## Universal Contents Creation/Distribution and Intelligent System

**TH-A1**

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**Chair:** Katsuhiro Honda, *Osaka Prefecture University*

**Room A**

### Dec. 9 (Thu)

9:00 - 10:40

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## Human Symbiotic System I

**TH-B1**

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**Co-Chairs:** YoichiroMaeda, HiroyukiInoue, *University of Fukui*

**Room B**

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## Wide View of Soft Computing - Fundamentals and Application -

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**Chair:** YasunoriEndo, *University of Tsukuba*

**Room C**

### Dec. 9 (Thu)

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**Plenary Talk I**

- Keigo Watanabe, Okayama University
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**Chair:** Room A

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**Co-Chairs:** Hiroyuki Inoue, Yoichiro Maeda, University of Fukui

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### TH-C3  Pattern Classification and Clustering I  Dec. 9 (Thu)  13:00 - 14:40

**Chair:** Yuchi Kanzawa, Shibaura Institute of Technology

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### TH-D3  Intelligent Vehicle Systems  Dec. 9 (Thu)  13:00 - 14:40

**Co-Chairs:** Naoki Suganuma, Kanazawa University, Masatoshi Hatano, Nihon University

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Yu Wang, Nagoya University  
Wenzhen Shi, Tetsuhisa Oda, Aichi Institute of Technology

**TH-E3-2:** The History and the Revision of the Transformation by Integration and Intersection TII: Transformation Procedure from the Two Dimensional Fuzzy Logic Space to the Numerical Truth Value Space  
Tetsuhisa Oda, Aichi Institute of Technology

**TH-E3-3:** Correlation Analysis in a Large-scale Professional Body - Voting Behavior and the Autonomy of JICPA Members  
Kazuhiro Okazaki, Aichi Institute of Technology

**TH-E3-4:** An Investigation about the Influence of the Conversion into Electric Vehicle on Automotive Industry in Tokai Area, Japan  
Akira Yoshimari, Tokimasa Goto, Tatsuya Komin, Aichi Institute of Technology  
Masahiro Nagai, Aichi Prefectural University  
Shigeru Tomita, CALIO Engineering Inc. and CALIO Trading Co. Ltd.

**TH-E3-5:** Implementing I/O-automaton Specifications on Erlang  
Yoshinobu Kawabe, Jun Zhao, Aichi Institute of Technology

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Masayasu Atsumi, Soka University

**TH-F3-2:** A Study on Evaluation of Eligibility Trace in Instruction Method for Fuzzy Q-learning Agent  
Toru Sawa, Toshihiko Watanabe, Osaka Electro-Communication University

**TH-F3-3:** Mental State Calculation Method from Aroused Emotions by Using Mental Causation  
Kazuya Mera, Hiroshima City University  
Takumi Ichimura, Prefectural University of Hiroshima

**TH-F3-4:** Feature Extraction Based on Space Folding Model and Application to Machine Learning  
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**TH-F3-5:** A Proposal of Analogical Reasoning Based on Structural Mapping and Image Schemas  
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Kayano Umezawa, Ichiro Kobayashi, Ochanomizu University

**TH-A4-2:** Visualization System for Co-authorship Networks to Get Insight into Future Research Activities  
Takeshi Kurosawa, Yasufumi Takama, Tokyo Metropolitan University

**TH-A4-3:** DVD Recommendation System Using CFS  
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**TH-A4-4:** Kansei J-POP Hit Factors Analysis  
Toshihiro Kaino, Aoyama Gakuin University, Tomohiro Suzuki, DHL Japan, Inc.

**TH-A4-5:** Time-series Analysis of Communities Using Adaptive Graph Kernels in Data Streams  
Takehiro Yamaguchi, Ayahiko Niimi, Future University Hakodate
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<td>TH-D4-6</td>
<td>Assessment of Coronary Artery Bypass Grafting Based on the Dynamics Characteristics of the Vascular System: Verification by Computer Simulation</td>
<td>Hayato Koba, Yoshiyuki Sankai, University of Tsukuba, Kin-ichi Nakata, Yukihiro Orime, Tatsuya Takamori, Nihon University</td>
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### TH-E4: Medical Systems

**Chair:**

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<td>TH-E4-1</td>
<td>Medical Image Diagnosis of Liver Cancer Using Multi-layered GMDH-type Neural Network</td>
<td>Takashi Kondo, Junji Ueno, The University of Tokushima</td>
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<td>TH-E4-2</td>
<td>Using Morphology Methods to Detect Blood Cancer Cells</td>
<td>Huimin Lu, Yujie Li, Yuhki Kitazono, Lifeng Zhang, Seiichi Serikawa, Kyushu Institute of Technology</td>
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<td>TH-E4-3</td>
<td>A Study on Brain Information Processing Mechanism for Music Genre Distinction</td>
<td>Seung-Min Park, Jun-Heong Park, Chung-Ang University</td>
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<td>TH-E4-4</td>
<td>Experimental Study of Single-plate EWOD Device for a Droplet Based PCR System</td>
<td>Kessararat Ugsornrat, King Kangkut's University of Technology North bangkok, Thitima Maturos, Tawee Pogfai, Amurat Visitsorat, Adisorn Tuantranont, National Electronics and Computer Technology Center</td>
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<tr>
<td>TH-E4-6</td>
<td>Recipe Recommendation for a Diet Considering User’s Various Conditions</td>
<td>Yoko Mino, Ichiro Kobayashi, Ochanomizu University</td>
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### TH-F4: System Integration

