

Detailed Program Listing

Technical Program
Tuesday, August 21

TuPL01

Plenary Talk I

9:00-10:00

Chair: Tsukasa Watanabe (AIST)

Kyo3-145

The possible future revision of the International System of Units, the SI

Dr. Estefanía de Mirandés

(Bureau International des Poids et Mesures)

TuA01

Sensors & Transducers I

Chair: Toshiyuki Tanaka (Keio University)

G1-305

10:30-10:45

TuA01-01

Remote Measurement Method of Surface Compliance Distribution for a Curved Surface Object

Masahiro Fujiwara (The University of Tokyo),

Hiroyuki Shinoda (The University of Tokyo)

10:45-11:00

TuA01-02

System Development for Tube Inspection Based On Eddy Current Technique

Apinai Rerkratn

(King Mongkut's Institute of Technology Ladkrabang),

Thepjit Cheypoca

(King Mongkut's Institute of Technology Ladkrabang),

Anucha Kaewpoonsuk (Naresuan University)

11:00-11:15

TuA01-03

Thermal micro flow sensor

Hiroaki Tanaka (Yokogawa Electric Corporation),

Minako Terao (Yokogawa Electric Corporation),

Yoshiaki Tanaka (Yokogawa Electric Corporation)

11:15-11:30

TuA01-04

A Correction of Pseudorange in Single Point Positioning of GLONASS

Makio Onogi (Keio University),

Toshiyuki Tanaka (Keio University)

11:30-11:45

TuA01-05

Omnidirectional vision-based tactile sensor implementable in the middle of a link mechanism

Kousuke Shimizu (Nagoya University),

Youngwoo Kim (Nagoya University),

Chikara Nagai (Nagoya University),

Goro Obinata (Nagoya University)

11:45-12:00

TuA01-06

Lubricant Viscosity Measurement using Hall Effect Sensor

Witsarut Sriratana (Fukuoka Institute of Technology),

Riichi Murayama (Fukuoka Institute of Technology)

TuA02 **G1-405**
Recent Advances in Temperature Measurement (OS)
Chairs: Yamada Yoshiro (AIST)
Tatsuya Kuboyama (Chiba University)

10:30-10:45 TuA02-01
Non-contact Temperature Measurement for Silicon Wafers under 600 °C
Yuki Toyoda (Toyo University),
Tohru Iuchi (Toyo University)

10:45-11:00 TuA02-02
Measurement of Surface Melting Temperature with High-speed Pyrometers by Containerless Method
Tatsumi Arima (Kyushu University),
Yoshiharu Kawauchi (Kyushu University),
Taku Matsumoto (Kyushu University),
Yaohiro Inagaki (Kyushu University),
Kazuya Idemitsu (Kyushu University),
Isamu Sato (Japan Atomic Energy Agency),
Takashi Hirose (Japan Atomic Energy Agency)

11:00-11:15 TuA02-03
Compact Fixed-point Blackbody Furnace with Improved Temperature Uniformity and Multi-fixed points Use
Kensuke Hiraka (Chino Corporation),
Yoshiro Yamada
(Advanced Industrial Science and Technology),
Juntaro Ishii (Advanced Industrial Science and Technology),
Hideaki Oikawa (Chino Corporation),
Takao Shimizu (Chino Corporation),
Satoru Kadoya (Chino Corporation),
Tadashi Kobayashi (Chino Corporation)

11:15-11:30 TuA02-04
Uncertainty of Non-linearity in Radiation Thermometers Calibrated by Interpolation among Multiple Fixed Points
Yu Yamaguchi (National Metrology Institute of Japan),
Yoshiro Yamada (Advanced Industrial Science and Technology)

11:30-11:45 TuA02-05
Influence of Parasitic Electromotive Force in Industrial Platinum Resistance Thermometer
Hiroyasu Sato (Japan Electric Meters Inspection Corporation)

11:45-12:00 TuA02-06
Temperature measurement system using fluorescence microscope
Hiroaki Aizawa (Toyo University),
Masaya Katoh (Toyo University),
Tatsuya Kokaji (Toyo University),
Tooru Katsumata (Toyo University),
Shuji Komuro (Toyo University)

TuA03 **G2-101**
Evaluation of Unintentional EM Emissions from Electronic Devices I (OS)
Chairs: Yu-ichi Hayashi (Tohoku University)
Yoshiki Kayano (Akita University)

10:30-10:45 TuA03-01
Properties of Electromagnetic Field Radiation Due to Micro Gap Discharge in a Pair of Spherical Electrode
Ken Kawamata (Hachinohe Institute of Technology),
Shigeki Minegishi (Tohoku Gakuin University),
Osamu Fujiwara (Nagoya Institute of Technology)

10:45-11:00 TuA03-02
Arc Column and Voltage Fluctuations of Slowly Breaking Contact with External Magnetic Field
Kazuaki Miyanaga (Akita University),
Yoshiki Kayano (Akita University),
Hiroshi Inoue (Akita University)

11:00-11:15 TuA03-03
The Effects of PS/2 Keyboard Setup on a Conductive Table on Electromagnetic Information Leakages
Masahiro Kinugawa (Tohoku University),
Yu-ichi Hayashi (Tohoku University),
Takaaki Mizuki (Tohoku University),
Hideaki Sone (Tohoku University)

11:15-11:30 TuA03-04
Using selected-plaintext sets for efficient evaluation of EM information leakage from cryptographic devices
Haruki Shimada (Tohoku University),
Yu-ichi Hayashi (Tohoku University),
Naofumi Homma (Tohoku University),
Takaaki Mizuki (Tohoku University),
Takafumi Aoki (Tohoku University),
Hideaki Sone (Tohoku University)

11:30-11:45 TuA03-05
An Efficient Analysis Method of the Electromagnetic Emissions in the Frequency Domain
Narihiro Tada (Tohoku University),
Yu-ichi Hayashi (Tohoku University),
Takaaki Mizuki (Tohoku University),
Hideaki Sone (Tohoku University)

11:45-12:00 TuA03-06
Identification of Equivalent Current Source of Cryptographic Circuit Based on Impedance and Current Measurements at Board Level
Kaoru Okamoto (Okayama University),
Tetsuo Amano (Okayama University),
Kengo Iokibe (Okayama University),
Yoshitaka Toyota (Okayama University)

TuA04 **G2-102**
Computational Intelligence and its Applications I (OS)
Chairs: Junichi Murata (Kyushu University)
Akira Yanou (Okayama University)

10:30-10:45 TuA04-01
Human-Robot Interaction Based on Frankl Psychology for a Partner Robot
Hiroyuki Masuta (Kanagawa University),
Tsuyoshi Onishi (Amada Co., Ltd.),
Hun-ok Lim (Kanagawa University)

10:45-11:00 TuA04-02
Propulsion Control for a Manta Robot with Neural Oscillators
Masaaki Ikeda (Okayama University),
Yuya Yamamoto (Okayama University),
Katsunori Yoshinaka (Okayama University),
Keigo Watanabe (Okayama University),
Isaku Nagai (Okayama University)

11:00-11:15 TuA04-03
An Experimental Study for Multi-objective Optimization by Particle Swarm with Graph Based Archive
Masashi Yamamoto (Osaka University),
Takeshi Uchitane (Osaka University),
Toshiharu Hatanaka (Osaka University)

11:15-11:30 TuA04-04
Two-Stage Reinforcement Learning Based on Genetic Network Programming for Mobile Robot
Siti Sendari (Waseda University),
Shingo Mabu (Waseda University),
Kotaro Hirasawa (Waseda University)

11:30-11:45 TuA04-05
Frequency Response Experiments of 3-D Pose Full-Tracking Visual Servoing with Eye-Vergence Hand-Eye Robot System
Koichi Maeda (Okayama University),
Mamoru Minami (Okayama University),
Akira Yanou (Okayama University),
Hiroaki Matsumoto (Okayama University),
Fujia Yu (Okayama University),
Sen Hou (Okayama University)

TuA05 **G2-103**
System and Information I
Chair: Isao Ono (Tokyo Institute of Technology)

10:30-10:45 TuA05-01
Consensus of Multi-agent Systems with Signal Amplitude Constraint in Communication
MingHui Wang (Waseda University),
Kenko Uchida (Waseda University)

10:45-11:00 TuA05-02
Modeling and Formal Verification of Inverted Pendulum Based Two-Wheeled Transportation Vehicle
Humaira Gul
(National University of Sciences and Technology),
Jamil Ahmad
(National University of Sciences and Technology),
Fareed Gul (National University of Sciences and Technology),
Mian Ilyas (National University of Sciences and Technology)

11:00-11:15 TuA05-03
Short-term Photovoltaic Prediction by using H Filtering and Clustering
Yasuhiko Hosoda (Keio University),
Toru Namerikawa (Keio University)

11:15-11:30 TuA05-04
Decentralized Control of Smart Grid by using Overlapping Information
Tomoharu Suehiro (Keio University),
Toru Namerikawa (Keio University)

11:30-11:45 TuA05-05
Load Leveling Control by Real-Time Dynamical Pricing Based on Steepest Descent Method
Yuki Miyano (Keio University),
Toru Namerikawa (Keio University)

11:45-12:00 TuA05-06
A Proposal of Home Continuity Plan Service System, Modeling by SysML and Validating by Discrete Event Simulation
Yuriko Tamura (Advanced Institute of industrial Technology),
Hayato Nishigaki
(Advanced Institute of Industrial Technology),
Kiyomi Miyoshi (Advanced Institute of Industrial Technology),
Hailan Huang (Advanced Institute of Industrial Technology),
Seiichi Kawata (Advanced Institute of Industrial Technology)

TuA06 **G2-203**
Biomimetic Approach in Robotics and Machines I (OS)

Chairs: Fusaomi Nagata (Tokyo University of Science)
Yutaka Maeda (Kansai University)

10:30-10:45 TuA06-01
Mobile Mechanism of a Climbing Robot for Cleaning and Locomotion on Stairs
Takahisa Kakudou (Okayama University),
Keigo Watanabe (Okayama University),
Isaku Nagai (Okayama University)

10:45-11:00 TuA06-02
Tip-over Prediction for an Omnidirectional Mobile Robot with Dynamic Supporting Polygon
M.Juhairi Aziz Safar (Okayama University),
Keigo Watanabe (Okayama University),
Shoichi Maeyama (Okayama University),
Isaku Nagai (Okayama University)

11:00-11:15 TuA06-03
Proposal of Path Planning for a Mobile Robot to Respect Human Movements in Dynamic Environments by Using a Human Frequency Map
Kimiko Motonaka (Okayama University),
Shoichi Maeyama (Okayama University),
Keigo Watanabe (Okayama University)

11:15-11:30 TuA06-04
Arbitrary Trajectory Tracking of a Mobile Robot by an Image-based Fuzzy Controller
Tatsuya Kato (Okayama University),
Keigo Watanabe (Okayama University),
Shoichi Maeyama (Okayama University)

11:30-11:45 TuA06-05
CPG Network to Generate the Jump Action of Cat's Skeleton Robot with a Waist Joint
Shogo Nonaka (Saga University),
Takeshi Tsujimura (Saga University),
Kiyotaka Izumi (Saga University)

TuA07 **G2-301**
Adaptive and Optimal Control

Chairs: Tomohiro Kubo (The University of Tokushima)
Tohru Kawabe (University of Tsukuba)

10:30-10:45 TuA07-01
Design of Adaptive I-PD Control Systems Based on Augmented Error Method
Tsuyoshi Shiota (Keio University),
Hiromitsu Ohmori (Keio University)

10:45-11:00 TuA07-02
Inverse Linear Quadratic Regulator of Neutral Time Delay Systems via Finite Dimensional Riccati Equation
Ken Fukui (The University of Tokushima),
Tomohiro Kubo (The University of Tokushima),
Hidetoshi Oya (The University of Tokushima)

11:00-11:15 TuA07-03
Modified VRFT and Its Application to Ultrasonic Motors
Yuji Wakasa (Yamaguchi University),
Futa Takayama (Yamaguchi University),
Kanya Tanaka (Yamaguchi University)

11:15-11:30 TuA07-04
A Configuration of Model Predictive PID Control for Heat Conduction System
Ko Nakamura (University of Tsukuba),
Ryota Yamashina (University of Tsukuba),
Shaobo Li (University of Tsukuba),
Tohru Kawabe (University of Tsukuba)

11:30-11:45 TuA07-05
Adaptive Control of Underwater Vehicles with Unknown Model Parameters and Unstructured Uncertainties
Hamid Reza Kofigar (University of Isfahan)

TuA08 **G2-302**
Sensing, Control and Safety System for Intelligent Vehicle (OS)
Chairs: Masatoshi Hatano (Nihon University)
Naoki Suganuma (Kanazawa University)

10:30-10:45 TuA08-01
Robust parameter estimation of road condition by Kinect sensor
Masahiro Tanaka (Konan University)

10:45-11:00 TuA08-02
Autonomous Steering Control with Adaptive Mechanism by MMAC
Takashi Aoki (Kobe University),
Toshiyuki Sugimachi (Kobe University),
Takanori Fukao (Kobe University),
Hiroki Kawashima (Japan Automobile Research Institute)

11:00-11:15 TuA08-03
Cooperative Pedestrian Tracking by Multi-Vehicles in GPS-Denied Environments
Kei Kakinuma (Doshisha University),
Masataka Ozaki (Doshisha University),
Masafumi Hashimoto (Doshisha University),
Kazuhiko Takahashi (Doshisha University)

11:15-11:30 TuA08-04
Development of an autonomous vehicle -System overview of test ride vehicle in the Tokyo Motor Show 2011-
Naoki Suganuma (Kanazawa University),
Takahiro Uozumi (Kanazawa University)

11:30-11:45 TuA08-05
Hand- Trajectory Tracking Control with Bracing Utilization of Mobile Redundant Manipulator
Yuto Washino (Okayama University),
Mamoru Minami (Okayama University),
Hidemi Kataoka (Okayama University),
Takayuki Matsuno (Okayama University),
Akira Yanou (Okayama University),
Michiyuki Itoshima (Okayama University),
Yosuke Kobayashi (Okayama University)

11:45-12:00 TuA08-06
Study on two dimensional base-isolating device for sick person's bed in ambulance
Masanori Shintani (University of Fukui),
Yoshito Hirai (University of Fukui),
Yuji Ogawa (University of Fukui)

12:00-12:15 TuA08-07
Automatic Driving System by Small Electric Vehicle for elderly person
Nan Wu (Waseda University),
Yunfeng Lou (Waseda University),
Nan Sun (Waseda University),
Wei Wang (Waseda University),
Harutoshi Ogai (Waseda University)

TuA09 **Kyo3-254**
Human Support based on Human Monitoring and Analysis I (OS)
Chair: Masao Sugi (The Univ. of Electro-Communications)

10:30-10:45 TuA09-01
A Proposal of EMG-based Wheelchair for Preventing Disuse of Lower Motor Function
Satoshi Ohishi
(Tokyo University of Agriculture and Technology),
Toshiyuki Kondo
(Tokyo University of Agriculture and Technology)

10:45-11:00 TuA09-02
Design of Wearable Sensing Network System for Monitoring Dynamic Physical Condition
Yuichi Nakanishi (Ritsumeikan University),
Kazushi Toriyama (Ritsumeikan University),
Ryo Watabe (Ritsumeikan University),
Kosuke Sentoku (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University),
Yuki Matsuda (Ritsumeikan University)

11:00-11:15 TuA09-03
Development of a Nursing Self-training System for Transferring Patient from Bed to Wheelchair
Zhifeng Huang (The University of Tokyo),
Ayanori Nagata (The University of Tokyo),
Masako Kanai-Pak
(Tokyo Ariake University of Medical and Health Sciences),
Jukai Maeda
(Tokyo Ariake University of Medical and Health Sciences),
Yasuko Kitajima
(Tokyo Ariake University of Medical and Health Sciences),
Mitsuhiro Nakamura
(Tokyo Ariake University of Medical and Health Sciences),
Kyouko Aida
(Tokyo Ariake University of Medical and Health Sciences),
Noriaki Kuwahara (Kyoto Insititute of Technology),
Taiki Ogata (The University of Tokyo),
Jun Ota (The University of Tokyo)

11:15-11:30 TuA09-04
Dynamic Measurement of Body Swing in Jog Training by Wearable Acceleration Sensor
Ryo Watabe (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University),
Yuki Matsuda (Ritsumeikan University)

TuA10
System Integration I

Kyo3-255

Chair: Takayuki Hoshi (Nagoya Institute of Technology)

10:30-10:45 TuA10-01
Study on Promotion of Cooperative Behavior in Social Dilemma Situation by Introduction of Bounded Rationality -Effects of Group Heuristics on Cooperative Behavior-
Atsuo Murata (Okayama University),
Saki Kubo (Okayama University),
Naoki Hata (Okayama University)

10:45-11:00 TuA10-02
Effects of Method of Directional Representation and its Location on Performance in Directional Discrimination Task
Atsuo Murata (Okayama University),
Makoto Mochizuki (Okayama University),
Takehito Hayami (Okayama University),
Makoto Moriwaka (Okayama University)

11:00-11:15 TuA10-03
A Basic Study on the Prevention of Drowsy Driving using the Change of Neck Bending Angle and the Sitting Pressure Distribution
Atsuo Murata (Okayama University),
Taiga Koriyama (Okayama University),
Takehito Hayami (Okayama University)

11:15-11:30 TuA10-04
Dynamic Range Enhancement of Airborne Ultrasound Tactile Display
Keisuke Hasegawa (The University of Tokyo),
Hiroyuki Shinoda (The University of Tokyo)

