 16:00-18:00
A New Control Design for Nonholonomic Systems Based on Controllability of Linear Systems

B9-1
Tomoaki Kobayashi, Tomoaki Ozaki, Joe Imae
Osaka Prefecture University

Flatness Based Design Method for Nonlinear Control Systems

B9-2
Joe Imae, Naoyuki Suido, Tomoaki Kobayashi
Osaka Prefecture University

Stochastic Evaluation of Dissipative Observer for Multivalued Nonlinear System with Coulomb Friction

B9-3
Teppei Hiroshige, Haruo Suemitsu, Takami Matsuo
Oita University

Genetic Programming Based Output Regulation via Optimal Inversion for Nonlinear Systems

B9-4
Tomoaki Kobayashi, Takaya Kimoto, Joe Imae
Osaka Prefecture University

C9 : Virtual Reality   Dec. 22 (Thu.) 16:00-18:00
The Effect of Voluntary Movement on Audio-Haptic Temporal Order Judgment - A Fundamental Study for Timing Control in Human-Machine Interaction

Atsuhiro Nishi¹, Masanori Yokoyama¹, Taiki Ogata¹,², Takayuki Nozawa³, Yoshihiro Miyake¹
¹Tokyo Institute of Technology, ²The University of Tokyo, ³Tohoku University

Identification of Physical Properties of Swine Liver for Surgical Simulation Using a Dynamic Deformation Model

Xiaoshuai Chen, Masano Nakayama, Teppei Tsujita, Xin Jiang, Satoko Abiko, Koyu Abe, Atsushi Konno, Masaru Uchiyama
Tohoku University

Psychological Measurement of Coupled Human Balancing Tasks

Atsushi Higeta¹, Katsutoshi Yoshida¹, Shinichi Watanabe¹, Aki Nakatsuka²
¹Utsunomiya University ²Tohoku Electric Power Co., Inc.

Hybrid Inpainting Algorithm with Superpixels and Hash Table for Inpainting the 3D Model

Kalaivani Thangamani¹, Tomoya Ishikawa², Koji Makita², Takeshi Kurata¹,²
¹University of Tsukuba ²AIST

D9 : Space Application  Dec. 22 (Thu.) 16:00-18:00
D9-1
An Averaging Algorithm for Speed Measurement of SCL/KAU Reaction Wheel
Dong-Ik Cheon, Jichul Kim, Ilgyu Choi, Daegyun Choi, Hwa-Suk Oh
erospace University

D9-2
Traveling Performance Estimation for Planetary Rovers over Slope
Masataku Sutoh1, Ryosuke Yajima2, Keiji Nagatani1, Kazuya Yoshida1
1Tohoku University, 2Asahikawa National College of Technology

D9-3
Static Closed Loop Test System for Attitude Control System of Micro Satellite RISING-2
Kazufumi Fukuda1, Yuji Sakamoto1, Toshinori Kuwahara1, Kazuya Yoshida1, Yuhihiro Takahashi2
1Tohoku University, 2Hokkaido University

D9-4
Satellite System Integration Based on Space Plug and Play Avionics
Toshinori Kuwahara, Kazuya Yoshida, Yuji Sakamoto, Yoshihiro Tomioka, Fukuda Kazufumi
Tohoku University

E9 : Network Systems 2  Dec. 22 (Thu.) 16:00-18:00
A Unified Design Approach for Component-Based Dynamic Systems Monitoring 1326

Achim Wagner¹, Leila Zouaghi¹, Florian Barth², Colin Atkinson², Essameddin Badreddin¹
¹Heidelberg University, ²Mannheim University

A Minimum Transmission Energy Consumption Routing Protocol for User-Centric Wireless Networks 1332

Chuan-Chi Weng, Ching-Wen Chen, Chang-Jung Ku
Feng Chia University

Hybrid Artificial Neural Networks for TBM Performance Prediction in Complex Underground Conditions 1338

Hai V. Pham¹, Yuji Fujita², Katsurari Kamei¹
¹Ritsumeikan University, ²Enzan Kobou Co.

A Study in Multicast Traffic Characteristic Analysis on the Intra-Domain Network 1344

Annop Monsakul¹, Pisit Charnkeitkong², Sanon Chimmanee¹
¹Rangsit University, ²Panyapiwat Institute of Management

Dynamic Computing Resource Adjustment for Enhancing Energy Efficiency of Cloud Service Data Centers 1348

Cheng-Jen Tang, Miau-Ru Dai
Tatung University

F9 Systems and Integration Platform  Dec. 22 (Thu.) 16:00-18:00
A Hardware Design Approach of Sorting for FlexRay-based Clock Synchronization  
Chang-Ming Wu, Chia-Yu Lu  
Chung Yuan Christian University

An Integrated Approach for Specification and Design of Automated Production Systems  
Luca Ferrarini, Giancarlo Mantovani, Massimo Allevi, Alessio Dedè  
Politecnico di Milano

Using the Current Control for Dynamic Voltage Scaling to Reduce the Power Consumption of PC Systems  
Ying-Wen Bai, Feng-Hua Chang  
Fu Jen Catholic University