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<td>Jung-Suk Oh, Kwee-Bo Sim, Chung-Ang University</td>
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<td>Multiple Moving Object Tracking Using Distributed Network Camera</td>
<td>TaeSeok Jin, Dongseo University, Hyun-Sik Kim, Tong-Myong University</td>
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<td>TH-F4-3</td>
<td>Fixed-wing Unmanned Aerial Vehicle Hovers Like a Helicopter</td>
<td>A. G. Azlan, D. Hazry, Universiti Malaysia Perlis</td>
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<td>An Approach to Developing a Natural Language Operation Interface with an Example of Operating Google Calendar</td>
<td>Mari Otani, Ichiro Kobayashi, Ochanomizu University</td>
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<td>Minimum Phase Filter Design for Reconstruction Filter Compensation</td>
<td>Sukanya Praesomboon, King Mongkut’s University of Technology North bangkok, Surapun Yimman, King Mongkut’s Institute of Technology Ladkrabang</td>
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<td>Dec. 10 (Fri)</td>
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<td>A Study on Distributed Parameter Free Genetic Algorithm</td>
<td>Fumitaka Kondo, Toshihiko Watanabe, Osaka Electro-Communication University</td>
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<td>A</td>
<td>Behavior Learning of Keep Away Task for Soccer Agent Based on Fuzzy Q-learning</td>
<td>Takuya Okawa, Toru Sawa, Toshihiko Watanabe, Osaka Electro-Communication University</td>
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<td>A</td>
<td>Fuzzy Functional SIRMs Inference Model</td>
<td>Hirosato Seki, Osaka Institute of Technology</td>
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<td>A</td>
<td>An Expert System for Medical Diagnosis Based on Fuzzy Functional SIRMs Inference Model</td>
<td>Hirosato Seki, Osaka Institute of Technology</td>
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<td>Yoshihiro Ohnishi, Ehime University</td>
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<td>Online Gain Tuning of Control Systems with Time-delay Using a Genetic Algorithm</td>
<td>Ikumi Matsusue, Michifumi Yoshioka, Osaka Prefecture University</td>
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<td>Neuro-PID Control for Electric Vehicle</td>
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<td>Evolutionary Design of a PID Controller Using Closed-loop Data</td>
<td>Kayoko Hayashi, Toru Yamamoto, Hiroshima University</td>
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### FR-C1: Complex Adaptive Systems

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<td>Saori Iwanaga, Japan Coast Guard Academy</td>
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<td>The Effects of Miss-perception in the Combat Situation</td>
<td>Hiroshi Sato, Aya Fusano, Masao Kubo, Akira Namatame, National Defense Academy of Japan</td>
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<td>C</td>
<td>Search for Suboptimal Sets of Complex-valued Spreading Sequences Using Genetic Algorithm</td>
<td>Akihiro Yamaguchi, Tatsuya Ikeda, Ryusuke Teshima, Fukuoka Institute of Technology</td>
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<td>Genetic Network Programming</td>
<td>[Organizer: Shingo Mabu]</td>
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<td>Shingo Mabu, Waseda University</td>
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<td><strong>FR-D1-1</strong>:</td>
<td>Variable Size Genetic Relation Algorithm for Portfolio Diversification</td>
<td>Victor Parque, Shingo Mabu, Kotaro Hirasawa, Waseda University</td>
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<td><strong>FR-D1-3</strong>:</td>
<td>Robustness Analysis of Genetic Network Programming with Reinforcement Learning</td>
<td>Andre Tjahjadi, Sit Sendari, Shingo Mabu, Kotaro Hirasawa, Waseda University</td>
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<td><strong>FR-D1-4</strong>:</td>
<td>Multi-order Rules Extraction by Genetic Network Programming and its Application to Stock Trading Problems</td>
<td>Yafei Xing, Shingo Mabu, Lian Yuzhu, Kotaro Hirasawa, Waseda University</td>
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<td><strong>FR-D1-5</strong>:</td>
<td>Classification Based on the Distribution of Average Matching Degree and its Application to Network Intrusion Detection</td>
<td>Tuo Wang, Nanman Lu, Shingo Mabu, Wenjing Li, Kotaro Hirasawa, Waseda University</td>
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<td><strong>FR-E1-1</strong>:</td>
<td>Improved Speech Recognition Filtering for Emergency Applications</td>
<td>Young Im Cho, Sung Soon Jang, University of Suwon</td>
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<td><strong>FR-E1-4</strong>:</td>
<td>Control Lyapunov Function Design without Singularity</td>
<td>Dong Hae Yeon, Hyun Suk Jeong, Young Hoon Joo, Kunsan National University</td>
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<td><strong>FR-E1-5</strong>:</td>
<td>Performance Evaluation of Queuing Mechanisms for Network-based Intrusion Prevention System</td>
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<td><strong>FR-F1-1</strong>:</td>
<td>A Study on Ship Collision Avoidance Using Non-cooperative Game Theory</td>
<td>Gyei-Kark Park, Dong-Gyun Kim, Young-Ki Kim, Mi-Ra Lee, Jong-Myeon Jeong, Mokpo National Marine University</td>
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<td><strong>FR-F1-2</strong>:</td>
<td>Fuzzy (r, s)-St-pre-semicontinuous Mappings</td>
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<td><strong>FR-F1-3</strong>:</td>
<td>A Study on Fuzzy Complex Valued Functions and Choquet Integrals</td>
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<td>Smart Management of HVDC Interface Flow for Jeju Island System with a High Penetration of Wind Energy</td>
<td>Hwachang Song, Seoul Nat’l University, Dong-Hee Yoon, Gilsoo Jang, Korea University, Jang-Ho Lee, Kunsan Nat’l University</td>
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<td>Design of an Maximum Power Point Tracking Algorithm Based on Wind Speed Estimator for Variable Speed Wind Turbines</td>
<td>Byung-Moon Kim, Dae-Sun Moon, In-Ho Ra, Sung-Ho Kim, Kunsan National University</td>
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<td><strong>Autonomous Flying Robots: From Biology to Engineering</strong></td>
<td>Dario Floreano, EPFL, Switzerland</td>
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FR-A3  Soft Computing and Machine Learning II  Dec. 10 (Fri)
[Organizer: Toshihiko Watanabe]  Room A
13:50 - 15:10