11:30-11:45 TuA10-05
Figure Classification System of Laser Beam Trace Using Genetic Programming
Hiroki Fukushima (Saga University),
Takeshi Tsujimura (Saga University),
Kiyotaka Izumi (Saga University),
Yoshihiro Minato (Saga University)

11:45-12:00 TuA10-06
Development of Portable Device of Airborne Ultrasound Tactile Display
Takayuki Hoshi (Nagoya Institute of Technology)

TuA11
Measurement and Control in SICE Tohoku Chapter (OS)

Kyo3-343

Chair: Shingo Kagami (Tohoku University)

10:30-10:45 TuA11-01
Localization and Tracking of an Accelerometer in a Camera View based on Feature Point Motion Analysis
Yuichi Maki (Tohoku University),
Shingo Kagami (Tohoku University),
Koichi Hashimoto (Tohoku University)

10:45-11:00 TuA11-02
3D measurement of lower body posture during jumping using inertial sensor
Seiji Kitamura (Hirosaki University),
Koichi Sagawa (Hirosaki University)

11:00-11:15 TuA11-03
Further results on interactions with a line-follower
Taiki Fujiwara (Hirosaki University),
Tomohiro Muramatsu (Hirosaki University),
Yasushi Iwatani (Hirosaki University)

11:15-11:30 TuA11-04
High-Accuracy Image Matching Using Phase-Only Correlation and Its Application
Mamoru Miura (Tohoku University),
Shuji Sakai (Tohoku University),
Shoichiro Aoyama (Tohoku University),
Jumpei Ishii (Tohoku University),
Koichi Ito (Tohoku University),
Takafumi Aoki (Tohoku University)

11:30-11:45 TuA11-05
Measurement of Side-Channel Information from Cryptographic Devices on Security Evaluation Platform: Demonstration of SPACES Project
Sho Endo (Tohoku University),
Yu-ichi Hayashi (Tohoku University),
Naofumi Homma (Tohoku University),
Takafumi Aoki (Tohoku University),
Toshihiro Katashita
(National Institute of Advanced Industrial Science and Technology),
Yohei Hori
(National Institute of Advanced Industrial Science and Technology),
Kazuo Sakiyama (The University of Electro-Communications),
Makoto Nagata (Kobe University),
Jean-Luc Danger (T el ecom ParisTech),
Thanh-Ha Le (Morpho),
Pirouz Bazargan Sabet (Paris VI University)

TuA12 **Kyo3-344**
Measurement and Control Engineer to Contribute to Social (OS)

Chair: Hideo Obana (Toshiba IT & Control Systems Corporation)

10:30-10:45 TuA12-01
Role and Contribution of Measurement and Control Engineer
Norihiro Egi (Association of Risk Managers)

10:45-11:00 TuA12-02
Basic to administrative activities of an advanced measurement and control engineer
Yoshiaki Uezumi (Uezumi T&A Org.)

11:00-11:15 TuA12-03
The methods of soft sensor modeling for polyolefin quality
Tomotaka Maki (Yokogawa Electric Co. Ltd.),
Akio Yamaguchi (Yokogawa Electric Co. Ltd.),
Masahiro Shimomura (Yokogawa Electric Co. Ltd.)

11:15-11:30 TuA12-04
SCADA system of Tokyo Gas for wide-area city gas distribution
Noriaki Kamioka (Tokyo Gas Co., Ltd.)

11:30-11:45 TuA12-05
A microchip-controlling wireless power transfer system for sensor network
Tansheng Li (Waseda University),
Zhong Han (Waseda University),
Harutoshi Ogai (Waseda University),
Kikuzo Sawada (Yoshikawa Kogyo Co., Ltd.),
Jie Wang (Waseda University)

11:45-12:00 TuA12-06
Target Localization Based on Two-Stage Instrument Variable Estimator
Yong Hwi Kim (Yonsei University),
Ka Hyung Choi (Yonsei University),
Jin Bae Park (Yonsei University),
Tae Sung Yoon (Changwon National University)

12:00-12:15 TuA12-07
A Sufficient Condition for Separate Dimensions of TDOA Estimation
Songkord Thirachai
(National Electronics and Computer Technology Center),
J. Suwatthikul
(National Electronics and Computer Technology Center)

TuB01
Sensors & Transducers II

Chair: Kiyoshi Hirose (Akita University)

13:00-13:15 TuB01-01
Measurement and Analysis of Running Form using 3-D Acceleration and Gyroscopic Sensor
Shintaro Asai (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

13:15-13:30 TuB01-02
Measurement and analysis of golf swing using 3-D acceleration and gyro sensor
Koji Shirota (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

13:30-13:45 TuB01-03
Measurement and analyze of jump shoot motion in basketball using a 3-D acceleration and gyroscopic sensor
Atsushi Taniguchi (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

13:45-14:00 TuB01-04
A measurement method of the 2DOF joint angles and angular velocities using inertial sensors
Kiyoshi Hirose (Akita University),
Hitoshi Doki (Akita University),
Akiko Kondo (Akita University)

14:00-14:15 TuB01-05
High Accuracy Tipping Bucket Rain Gauge
Udom Lewlomphaisarl
(National Electronics and Computer Technology Center),
Prawit Saengsatcha
(National Electronics and Computer Technology Center)

14:15-14:30 TuB01-06
Implementation of a Unitary Algorithm in the Analysis of Quantum Dynamics at the Interface between a Topological Insulator and a Conductor
Masaru Onoda (Akita University)

TuB02
Image Processing I

G1-405

Chairs: Kohji Kamejima (Osaka Institute of Technology)
Cheng-Ming Huang (National Taipei University of Technology)

13:00-13:15 TuB02-01
Transferable Landmark Representation via Detection and
Adaptation of As-is Primary Arising in Naturally Complex Scenes
Kohji Kamejima (Osaka Institute of Technology)

13:15-13:30 TuB02-02
All-directional Three Dimensional Measurement using Double
Fish-eye Stereo Vision
Masashi Azuma (Kagawa University),
Jun'ichi Yamaguchi (Kagawa University)

13:30-13:45 TuB02-03
Human Motion Recognition Employing Infrared Radiation
Camera Images
Tooru Hiroshima (Kyushu Institute of Technology),
Joo Kooi Tan (Kyushu Institute of Technology),
Hyoungseop Kim (Kyushu Institute of Technology),
Seiji Ishikawa (Kyushu Institute of Technology)

13:45-14:00 TuB02-04
A Local Soft Voting Method for Texture-Based Vanishing Point
Detection from Unstructured road images
Trung Hieu Bui (Kyushu Institute of Technology),
Eitaku Nobuyama (Kyushu Institute of Technology)

14:00-14:15 TuB02-05
Image Stitching on the Unmanned Air Vehicle in the Indoor
Environment
Jyun-Hong Chen (National Taipei University of Technology),
Cheng-Ming Huang (National Taipei University of Technology)

TuB03
**Evaluation of Unintentional EM Emissions from
Electronic Devices II (OS)**

G2-101

Chairs: Yu-ichi Hayashi (Tohoku University)
Yoshiki Kayano (Akita University)

13:00-13:15 TuB03-01
Electric Field Measurement by using Cylindrical Dielectric
Scatterer
Takahiro Kurosawa (Akita Industrial Technology Center),
Takashi Komakine (Akita National College of Technology)

13:15-13:30 TuB03-02
Electric Field Intensity of Cylindrical Dielectric Probe in
Scattering Method for EM Field Measurement
Takashi Komakine (Akita National College of Technology),
Takahiro Kurosawa (Akita Industrial Technology Center),
Hiroshi Inoue (Akita University)

13:30-13:45 TuB03-03
Study on Negative Group Delay Characteristics of Multi-Stage
F-SIR Structure Driven by Differential-Mode
Xiaofan Yang (Akita University),
Yoshiki Kayano (Akita University),
Hiroshi Inoue (Akita University)

13:45-14:00 TuB03-04
Evaluation of Imbalance Component and EM Radiation from
Asymmetrical Differential-Paired Lines
Yoshiki Kayano (Akita University),
Yasunori Tsuda (Akita University),
Hiroshi Inoue (Akita University)

14:00-14:15 TuB03-05
A Study on Measurement Method of Near Electric Field Noise
from LED Bulbs
Takashi Kasuga (Nagano National College of Technology),
Takumi Ohashi (Nagano National College of Technology),
Syohei Yamada (Nagano National College of Technology),
Hiroshi Inoue (Akita University)

14:15-14:30 TuB03-06
Analysis of Emission from a Printed Circuit Board with a
Microstrip Line and a Slot
Teruo Tobana (Akita Prefectural University),
Takayuki Sasamori (Akita Prefectural University),
Yoji Isota (Akita Prefectural University)

TuB04 **G2-102**
Computational Intelligence and its Applications II
(OS)

Chairs: Junichi Murata (Kyushu University)
Akira Yanou (Okayama University)

13:00-13:15 TuB04-01
On Detecting Waggle Dance Behaviors from Spatio-Temporal Sectional Images

Masaki Fujii (University of Hyogo),
Teiji Isokawa (University of Hyogo),
Hidetoshi Ikeno (University of Hyogo),
Naotake Kamiura (University of Hyogo),
Ayumu Saitoh (University of Hyogo),
Nobuyuki Matsui (University of Hyogo)

13:15-13:30 TuB04-02
Searching Ability of Qubit-Inspired Genetic Algorithm

Noriyuki Muramoto (University of Hyogo),
Nobuyuki Matsui (University of Hyogo),
Teiji Isokawa (University of Hyogo)

13:30-13:45 TuB04-03
Research on Just-In-Time scheduling

Yoshihiro Endo (Hosei University),
Kajiro Watanabe (Hosei University),
Eishil Chiba (Hosei University),
Yousuke Kurihara (Seikei University)

13:45-14:00 TuB04-04
Synchronous Spike Propagation in Izhikevich Neuron System with Spike-Timing Dependent Plasticity

Sou Nobukawa (University of Hyogo),
Haruhiko Nishimura (University of Hyogo)

TuB05 **G2-103**
System and Information II

Chair: Isao Ono (Tokyo Institute of Technology)

13:00-13:15 TuB05-01
Discussion of Stability of Learning Type Neural Network Direct Controller and Its Folding Behavior

Takayuki Yamada (Ibaraki University)

13:15-13:30 TuB05-02
Fuzzy Learning Vector Quantization Particle Swarm Optimization (FLVQ-PSO) and Fuzzy Neuro Generalized Learning Vector Quantization (FN-GLVQ) for Automatic Early Detection System of Heart Diseases based on Real-time Electrocardiogram

Muhammad Febrian Rachmadi (Universitas Indonesia),
Muhammad Anwar Ma'sum (Universitas Indonesia),
I Made Agus Setiawan (Udayana University),
Wisnu Jatmiko (Universitas Indonesia)

13:30-13:45 TuB05-03
Optimization of Categorizing Driver's Head Motion for Driving Assistance Systems

Momoyo Ito (The University of Tokushima),
Kazuhito Sato (Akita Prefectural University),
Minoru Fukumi (The University of Tokushima)

13:45-14:00 TuB05-04
EEG Changes Associated with Mental Focusing to Flicker Stimuli under Eyes Closed Condition for SSVEP-Based BCI

Seiji Nishifuji (Yamaguchi University),
Takahiko Kuroda (Yamaguchi University),
Shogo Tanaka (Yamaguchi University)

14:00-14:15 TuB05-05
A study on Eye Fixation Time Distribution with and without Subjective Evaluation of Food and Related Pictures

Tomohiro Oosuga (Akita University),
Motoshi Tanaka (Akita University),
Hiroshi Inoue (Akita University),
Yoshitsugu Niiyama (Akita University)

TuB06 **G2-203**
Biomimetic Approach in Robotics and Machines II (OS)

Chairs: Yutaka Maeda (Kansai University)
Keigo Watanabe (Okayama University)

13:00-13:15 TuB06-01
Calibration Free Hand-eye System with Parallel Cameras
Yutaka Maeda (Kansai University),
Kyouhei Sakai (Kansai University)

13:15-13:30 TuB06-02
CAM System for Cartesian-Based Robotic Servo Controller
Fusaomi Nagata (Tokyo University of Science),
Sho Yoshitake (Tokyo University of Science),
Akimasa Otsuka (Tokyo University of Science),
Keigo Watanabe (Okayama University)

13:30-13:45 TuB06-03
Analyses of Jumping Motion of Humanoid Robot Using Arms' Swinging
Jumpei Nishiguchi (Okayama University),
Mamoru Minami (Okayama University),
Akira Yanou (Okayama University),
Takayuki Matsuno (Okayama University),
Tomohide Maeba (Okayama University)

13:45-14:00 TuB06-04
The Adjustment System of Phase Difference Using Neural Oscillator Network for a Snake-Like Robot
Takayuki Matsuo (Kitakyushu National College of Technology),
Kazuo Ishii (Kyushu Institute of Technology)

14:00-14:15 TuB06-05
Study of Teen-sized Humanoid Robot Kicking Behavior
Thavida Maneewarn
(King Mongkut's University of Technology Thonburi),
Amnart Butsongka
(King Mongkut's University of Technology Thonburi)

TuB07 **G2-301**
Mechanical Systems Control

Chairs: Xin Xin (Okayama Prefectural University)
Yuichi Sawada (Kyoto Institute of Technology)

13:00-13:15 TuB07-01
Inverse Disturbance Response Decoupling Control of an Optical Table
Fu-Cheng Wang (National Taiwan University),
San-Ho Yang (National Taiwan University),
Sheng-Yao Wu (National Taiwan University)

13:15-13:30 TuB07-02
Bilateral Control of Nonlinear Flexible Master-Slave Arm with Time Delay
Masaharu Yagi (Kyoto Institute of Technology),
Akinori Hayashi (Kyoto Institute of Technology),
Yuichi Sawada (Kyoto Institute of Technology),
Hiroshi Kimura (Kyoto Institute of Technology)

13:30-13:45 TuB07-03
Decentralized Robust Control of Large Space Structures by Local Proper Controllers Using Displacement Output Feedback
Yohji Kobayashi (Kobe City College of Technology),
Ren Imoto (Kobe City College of Technology)

13:45-14:00 TuB07-04
Design of Perfectly Matched Zero-Phase Error Tracking Control for Multi-Axis Motion Control Systems
Syh-Shiuh Yeh (National Taipei University of Technology),
Jin-Tsu Sun (Industrial Technology Research Institute)

14:00-14:15 TuB07-05
Experimental Verification of Energy-Based Swing-up Control for a Rotational Pendulum
Seiji Tanaka (Okayama Prefectural University),
Xin Xin (Okayama Prefectural University),
Taiga Yamasaki (Okayama Prefectural University)

14:15-14:30 TuB07-06
An Application of Fast MPC for Bike Robot
Yuto Noda (Tokyo Institute of Technology),
Tadashi Sumioka (Tokyo Institute of Technology),
Masaki Yamakita (Tokyo Institute of Technology)

TuB08
Nonlinear Dynamics I (OS)

G2-302

Chair: Fu-Kuang Yeh (Chung Chou University of Science and Technology)

13:00-13:15 TuB08-01
Observer-Based Adaptive Fuzzy Sliding-Mode Controller Design for Missile Autopilot Systems
Fu-Kuang Yeh
(Chung Chou University of Science and Technology),
Jian-Ji Huang
(Chung Chou University of Science and Technology),
C. C. Wang
(Chung Chou University of Science and Technology)

13:15-13:30 TuB08-02
Implementation and Control for a Track Motion Robotic Manipulator
Chao Shu Liu
(National Kaohsiung University of Applied Sciences),
Chao Chung Liu (Chung Chou University),
Yuan Hung Tai
(National Kaohsiung University of Applied Sciences),
Guan Zhi Lin
(National Kaohsiung University of Applied Sciences)

13:30-13:45 TuB08-03
Rising up Motion and Stabilizing Control of Denguribot utilizing PI Controller on a Poincare Section
Kyohei Ishikawa (Tokyo Institute of Technology),
Kazuma Sekiguchi (Tokyo Institute of Technology),
Mitsuji Sampei (Tokyo Institute of Technology)

13:45-14:00 TuB08-04
A Study on Stability of Passive Dynamic Walking Model with Flat Feet
Yonggwon Jeon (KAIST),
Youn-sik Park (KAIST),
Youngjin Park (KAIST)

14:00-14:15 TuB08-05
Enhanced mathematical model of postprandial glycemic excursion in diabetics using rapid-acting insulin
Claudia Cecilia Yamamoto Noguchi (Kyoto University),
Eiko Furutani (Kyoto University),
Shoichiro Sumi (Kyoto University)

14:15-14:30 TuB08-06
Nonlinear Feedback Controller in the Phase Plane: Design of N-order Nonlinear System and its Performance
Hiroshi Suzuki (Tokyo Institute of Technology),
Kazuma Sekiguchi (Tokyo Institute of Technology),
Mitsuji Sampei (Tokyo Institute of Technology)

TuB09
Human Support based on Human Monitoring and Analysis II (OS)

Kyo3-254

Chair: Masao Sugi (The Univ. of Electro-Communications)

13:00-13:15 TuB09-01
Dynamic Measurement of Walking Posture by Monitoring Body Distortion and Landing Impact
Kazushi Toriyama (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University)

13:15-13:30 TuB09-02
Gait Recognition based on Stochastic Switched Auto-regressive Model
Dapeng Zhang (Nagoya University),
Shinkichi Inagaki (Nagoya University),
Tatsuya Suzuki (Nagoya University)

13:30-13:45 TuB09-03
Measurement and Control of Physical Strength in Motion
Kosuke Sentoku (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University)

13:45-14:00 TuB09-04
The Effects of Delay Time Elements in Myoelectric Prosthetic Hand
Tatsuhiko Nakamura
(The University of Electro-Communications),
Ryu Kato (The University of Electro-Communications),
Yokoi Hiroshi (The University of Electro-Communications)

TuB10**System Integration II**

Chair: Atsuo Murata (Okayama University)

Kyo3-255**TuB11****The Interaction between Human and Machines (OS)**

Chairs: Genya Abe (Japan Automobile Research Institute)

Daisuke Karikawa (Electronic Navigation Research Institute)

Kyo3-343

13:00-13:15

TuB10-01

*An Electric Music Baton System using a Haptic Interface for Visually Disabled Persons*Takashi Asakawa (Kinki University Technical College),
Noriyuki Kawarazaki (Kanagawa Institute of Technology)

13:00-13:15

TuB11-01

*Effectiveness of a blind spot visualization system with a video camera for safe lane changes*Fumihito Matsubara (University of Tsukuba),
Makoto Itoh (University of Tsukuba),
Toshiyuki Inagaki (University of Tsukuba)

13:15-13:30

TuB10-02

*Optimization of Parameter for Extracting Brain Regions Using Deformable Contour Models*Seiya Odagiri (Akita Prefectural University),
Kazuhiro Sato (Akita Prefectural University),
Hirokazu Madokoro (Akita Prefectural University)

13:15-13:30

TuB11-02

*Effect of Active Effort in Eco-Driving Support System on Proficiency of Driving Skill*Keita Nozaki (Kyoto University),
Toshihiro Hiraoka (Kyoto University),
Shota Takada (Kyoto University),
Takayuki Shiose (Kyoto University),
Hiroshi Kawakami (Kyoto University)

13:30-13:45

TuB10-03

*Non-contact Respiration Measurement Using Structured Light 3-D Sensor*Hirooki Aoki (Hiroshima City University),
Masaki Miyazaki (Keio University),
Hidetoshi Nakamura (Keio University),
Ryo Furukawa (Hiroshima City University),
Ryusuke Sagawa (AIST),
Hiroshi Kawasaki (Kagoshima University)

13:30-13:45

TuB11-03

*Investigation of Driving Behavior in Different Dependence on Rear Obstacle Warning System*Keisuke Goto (Kagawa University),
Shigeyoshi Tsutsumi (Kagawa University),
Takahiro Wada (Ritsumeikan University),
Shun'ichi Doi (Kagawa University),
Keisuke Suzuki (Kagawa University)

13:45-14:00

TuB10-04

*Verification of the Systolic Blood-pressure Measurement Principle by FBG Sensors*Yuki Miyauchi (Shinshu University),
Hiroaki Ishizawa (Shinshu University),
Shouhei Koyama (Shinshu University),
Shingo Sato (Shinshu University)

13:45-14:00

TuB11-04

*Attempt on Visualization of Air Traffic Control Tasks for Supporting Education and Training*Daisuke Karikawa (Electronic Navigation Research Institute),
Hisae Aoyama (Electronic Navigation Research Institute),
Makoto Takahashi (Tohoku University),
Kazuo Furuta (The University of Tokyo),
Masaharu Kitamura (Tohoku University)

14:00-14:15

TuB10-05

*An Analysis of Elderly Person's Arising Action from Chair using Cushion-Type Support Tool*Masakazu Takahashi (University of Yamanashi),
Reiji Nanba (Daiichi University)

14:00-14:15

TuB11-05

Daily Operator Behaviour and Motivation in Operational Safety: A Consideration Based on an Observation of Train Drivers

Hidenori Fujino (West Japan Railway Company)

14:15-14:30

TuB10-06

*Development of Stair Locomotive Wheelchair with Adjustable Wheelbase*Tsuyoshi Yamamoto (Tottori University),
Fumiaki Takemori (Tottori University),
Ryuta Itakura (Shinko Engineering & Maintenance Co., Ltd.)

14:30-14:45

TuB10-07

*Development of laser range finder-implemented JAUS-compliant local pose component*Kazunari Takahashi (Hosei University),
Kazuyuki Kobayashi (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

TuB12 **Kyo3-344**
International Standardization for Realizing Intensive Information Oriented, Safe and Secure "Low-Carbon + Smart Society" (OS)

Chair: Hisashi Sasajima (Azbil Corporation)

13:00-13:15 TuB12-01
Activities for Control System Security in Japan
Seiichi Shin (University of Electro-Communications)

13:15-13:25 TuB12-02
SICE International Standardization Activities for future Low-Carbon + Smart Society
Seiichi Shin (The University of Electro-Communications),
Hisashi Sasajima (Azbil Corporation)

13:25-13:40 TuB12-03
Iterative and Simultaneous Development of Embedded Control Software and Dependability Cases for Consumer Devices
Yutaka Matsuno (Nagoya University),
Kenji Taguchi (AIST),
Yoshihiko Nakabo (AIST),
Akira Ohata (Toyota Motor Corporation)

13:40-13:55 TuB12-04
Education of Standard Measurement and Control, Information Communication Technology
Amphawan Julsereewong (KMITL),
Teerawat Thepmanee (KMITL),
Sawai Pongswatd (KMITL)

13:55-14:10 TuB12-05
International Standardization for Low-Carbon Society - Trends in international standardization of energy efficiency -
Yutaka Wakasa (JEMIMA),
Toru Ishikuma (JEMIMA)

14:10-14:25 TuB12-06
Management of Alarm System for Process Industries
Tutomu Takai (Azbil Corporation),
Yasuhiro Kutsuma (Azbil Corporation),
Hiroshi Ishihara (Azbil Corporation)

14:25-14:35 TuB12-07
Standardization of Coexistence Management for Industrial Wireless
Hisanori Hayashi (Yokogawa Electric Corporation)

14:35-14:50 TuB12-08
Introduction to Backhaul Architecture Model in ISA100.15
Hiroshi Miyata (Yokogawa Electric Corporation)

TuC01 **G1-305**
Remote Sensing

Chair: Takashi Matsuzaki (Mitsubishi Electric Corporation)

15:00-15:15 TuC01-01
Distributed Data Fusion with data T/R Control for Target Tracking
Takashi Matsuzaki (Mitsubishi Electric Corporation),
Hiroshi Kameda (Mitsubishi Electric Corporation)

15:15-15:30 TuC01-02
Variable Gating MLPDA for Early-Extraction of a Target Track in High False Density Environments
Masanori Mori (Mitsubishi Electric Corporation),
Takashi Matsuzaki (Mitsubishi Electric Corporation),
Hiroshi Kameda (Mitsubishi Electric Corporation)

15:30-15:45 TuC01-03
A Data Association Algorithm for Specific Radio Source Using Angle Difference of Arrival
Kosuke Maruyama (Mitsubishi Electric Corporation),
Hiroshi Kameda (Mitsubishi Electric Corporation)

15:45-16:00 TuC01-04
Estimation of Dangerous Area of River by Monitoring Dynamic Behavior of the Surface
Taiki Tomoo (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University)

16:00-16:15 TuC01-05
Analysis of water quality conditions in Lake Hachiroko, Japan, using ALOS AVNIR-2 data
Dejian Wang (Akita University),
Yoichi Kageyama (Akita University),
Makoto Nishida (Akita University),
Asana Motozawa (Akita University),
Hikaru Shirai (Akita University)

TuC02**Signal Processing**

Chair: Kunio Takaya (University of Saskatchewan)

G1-405**TuC03****Digital Image Processing and its Applications (OS)**Chairs: Noriyasu Homma (Tohoku University)
Xiaoyong Zhang (Tohoku University)**G2-101**

15:00-15:15

TuC02-01

*The Acoustic Echo Cancellation using Blind Source Separation to Reduce Double-talk Interference*Yoshihiro Sakai (Tsuyama National College of Technology),
Kana Akahori (The University of Electro-Communications),
Muhammad Tahir Akhtar
(The University of Electro-Communications),
Wataru Mituhashi
(The University of Electro-Communications)

15:15-15:30

TuC02-02

Transputer-like Multicore Parallel Processing on the Array of ARM Cortex-M0 Microprocessors

Kunio Takaya (University of Saskatchewan)

15:30-15:45

TuC02-03

*Estimation of the Dynamic Situation of Landslide Disaster by Triaxial Angle of Acceleration*Kousuke Taneda (Ritsumeikan University),
Shotaro Niimi (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University)

15:45-16:00

TuC02-04

*Robust Character Recognition in FA*Akihiro Daito (Denso Corporation),
Kazuhiko Ito (Denso Corporation),
Tadashi Kawagoe (Denso Corporation),
Takashi Murosaki (Denso Corporation),
Masahiro Shiose (Denso Corporation)

16:00-16:15

TuC02-05

*Errors from Quantization*Masanori Shiro (AIST),
Shotaro Akaho (AIST)

15:00-15:15

TuC03-01

*Lung Tumor Motion Estimation Using 3-D Phase Correlation for Radiotherapy Treatment*Xiaoyong Zhang (Tohoku University),
Noriyasu Homma (Tohoku University),
Yoshihiro Takai (Hirosaki University),
Yuichiro Narita (Hirosaki University),
Makoto Abe (Tohoku University),
Norihiro Sugita (Tohoku University),
Makoto Yoshizawa (Tohoku University)

15:15-15:30

TuC03-02

*3D Object Pose Estimation from Binarized Images*Shingo Kagami (Tohoku University),
Masaru Morita (Tohoku University),
Koichi Hashimoto (Tohoku University)

15:30-15:45

TuC03-03

*DoG-Based Detection of Architectural Distortion in Mammographic Images for Computer-Aided Detection*Takeshi Handa (Tohoku University),
Xiaoyong Zhang (Tohoku University),
Noriyasu Homma (Tohoku University),
Tadashi Ishibashi (Tohoku University),
Yusuke Kawasumi (Tohoku University),
Makoto Abe (Tohoku University),
Norihiro Sugita (Tohoku University),
Makoto Yoshizawa (Tohoku University)

15:45-16:00

TuC03-04

*Fuzzy-based feature matching for 3D reconstruction from multiple views*Surapong Rattanalappaiboon (Mahidol University),
Panrasee Ritthipravat (Mahidol University)

16:00-16:15

TuC03-05

A Pattern Matching Technique Robust to Illumination Changes and Occlusion

Toshiaki Kondo (Thammasat University)

16:15-16:30

TuA03-06

*A Note of Fingerspelling Recognition by Hand Shape Using Higher-Order Local Auto-Correlation Features*Takuya Kanemura (Ube National College of Technology),
Yoshihiro Mitani (Ube National College of Technology),
Yusuke Fujita (Yamaguchi University),
Yoshihiko Hamamoto (Yamaguchi University)

TuC04 **G2-102**
Integrative Informatics for Medicine and Biology (OS)
Chairs: Hidenori Inaoka (Kitasato University)
Yutaka Fukuoka (Kogakuin University)

15:00-15:15 TuC04-01
Genome-wide methylation analysis using multiple tumor tissues
Hidenori Inaoka (Kitasato University),
Yutaka Fukuoka (Kogakuin University)

15:15-15:30 TuC04-02
*Genome-Wide Integrative Analysis of Copy Number Segments
and Corresponding Gene Expression Profile*
Yutaka Fukuoka (Kogakuin University),
Ken Miyaguchi (Tokyo Medical and Dental University),
Hiroshi Mizushima (National Institute of Public Health),
Hiroshi Tanaka (Kogakuin University)

15:30-15:45 TuC04-03
*Prediction of synaptic properties of neural network of
Caenorhabditis elegans*
Kazumi Sakata (Iwate University),
Hiroki Akita (Iwate University),
Yuishi Iwasaki (Ibaraki University),
Tokumitsu Wakabayashi (Iwate University),
Tarou Ogurusu (Iwate University)

15:45-16:00 TuC04-04
Development of an Immersive Virtual Reality System for Mice
Norihiro Katayama (Tohoku University),
Keita Hidaka (Tohoku University),
Akihiro Karashima (Tohoku University),
Mitsuyuki Nakao (Tohoku University)

TuC05 **G2-103**
System and Information III
Chair: Isao Ono (Tokyo Institute of Technology)

15:00-15:15 TuC05-01
*Study on Common Coordinate System by using Relative Position
of Other Autonomous Robot*
Koji Makino (Tokyo University of Technology),
Jin-Hua She (Tokyo University of Technology),
Yasuhiro Ohyama (Tokyo University of Technology)

15:15-15:30 TuC05-02
*I/O-Precedential Process as an Ontological Parameter
Estimation*
Moto Kamiura (Tokyo Denki University),
Yu Murata (Tokyo Denki University)

15:30-15:45 TuC05-03
*Control of a Cyclic Vehicular Traffic Flow Based on the Velocity
Model -Experiments by Using LEGO NXT-*
Yasunobu Yokoi (Kanazawa University),
Shigeru Yamamoto (Kanazawa University)

15:45-16:00 TuC05-04
*Evolutionary Self-Assembling Swarm Robots using Genetic
Programming*
Jong-Hyun Lee (Sungkyunkwan University),
Chang Wook Ahn (Sungkyunkwan University)

16:00-16:15 TuC05-05
*Cognitive Modeling of Distributed Interacting Intelligent
Systems*
Gregor Flesch (University of Duisburg-Essen),
Dirk Soffker (University of Duisburg-Essen)

TuC06**Intelligent Robotic Systems I (OS)**

Chairs: Fumihiro Inoue (Obayashi Corporation)
Kazuyuki Kojima (Saitama University)

G2-203**TuC07****Modeling and Estimation**

Chairs: Chiaki Kojima (The University of Tokyo)
Li Xu (Akita Prefectural University)

G2-301

15:00-15:15

TuC06-01

Development of High Accuracy Position Marking System in Construction Site Applying Automated Mark Robot
Fumihiro Inoue (Obayashi Corporation),
Eri Ohmoto (Obayashi Corporation)

15:00-15:15

TuC07-01

State of Charge Estimation of HEV/EV Battery with Series Kalman Filter
Atsushi Baba (Keio University & Calsonic Kansei Corporation),
Shuichi Adachi (Keio University)

15:15-15:30

TuC06-02

Development of a Kinect-sensor-based navigation component for JAUS compliant mobile robots
Naruhito Moriyama (Hosei University),
Kazunari Takahashi (Hosei University),
Tadayuki Yokota (Hosei University),
Takumi Cho (Hosei University),
Kazuyuki Kobayashi (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

15:15-15:30

TuC07-02

Identification of a Quadratic Performance Index in Multi-Agent Network
Kazuaki Shibata (The University of Tokyo),
Chiaki Kojima (The University of Tokyo),
Koji Tsumura (The University of Tokyo)

15:30-15:45

TuC06-03

Development of automatic elevator navigation algorithm for JAUS-compliant mobile robot
Ryosuke Amano (Hosei University),
Kazunari Takahashi (Hosei University),
Tadayuki Yokota (Hosei University),
Takumi Cho (Hosei University),
Kazuyuki Kobayashi (Hosei University),
Kajiro Watanabe (Hosei University),
Yosuke Kurihara (Seikei University)

15:30-15:45

TuC07-03

Discrete Riccati Modeling of Patellar-Tendon-Reflexes
Takuo Kinoshita (University of Tsukuba),
Noriyuki Hori (University of Tsukuba),
Naotaka Mamizuka (University of Tsukuba)

15:45-16:00

TuC07-04

A New Procedure for Low-order Realization of n-D Systems in Fornasini-Marchesini State-space Model
Yugo Saito (Akita Prefectural University),
Shin-ya Matsushita (Akita Prefectural University),
Li Xu (Akita Prefectural University)

15:45-16:00

TuC06-04

E Design of a Smart Shoe for Reliable Gait Analysis Using Fuzzy Logic
Warithapol Srivises (Thammasat University),
Itthisek Nilkhamhang (Thammasat University),
Kanokvate Tungpimolrut (NSTDA)

16:00-16:15

TuC07-05

State Estimation of Continuous-Time Linear Stochastic Systems Subject to State Equality or Inequality Constraints
Akira Ohsumi (Kyoto Institute of Technology)

16:00-16:15

TuC06-05

Automatic Generation of VHDL for Controller of Inverted Pendulum in Consideration of Robustness
Kazuyuki Kojima (Saitama University)

TuC08**G2-302****Nonlinear Dynamics II (OS)**

Chair: Fu-Kuang Yeh (Chung Chou University of Science and Technology)

TuC10**Kyo3-255****System Integration III**

Chair: Mitsunari Uozumi (Mitsubishi Electric Corporation)

15:00-15:15 TuC08-01

*Robust Control Using Fixed-manifold for Wind-power DC-DC Converter*Fu-Kuang Yeh
(Chung Chou University of Science and Technology),
Kuang-Yang Kou (Central Police University),
Jian-Ji Huang
(Chung Chou University of Science and Technology)

15:00-15:15 TuC10-01

*Automation of Supervisory Service, and Examination of the Subject of Operation*Mitsunari Uozumi (Mitsubishi Electric Corporation),
Kouichi Yamada (Mitsubishi Electric Corporation),
Hajime Asama (The University of Tokyo),
Kaoru Takakusaki (Asahikawa Medical University)

15:15-15:30 TuC08-02

*Robust Control for a Delta Robot*Chao Shu Liu
(National Kaohsiung University of Applied Sciences),
Hui Hung Lin
(Metal Industries Research & Development Centre),
Chih Chin Wen
(Metal Industries Research & Development Centre),
Shi Wei Lin
(Metal Industries Research & Development Centre),
Yuan Hung Tai
(National Kaohsiung University of Applied Sciences)

15:15-15:30 TuC10-02

*Japanese Finger-spelling Recognition Using a Chest-mounted Camera*Akira Nagasue (Kyushu Institute of Technology),
Joo Kooi Tan (Kyushu Institute of Technology),
Hyoungseop Kim (Kyushu Institute of Technology),
Seiji Ishikawa (Kyushu Institute of Technology)

15:30-15:45 TuC08-03

*A Control Experiment of Vertical Jumping Motion with 4links Robot*Atsuto Ishikawa (Tokyo Institute of Technology),
Kazuma Sekiguchi (Tokyo Institute of Technology),
Mitsuji Sampei (Tokyo Institute of Technology)

15:30-15:45 TuC10-03

*Proposal of Automotive 8-directional Warning System that Makes Use of Tactile Apparent Movement*Atsuo Murata (Okayama University),
Susumu Kemori (Okayama University),
Makoto Moriwaka (Okayama University),
Takehito Hayami (Okayama University)

15:45-16:00 TuC08-04

Differential flatness of affine nonlinear control systems
Kazuhiro Sato (Kyoto University)

15:45-16:00 TuC10-04

*Effectiveness of Automotive Warning System presented with Multiple Sensory Modalities*Atsuo Murata (Okayama University),
Michihiro Kanbayashi (Okayama University),
Takehito Hayami (Okayama University)

16:00-16:15 TuC08-05

*Linearization Algorithms for a Multi Input Multi Output Process*Subbu D Lekshmi (PSG College of Technology),
Kanaka J Raj (PSG College of Technology)

16:00-16:15 TuC10-05

*Study on Cursor Shape suitable for Eye-gaze Input System*Atsuo Murata (Okayama University),
Raku Uetsugu (Okayama University),
Takehito Hayami (Okayama University)

16:15-16:30 TuA10-06

*Relationship between Trajectory of Mouse Pointer and Eye Movements Characteristics during Search Activity*Atsuo Murata (Okayama University),
Masakazu Higashijima (Okayama University),
Takehito Hayami (Okayama University)

TuC12

Kyo3-344

Sustainable and Cooperative Data Exchange in Industrial Control Systems and Networks (OS)

Chairs: Akio Ito (Yokogawa Electric Corporation)
Tsutomu Yamada (Hitachi, Ltd.)