Chair: Toshihiko Watanabe, Osaka Electro-Communication University

FR-A3-1: Building a Knowledge Base with Temporal Memory for Modeling of Evolving Systems
Vachkov Gancho, Shuxiang Guo, Kagawa University

FR-A3-2: A Fast Learning Algorithm of Self-organizing Map for Law Text Visualization
Tetsuya Toyota, Hajime Nobuhara, University of Tsukuba

FR-A3-3: Application of Formal Concept Analysis for Rule Mining in Artificial Neural Networks
Hasanah Nur, Hajime Nobuhara, University of Tsukuba

FR-A3-4: Consideration of Context-based Designing Method for Complex-valued Reinforcement Learning
Akira Notsu, Naoto Ichikawa, Katsuhiro Honda, Hitotemto Ichihashi, Osaka Prefecture University

FR-B3  Subjective Kansei Computing I  Dec. 10 (Fri)
[Organizer: Takehisa Onisawa]  Room B
13:50 - 15:10

Chair: Takehisa Onisawa, University of Tsukuba

FR-B3-1: Fuzzy Set Theoretical Analysis of Semantic Data as Human Membership Values on the Color Triangle
Naotoshi Sugano, Itsuki Shinomiya, Tamagawa University

FR-B3-2: Interactive Genetic Algorithm with Tournament Evaluation Applying Win-loss Result Presumption by Multiple People
Hiroshi Takenouchi, Masataka Tokumara, Noriaki Muranaka, Kansai University

FR-B3-3: Influence of Video Sharing Using Pseudo Synchronization to Emotional Intensity of Audience
Katsuari Kamei, Akifumi Toyota, Jun-ichi Kushida, Ritsumeikan University

FR-B3-4: Intuitive PC Operation with Supplies in the Virtual World and Printed Paper in the Real World
Shino Iwashita, Kohta Mutoh, Tokyo University of Technology

FR-C3  Adaptive Systems  Dec. 10 (Fri)
[Organizer: Yoshiyuki Matsumura]  Room C
13:50 - 15:30

Chair: Yoshiyuki Matsumura, Shinshu University

FR-C3-1: Improving the Robustness of Instance-based Reinforcement Learning Robots by Metalearning
Toshiyuki Yasuda, Kosuke Araki, Kazuhiro Ohkura, Hiroshima University

FR-C3-2: Distribution of Non-dominated Solutions and Preferred Solutions in the Objective Function Space for an Evolutionary Multi-objective Mobile Robot
Yoshiaki Kato, Setsunan University

FR-C3-3: Reinforcement Learning Using Sigmoid Networks and Griddy-Gibbs Sampler for Mobile Robots
Kazuaki Yamada, Tokyo University

FR-C3-4: Analysis of Behavior Strategy on Evolutionary Robotics Using Self-organization Maps
Masanori Goka, Hying Prefectural Institute of Technology
Yoshiyuki Matsumura, Shinshu University
Kazuhiro Ohkura, Hiroshima University

FR-C3-5: Hybrid Optimization Based on Classical Evolution Strategies and Particle Swarm Optimization Applies to Car Racing Problem
Yoshiyuki Matsumura, Eisuke Nakahara, Shinshu University
Masanori Goka, Hying Prefectural Institute of Technology
Kazuhiro Ohkura, Hiroshima University

FR-D3  Evolutionary Computation I  Dec. 10 (Fri)
13:50 - 15:30

Chair: 
Room D

FR-D3-1: Extended Experience-repository-based Particle Swarm Optimization for Evolutionary Robotics
Jeong-Jung Kim, Ho-Yong Seo, Ju-Jang Lee, Korea advanced Institute of Science and Technology

FR-D3-2: ACS Watermarking Based on Texture Analysis in DCT Domain
Promchueroen Somying, Eastern Asia University
Rangsanaseri Yuttapong, King Mongkut's Institute of Technology Ladkrabang

FR-D3-3: A Study on Making a Disaster Restoration Schedule Considering the Mutual Dependent Relationships among Lifeline Networks
Sayaka Ajikata, Ichiro Kobayashi, Ochanomizu University

FR-D3-4: Local Search by Estimated Candidate Solution in Co-evolution Estimation of Distribution Algorithm
Kenji Tamura, Chao Gakuen University

FR-D3-5: Ant Colony System for Exam Proctor Schedule
Pokudom Nikorn, Boonplob Nongnuch, Honda Padsane, Eastern Asia University
### FR-E3  Robotics I [ISIS]  Dec. 10 (Fri)

**Chair:** Sang-Yong Rhee, Mokpo National University  
**Room:** E

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<td>Daesung Kang, Dongkyun Nam, Jooyoung Park, Korea University</td>
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<td>Design of Multiple Magnetic Position Sensor Using Two-wired-interface Communication</td>
<td>Soon Gil Park, Young Jae Ryoo, Young Hak Chang, Mokpo National University</td>
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<td>FR-E3-3</td>
<td>A Real-time Data Compression for Ground-based 3D LIDAR Data Using Wavelets and Compressive Sensing</td>
<td>Jeong Joon Im, Alexander Leonessa, Andrew Kurdila, Virginia Tech</td>
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<td>Hahnmin Jung, Yeonkyun Kim, Sun-Wook Kim, Haksun You, Dong Hun Kim, Kyungnam University</td>
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### FR-F3  Information Fusion I [ISIS]  Dec. 10 (Fri)

**Chair:** Sang-Yong Rhee, Mokpo National University  
**Room:** F

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<td>Yun-Seok Lee, Eun Kim, Ik Soo Jin, Min-Soo Jung, Kyungnam University</td>
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<td>An Suggestion for Enhanced Java COS to be Supplied Safety Power by Mobile Devices</td>
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### FR-A4  Soft Computing and Machine Learning III  Dec. 10 (Fri)

**Chair:** Toshihiko Watanabe, Osaka Electro-Communication University  
**Room:** A

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<td>Akira Notsu, Katsushi Honda, Hitotomo Ichihashi, Osaka Prefecture University</td>
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<td>Takao Abe, Hiroki Murata, Ryuta Masuzaki, Toshihiro Irie, Nihon University</td>
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### FR-B4  Subjective Kansei Computing II  Dec. 10 (Fri)

**Chair:** Takehisa Onisawa, University of Tsukuba  
**Room:** B

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<td>Hiroo Inamura, Hiroko Shoji, Chuo University, Akihiro Ogino, Kyoto Sangyo University</td>
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### Cool System Engineering [Organizer: Masashi Furukawa]
**Dec. 10 (Fri) 15:50 - 17:10**
**Room C**

**Chair:** Masashi Furukawa, Hokkaido University

**FR-C4-1:** Anti-sway Control for Overhead Cranes with Load Hoisting by Evolutionary Computation  
Akira Abe, Shutaro Ito, Asahikawa National College of Technology

**FR-C4-2:** Behavior Composed for Artificial Flying Creature  
Masashi Furukawa, Ryosuke Ooe, Ikao Suzuki, Masahito Yamamoto, Hokkaido University  
Makoto Morinaga, NS Solutions Corporation  
Michiko Watanabe, Kitami Institute of Technology

**FR-C4-3:** A Study on Visualization of Complex Networks Using DSSOM  
Ikuo Suzuki, Masahito Yamamoto, Masashi Furukawa, Hokkaido University  
Yasushi Iwata, NS Solutions Corporation

**FR-C4-4:** Parameter Estimation Method Based on Simulated Recommendation Process for Collaborative Filtering  
Akihiro Yamashita, Hidenori Kawamura, Keiji Suzuki, Hokkaido University

### Evolutionary Computation II [Organizer: Sang-Yong Rhee]
**Dec. 10 (Fri) 15:50 - 17:10**
**Room D**

**Chair:** Sang-Yong Rhee, Mokpo National University

**FR-D4-1:** A Proposal of Genetic Operations Considering the Constraints for BSIM Parameter Extraction  
Ai Nishiba, Hiroharu Kawanaka, Haruhiko Takase, Shinji Tsuruoka, Mie University

**FR-D4-2:** Making of Preferable Virtual Flowerbeds by an Interactive Genetic Algorithm  
Satoshi Takami, Hiroshi Omori, Kenjiro Saio, The University of Tokyo  
Kazunori Hanyu, Nihon University  
Masako Yamashita, Tokyo Ariake University

**FR-D4-3:** Cooperative Particle Swarm Optimization for Large Scale Numerical Optimization  
Liang Sun, Kochi University of Technology, Jilin University  
Shinichi Yoshida, Kochi University of Technology  
Yanchun Liang, Jilin University

**FR-D4-4:** Use of Multiple Grids with Different Scalarizing Functions in MOEA/D  
Hisao Ishibuchi, Yuji Sakane, Yusuke Nojima, Osaka Prefecture University

### Robotics II [ISIS] [Organizer: Sang-Yong Rhee]
**Dec. 10 (Fri) 15:50 - 17:10**
**Room E**

**Chair:** Sang-Yong Rhee, Mokpo National University

**FR-E4-1:** Localization Error Correction for Mobile Robot Using Laser Range Finder  
Joocheol Do, Jungmin Kim, Sungshin Kim, Pusan National University

**FR-E4-2:** Humanoid Navigation Using D* Lite and Fuzzy Motion Planning in Indoor GPS Environments  
Su-Hee Noh, Doo-Young Na, Chang-Seok Lee, Yong-Tae Kim, Hankyung University

**FR-E4-3:** Implementation of a Leader-following Mobile Robot System Based on GPS and Bluetooth Communication  
Yeongkyun Kim, Hahmin Jung, Sehan Lee, Sang-Yong Rhee, Seung-Gook Hwang, Dong Hun Kim, Kyungnam University

**FR-E4-4:** Analysis and Design of a Legged Walking Robot Based on Jansen Mechanism  
Sun-Wook Kim, Hahmin Jung, Yeonggyun Kim, Hansung Kim, Sung Hyun Han, Dong Hun Kim, Kyungnam University

### Information Fusion II [ISIS] [Organizer: Sang-Yong Rhee]
**Dec. 10 (Fri) 15:50 - 17:10**
**Room F**

**Chair:** Sang-Yong Rhee, Mokpo National University

**FR-F4-1:** A Study on Transaction Processing Mechanism Using RAM Transaction Buffer Based on JCVM  
Se Won Oh, Ik Soo Jin, Min Soo Jung, Kyungnam University

**FR-F4-2:** Searching a Best Product Based on Mining Comparison Sentences  
Yeong Hyeon Gu, Seong Joon Yoo, Sejong University

**FR-F4-3:** WittyCG: A Web Based Platform for Integrated Cancer Gene Set Test  
Yongdeuk Hwang, Kwang H. Lee, Doheon Lee, KAIST