15:00-15:15

TuC12-01

Technologies and International Standardization of Gigabit Real-Time Ethernet "TC-net 1G"

Atsushi Inoue (Toshiba Corporation),
Koji Shibata
(Toshiba Mitsubishi Electric Industrial Systems Corporation),
Akira Nojima (Toshiba Corporation)

15:15-15:30

TuC12-02

Real-time Ethernet Acceleration Technology and Applying to EtherCAT Master Controller

Tatsuya Maruyama (Hitachi, Ltd.),
Tsutomu Yamada (Hitachi, Ltd.)

15:30-15:45

TuC12-03

Experimental Results of Remote Energy Monitoring System via Cellular Network in China

Shoji Yunoki (Hitachi, Ltd.),
May Takada (Hitachi, Ltd.),
Chunguang Liu
(Hitachi (China) Research & Development Corporation)

15:45-16:00

TuC12-04

DTM supporting a wide range of field instruments and field networks

Hideyuki Fujii (Yokogawa Electric Corporation)

16:00-16:15

TuC12-05

Simple Control Valve Diagnostic Tool for Foundation Fieldbus Technology

Sart Kummool (King Mongkut's Institute of Technology),
Sawai Pongswatd (King Mongkut's Institute of Technology),
Jetsada Jareonwatthanayothin
(King Mongkut's Institute of Technology)

16:15-16:30

TuA12-06

Multiple and Independent Protection Layer Concept for Plant Cyber Security

Tsuyoshi Kitai (Azbil Corporation),
Tsutomu Takai (Azbil Corporation),
Hidekazu Uchida (Azbil SecurityFriday Co., Ltd.)

TuP01
Poster Session I
13:00-14:30

University Hall

Yoichi Kageyama (Akita University),
Tsuyoshi Takahashi (Akita University),
Makoto Nishida (Akita University)

TuP01-09

Double Corner Cube Method for Enhancing the Sensitivity of Straightness Measurement

Ju-Yi Lee (National Center University),
Tung-Shiuan Pan (National Central University),
Szu-Wei Wu (National Central University),
Hung-Lin Hsieh
(National Taiwan University of Science and Technology),
Cheng-Chih Hsu (Yuan Ze University)

TuP01-01

Development of Precise Autofocusing Microscope Based on Reduction of Geometrical Fluctuations

Chien-Sheng Liu (National Chung Cheng University),
Kun-Wei Lin (National Central University),
Sheng-Hong Jiang (National Central University)

TuP01-02

Analysis of Lip Motion Due to the Influence of Vocalization

Tsuyoshi Takahashi (Akita University),
Yoichi Kageyama (Akita University),
Bold Ariuntsengel (Akita University),
Atsushi Momose (Akita University),
Masaki Ishii (Akita Prefectural University),
Makoto Nishida (Akita University)

TuP01-10

Experimental Results of a Wafer Positioning System using Machine Vision after System Calibration

Yi-Cheng Chen (National Center University),
Yu-Pin Chen (National Center University),
Ju-Yi Lee (National Center University)

TuP01-11

Nondestructive Quantitative Analysis of Fiber Mixtures by Infrared Spectroscopy

Yuki Takei (Shinshu University),
Hiroaki Ishizawa (Shinshu University),
Shota Nagata (Shinshu University),
Takashi Miki
(Japan Textile Products Quality and Technology Center),
Shouhei Koyama (Shinshu University)

TuP01-03

A glucose sensor fabricated on glass substrate with glucose oxidase immobilized technique

Cheng-Chih Hsu (Yuan Ze University),
Tasai-Chen Wu (Yuan Ze University),
Ting-Qian Lin (Yuan Ze University),
Ju-Yi Lee (National Central University)

TuP01-12

Static Strain Measurement by Fiber Bragg Gratings using Multiplexed Common-path Interferometers

Yukitaka Shinoda (Nihon University),
Masafumi Yamada (Nihon University),
Takashi Arai (Nihon University),
Takashi Higo (Nihon University)

TuP01-04

Features for image retrieval: the impression degree of a human image by overexposure occurring in the facial area

Tatsuki Murakami (Akita University),
Yoichi Kageyama (Akita University),
Makoto Nishida (Akita University),
Yoichi Shirasawa (Alpha Systems, Inc.)

TuP01-13

Consideration of Classification of Dance Movements for Nihon Buyo using Motion Capture System

Yukitaka Shinoda (Nihon University),
Yusuke Mizutani (Nihon University),
Yuki Mito (Nihon University),
Reishi Watanuma (Hitotsubashi University),
Toru Ozawa (Nihon University),
Mieko Marumo (Nihon University)

TuP01-05

Non-contact Detection of Human Heartbeat based on Measurement of Current Generated by Electrostatic Induction

Koichi Kurita (Kinki University)

TuP01-06

A Novel Detection Technique for Detecting Sports Motion based on Electrostatic Induction

Koichi Kurita (Kinki University)

TuP01-14

Local measurement of harmonics through a sensor network based on TinyOS

Jose Antonio Tarifa (University of Seville),
Juan Manuel Escano (University of Seville),
Miguel Angel Molina (University of Seville),
Carlos Bordons (University of Seville)

TuP01-07

Extraction of Character Sequence from Electric Signboards in Night Scene Images

Matsunobu Nomura
(Akita Municipal Junior College of Arts and Crafts),
Yoichi Kageyama (Akita University),
Chikako Ishizawa (Akita University),
Makoto Nishida (Akita University)

TuP01-08

Generation of Emotional Feature Space for Facial Expression Recognition using Self-Mapping

Masaki Ishii (Akita Prefectural University),
Toshio Shimodate (Akita University),

| | |
|---|--|
| <p style="text-align: right;">TuP01-15</p> <p><i>A Study of Mobile Robot Localization Using Omnidirectional Images</i> Yuya Sasaki (Akita Prefectural University), Masaki Ishii (Akita Prefectural University)</p> | <p style="text-align: right;">TuP01-23</p> <p><i>Solvability Condition of Output Feedback of Assuming Observation Noise and Evaluating Only the State</i> Ayana Urakami (Hiroshima City University), Mitsuyuki Saito (Hiroshima City University), Yasuhide Kobayashi (Hiroshima City University), Takahiko Ono (Hiroshima City University), Shinichi Hikita (Hiroshima City University), Yuriko Masuda (Hiroshima City University)</p> |
| <p style="text-align: right;">TuP01-16</p> <p><i>Detection and Tracking an Object in Omni-Directional Images using Particle Filter</i> Koutaro Katayama (University of Toyama), Keiji Shibata (University of Toyama), Yuukou Horita (University of Toyama)</p> | <p style="text-align: right;">TuP01-24</p> <p><i>Development of an SOFC Dynamic Simulation Environment: Model Extension for Adopting Heat Loss Analysis</i> Yosuke Komatsu (Shibaura Institute of Technology), Kenji Otsuka (Azbil Corporation), Atsushi Kurosaki (Azbil Corporation), Chosei Kaseda (Azbil Corporation), Shinji Kimijima (Shibaura Institute of Technology)</p> |
| <p style="text-align: right;">TuP01-17</p> <p><i>Spin-dynamics of a Quantum Wave-packet via Helical Edge States and Spin-filter Effect</i> Yukinori Ohmura (Akita University), Takeo Shimokawa (Akita University), Shyun Hosaka (Akita University), Masaru Onoda (Akita University)</p> | <p style="text-align: right;">TuP01-25</p> <p><i>Autonomous Mobile Robot Guidance Based on Ground Line Mark</i> Xiuzhi Li (Beijing University of Technology), Songmin Jia (Beijing University of Technology), Jinhui Fan (Beijing University of Technology), Liwen Gao (Beijing University of Technology), Bing Guo (Beijing University of Technology)</p> |
| <p style="text-align: right;">TuP01-18</p> <p><i>Numerical Analysis of Spin-filter Effect of Optical Tornadoes and Chiral Edge States in Two-dimensional Photonic Crystal Waveguides</i> Kohtaroh Hayashi (Akita University), Tomoya Takemura (Akita University), Masaru Onoda (Akita University)</p> | <p style="text-align: right;">TuP01-26</p> <p><i>Analysis and Design to the Asymptotic Behavior of the Semi/Full/Dual-closed Loop Feedback Position Control System</i> Jia-Sheng Hu (National University of Tainan), Feng-Rung Hu (National Taichung University)</p> |
| <p style="text-align: right;">TuP01-19</p> <p><i>Weber-Fechner Law in Road Traffic Flow</i> Tasuku Takagi (Tohoku Bunka Gakuen University) Masanari Taniguchi (Tohoku Bunka Gakuen University) Shosuke Suzuki (Tohoku Bunka Gakuen University)</p> | <p style="text-align: right;">TuP01-27</p> <p><i>Non-Fragile Control for Fuzzy Bilinear Systems</i> Jun Yoneyama (Aoyama Gakuin University), Ryutaro Takada (Aoyama Gakuin University), Yuzu Uchida (Aoyama Gakuin University)</p> |
| <p style="text-align: right;">TuP01-20</p> <p><i>Design and Characterization of Laser-based Inspection System</i> Chien-Sheng Liu (National Chung Cheng University), Yang-Cheng Lin (Industrial Technology Research Institute), Pin-Hao Hu (Industrial Technology Research Institute), Kuang-Yao Huang (Industrial Technology Research Institute), Yung-Hsing Wang (Industrial Technology Research Institute), Shun-Sheng Ko (Industrial Technology Research Institute)</p> | <p style="text-align: right;">TuP01-28</p> <p><i>Decentralized PID Control for Systems with Relative Degree no more than 2</i> Sadaaki Kunimatsu (Kumamoto University), Mitsuaki Ishitobi (Kumamoto University), Takao Fujii (Professor Emeritus, Osaka University)</p> |
| <p style="text-align: right;">TuP01-21</p> <p><i>Analysis of Load Characteristics in Power Systems Based on Fuzzy Modeling</i> Chi-Jui Wu (National Taiwan University of Science and Technology), Shu-Chen Wang (Taipei College of Maritime Technology), Shiao-Chen Lee (Taipei College of Maritime Technology), Yet-Ta Wu (Taipei College of Maritime Technology)</p> | <p style="text-align: right;">TuP01-29</p> <p><i>Robust Physical Parameter Estimation by Using MRAC Based on the Inverse Normalized Delta Operator</i> Tatsu Aoki (Tokyo Metropolitan College of Industrial Technology), Seiichi Kawata (Advanced Institute of Industrial Technology)</p> |
| <p style="text-align: right;">TuP01-22</p> <p><i>Monolithic Fan Speed Control IC for Monitoring Temperature and Improving Power Efficiency</i> Yuan-Ta Hsieh (National Chip Implementation Center), Chiao-Li Fang (National Chip Implementation Center), Jian-Fu Wu (National Chip Implementation Center), Hann-Huei Tsai (National Chip Implementation Center), Ying-Zong Juang (National Chip Implementation Center),</p> | <p style="text-align: right;">TuP01-30</p> <p><i>Adaptive Fault Diagnosis Observer Design for a Class of Nonlinear System with Model Uncertainties</i> Jin Bae Park (Yonsei University), Seung Jin Jang (Yonsei University), Jae Young Lee (Yonsei University), Yoon Ho Choi (Kyonggi University)</p> |

TuP01-31

Basic Study of Non-contact Measurement System for Internal Defect in Solid Materials Using High-Intensity Aerial Ultrasonic Waves

Ayumu Osumi (Nihon University),
Youichi Ito (Nihon University)

TuP01-32

An Accuracy Improvement for the Clinical Test Result by ISO-GUM and QE

Yasuo Iwaki (Chaos Applied Research Office)

Technical Program
Wednesday, August 22

WePL02

Plenary Talk II

9:00-10:00

Chair: Akira Kojima (Tokyo Metropolitan University)

*CONTROL AND OPTIMIZATION IN CYBERPHYSICAL SYSTEMS:
FROM SENSOR NETWORKS TO "SMART PARKING" APPS*
Dr. Christos G. Cassandras (Boston University)

Kyo3-145

WeA01

Identification and Estimation

Chair: Hirokazu Madokoro (Akita Prefectural University)

G1-305

10:30-10:45

WeA01-01

*Simultaneous Estimation of Mechanical Impedance Parameters
Based on Linear Fractional Transformation*

Ryosuke Ito (Nagoya University),
Goro Obinata (Nagoya University),
Youngwoo Kim (Nagoya University),
Chikara Nagai (Nagoya University)

10:45-11:00

WeA01-02

*MR Damper Identification using EHM-based Feedforward
Neural Network*

Kittipong Ekkachai
(Sirindhorn International Institute of Technology),
Itthisek Nilkhamhang
(Sirindhorn International Institute of Technology)

11:00-11:15

WeA01-03

*Analysis of Psychological Stress Factors and Facial Parts Effect
on Intentional Facial Expressions*

Hiroaki Otsu (Akita Prefectural University),
Kazuhito Sato (Akita Prefectural University),
Hirokazu Madokoro (Akita Prefectural University),
Sakura Kadowaki (SmartDesign Co., Ltd.)