**FR-F4-4:** Contrasting Cluster Mining in Microarray Data  
Keon Myung Lee, Kyung Soon Hwang, Wun-Jae Kim, Chungbuk National University
**SA-A1** Biomimetic Machines and Robots I  
**Organizers: Kiyotaka Izumi, Keigo Watanabe**  
Dec. 11 (Sat)  
9:00 - 10:40  
Room A

**Co-Chairs:** Kiyotaka Izumi, Saga University, Keigo Watanabe, Okayama University

**SA-A1-1:** Constraint-combined Force / Position Hybrid Control Method for Continuous Shape-grinding  
Guanghua Chen, Mamoru Minami, Geng Wang, Akira Yanou, Mingcong Deng, Okayama University

**SA-A1-2:** High Accuracy/Low-energy Consumption Effects of Bracing Hyper-redundant Manipulator  
Geng Wang, Guanghua Chen, Mamoru Minami, Akira Yanou, Mingcong Deng, Okayama University

**SA-A1-3:** High Tracking Experimental Performances by Approaching Hand/Eye-vergence Visual Servoing  
Wei Song, University of Shanghai  
Mamoru Minami, Fujia Yu, Akira Yanou, Mingcong Deng, Okayama University

**SA-A1-4:** Non-singular Configuration Analyses of Redundant Manipulators for Optimizing Avoidance Manipulability  
Tongxiao Zhang, China University  
Fujia Yu, Mamoru Minami, Akira Yanou, Mingcong Deng, Okayama University  
Wei Song, University of Shanghai  
Osami Yasukura, University of Fukui

**SA-A1-5:** Reconfiguration Manipulability Analyses for Redundant Robots in View of Structure and Shape  
Mamoru Minami, Fujia Yu, Akira Yanou, Mingcong Deng, Okayama University  
Tongxiao Zhang, University of Shanghai  
Wei Song, China University  
Yusaku Nakamura, Osami Yasukura, University of Fukui

**SA-B1** Brain and Perception  
**Organizer: Tetsuya Miyoshi**  
Dec. 11 (Sat)  
9:00 - 10:40  
Room B

**Chair:** Tetsuya Miyoshi, Toyohashi Sozo University

**SA-B1-1:** Induction of Cooperation Behavior through Exchange of Non-verbal Information  
Yuzo Takahashi, Shoko Koshi, Hiroshima City University

**SA-B1-2:** A Study on Reliability-based Selective Repeat Automatic Repeat Request for Reduction of Discrimination Time of P300 Speller  
Yusuke Kaneda, Hiromu Takahashi, Tomohiro Yoshikawa, Takeshi Furushashi, Nagoya University

**SA-B1-3:** Combination of Reliability-based Automatic Repeat Request with Error Potential-based Error Correction for Improving P300 Speller Performance  
Hironou Takahashi, Tomohiro Yoshikawa, Takeshi Furushashi, Nagoya University

**SA-B1-4:** Characteristics of Driver’s Eye Movements in Driving Events  
Tetsuya Miyoshi, Toyohashi Sozo University  
Hidetomo Nakayasu, Konan University

**SA-B1-5:** Cross Culture Analysis on Perception and Behavior of Driver for US-JAPAN Traffic Regulation  
Hidetoshi Nakayasu, Hirokazu Aoki, Konan University  
Tetsuya Miyoshi, Toyohashi Sozo University  
Nobuhiko Kondo, Otemae University

**SA-C1** Agent Networks I  
**Organizer: Keitaro Naruse**  
Dec. 11 (Sat)  
9:00 - 10:40  
Room C

**Chair:** Keitaro Naruse, University of Aizu

**SA-C1-1:** Anisotropy Measurement in Artificial Flockings: How Does One Design the Optimal BOIDS by Evolutionary Computation?  
Motohiro Makiguchi, Jun-ichi Inoue, Hokkaido University

**SA-C1-2:** Dynamic Plane Covering by Movement of Swarm  
Keigo Suenaga, Keitaro Naruse, University of Aizu

**SA-C1-3:** Performance Evaluation of Private Cloud Computing with Eucalyptus  
Kei Hirata, Akihiro Yamashita, Hidenori Kawamura, Keiji Suzuki, Hokkaido University

**SA-C1-4:** Adaptive Nutrient Water Supply Control of Plant Factory System by Reinforcement Learning  
Takumi Wakahara, Sadayoshi Mikami, Future University Hakodate

**SA-C1-5:** Multi Agent Based Kinematics Solution Method for Multi Link Robot  
Shinya Hara, Ariake National College of Technology  
Akihiro Hayashi, Kyushu Institute of Technology
### SA-D1  Decision Making through Soft Computing  
**Organizers:** Hideki Katagiri, Takeshi Matsui, Hiroshima University  
**Room D**  
**Dec. 11 (Sat) 9:00 - 10:40**

**Co-Chairs:** Hideki Katagiri, Takeshi Matsui

**SA-D1-1:** Interactive Decision Making for Hierarchical Multiobjective Linear Programming Problems with Random Variable Coefficients  
*Hitoshi Yano, Nagoya City University*

**SA-D1-2:** Multiobjective Two-level Integer Programming through Genetic Algorithms  
*Keiichi Niwa, Hiroshima University of Economics  
Tomohiro Hayashida, Masatoshi Sakawa, Hiroshima University  
Tetsuya Kan, Hitachi Cable, Ltd.*

**SA-D1-3:** Learning and Behavioral Rule Extraction in Experimental Data of Market Entry Games  
*Ichiro Nishizaki, Tomohiro Hayashida, Hiroshima University*

**SA-D1-4:** Heat Load Prediction through Recurrent Neural Network Using Particle Swarm Optimization in District Heating and Cooling Systems  
*Masatoshi Sakawa, Takeshi Matsui, Hideki Katagiri, Hiroshima University  
Keiichi Ishimaru, Satoshi Ushiro, Shinryo Corporation*

**SA-D1-5:** Stackelberg Solutions for Fuzzy Random Two-level Linear Programming through Level Sets and Expectation Optimization  
*Masatoshi Sakawa, Hideki Katagiri, Takeshi Matsui, Hiroshima University*

### SA-E1  Vision and Sensors  
**[ISIS]**  
**Organizer:** Sang-Yong Rhee  
**Room E**  
**Dec. 11 (Sat) 9:00 - 10:40**

**Chair:** Sang-Yong Rhee, Mokpo National University

**SA-E1-1:** Intelligent Surveillance System Based on Network Camera  
*Dong Hae Yeom, Young Hoon Joo, Jin Bae Park, Kunsan National University*

**SA-E1-2:** Augmented Reality of Robust Tracking with Realistic Illumination  
*Young-Back Kim, Hong-Chang Lee, Sang-Yong Rhee, Kyungnam University*

**SA-E1-3:** Simplification of Face Image Using Feature Points  
*Eunkook Jung, Jungmin Kim, Seunghoon Woo, Sungbin Kim, Pusan National University*

**SA-E1-4:** Surveillance System to Protect to Steal Farm Products  
*Hong-Chang Lee, Sang-Yong Rhee, Young-Back Kim, Ik-Soo Jin, Hyeon-II Lim, Kyungnam University*

**SA-E1-5:** A Comparative Study on the Rotational Distortion Reduction Method for the Document Images  
*Young-One Cho, Jin-Woo Jung, Dongguk University*

### SA-F1  Modeling and Simulation  
**[ISIS]**  
**Organizer:** Sang-Yong Rhee  
**Room F**  
**Dec. 11 (Sat) 9:00 - 10:20**

**Chair:** Sang-Yong Rhee, Mokpo National University

**SA-F1-1:** Building Knowledge Representation Models of Marine Information Using Semantic Networks  
*Young-Ki Kim, Dong-Gyun Kim, Gyei-kark Park, Mira Lee, Jongmyeon Jeong, Mokpo National Maritime University*

**SA-F1-2:** Design of Separation System for Used Oil Filter  
*Un Ji Song, Xing Xiong, Byung-Jae Choi, Daegu University*

**SA-F1-3:** A System Implementation of UHF RFID Reader and TCP/IP  
*Sang Hoon Lee, Ik Soo Jin, Kyungnam University  
Kwang Youl Park, Union Co., Ltd.*

**SA-F1-4:** The Development of a RDBMS-based Knowledge Conversion Tool for Expert Systems  
*Jin S. Kim, Jeonju University*

### SA-P2  Plenary Talk III  
**Dec. 11 (Sat) 11:00 - 12:00**

**Chair:** Kazuhiro Ohkura, Hiroshima University  
**Room P**

**Data Visualization for Kansei Analysis**  
*Takeshi Furuhashi, Nagoya University, Japan*
SA-A3 Biomimetic Machines and Robots II
[Organizers: Kiyotaka Izumi, Keigo Watanabe] Dec. 11 (Sat) 13:00 - 14:40 Room A
Co-Chairs: Kiyotaka Izumi, Saga University, Keigo Watanabe, Okayama University
SA-A3-1: Conceptual Configuration Control of Redundant Manipulators Inheriting Local/Global Merits: Multi-preview Control
Tongxiao Zhang, China University of Mining and Technology
Yusaku Nakamura, University of Fukui
Yang Hou, Okayama University
Wei Song, University of Shanghai
Mamoru Minami, Akira Yanou, Mingcong Deng, Okayama University
SA-A3-2: Operator-based Modeling for Nonlinear Ionic Polymer Metal Composite with Uncertainties
Mingcong Deng, Tokyo University of Agriculture and Technology
Aihui Wang, Mamoru Minami, Akira Yanou, Okayama University
SA-A3-3: Neural Network Using Simultaneous Perturbation for Robot Control
Yutaka Maeda, Yamate-cho, Kansai University
SA-A3-4: Path Planning to Respect Human Movements Based on Human Frequency Map for a Mobile Robot
Kimiko Motonaka, Shoichi Maeyama, Keigo Watanabe, Okayama University
SA-A3-5: The Locomotion Control of a Cleaning Robot for Stairs
Takahisa Kakudou, Isaku Nagai, Keigo Watanabe, Okayama University

SA-B3 Image Processing Dec. 11 (Sat) 13:00 - 14:40 Room B
Chair: Kwee-Bo Sim, Chung-Ang University
SA-B3-1: Localization of Mobile Robot Using Particle Filter at Known Environment
Kwang-Min Jung, Kwee-Bo Sim, Chung-Ang University
SA-B3-2: A Specified Object Tracking with Particle Filter
Hyung-Bok Kim, Kwee-Bo Sim, Chung-Ang University
SA-B3-3: A Web-based Integrated Medical Information System for Telepathology
Jongsataporn Thitaphan, Suapang Piyamas, Boontawan Rodjarin, Dejhan Kobchai, Yimmun Surapun, Rangsit University
SA-B3-4: A Study of Facial Emotion Recognition Based on Combining ASM with DBNs
Kwang-Eun Ko, Kwee-Bo Sim, Chung-Ang University
SA-B3-5: Visibility Improvement for Dichromats by Lightness Modification Based on Craik-O’Brien Effect
Hayato Hashii, Go Tanaka, Noriaki Suetake, Eiji Uchino, Yamaguchi University