11:15-11:30

WeA01-04

*Sequence Sets Having Wide Inter-Subset Zero-Correlation Zone
and Its Applications to Instrumentation*

Takafumi Hayashi (University of Aizu),
Shigeru Kanemoto (University of Aizu),
Takao Maeda (University of Aizu)

11:30-11:45

WeA01-05

*Identification of Volterra Kernels by Using M-sequence which
Consists of Arbitrary Two Values*

Hiroshi Harada (Kumamoto University),
Hiroshi Kashiwagi (Kumamoto University),
Yukio Toyozawa (FANUC Corp.),
Naoto Sonoda (FANUC Corp.),
Teruo Yamaguchi (Kumamoto University)

WeA02
Ultrasonic Measurements (OS)

Chairs: Makoto Fukuda (Akita University)
Yoshiki Kayano (Akita University)

10:30-10:45 WeA02-01
Second harmonic ultrasonic components detection generated from fastened bolt
Makoto Fukuda (Akita University),
Oki Yonai (Akita University),
Kazuhiko Imano (Akita University)

10:45-11:00 WeA02-02
Detection of Second Harmonic Ultrasonic Components for Evaluation of Solids Interface
Takayuki Harada (Akita University),
Makoto Fukuda (Akita University),
Kazuhiko Imano (Akita University)

11:00-11:15 WeA02-03
A consideration of ultrasonic imaging method using vibration velocity in air
Syo Yoshida (Akita University),
Kazuhiko Imano (Akita University)

11:15-11:30 WeA02-04
Automated Identification of the Heart Wall in Echocardiographic Images Throughout a Cardiac Cycle
Hiroki Takahashi (Tohoku University),
Hideyuki Hasegawa (Tohoku University),
Hiroshi Kanai (Tohoku University)

11:30-11:45 WeA02-05
Enhancement of the Selectivity of Closed Cracks in Nonlinear Ultrasonic Imaging Using Amplitude Difference Phased Array
Yoshikazu Ohara (Tohoku University),
Masako Ikeuchi (Tohoku University),
Kentaro Jinno (Tohoku University),
Akihiro Ouchi (Tohoku University),
Satoshi Horinouchi (Tohoku University),
Kazushi Yamanaka (Tohoku University)

11:45-12:00 WeA02-06
Wearable Airborne Ultrasound Doppler Device for Natural Urodynamics Measurement
Seiji Matsumoto (Asahikawa Medical University),
Yasuhito Takeuchi,
Hidehiro Kakizaki (Asahikawa Medical University)

G1-405

WeA03
Recent Progress of Adaptation and Learning Approaches to Systems and Control (OS)

Chairs: Osamu Kaneko (Kanazawa University)
Yoshihiro Ohnishi (Ehime University)

10:30-10:45 WeA03-01
Parallel Feedforward Compensator Design via FRIT with T-S Fuzzy Like Model for Discrete-Time Adaptive Control Systems
Taro Takagi (Kumamoto University),
Komei Minehara (Kumamoto University),
Ikuro Mizumoto (Kumamoto University)

10:45-11:00 WeA03-02
Fictitious Reference Iterative Tuning of Non-Minimum Phase Systems in the Two-Degree-Of-Freedom Control Architecture: A Laguerre Expansion Approach
Shigeki Yoshitake (Kanazawa University),
Osamu Kaneko (Kanazawa University),
Shigeru Yamamoto (Kanazawa University)

11:00-11:15 WeA03-03
Two-degrees-of-freedom control of a precise positioning device with a piezoelectric element
Tatsuya Oosaka (Akita University),
Akihiro Naganawa (Akita University),
Akira Sakurada (Akita Industrial Technology Center),
Yotsugi Shibuya (Akita University),
Shigeki Mori (Akita Industrial Technology Center)

11:15-11:30 WeA03-04
Design of Intersample and Sample Response in Two-Degree-of-Freedom Multirate Systems
Takao Sato (University of Hyogo),
Shuhei Kimura (University of Hyogo),
Akira Yanou (Okayama University),
Shiro Masuda (Tokyo Metropolitan University),
Nozomu Araki (University of Hyogo),
Yasuo Konishi (University of Hyogo)

11:30-11:45 WeA03-05
Position/Orientation Control of an Underactuated Flight Object Based on Two Degree-of-Freedom PID Control
Kohei Yoshikawa (Okayama University),
Akira Yanou (Okayama University),
Mamoru Minami (Okayama University)

11:45-12:00 WeA03-06
Adaptive Position Control with Using a Smooth Projection Adaptation Law for 2 DOF Flexible Link Robot Arm
Masataka Sawada (National Defense Academy),
Keietsu Itamiya (National Defense Academy)

G2-101

WeA04 **G2-102**
Optimization and Learning Techniques for Systems Engineering I (OS)

Chair: Kazuaki Masuda (Kanagawa University)

10:30-10:45 WeA04-01
A Tracked Wing Sale Model and Trials of Discrete Control
Makoto Katoh (Osaka Institute of Technology),
Akinobu Asada (Osaka Institute of Technology)

10:45-11:00 WeA04-02
Parameter Adaptation using Ground Contact Force for a Humanoid Walking Control
Thavida Maneewarn
(King Mongkut's Institute of Technology),
Udomsup Kongkaew (King Mongkut's Institute of Technology)

11:00-11:15 WeA04-03
A Flexible Q-relearning Method to Accelerate Learning Under the Change of Environments by Reusing a Portion of Useful Policies
Masanori Saito (Kanagawa University),
Kazuaki Masuda (Kanagawa University),
Kenzo Kurihara (Kanagawa University)

11:15-11:30 WeA04-04
Comparisons of Continuous-time and Discrete-time Q-learning Schemes for Adaptive Linear Quadratic Control
Tae Yoon Chun (Yonsei University),
Jae Young Lee (Yonsei University),
Jin Bae Park (Yonsei University),
Yoon Ho Choi (Kyonggi University)

WeA05 **G2-103**
Three Dimensional Acquisition and/or Recognition (OS)

Chairs: Mitsuru Baba (Ibaraki University)
Koza Ohtani (Hiroshima Institute of Technology)

10:30-10:45 WeA05-01
Laser Rangefinder Calibration Based on Genetic Algorithm
Koza Ohtani (Hiroshima Institute of Technology),
Li Li (Ibaraki University),
Mitsuru Baba (Ibaraki University)

10:45-11:00 WeA05-02
3D Shape Measurement of a Convex Free-form Curved Inner Surface Producing Interreflection Using Laser Rangefinder
Li Li (Ibaraki University),
Koza Ohtani (Hiroshima Institute of Technology),
Mitsuru Baba (Ibaraki University)

11:00-11:15 WeA05-03
3D Shape Measurement Algorithm of Transparent Object Exclusively Using Reflected Light
Yuka Iwabuchi (Ibaraki University),
Li Li (Ibaraki University),
Koza Ohtani (Hiroshima Institute of Technology),
Mitsuru Baba (Ibaraki University)

11:15-11:30 WeA05-04
Correcting Phase Unwrapping Errors with Color Phase Shifting Method
Takashi Iwasa (Ibaraki University),
Koza Ohtani (Hiroshima Institute of Technology),
Mitsuru Baba (Ibaraki University)

11:30-11:45 WeA05-05
Evaluation of Recognition Algorithms in Ultrasonic Object Recognition
Takahiro Ugajin (Ibaraki University),
Koza Ohtani (Hiroshima Institute of Technology),
Mitsuru Baba (Ibaraki University)

WeA06**G2-203****Intelligent Robotic Systems II (OS)**

Chairs: Ching-Chih Tsai (National Chung Hsing University)
Kao-Shing Hwang (National Sun Yat-sen University)

10:30-10:45 WeA06-01

Intelligent Sliding-Mode Motion Control Using Fuzzy Wavelet Networks for Automatic 3D Overhead Cranes

Ching-Chih Tsai (National Chung Hsing University),
Hsiao Lang Wu (National Chung Hsing University),
Kun-Hsien Chuang (National Chung Hsing University)

10:45-11:00 WeA06-02

Comparison of Artificial Neural Network and Logistic Regression Models for Predicting In-hospital Survival After Hepatocellular Carcinoma Surgery

Hon-Yi Shi (Kaohsiung Medical University),
Jinn-Tsong Tsai (National Pingtung University of Education),
Wen-Hsien Ho (Kaohsiung Medical University),
Shih-Chin Wang (Kaohsiung Medical University),
I-Te Chen (Kaohsiung Medical University),
King-The Lee (Kaohsiung Medical University Hospital)

11:00-11:15 WeA06-03

Multiobjective Airline Scheduling: An Integrated Approach

Chiu-Hung Chen (Kao Yuan University),
Tung-Kuan Liu
(National Kaohsiung First University of Science and Technology),
Jyh-Horng Chou
(National Kaohsiung First University of Science and Technology),
Chuen-Ching Wang (Kao Yuan University)

11:15-11:30 WeA06-04

Adaptive Neural Sliding Mode Control of MEMS Triaxial Gyroscope Based on Feedback Linearization Approach

Juntao Fei (Hohai University),
Hongfei Ding (Hohai University)

11:30-11:45 WeA06-05

Adaptive Model Learning method for Reinforcement Learning

Kao-Shing Hwang (National Chung Cheng University),
Wei-Cheng Jiang (National Chung Cheng University),
Yu-Jen Chen (National Chung Cheng University)

11:45-12:00 WeA06-06

Intelligent Backstepping Sliding-Mode Control Using Recurrent Interval Type 2 Fuzzy Neural Networks for a Ball Robot with a Four-Motor Inverse-Mouse Ball Drive

Cheng-Kai Chan (National Chung Hsing University),
Ching-Chih Tsai (National Chung Hsing University)

WeA07**G2-301****Nonlinear Control**

Chair: Masayuki Shimizu (Shizuoka University)
Kazuma Sekiguchi (Tokyo Institute of Technology)

10:30-10:45 WeA07-01

Nonlinear Impedance Control to Maintain Robot Position within Specified Ranges

Masayuki Shimizu (Shizuoka University)

10:45-11:00 WeA07-02

Multi-step algorithm for orbital feedback linearization of single input control affine systems

Kazuma Sekiguchi (Tokyo Institute of Technology),
Mitsuji Sampei (Tokyo Institute of Technology)

11:00-11:15 WeA07-03

Receding Horizon Control with Numerical Solution for Thermal Fluid Systems

Tomoaki Hashimoto (Osaka University),
Yusuke Yoshioka (Osaka University),
Toshiyuki Ohtsuka (Osaka University)

11:15-11:30 WeA07-04

Using Inverse Linear Quadratic Method for Systematic Tuning of Performance Index in Nonlinear Model Predictive Control

Fatima Tahir (Osaka University),
Toshiyuki Ohtsuka (Osaka University)

11:30-11:45 WeA07-05

Nonlinear Position Control with Feedforward Low Pass Filters in Permanent Magnet Stepper Motor

Youngwoo Lee (Hanyang University),
Donghoon Shin (Hanyang University),
Wonhee Kim (Hanyang University),
Chung Choo Chung (Hanyang University)

11:45-12:00 WeA07-06

Nonlinear Phenomena and Robust Stability for Discrete Control Systems

Yoshifumi Okuyama (Humanitech Laboratory Co., Ltd.)

WeA08**FLUCOME-J SICE (OS)**

Chairs: Tomonori Kato (Fukuoka Institute of Technology)
Satoshi Honda (Keio University)

G2-302**WeA09****Brain Function in Cognition and Evaluation (OS)**

Chairs: Motoshi Tanaka (Akita University)
Kazuhiro Nakamura (Akita Res. Inst Brain and Blood Vessels)

Kyo3-254

10:30-10:45 WeA08-01

Development of a Recorder-playing Robot Using Unsteady Flow Rate Control Technique

Hiromi Masuda (Fukuoka Institute of Technology),
Tomonori Kato (Fukuoka Institute of Technology),
Kenji Kawashima (Tokyo Institute of Technology),
Toshiharu Kagawa (Tokyo Institute of Technology)

10:30-10:45 WeA09-01

Event-Related Potential in Subjective Evaluation of Picture Quality and Food Appearance

Motoshi Tanaka (Akita University),
Hiroshi Inoue (Akita University),
Yoshitsugu Niiyama (Akita University)

10:45-11:00 WeA08-02

Analysis of the Characteristics of the Pneumatic Active Suspension System in Shinkansen

Kenji Fujino (East Japan Railway Company),
Nobuaki Yamamoto (Tokyo Meter Co., Ltd.),
Koji Taniguchi (Japan Transport Engineering Company),
Chongho Youn (Tokyo Institute of Technology),
Toshiharu Kagawa (Tokyo Institute of Technology)

10:45-11:00 WeA09-02

Extraction of Personal Preferences Implicitly using NIRS

Masanori Kumagai
(Akita Research Institute of Food and Brewing)

11:00-11:15 WeA09-03

Two Analytical Strategies for an fMRI Study on Brain Activity during Sentence Processing

Yosuke Hashimoto (Akita International University),
Kazuhiro Nakamura
(Akita Research Institute for Brain and Blood Vessels),
Yukiko Ueda (Akita University),
Asako Uchibori (Nihon University),
Toshibumi Kinoshita
(Akita Research Institute for Brain and Blood Vessels)

11:00-11:15 WeA08-03

On the Existence of the Optimal Control of Cloud Dynamics

Hirotsada Honda (Keio University)

11:15-11:30 WeA08-04

Toward the improvement of the walking assist system

Hiroki Ishizuka (Meiji University),
Tomonori Hyakawa (Meiji University),
Osamu Oyama (Meiji University)

11:15-11:30 WeA09-04

Objective Assessment for Rehabilitation Recovery Using Functional MRI

Kazuhiro Nakamura
(Akita Research Institute for Brain and Blood Vessels),
Shin Minakata
(Akita Research Institute for Brain and Blood Vessels),
Naoki Kon
(Akita Research Institute for Brain and Blood Vessels),
Hideto Toyoshima
(Akita Research Institute for Brain and Blood Vessels),
Toshibumi Kinoshita
(Akita Research Institute for Brain and Blood Vessels)

11:30-11:45 WeA08-05

Achieving Force Perception in Master-Slave Manipulators Using Pneumatic Artificial Muscles

Hongbing Li (Tokyo Institute of Technology),
Kotaro Tadano (Tokyo Institute of Technology),
Kenji Kawashima (Tokyo Institute of Technology)

11:30-11:45 WeA09-05

Towards a Brain-Computer Interface Controlled by Intrinsic Brain Activations

Shin'ichiro Kanoh (Tohoku Institute of Technology)

11:45-12:00 WeA09-06

Development of Pedestrian Simulator for the Prevention of Traffic Accidents Involving Elderly Pedestrians

Kazutaka Mitobe (Akita University),
Masafumi Suzuki (Akita University),
Noboru Yoshimura (Akita University)

12:00-12:15 WeA09-07

Development of an Algorithm to Detect Saccadic Intrusions As an Index of Mental Workload

Satoru Tokuda (Nagoya University),
Goro Obinata (Nagoya University)

WeA10**System Integration IV**

Chair: Toshiyuki Yasuda (Hiroshima University)
Toshiyuki Yasuda (Hiroshima University)

Kyo3-255**WeA11****Industrial Applications I**

Chair: Akio Ito (Yokogawa Electric Corporation)

Kyo3-343

10:30-10:45 WeA10-01

Learning Effects of Automotive Integrated Switch System using Face Direction

Atsuo Murata (Okayama University),
Youhei Urakami (Okayama University),
Makoto Moriwaka (Okayama University),
Takehito Hayami (Okayama University),
Shinsuke Ueda (Honda R&D Co., Ltd.),
Akio Takahashi (Honda R&D Co., Ltd.)

10:45-11:00 WeA10-02

Effectiveness of Warning Presentation with Directional Cue that Makes Use of Cross-Modal Link

Atsuo Murata (Okayama University),
Yuki Nakagawa (Okayama University),
Takehito Hayami (Okayama University)

11:00-11:15 WeA10-03

Usability of Automotive Integrated Switch System using Face Direction

Atsuo Murata (Okayama University),
Takuya Endoh (Okayama University),
Makoto Moriwaka (Okayama University),
Takehito Hayami (Okayama University),
Shinsuke Ueda (Honda R&D Co., Ltd.),
Akio Takahashi (Honda R&D Co., Ltd.)

11:15-11:30 WeA10-04

Interaction Using the Projector Screen and Spot-light from a Laser Pointer: Handling Some Fundamentals Requirements

Romy Budhi Widodo (Waseda University),
Weijen Chen (Waseda University),
Takafumi Matsumaru (Waseda University)

11:30-11:45 WeA10-05

Fingertips 3D mouse using a camera

Tsukasa Sakata (College of Systems Engineering and Science),
Shima Harigae (College of Systems Engineering and Science),
Masanobu Takahashi
(College of Systems Engineering and Science)

11:45-12:00 WeA10-06

Study on Character Input Methods using Eye-gaze Input Interface

Atsuo Murata (Okayama University),
Kazuya Hayashi (Okayama University),
Makoto Moriwaka (Okayama University),
Takehito Hayami (Okayama University)

10:30-10:45 WeA11-01

Driving Experiment of Front Drive Type Electric Wheelchair using Yaw-rate Control

Yutaro Maruno (Kumamoto University),
Aydin Tarik Zengin (Kumamoto University),
Hiroshi Okajima (Kumamoto University),
Nobutomo Matsunaga (Kumamoto University),
Norihiro Nakamura (Sanwa Hi-Tech Co., Ltd.)

10:45-11:00 WeA11-02

Requirements and Considerations of Energy Harvesting for Industrial Wireless Transmitter

Hisanori Hayashi (Yokogawa Electric Corporation),
Toshitsugu Ueda (Waseda University)

11:00-11:15 WeA11-03

A Study on Design of PLL for Low Phase-Noise Characteristics

Hideyasu Hobara (Akita University),
Yoshiki Kayano (Akita University),
Hiroshi Inoue (Akita University)

11:15-11:30 WeA11-04

Estimation of Corrosion Rates for CUI in petrochemical plants using reliability

Motoki Ichiyama (Waseda University),
Kentaro Yahiro (Waseda University),
Shigeyuki Tateno (Waseda University),
Hisayoshi Matsuyama (Waseda University),
Eiji O'Shima (Waseda University)

WeB01**Networked Sensor**

Chair: Jun-ya Takayama (Shinshu University)

G1-305**WeB02****Recent Progress in Mechanical Metrology (OS)**

Chair: Tokihiko Kobata (AIST)

G1-405

13:00-13:15

WeB01-01

*A Novel RF Time-of-flight Estimation Method for Asynchronous Wireless Sensor Network Nodes*Thanh Phuoc Hong (Tokyo Institute of Technology),
Jun-ya Takayama (Tokyo Institute of Technology),
Shinji Ohyama (Tokyo Institute of Technology)

13:00-13:15

WeB02-01

*Stability of pressure generated by hydraulic pressure balances in NMIJ*Hiroaki Kajikawa (AIST),
Tokihiko Kobata (AIST)

13:15-13:30

WeB01-02

*A Network-Centric Approach to Low-Power Consumption Sensor-network with Related Service Integration*Takafumi Hayashi (University of Aizu),
Hideyuki Fukuhara (Net One Systems Co., Ltd.),
Jiro Yamazaki (Net One Systems Co., Ltd.),
Yodai Watanabe (University of Aizu),
Junya Terazono (University of Aizu),
Taro Suzuki (University of Aizu),
Toshiaki Miyazaki (University of Aizu),
Masayuki Hisada (Aizu Laboratory, Inc.),
Tetsu Saburi (Net One Systems Co., Ltd.),
Hajime Tokura (Net One Systems Co., Ltd.),
Atsushi Kara (University of Aizu),
Jiro Iwase (University of Aizu)

13:15-13:30

WeB02-02

*Self-Optimization of Digital Creep Compensation Parameter for Load Cell*Akitsugu Ohtsuka (Yamato Scale Co., Ltd.),
Toru Kohashi (Yamato Scale Co., Ltd.),
Motoyuki Adachi (Yamato Scale Co., Ltd.)