SA-C3 Agent Networks II Dec. 11 (Sat) 13:00 - 14:40 Room C
Chair: Keitaro Naruse, University of Aizu
SA-C3-1: Competitive Coevolutionary Algorithm with Potential Model for the Tsumego Game
Makoto Oshima, Koji Yamada, Satoshi Endo, University of the Ryukyus
SA-C3-2: Acquisition of Locomotion for Elastic Circular Robot by Using Composite Behavior
Keisuke Yoneda, Ikuo Suzuki, Masahito Yamamoto, Masashi Furukawa, Hokkaido University
SA-C3-3: Solving for Large-scale Traveling Salesman Problem with Divide-and-conquer Strategy
Kazunori Ishikawa, Ikuo Suzuki, Masahito Yamamoto, Masashi Furukawa, Hokkaido University
SA-C3-4: Recognition of Floating Situation with Neural Network for Small Underwater Humanoid Robot
Shogo Sekiya, Hidenori Kawamura, Keiji Suzuki, Hokkaido University
SA-C3-5: Data Integration Method for Recommendation on Small Website
Nobuyuki Shimizu, Taku Okuno, Future University-Hakodate
### SA-D3: Intelligent Control

**Dec. 11 (Sat)**  
**Room D**

**Co-Chairs:** Seiji Yasunobu, University of Tsukuba, Kazuyuki Kobayashi, Hosei University

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<td>Disuke Minegishi, Kazuyuki Kobayashi, Kajiro Watanabe, Hosei University</td>
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<td>SA-D3-2</td>
<td>An Intelligent Multipurpose Control Method Using Multifunctional Actuator</td>
<td>Kazuki Kuribayashi, Seiji Yasunobu, University of Tsukuba</td>
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<td>SA-D3-3</td>
<td>A Substitute Target Learning-based Inverted Pendulum Swing-up Control System</td>
<td>Kamarulzaman Syafiq Fauzi, Takeshi Shibuya, Seiji Yasunobu, University of Tsukuba</td>
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<td>SA-D3-4</td>
<td>A Study of Potential Field Based on Path Planning Algorithm by Using Two Fixed Angle Laser Scanners for JAUS Compliant Mobile Robot</td>
<td>Takuya Yamakawa, Kazuyuki Kobayashi, Kajiro Watanabe, Hosei University</td>
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<td>SA-D3-5</td>
<td>Development of Lane Following Navigation Algorithm Based on Omni-directional Images for JAUS Compliant Mobile Robot</td>
<td>Kosuke Hasegawa, Kazuyuki Kobayashi, Kajiro Watanabe, Hosei University</td>
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### SA-E3: Intelligent Control Systems I (Organized by Alumni of Prof. Mignon Park’s Lab.)

**Dec. 11 (Sat)**  
**Room E**

**Chair:** Euntai Kim, Yonsei University

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<td>Changhoon Lee, Seungwoo Kim, Soonchunhyang University, Hijun Kim, Paichai University</td>
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<td>A Development of 3-wheels Omni-directional Mobile Robot Using Fuzzy Logic</td>
<td>Sangdae Kim, Seungwoo Kim, Soonchunhyang University</td>
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<td>SA-E3-4</td>
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<td>Chang-Ho Hyun, Kongju National University, Seunghwan Ji, Innwireless</td>
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<td>SA-E3-5</td>
<td>Reliable Feature Extraction Using Linear Discriminant Analysis</td>
<td>Wonju Lee, Mignon Park, Yonsei University, Sunmi Jung, Sungkyunkwan University, Heung-Sik Noh, Hyeupyang University</td>
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### SA-F3: Hardware / Software Co-design [ISIS]

**Dec. 11 (Sat)**  
**Room F**

**Chair:** Sang-Yong Rhee, Mokpo National University

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<td>An Address Scheme for Vertical Handover of Multiple-interface Devices</td>
<td>Hyun-Dong Chu, Dong-Hun Kang, Ik Soo Jin, Young-Seok Park, Seung-Joon Seok, Kyungnam University</td>
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<td>SA-F3-2</td>
<td>A System Implementation for HF RFID Reader</td>
<td>Sang Hoon Lee, Sung Il Kim, Ik Soo Jin, Kyungnam University, Nak Gwon Choi, LG Innotek</td>
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<td>SA-F3-5</td>
<td>On the Design of Orthogonal QPSK Baseband Modem for High Speed Data Transmission</td>
<td>Seungkeun Park, Electronics &amp; Telecommunications Research Institute (ETRI), Byeong-Gwon Kang, Soonchunhyang University, Ik Soo Jin, Kyungnam University</td>
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### Biomimetic Machines and Robots III

**Dec. 11 (Sat)**

**Organizers:** Kiyotaka Izumi, Keigo Watanabe

**Room A**

**SA-A4-1:** An Image-based Method for Controlling the Trajectory Tracking of Mobile Robots  
Tatsuya Kato, Keigo Watanabe, Shoichi Maeyama, Okayama University

**SA-A4-2:** An Unscented Rauch-Tung-Striebel Smoother for a Vehicle Localization Problem  
Saifudin Razali, Keigo Watanabe, Shoichi Maeyama, Okayama University  
Kiyotaka Izumi, Saga University

**SA-A4-3:** The Stabilizing Control of a Position and All Attitudes for an X4-AUV  
Zainah Md. Zain, Keigo Watanabe, Isaku Nagai, Okayama University  
Kiyotaka Izumi, Saga University

**SA-A4-4:** A Workmanlike Orthogonal-type Robot for Finishing an LED Lens Mold  
Fusao Nagata, Takeharu Mizobuchi, Tokyo University of Science  
Keigo Watanabe, Okayama University