13:30-13:45

WeB02-03

*Improvement of reproducibility in a calibration of tensile force transducers by using low friction rod-end bearings*Toshiyuki Hayashi (AIST),
Hiroshi Maejima (AIST),
Kazunaga Ueda (AIST)

13:30-13:45

WeB01-03

*Precise Asynchronous RF ToF Measurement Based on Two-Way-Ranging Using Heterogeneous Clocks*Yusuke Saigo (Tokyo Institute of Technology),
Sang-il Ko (Tokyo Institute of Technology),
Jun-ya Takayama (Tokyo Institute of Technology),
Shinji Ohyama (Tokyo Institute of Technology)

13:45-14:00

WeB02-04

*Simplified Flow Rate Estimation by Decentralization of Kalman Filters in Automatic Pouring Robot*Yoshiyuki Noda (University of Yamanashi),
Kazuhiko Terashima (Toyohashi University of Technology)

13:45-14:00

WeB01-04

*Design of Flexible Wireless Sensing Network System for Landslide Disaster Monitoring*Shintaro Taenaka (Ritsumeikan University),
Junki Akiyama (Ritsumeikan University),
Tomokatsu Fujiki (Ritsumeikan University),
Shigeru Takayama (Ritsumeikan University)

14:00-14:15

WeB02-05

*Advantages of the calibration chain for hand torque screwdrivers traceable to the national torque standard*Koji Ogushi (AIST),
Atsuhiko Nishino (AIST),
Koji Maeda (AIST),
Kazunaga Ueda (AIST)

14:00-14:15

WeB01-05

*Coupler Combination for Blind Spot Elimination in Two-Dimensional Waveguide Power Transmission*Akihito Noda (The University of Tokyo),
Hiroyuki Shinoda (The University of Tokyo)

14:15-14:30

WeB02-06

*Basic Study on Dynamic Characteristics for Servo-press Machine*Akihiro Watanabe (Gunma University),
Hisaki Watari (Gunma University),
Takanori Yamazaki (Oyama National College of Technology)

WeB03 **G2-101**
**New Frontiers of Adaptation and Learning
Approaches to Systems and Control (OS)**
Chair: Osamu Kaneko (Kanazawa University)
Chair: Yoshihiro Ohnishi (Ehime University)

13:00-13:15 WeB03-01
*A Simple Redesign of Model Reference Adaptive Control for
State-Delayed Systems with Actuator Failures*
Yoshihiko Miyasato (The Institute of Statistical Mathematics)

13:15-13:30 WeB03-02
A method for smoothing of discontinuous controller
Takashi Nakakuki (Kogakuin University),
Chiharu Ishii (Hosei University)

13:30-13:45 WeB03-03
Performance driven control of DCDC converter for load change
Yoshihiro Ohnishi (Ehime University),
Toru Yamamoto (Hiroshima University)

13:45-14:00 WeB03-04
*Path Planning Using Single Camera and Application for
Time-State Control*
Koki Uehara (Tokyo Denki University),
Koichi Hidaka (Tokyo Denki University)

14:00-14:15 WeB03-05
Adaptive Control Law using Fractional Calculus Systems
Kouyou Sawai (Keio University),
Takahiro Takamatsu (Keio University),
Hiromitsu Ohmori (Keio University)

14:15-14:30 WeB03-06
*Self-repairing control using a nonlinear filter with a finite escape
time*
Masanori Takahashi (Tokai University)

WeB04 **G2-102**
**Optimization and Learning Techniques for Systems
Engineering II (OS)**
Chair: Takashi Okamoto (Chiba University)

13:00-13:15 WeB04-01
Optimizing layout of group robots by phase transition
Teturo Itami (Hiroshima International University)

13:15-13:30 WeB04-02
*A Numerical Constrained Optimization Method via Searching for
Saddle Points of a Lagrangian by Using Artificial Bee Colony
(ABC) Algorithm*
Kenta Ishikawa (Kanagawa University),
Kazuaki Masuda (Kanagawa University),
Kenzo Kurihara (Kanagawa University)

13:30-13:45 WeB04-03
*A Weighting Approach for Autoassociative Memories to
Maximize the Number of Correctly Stored Patterns*
Kazuaki Masuda (Kanagawa University),
Bumpei Fukui (Kanagawa University),
Kenzo Kurihara (Kanagawa University)

13:45-14:00 WeB04-04
*A growing complex network design method with an adaptive
Multi-objective genetic algorithm and an inner link
restructuring method*
Haruki Mizuno (Chiba University),
Takashi Okamoto (Chiba University),
Hironori Hirata (Chiba University)

WeB05**System and Information IV**

Chair: Toshiyuki Yasuda (Hiroshima University)

G2-103**WeB06****Intelligent Robotic Systems III (OS)**Chairs: Feng-Li Lian (National Taiwan University)
Jong-Hann Jean (St. John's University)**G2-203**

13:00-13:15

WeB05-01

A Genetic Algorithm by Using a Matrix Crossover for Determining Classroom Seating Arrangements
Kazuhiro Shinike (Maizuru National College of Technology),
Hitoshi Iima (Kyoto Institute of Technology)

13:00-13:15

WeB06-01

Polar Grid Based Robust Pedestrian Tracking with Indoor Mobile Robot using Multiple Hypothesis Tracking Algorithm
Feng-Min Chang (National Taiwan University),
Feng-Li Lian (National Taiwan University)

13:15-13:30

WeB05-02

Proposal of Fuzzy Evolutionary Algorithms with Fuzzy-Valued Genotypes
Hidehiko Okada (Kyoto Sangyo University)

13:15-13:30

WeB06-02

Development of an Office Delivery Robot with Multimodal Human-Robot Interactions
Jong-Hann Jean (St. John's University),
Chen-Fu Wei (National Taipei University of Technology),
Zheng-Wei Lin (National Taipei University of Technology),
Kuang-Yow Lian (National Taipei University of Technology)

13:30-13:45

WeB05-03

Interval GA for Evolving Neural Networks with Interval Weights and Biases
Hidehiko Okada (Kyoto Sangyo University),
Takashi Matsuse (Kyoto Sangyo University),
Tetsuya Wada (Kyoto Sangyo University),
Akira Yamashita (Kyoto Sangyo University)

13:30-13:45

WeB06-03

Scene Classification Using Unsupervised Neural Networks for Mobile Robot Vision
Hirokazu Madokoro (Akita Prefectural University),
Yuya Utsumi (SoftBank Corp.),
Kazuhito Sato (Akita Prefectural University)

13:45-14:00

WeB05-04

A Learning Control System for Rapid Position Control of Aerial Hovering Vehicles
Syafiq Fauzi Kamarulzaman (University of Tsukuba),
Takeshi Shibuya (University of Tsukuba),
Seiji Yasunobu (University of Tsukuba)

13:45-14:00

WeB06-04

Multiple Hypothesis Tracking for Mobile Robot Localization
Hyukdoon Choi (Yonsei University),
Euntae Kim (Yonsei University),
Yong Woon Park (Agency for Defense Development),
Chong Hui Kim (Agency for Defense Development)

14:00-14:15

WeB05-05

Robust Reinforcement Learning Technique with Bigeminal Representation of Continuous State Space for Multi-Robot Systems
Toshiyuki Yasuda (Hiroshima University),
Koki Kage (Hiroshima University),
Kazuhiro Ohkura (Hiroshima University)

14:00-14:15

WeB06-05

An Improvement on a Teleoperation System of Robot Arm with Visual Servo Mechanism by Target Selection
Yoshitaka Matsuda (Saga University),
Kenta Tsukamoto (Saga University),
Takeo Matsumoto (Saga University),
Satoru Goto (Saga University),
Takenao Sugi (Saga University),
Naruto Egashira (Kurume National College of Technology)

14:15-14:30

WeB06-06

Collaborative Haptic Interaction in Virtual Environment of Multi-Operator Multi-Robot Teleoperation Systems
Nguyen Truong Thanh (Tohoku University),
Xin Jiang (Tohoku University),
Satoko Abiko (Tohoku University),
Teppey Tsujita (Tohoku University),
Atsushi Konno (Hokkaido University),
Masaru Uchiyama (Tohoku University)

WeB07 **G2-301**
Control Theory and Design I

Chairs: Kentaro Yano (Fukuoka Institute of Technology)
Tadashi Ishihara (Fukushima University)

13:00-13:15 WeB07-01
Validated region pole assignment method based on verified numerical computation
Kentaro Yano
(Fukuoka Institute of Technology Junior College),
Masanobu Koga (Kyushu Institute of Technology)

13:15-13:30 WeB07-02
Terminal Sliding Mode Controller for Second Order System Guaranteeing Minimum Convergence Time
Seong-Kyun Jeong (Korea University),
Boram Kim (Korea University),
Kang-Bak Park (Korea University)

13:30-13:45 WeB07-03
Existence and Design of a Strongly Stabilizing Controller for the Pendubot
Xin Xin (Okayama Prefectural University),
Kousuke Juuri (Okayama Medicine Inspection Center)

13:45-14:00 WeB07-04
Guaranteed Cost Controller Design for Multirate Systems
Mitsuaki Ishitobi (Kumamoto University),
Erwin Susanto (Kumamoto University),
Sadaaki Kunimatsu (Kumamoto University)

14:00-14:15 WeB07-05
Design of Optimal Disturbance Cancellation Controllers for a Class of Disturbances via Loop Transfer Recovery
Tadashi Ishihara (Fukushima University),
Hai-Jiao Guo (Tohoku Gakuin University)

14:15-14:30 WeB07-06
Probabilistic Constrained Model Predictive Control for Schrodinger Equation with Finite Approximation
Tomoaki Hashimoto (Osaka University),
Ippei Yoshimoto (Osaka University),
Toshiyuki Ohtsuka (Osaka University)

WeB08 **G2-302**
Navigation, Guidance, and Control in Aerospace Systems (OS)

Chairs: Tsutomu Ichikawa (Japan Aerospace Exploration Agency)
Yoshimasa Ochi (National Defense Academy)

13:00-13:15 WeB08-01
Aiming Accuracy Improvement of a Warship Cannon in Consideration of Ocean Environments
Ju-Hyeon Hong (Inha University),
Sanghyuk Park (Inha University),
Chang-Kyung Ryoo (Inha University),
Young-Duk Song (Hyundai Rotem Company)

13:15-13:30 WeB08-02
PID Controller Design based on FBR and Two-Degree-of-Freedom Optimal Servomechanism
Yoshimasa Ochi (National Defense Academy),
Katsuyuki Tasaki (National Defense Academy)

13:30-13:45 WeB08-03
Prediction of the Parachute Deploy for Landing at the Desired Point
Inhan Kim (Inha University),
Sanghyuk Park (Inha University),
Woosung Park (Inha University),
Chang-Kyung Ryoo (Inha University)

13:45-14:00 WeB08-04
INS Aiding with GNSS and Magnetometer for Unmanned Helicopter using Electric Motor
Gilho Lee (Inha University),
Se-ah Jang (Inha University),
Sungbeom Jo (Inha University),
Jungsung Kim (Inha University),
Keeyoung Choi (Inha University)

14:00-14:15 WeB08-05
An Attitude Determination Method for Satellite by the Use of Image Data of a Phase of a Heavenly Body
Yoshiki Sugawara (Akita University),
Koji Nagasawa (Aoyama Gakuin University),
Nobuyuki Kobayashi (Aoyama Gakuin University)

14:15-14:30 WeB08-06
Sensitivity analysis for the navigation by using the modified estimator
Tsutomu Ichikawa (Japan Aerospace Exploration Agency)

WeB09**Kyo3-254****Maintaining Quality of Life for Elderly People after the Large Disaster (OS)**Chairs: Makoto Yoshizawa (Tohoku University)
Noriyasu Homma (Tohoku University)

13:00-13:15

WeB09-01

Development of Intelligent Seating System for Cerebral Palsy
Kenichi Anzai (Yamagata University),
Takehito Kikuchi (Yamagata University),
Tamotsu Shibuya (Creative Studio)

13:15-13:30

WeB09-02

Developing a Measurement System for Improving Daily Lives of Cycling Wheel Chair Patients
Nobutoshi Hiro (Tohoku University),
Eijiro Takeuchi (Tohoku University),
Kazunori Ohno (Tohoku University),
Satoshi Tadokoro (Tohoku University)

13:30-13:45

WeB09-03

Telemedicine System Necessary in Disaster Areas
Norihiro Sugita (Tohoku University),
Makoto Yoshizawa (Tohoku University),
Hitoshi Kawata (Tohoku University),
Tomoyuki Yambe (Tohoku University),
Satoshi Konno (Tohoku Rosai Hospital),
Yoshifumi Saijo (Tohoku University),
Makoto Abe (Tohoku University),
Noriyasu Homma (Tohoku University),
Shin-ichi Nitta (Professor Emeritus, Tohoku University)

13:45-14:00

WeB09-04

Evaluation of Autonomic Nervous Function for Elderly People Using Electrical Cardiogram and Plethysmogram
Makoto Yoshizawa (Tohoku University),
Norihiro Abe (Tohoku University),
Noriyasu Homma (Tohoku University),
Satoshi Konno (Tohoku University),
Tomoyuki Yambe (Tohoku University),
Shin-ichi Nitta (Tohoku University)**WeB10****Kyo3-255****System Integration V**Chairs: Koichi Osuka (Osaka University)
Mitsuharu Matsumoto
(The University of Electro-Communications)

13:00-13:15

WeB10-01

Target object announcement combining robot gaze and augmented hand
Sayako Hata (The University of Electro-Communications),
Mitsuharu Matsumoto
(The University of Electro-Communications)

13:15-13:30

WeB10-02

Influence of robot appearance, robot behaviors, and actuators on building causality illusion after events
Shinichiro Iwakiri (The University of Electro-Communications),
Mitsuharu Matsumoto
(The University of Electro-Communications)

13:30-13:45

WeB10-03

Base Motions of Muscle-driven Robots for Compositional Action Development
Masakazu Suzuki (Tokai University)

13:45-14:00

WeB10-04

Development of Robot Motion Performance Platform for Auto Generation of Robot Motion Planning
Hiroaki Kato (Chukyo University),
Tomohiro Tsuruta (Chukyo University),
Yuhei Ishihara (Chukyo University),
Masaru Shimizu (Chukyo University),
Manabu Hashimoto (Chukyo University)

14:00-14:15

WeB10-05

Robustness of Walking by Semi Passive Biped Model on Level Slip Surface
Takayuki Suzuki (University of Aizu),
Keitaro Naruse (University of Aizu)

14:15-14:30

WeB10-06

Comparison of Interaction Forces of Robot Arm on Force-free Control and Impedance Control by Model Based Simulations
Achala Pallegedara (Saga University),
Yoshitaka Matsuda (Saga University),
Naruto Egashira (Saga University),
Takenao Sugi (Saga University),
Satoru Goto (Saga University)

WeB11
Industrial Applications II

Kyo3-343

Chair: Yoshiki Kayano (Akita University)

13:00-13:15 WeB11-01

Dynamic primary element compensation for differential pressure flow device using FDT conform configuration software

Akio Ito (Yokogawa Electric Corporation),
Masaru Nakagawa (Yokogawa Electric Corporation),
Yoshihide Suzuki (Yokogawa Electric Corporation),
Etsutaro Koyama (Yokogawa Electric Corporation)

13:15-13:30 WeB11-02

Study on Field Control Locations for Foundation Fieldbus-Based Cascade Control Loop

Amphawan Julsereewong
(King Mongkut's Institute of Technology),
Prasit Julsereewong (King Mongkut's Institute of Technology),
Thipat Dejsiriphant (King Mongkut's Institute of Technology)

13:30-13:45 WeB11-03

Implementation the Performance of Programmable Logic Controller base on Embedded Systems

Suphan Gulpanich (King Mongkut's Institute of Technology),
Taweepol Suesut (King Mongkut's Institute of Technology),
Kitti Tirasesth (King Mongkut's Institute of Technology)

13:45-14:00 WeB11-04

A Retrospective Validation Method for Drug Manufacturing Computerized System using Programmable Logic Controller

Masakazu Takahashi (University of Yamanashi),
Reiji Nanba (Daiichi Institute of Technology)

WeB12
Features for Vision and Action Detection, Recognition, Tracking & Applications (OS)

Kyo3-344

Chairs: Md. Atiqur Rahman Ahad (Kyushu Institute of Technology)
Kunio Takaya (University of Saskatchewan)

13:00-13:15 WeB12-01

Gesture Recognition with Depth Images - A Simple Approach

Upal Mahbub
(Bangladesh University of Engineering and Technology),
Hafiz Imtiaz
(Bangladesh University of Engineering and Technology),
Tonmoy Roy
(Bangladesh University of Engineering and Technology),
Md. Shafiur Rahman
(Bangladesh University of Engineering and Technology),
Md. Atiqur Rahman Ahad (University of Dhaka)

13:15-13:30 WeB12-02

Analysis of Texture Databases

Shahera Hossain (Kyushu Institute of Technology),
Seiichi Serikawa (Kyushu Institute of Technology)

13:30-13:45 WeB12-03

FPGA Based Stereo Vision System to Show Video of Dense Disparity Map

Kunio Takaya (University of Saskatchewan),
Zheng Qian (University of Saskatchewan)

13:45-14:00 WeB12-04

Features for Texture Analysis

Shahera Hossain (Kyushu Institute of Technology),
Seiichi Serikawa (Kyushu Institute of Technology)

WeP02
Poster Session II
13:00-14:30

University Hall

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- WeP02-33
Parallel system using V-Shaped shape memory alloy actuator
Ryota Ishibashi (Tokyo Metropolitan University),
Takahiko Oda (Tokyo Metropolitan University),
Kenji Tahara (Kyushu University),
Hitoshi Kino (Fukuoka Institute of Technology),
Akira Kojima (Tokyo Metropolitan University)
- WeP02-34
Cooperative Control of Multiple Mobile Robot Using Particle Swarm Optimization For Tracking Two Passive Target
Dwi Arman Prasetya (The University of Tokushima),
Takashi Yasuno (The University of Tokushima)
- WeP02-35
The Biomimetic Design of Biped Robotic Feet with Active Compensation Mechanism for Stable Gait Control
Ming-Yuan Shieh (Southern Taiwan University),
Chung-Yu Hsieh (Southern Taiwan University),
Kun-Hung Li (Southern Taiwan University),
Juing-Shian Chiou (Southern Taiwan University)
- WeP02-36
Elasticity detection and display of a grasped object using master-slave system
Makoto Fukuda (Hirosaki University),
Yuuta Suzuki (Hirosaki University)
- WeP02-37
Continuous Traveling Time Prediction using Genetic Network Programming-based Data Mining and Neural Networks
Qin Zhang (Waseda University),
Huiyu Zhou (Waseda University),
Shingo Mabuchi (Waseda University),
Kotaro Hirasawa (Waseda University)
- WeP02-38
Genetic Network Programming with Credit
Wei Xu (Waseda University),
Lutao Wang (Waseda University),
Shingo Mabuchi (Waseda University),
Kotaro Hirasawa (Waseda University)
- WeP02-39
Classification Based on Distribution of Average Matching Degree and Gaussian Function and Its Application to Intrusion Detection
Yuhong Li (Waseda University),
Shingo Mabuchi (Waseda University),
Nannan Lu (Waseda University),
Kotaro Hirasawa (Waseda University)
- WeP02-40
Active Noise Control Systems for Periodic Noise Signals
Cheng-Yuan Chang (Chung Yuan Christian University),
Yi-Hsiang Chiou (Chung Yuan Christian University),
Sen M. Kuo (Northern Illinois University)
- WeP02-41
Novel Score Functions for Interval-valued Intuitionistic Fuzzy Values
Chien-Cheng Tu (National Cheng Kung University),
Liang-Hsuan Chen (National Cheng Kung University)
- WeP02-42
Rotation Immunity Characteristics of Non-contact Fingerprint Recognition Using Local Luminance Variation
Akira Mori (Toyama Prefectural University),
Hironobu Takano (Toyama Prefectural University),
Kiyomi Nakamura (Toyama Prefectural University)
- WeP02-43
An SVM-based Classification of Oral and Nasal Snoring Sounds with Kullback-Leibler Kernel
Tsuyoshi Mikami (Tomakomai College of Technology),
Yohichiro Kojima (Tomakomai College of Technology),
Kazuya Yonezawa (Hakodate National Hospital),
Masahito Yamamoto (Hokkaido University),
Masashi Furukawa (Hokkaido University)
- WeP02-44
Reaction-Diffusion Equation on a Graph and Phase Transition on Bistable Media
Eizo Ueyama (Tsu City College),
Shigeyuki Hosoe (RIKEN)
- WeP02-45
Quaternion Network Inversion for Solving Inverse Problems
Tsubasa Iura (Takushoku University),
Takehiko Ogawa (Takushoku University)
- WeP02-46
Complex-Valued Neural Network for Group-Movement Control of Mobile Robots
Kyouhei Kawashima (Takushoku University),
Takehiko Ogawa (Takushoku University)
- WeP02-47
Study of autonomy created by discrepancy between layers with a hierarchical distributed autonomous robot
Ayano Yoshida (Future University Hakodate),
Shigeru Sakurazawa (Future University Hakodate)

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|---|---|
| <p style="text-align: right;">WeP02-48</p> <p><i>Identification of Surface and Deep Layer Muscles Activity by Surface EMG</i></p> <p>Toshiki Koshio (Future University Hakodate), Shigeru Sakurazawa (Future University Hakodate), Masashi Toda (Future University Hakodate), Junichi Akita (Kanazawa University), Kazuaki Kondo (Kyoto University), Yuichi Nakamura (Kyoto University)</p> | <p style="text-align: right;">WeP02-55</p> <p><i>Non-invasive Self Monitoring of Blood Glucose System Using Near-infrared Spectroscopy</i></p> <p>Hiroki Yoshinari (Shinshu University), Hiroaki Ishizawa (Shinshu University), Masaya Fukuda (Shinshu University), Shota Tokutake (Nishizawa Electric Meters Manufacturing Co., Ltd.), Shouhei Koyama (Shinshu University), Yuki Miyauchi (Shinshu University)</p> |
| <p style="text-align: right;">WeP02-49</p> <p><i>Identification of agitation of an operator during hovering flight of an RC helicopter</i></p> <p>Yuto Fujita (Future University Hakodate), Shigeru Sakurazawa (Future University Hakodate)</p> | <p style="text-align: right;">WeP02-56</p> <p><i>Multi-Robotic System Path Planning Based on RTM</i></p> <p>Ke Wang (Beijing University of Technology), Songmin Jia (Beijing University of Technology), Yuchen Li (Beijing University of Technology), Xiuzhi Li (Beijing University of Technology)</p> |
| <p style="text-align: right;">WeP02-50</p> <p><i>Dynamic Stability of Rhythmic Forearm Movements in the Vertical Plane</i></p> <p>Taiga Yamasaki (Okayama Prefectural University), Naohiro Nakada (Okayama Prefectural University), Xin Xin (Okayama Prefectural University)</p> | <p style="text-align: right;">WeP02-57</p> <p><i>DSLAM: Towards a Real-Time Robot Mapping Approach</i></p> <p>Xiuzhi Li (Beijing University of Technology), Songmin Jia (Beijing University of Technology), Wei Cui (Beijing University of Technology), Xiaolin Yin (Beijing University of Technology)</p> |
| <p style="text-align: right;">WeP02-51</p> <p><i>Packet Train Pair: A fast and efficient technique for measuring available bandwidth in the Internet</i></p> <p>Hitoshi Obara (Akita University), Shouto Koseki (Akita University), Pavel Selin (Akita University)</p> | <p style="text-align: right;">WeP02-58</p> <p><i>A Distributed Autonomous Control Architecture for Synchronization and Coordination of Multiple Robot Systems</i></p> <p>Gen'ichi Yasuda (Nagasaki Institute of Applied Science)</p> |
| <p style="text-align: right;">WeP02-52</p> <p><i>Real Time Doze Detection Method Using Closed Eye Time During Blink Burst and Isolated Blinks</i></p> <p>Kazuhiro Naito (Toyama Prefectural University), Takahiro Ishioka (Toyama Prefectural University), Hironobu Takano (Toyama Prefectural University), Kiyomi Nakamura (Toyama Prefectural University)</p> | <p style="text-align: right;">WeP02-59</p> <p><i>Biped Walking with Stretched Knee based on Inverse Kinematics via Virtual Prismatic Joint and I Preview Control</i></p> <p>Kohei Yoshida (Kumamoto University), Sadaaki Kunimatsu (Kumamoto University), Mitsuaki Ishitobi (Kumamoto University)</p> |
| <p style="text-align: right;">WeP02-53</p> <p><i>Trial of High Myopia Disease Classification Using MRI and Prototyping of Image Analysis Software</i></p> <p>Toshio Modegi (Dai Nippon Printing Co., Ltd.), Jun'ichi Kondo (Dai Nippon Printing Co., Ltd.), Yoichi Takahashi (Dai Nippon Printing Co., Ltd.), Muka Moriyama (Tokyo Medical and Dental University), Kyoko Ohno-Matsui (Tokyo Medical and Dental University), Ikuo Morita (Tokyo Medical and Dental University)</p> | <p style="text-align: right;">WeP02-60</p> <p><i>Visual Servoing Tasks to Improve Estimation of a PE-condition-based Depth Observer</i></p> <p>Masahide Ito (Seikei University), Masaaki Shibata (Seikei University)</p> |
| <p style="text-align: right;">WeP02-54</p> <p><i>Study of Fixed Points in Pulse rate Measurement by FBG sensor</i></p> <p>Shingo Sato (Shinshu University), Hiroaki Ishizawa (Shinshu University), Atsushi Hattori (Shinshu University), Yuki Miyauchi (Shinshu University)</p> | <p style="text-align: right;">WeP02-61</p> <p><i>Relaxation Effect of Flashing of Firefly Robots Self-Organized by Entrainment Phenomena in Nonlinear Oscillations</i></p> <p>Shigeru Sakurazawa (Future University Hakodate), Hiroko Nishi (Future University Hakodate)</p> |
| <p style="text-align: right;">WeP02-54</p> <p><i>Study of Fixed Points in Pulse rate Measurement by FBG sensor</i></p> <p>Shingo Sato (Shinshu University), Hiroaki Ishizawa (Shinshu University), Atsushi Hattori (Shinshu University), Yuki Miyauchi (Shinshu University)</p> | <p style="text-align: right;">WeP02-62</p> <p><i>Suboptimal Q value-based Dynamic Programming for Road Networks</i></p> <p>Feng Wen (Waseda University), Shingo Mabu (Waseda University), Kotaro Hirasawa (Waseda University)</p> |

WeP02-63

Shape recognition performance analysis and improvement in Sendzimir rolling mills

Chul Su Jung (Pusan National University),
Jung Hyun Park (Pusan National University),
Seong Ik Han (Pusan National University),
Jong Shik Kim (Pusan National University)

WeP02-64

Distinction of Road Surface Conditions based on RGB Color Space at Night-time using a Car-Mounted Camera

Shohei Kawai (University of Toyama),
Keiji Shibata (University of Toyama),
Yuukou Horita (University of Toyama)

WePL03
Plenary Talk III
15:00-16:00

Kyo3-145

Chair: Hiroki Murakami (IHI Corporation)

Robot & Remote-Controlled Machine Technology for Response of Disasters and Accidents of Nuclear Power Plants

Dr. Hajime Asama (University of Tokyo)

Technical Program
Thursday, August 23

ThPL04

Plenary Talk IV

9:00-10:00

Chair: Koichiro Deguchi (Tohoku University)

Robust 3-D Vision Techniques: Algorithms and Applications
Dr. In So Kweon (KAIST)

Kyo3-145

ThA01

Inverse Problems in Measurements I (OS)

Chairs: Satoshi Honda (Keio University)
Tadashi Ito (Gunma University)

G1-305

10:30-10:45

ThA01-01

Interpolation missing cone of conical reconstruction with iterative phase retrieval algorithm

Motonobu Hommi (Keio University),
Kazuo Kikuchi (Comscan Tecno Co., Ltd.),
Toshiyuki Tanaka (Keio University)

10:45-11:00

ThA01-02

Measurement of Body Fat Distribution by Using 3-D Electrical Impedance Tomography -Some Improvements on Reconstruction Algorithm-

Tadashi Ito (Gunma University),
Tokichika Inose (Gunma University),
Kazuo Takashima (Gunma University)

11:00-11:15

ThA01-03

Evaluating Plant Growth by Using Electrical Impedance Tomography

Kenji Kobata (Keio University),
Satoshi Honda (Keio University)

11:15-11:30

ThA01-04

Kernel Density Estimation via Sobolev Norms

Hirota Honda (Keio University)

ThA02**Advanced Pattern Measurement I (OS)**

Chairs: Hiroyuki Ukida (The University of Tokushima)
Yoshimitsu Aoki (Keio University)

G1-405**ThA03****Human Assistive Technologies I (OS)**

Chairs: Hiroshi Hashimoto
(The Advanced Institute of Industrial Technology)
Satoshi Suzuki (Tokyo Denki University)

G2-101

10:30-10:45

ThA02-01

Interactive Image Resizing Based on Gradient Intensity and Color Saliency

Hironori Takimoto (Okayama Prefectural University),
Yasue Mitsukura (Keio University),
Hitoshi Yamauchi (Okayama Prefectural University),
Mitsuru Jindai (Okayama Prefectural University),
Akihiro Kanagawa (Okayama Prefectural University)

10:30-10:45

ThA03-01

Possibility of Wireless Sensor Chip without External Antenna Using 30GHz Phased Array Reader

Takuya Okuyama (The University of Tokyo),
Yasuaki Monnai (The University of Tokyo),
Hiroyuki Shinoda (The University of Tokyo)

10:45-11:00

ThA02-02

Object Tracking System by Adaptive Pan-tilt-zoom Cameras and Arm Robot

Hiroyuki Ukida (The University of Tokushima),
Yasuhiro Terama (The University of Tokushima),
Hiroki Ohnishi (The University of Tokushima)

10:45-11:00

ThA03-02

The intelligent space for the elderly – Implementation of fall detection algorithm

Somchanok Tivatansakul (Shibaura Institute of Technology),
Sikana Tanupaprungsun
(King Mongkut's University of Technology),
Katchaguy Areekijseree
(King Mongkut's University of Technology),
Tiranee Achalakul (King Mongkut's University of Technology),
Kazuki Hirasawa (Shibaura Institute of Technology),
Shinya Sawada (Shibaura Institute of Technology),
Atsushi Saito (Shibaura Institute of Technology),
Michiko Ohkura (Shibaura Institute of Technology)

11:00-11:15

ThA02-03

Cell Tracking Algorithm using the Phase Contrast Microscopy Image

Sho Sakuma (Keio University),
Toshiyuki Tanaka (Keio University)

11:00-11:15

ThA03-03

Evaluation of the Interaction between Human and Power Assist Orthosis

Chikara Nagai (Nagoya University),
Hiroki Ilioka (Nagoya University),
Goro Obinata (Nagoya University),
Youngwoo Kim (Nagoya University)

11:15-11:30

ThA02-04

Frontal Face Detection with Evolutionary Template Matching

Junya Sato (Iwate University),
Takuya Akashi (Iwate University)

11:30-11:45

ThA02-05

Lateral and rotational displacement measurement using dual mode reflector and multizeros optical beam

Yuichiro Yada (The University of Tokyo),
Toru Kurihara (The University of Tokyo),
Shigeru Ando (The University of Tokyo)

11:15-11:30

ThA03-04

Simulation of Human Walking with Powered Orthosis for Keeping Balance of Upper Body

Yoshiho Uchiyama (Nagoya University),
Goro Obinata (Nagoya University),
Chikara Nagai (Nagoya University),
Youngwoo Kim (Nagoya University)

11:30-11:45

ThA03-05

Estimating standing-up motion by using foot pressure to assist standing up for the elderly

Chikamune Wada (Kyushu Institute of Technology),
Makoto Tokunaga (Kyushu Institute of Technology)

ThA04**Vehicle Control**

Chairs: Ryosuke Masuda (Tokai University)
Masami Iwase (Tokyo Denki University)

G2-102**ThA05****System Integration VI**

Chair: Masashi Konyo (Tohoku University)

G2-103

10:30-10:45 ThA04-01

Torque Estimation for Combustion Engine Using Nonlinear Model

Kouji Higashi (Tokyo Denki University),
Yuzuru Itoh (Tokyo Denki University),
Masami Iwase (Tokyo Denki University)

10:30-10:45 ThA05-01

Clustering and Modeling of Hazardous or Non-hazardous Sound in Daily Life

Ken Suzuki (Akita University),
Motoshi Tanaka (Akita University),
Hiroshi Inoue (Akita University)

10:45-11:00 ThA04-02

Synchronized Move Generation for a Hydraulic Tilting Train using a Delta RMC Controller

Ho-Yeon Kim (Konkuk University),
Chul-Goo Kang (Konkuk University),
Bong-Tak Kim (Shalom Engineering Co. Ltd),
Jun-Ho Lee (Korea Railroad Research Institute),
Sung-Ho Han (Korea Railroad Research Institute)

10:45-11:00 ThA05-02

Measuring Visio-Tactile threshold for Visio-Tactile Projector

Kazuma Yoshino (The University of Tokyo),
Keisuke Hasegawa (The University of Tokyo),
Hiroyuki Shinoda (The University of Tokyo)

11:00-11:15 ThA04-03

Mobile Detecting Robot with IPCam Feedback

Hou-Tsan Lee
(Takming University of Science and Technology),
Hsiang-lin Tsai
(Takming University of Science and Technology),
Zhong-Quan Chen
(Takming University of Science and Technology),
Yu-Ting Jiang (Takming University of Science and Technology),
Jia-Xing He (Takming University of Science and Technology),
Yu-Chi Lin (Takming University of Science and Technology)

11:00-11:15 ThA05-03

Support System for Pocket Billiards -Estimation of 3D cue direction-

Kyohei Takita (Shibaura Institute of Technology),
Noriaki Hashimoto (Shibaura Institute of Technology),
Masanobu Takahashi (Shibaura Institute of Technology)

11:15-11:30 ThA04-04

A Sliding Mode Control for Slip Ratio of Electric Vehicle

Shaobo Li (University of Tsukuba),
Ko Nakamura (University of Tsukuba),
Tohru Kawabe (University of Tsukuba),
Koichi Morikawa (Bosch Corporation)

11:15-11:30 ThA05-04

Melody Generation System Based on Generalization by Human Causal Intuition

Hidefumi Ohmura
(JST ERATO Okanoya Emotional Information Project),
Takuro Shibayama (Riken Brain Science Institute),
Tatsuji Takahashi (Riken Brain Science Institute),
Satoshi Shibuya (Riken Brain Science Institute),
Kazuo Okanoya
(JST ERATO Okanoya Emotional Information Project),
Kiyoshi Furukawa (The University of Tokyo of the Arts)

11:30-11:45 ThA04-05

Ride Comfort Performance of Electric Vehicle Conversion with Active Suspension System

Saiful Anuar Abu Bakar (Tokai University),
Ryosuke Masuda (Tokai University),
Hiromu Hashimoto (Tokai University),
Takeshi Inaba (Universiti Teknologi Malaysia),
Hishamuddin Jamaluddin (Universiti Teknologi Malaysia),
Roslan Abd. Rahman (Universiti Teknologi Malaysia),
Pakharuddin Mohd. Samin (Universiti Teknologi Malaysia)

11:30-11:45 ThA05-05

Designing a Control System using SysML and Simulink

Takashi Sakairi (IBM Japan),
Eldad Palachi (IBM Israel),
Chaim Cohen (IBM Israel),
Yoichi Hatsutori (IBM Japan),
Junya Shimizu (IBM Japan),
Hisashi Miyashita (IBM Japan)

11:45-12:00 ThA04-06

Experiment of Height and Attitude Control Using Monorotor Unmanned Aerial Vehicle

Shohei Fujita (Tokyo Institute of Technology),
Kazuma Sekiguchi (Tokyo Institute of Technology),
Mitsuji Sampei (Tokyo Institute of Technology)

11:45-12:00 ThA05-06

Sensorless Speed Control of Permanent Magnet Synchronous Motor Using Unscented Kalman Filter

Cheol Moon (Pusan National University),
Chang Ho Chae (Pusan National University),
Kee Hyun Nam (Pusan National University),
Mun Kyu Jung (Pusan National University),
Young Ahn Kwon (Pusan National University)

ThB01**G1-305****Inverse Problems in Measurements II (OS)**Chairs: Kenbu Teramoto (Saga University)
Takaaki Nara (The University of Electro-Communications)**ThB02****G1-405****Advanced Pattern Measurement II (OS)**Chairs: Hironori Takimoto (Okayama Prefectural University)
Yoshimitsu Aoki (Keio University)

13:00-13:15

ThB01-01

*Dynamic shear-strain analysis of A0 mode Lamb wave field in composite materials with through hole*Kenbu Teramoto (Saga University),
Mahabub Hasan (Saga University),
Temma Miyanari (Saga University)

13:00-13:15

ThB02-01

*Time-Domain Weighted Spectral Matching by Nonlinear Wavelength Sweeping*Akira Kimachi (Osaka Electro-Communication University),
Motonori Doi (Osaka Electro-Communication University),
Shogo Nishi (Osaka Electro-Communication University)

13:15-13:30

ThB01-02

*Super-resolution Reconstruction Algorithm Using Vibro-imaging and Correlation Image Sensor*Naotsuna Fujimori (The University of Tokyo),
Shigeru Ando (The University of Tokyo)

13:15-13:30

ThB02-02

*Hybrid Visual Tracking and Model-based Alignment using 6-DOF Sensor*Taiki Fuji (Tokyo University of Agriculture and Technology),
Yasue Mitsukura (Keio University)

13:30-13:45

ThB01-03

Weighted integral method using finite Laplace transform: direct estimation of damped sinusoidal parameters from transient waveform

Shigeru Ando (The University of Tokyo)

13:30-13:45

ThB02-03

*An Entertainment Robot Based on Head Pose Estimation and Facial Expression Recognition*Koichi Takahashi (Keio University),
Yasue Mitsukura (Keio University)

13:45-14:00

ThB01-04

*Iterative Minimum Norm Methods for MEG Inverse Problem*Tadashi Kitahara (Keio University),
Satoshi Honda (Keio University)

13:45-14:00

ThB02-04

*Tracking of eye movement by time series analysis*Takuya Ito (Keio University),
Toshiyuki Tanaka (Keio University)

14:00-14:15

ThB01-05

*An Explicit Method for the Magnetoencephalography Inverse Problem Based on Data Continuation*Takaaki Nara (The University of Electro-Communications),
Haruhiko Sato (The University of Electro-Communications),
Kaoru Amano (The University of Tokyo),
Tsunehiro Takeda (The University of Tokyo)

ThB03**Human Assistive Technologies II (OS)**

Chairs: Hiroshi Hashimoto
 (The Advanced Institute of Industrial Technology)
 Daisuke Chugo (Kwansei Gakuin University)

G2-101**ThB04****Energy and Power Control**

Chairs: Kohji Higuchi
 (The University of Electro-Communications)
 Yutaka Iino (Tokyo Institute of Technology)

G2-102

13:00-13:15

ThB03-01

Assistive Wheelchair Caster Unit for Step Climbing - Improvement of Design -

Sho Yokota (Setsunan University),
 Hiroyuki Tanimoto (Setsunan University),
 Junki Heguri (Setsunan University),
 Kyohei Yamaguchi (Setsunan University),
 Daisuke Chugo (Kwansei Gakuin University),
 Hiroshi Hashimoto
 (Advanced Institute of Industrial Technology)

13:00-13:15

ThB04-01

Simulation Model of Evaporator and Separator in OTEC Plant Using Uehara Cycle for Liquid Level Control

Satoru Goto (Saga University),
 Daichi Iseri (Saga University),
 Yoshitaka Matsuda (Saga University),
 Takenao Sugi (Saga University),
 Takafumi Morisaki (Saga University),
 Yasuyuki Ikegami (Saga University)

13:15-13:30

ThB03-02

Design and Implementation of an Active Robotic Walker for Parkinson's Patients

Ming-Fang Chang (National Taiwan University),
 Wei-Hao Mou (National Taiwan University),
 Chien-Ke Liao (National Taiwan University),
 Li-Chen Fu (National Taiwan University)

13:15-13:30

ThB04-02

Strategy Identification of Energy Users in Real Time Electricity Market and Demand Response

Yutaka Iino (Tokyo Institute of Technology),
 Takeshi Hatanaka (Tokyo Institute of Technology),
 Masayuki Fujita (Tokyo Institute of Technology)

13:30-13:45

ThB03-03

Simplified SLAM using reflection intensity of laser range sensor with retro-reflective marker

Takahiko Nakamura (Tokyo Denki University),
 Satoshi Suzuki (Tokyo Denki University)

13:30-13:45

ThB04-03

Asynchronous Distributed Optimization of Smart Grid

Taylan Ayken (Tokyo Institute of Technology),
 Jun-ichi Imura (Tokyo Institute of Technology)

13:45-14:00

ThB03-04

A new proposal for self-localization of mobile robot by self-contained 2D barcode landmark

Hiroyuki Kobayashi (Osaka Institute of Technology)

13:45-14:00

ThB04-04

Energy Efficient Cooling in Data Center Using Optimization Approach

Masayuki Nakamura
 (NTT Energy and Environment Systems Laboratories),
 Ryota Nakamura
 (NTT Energy and Environment Systems Laboratories),
 Ryuichi Nishida (NTT Facilities, Inc.),
 Akira Takeuchi
 (NTT Energy and Environment Systems Laboratories),
 Tetsuya Tominaga
 (NTT Energy and Environment Systems Laboratories)

14:00-14:15

ThB03-05

Partially decentralized self localization for a herd of mobile robots with an external observer

Hisato Furubayashi (Osaka Institute of Technology),
 Hiroyuki Kobayashi (Osaka Institute of Technology)

14:00-14:15

ThB04-05

Design of a Robust Digital Controller for a PFC Boost Converter

Yuto Adachi (The University of Electro-Communications),
 Yoshihiro Ohta (The University of Electro-Communications),
 Tatsuyoshi Kajikawa
 (The University of Electro-Communications),
 Kohji Higuchi (The University of Electro-Communications)

14:15-14:30

ThB04-06

Novel isolate DC-DC Converters with current circulating circuit

EunSeok Cho
 (Seoul National University of Science & Technology),
 Yong-Keun Lee (Seoul University of Sciency & Technology)

ThB05 G2-103**System Integration VII**

Chairs: Masashi Konyo (Tohoku University)
Yoshiki SUGAWARA (Akita University)

13:00-13:15 ThB05-01

Teleoperation with Inverse Dynamics Control for PHANToM Omni Haptic Device

Thitipong Sansanayuth (Thammasat University),
Itthisek Nilkhamhang (Thammasat University),
Kanokvate Tungpimolrat (NSTDA)

13:15-13:30 ThB05-02

An RC Helicopter Autonomous Control System with Single Web Camera

Tong Ye (Tohoku University),
Shogo Arai (Tohoku University),
Koichi Hashimoto (Tohoku University)

13:30-13:45 ThB05-03

Autonomous Flight Control of RC Helicopter With Wind Disturbance

Yoshikazu Furusawa (Tohoku University),
Shogo Arai (Tohoku University),
Koichi Hashimoto (Tohoku University)

13:45-14:00 ThB05-04

A Parallel Gripper with Capability to Use Various Tools

Takahiro Akaike (Yamagata University),
Yuichi Tsumaki (Yamagata University),
Riichiro Tadakuma (Yamagata University),
Mitsuhiro Yamano (Yamagata University)

14:00-14:15 ThB05-05

Effects of Penalty and Probability of Punishment on Cooperative Behavior in 2-person Prisoner's Dilemma Situation

Atsuo Murata (Okayama University),
Takuma Kanagawa (Okayama University),
Naoki Hata (Okayama University),
Takehito Hayami (Okayama University)

14:15-14:30 ThB05-06

Development of Combined-Type Continuous Variable Transmission with Quadric Crank Chains and One-Way Clutches

Toshihiro Yukawa (Iwate University),
Taisuke Takahashi (Iwate University),
Yuki Satoh (Iwate University),
Shuzo Ohshima (Iwate University)

ThC01 G1-305**Life Engineering**

Chair: Mamoru Iwaki (Niigata University)

15:00-15:15 ThC01-01

A Study on Diagnostic Capability of Simultaneous Measurement of Electrogastrography and Heart Rate Variability for Gastroesophageal Reflux Disease

Ryo Yoshida (Akita University),
Keita Takahashi (Akita University),
Hiroshi Inoue (Akita University),
Akira Kobayashi
(The Health Care Facility for the Elderly / Honobono-en)

15:15-15:30 ThC01-02

A Quantitative Research for Dependence upon Viscosity of Fluid Diets by Measuring Gastric Myoelectrical Activity

Keita Takahashi (Akita University),
Ryo Yoshida (Akita University),
Hiroshi Inoue (Akita University),
Akira Kobayashi
(The Health Care Facility for the Elderly / Honobono-en)

15:30-15:45 ThC01-03

A Study of Stimulation Methods in Visual Evoked Potential Based Brain-Computer Interface

Takashi Mizoguchi (Kyushu Institute of Technology),
Gaku Takahashi (Kyushu Institute of Technology),
Katsuhiko Inoue (Kyushu Institute of Technology)

15:45-16:00 ThC01-04

Body Sway Synchronized with Periodic Movement of Sound Source in Binaural Listening

Mamoru Iwaki (Niigata University),
Keisuke Tokunaga (Niigata University),
Tohru Kiryu (Niigata University)

ThC02**Advanced Pattern Measurement III (OS)**

Chairs: Hiroyuki Ukida (The University of Tokushima)
Hironori Takimoto (Okayama Prefectural University)

G1-405**ThC03****Human Assistive Technologies III (OS)**

Chairs: Sho Yokota (Setsunan University)
Hiroshi Hashimoto
(The Advanced Institute of Industrial Technology)

G2-101

15:00-15:15

ThC02-01

Analysis of the Interaction between Image and Music focused on Physical features

Keiko Sato (Ritsumeikan University),
Yasue Mitsukura (Keio University)

15:15-15:30

ThC02-02

Image Feature Extraction Method with SIFT to Diagnose Prostate Cancer

Yoshiteru Toki (Keio University),
Toshiyuki Tanaka (Keio University)

15:30-15:45

ThC02-03

Normal Vector Vibration Imaging using A Correlation Image Sensor

Toru Kurihara (The University of Tokyo),
Takuya Maeda (The University of Tokyo),
Shigeru Ando (The University of Tokyo)

15:45-16:00

ThC02-04

Algorism of extracting nuclear and membrane for diagnosing early breast cancer

Shunsuke Tomiyama (Keio University),
Toshiyuki Tanaka (Keio University)

15:00-15:15

ThC03-01

Evaluating input graphical parameters for the training phase of designing an intelligent emotional vector deducing engine

Wasantha Udayakumara Samarathunga
(Tokyo University of Technology),
Koji Makino (Tokyo University of Technology),
Hiroshi Hashimoto
(Advanced University of Industrial Technology),
Yasuhiro Ohyama (Tokyo University of Technology)

15:15-15:30

ThC03-02

Vision based Object Recognition of Mobile Robot with Kinect 3D Sensor in Indoor Environment

Ryo Tanabe
(Tokyo Metropolitan College of Industrial Technology),
Meifen Cao
(Tokyo Metropolitan College of Industrial Technology),
Toshiyuki Murao
(Advanced University of Industrial Technology),
Hiroshi Hashimoto
(Advanced Institute of Industrial Technology)

15:30-15:45

ThC03-03

Human Motion Tracking of Mobile Robot with Kinect 3D Sensor

Eiji Machida
(Tokyo Metropolitan College of Industrial Technology),
Meifen Cao
(Tokyo Metropolitan College of Industrial Technology),
Toshiyuki Murao
(Advanced University of Industrial Technology),
Hiroshi Hashimoto
(Advanced Institute of Industrial Technology)

15:45-16:00

ThC03-04

Evaluation of sensibility to robots approach using stereovision

Takuya Shimadu (Tokyo Denki University),
Keiko Kasakawa (Cresco Co., Ltd.),
Satoshi Suzuki (Tokyo Denki University)

ThC04**Control Theory and Design II**

Chair: Naoyuki Hara (Osaka Prefecture University)
Tomomichi Hagiwara (Kyoto University)

G2-102**ThC05****System Integration VIII**

Chair: Takashi Yoshimi (Shibaura Institute of Technology)

G2-103

15:00-15:15

ThC04-01

On the parameters of stabilizing switching laws for continuous-time switched linear systems

Naoyuki Hara (Osaka Prefecture University),
Keiji Konishi (Osaka Prefecture University)

15:00-15:15

ThC05-01

Multirate Sampling - Based Leader-Following Formation Navigation with Relative Information

Manabu Suzuki (The University of Electro-Communications),
Kazushi Nakano (The University of Electro-Communications),
Kazunori Sakurama
(The University of Electro-Communications)

15:15-15:30

ThC04-02

Tuning of PID Controller Added to State Feedback Control for Unstable Single-Input Multivariable Plants

Yoshihiro Matsui (Tokyo National College of Technology),
Shunichi Akamatsu (Tokyo National College of Technology),
Tomohiko Kimura (Tokyo National College of Technology),
Kazushi Nakano (The University of Electro-Communications)

15:15-15:30

ThC05-02

A Study of Japanese Tea Caddy Lid Opening by Robot Arm

Motoki Hirayama (Shibaura Institute of Technology),
Takashi Yoshimi (Shibaura Institute of Technology),
Makoto Mizukawa (Shibaura Institute of Technology),
Yoshibobu Ando (Shibaura Institute of Technology)

15:30-15:45

ThC04-03

Design and Implementation of Multivariable Robust PID Control for an Active Gait Trainer

Fu-Cheng Wang (National Taiwan University),
Chung-Huang Yu (National Yang-Ming University),
Chia-Hui Chen (National Taiwan University)

15:30-15:45

ThC05-03

Swarm Quadrotor Robots for Telecommunication Network Coverage Area Expansion in Disaster Area

M Sakti Alvissalim (Universitas Indonesia),
Big Zaman (University of Indonesia),
Ahmad Hafizh Z (University of Indonesia),
M. Anwar Ma'sum (University of Indonesia),
Grafika Jati (University of Indonesia),
Wisnu Jatmiko (University of Indonesia),
Petrus Mursanto (University of Indonesia)

15:45-16:00

ThC04-04

Nonlinear Sampled-Data Controller Redesign with an Observer for a 3-DOF Model Helicopter

Keisuke Takamuku (Kumamoto University),
Mitsuaki Ishitobi (Kumamoto University),
Masatoshi Nishi (Kumamoto University),
Sadaaki Kunimatsu (Kumamoto University)

15:45-16:00

ThC05-04

A New MEMS Gyro North Finding Approach Using LSM for Mobile Robot Heading Detection

Yuanlong Wei (Pusan National University),
Mincheol Lee (Pusan National University)

16:00-16:15

ThC04-05

Quasi-Finite-Rank Approximation of Compression Operators Based on $L [0, h]$ -Induced Norm

Jung Hoon Kim (Kyoto University),
Tomomichi Hagiwara (Kyoto University)

16:00-16:15

ThC05-05

Simulator for Control and Automation using an interactive and configurable 3D virtual environment

Adolfo J. Sanchez del Pozo (University of Seville),
Juan Manuel Escano (University of Seville),
Carlos Bordons (University of Seville)

16:15-16:30

ThC05-06

Mechanisms of a Cyclo Gear Reducer with Several Gear Ratios

Toshihiro Yukawa (Iwate University),
Masaharu Kaneko (Iwate University)