**SA-A4-5:** Multi-contact Recognition with Genetic Algorithm for Universal Robot Hand  
Wataru Fukui, Futoshi Kobayashi, Fumio Kojima, Kobe University  
Hironori Nakamoto, Hyogo Prefectural Institute of Technology  
Nobuaki Maeda, Maeda Precision Manufacturing Limited Kobe  
Kazuhiro Sasabe, The Kansai Electrical Power co., inc.  
Hidenori Shirasawa, The Advanced Materials Processing Institute Kinki Japan

**SA-A4-6:** Locomotion Generation by Genetic Programming for a Multi-legged Jumping Robot  
Masaaki Ikeda, Kiyotaka Izumi, Saga University  
Keigo Watanabe, Okayama University

### Intelligent Interaction for Data Mining

**Dec. 11 (Sat)**

**Organizers:** Seiji Yamada, Takashi Onoda, Yasufumi Takama

**Room B**

**SA-B4-1:** A Smart Information Offering System by Mining Time Series Motion Logs  
Yilsin Ho, Tomomi Shimano, Kazumasa Murakami, Eri Sato-Shimokawara, Toru Yamaguchi, Tokyo Metropolitan University

**SA-B4-2:** Constrained Clustering with Interactive Similarity Learning  
Masayuki Okabe, Toyohashi University of Technology  
Seiji Yamada, National Institute of Informatics

**SA-B4-3:** Intrusion Detection in Control System Communication Based on Outlier Detection with One-class Classifier  
Mai Koschi, Takashi Onoda, Central Research Institute of Electric Power Industry

**SA-B4-4:** Seeding method Based on Independent Component Analysis for k-Means Clustering  
Takashi Onoda, Central Research Institute of Electric Power Industry  
Miho Sakai, Tokyo Institute of Technology  
Seiji Yamada, National Institute of Informatics

**SA-B4-5:** Document Similarity Judgment for Interactive Document Clustering  
Yasufumi Takama, Chen Minghuang, Tokyo Metropolitan University  
Seiji Yamada, National Institute of Informatics

**SA-B4-6:** A Kernel for Interactive Document Retrieval Based on Support Vector Machines  
Hiroshi Murata, Takashi Onoda, Central Research Institute of Electric Power Industry  
Seiji Yamada, National Institute of Informatics

### Knowledge Engineering and Soft Computing I

**Dec. 11 (Sat)**

**Organizer:** Takumi Ichimura

**Room C**

**SA-C4-1:** Multi-colony Max-min Ant System Using Judgment of Local Optimum Routes  
Akira Hara, Hirotaka Seo, Tetsuyuki Takahama, Hiroshima City University  
Takumi Ichimura, Prefectural University of Hiroshima

**SA-C4-2:** Proliferation of Antibody in Clonal Selection Algorithm with Immunological Memory Cell  
Takumi Ichimura, Prefectural University of Hiroshima  
Takashi Yamaguchi, Kenneth James Mackin, Tokyo University of Information Sciences

**SA-C4-3:** Memory and Prediction Based Genetic Algorithm Using Speciation in Dynamic Multimodal Function Optimization  
Takumi Ichimura, Prefectural University of Hiroshima  
Akira Hara, Hiroshi Inoue, Tetsuyuki Takahama, Hiroshima City University

**SA-C4-4:** The Medical Diagnostic Support System Using Extended Neural Network Based on Intelligent Multiagent Techniques  
Daisuke Yamaguchi, Fumiyoshi Katayama, Muneko Takahashi, Toin University of Yokohama
SA-D4  System Design  Dec. 11 (Sat)  15:00 - 16:40
Chair: Room D

SA-D4-1: Optimal Order Quantity in Single Period Inventory Level Dependent Demand and Random Yield Models
Chang Hwan Lee, Byeong-yun Chang, Ajou University

SA-D4-2: Context-aware Search Control for Secure Spaces
Shun Hattori, Tokyo University of Technology

SA-D4-3: The Virtual Chemical Laboratory Using Particle and Volume Based Liquid Model
Yuki Natsume, Andreas Lindroos, Hirotaka Itoh, Kenji Funahashi, Nagoya Institute of Technology

SA-D4-4: A Study on Operation of Driving Video Game Under Ultrasound Environments
Hiroshi Takahashi, Hirohiko Honda, Shonan Institute of Technology

SA-D4-5: An Approach to Ecology in the Home by Verbalizing Electricity Consumption
Yumi Endo, Ichiro Kobayashi, Ochanomizu University
Jun Ozawa, Panasonic Co.Ltd.

SA-E4  Intelligent Control Systems II (Organized by Alumni of Prof. Mignon Park's Lab.)  Dec. 11 (Sat)  15:00 - 16:40
Chair: Chang-Ho Hyun, Kongju National University Room E

SA-E4-1: Integral Control Approach to High-gain Observer Design
Chang-Ho Hyun, Kongju National University
Minkee Park, Seoul National University of Technology

SA-E4-2: Constructing Customized Fuzzy Sets Using Bayesian Probability
Wooyong Chung, Jaehun Lee, Euntai Kim, Yonsei University

SA-E4-3: Segmentation of the Silhouette Image and Their Combinations for Gait Recognition
Sungjin Hong, Heesung Lee, Byungyun Lee, Euntai Kim, Yonsei University

SA-E4-4: An Autonomous Navigation Algorithm for UGV and its 3D Graphical Simulation
Youngkyun Kim,Yanghee Yee, Kisung Seo, Youngwan Cho, Seokyeong University

SA-E4-5: Gain-scheduled Controller for the Seek Control of Hard Disk Drives
Eun-Ju Hwang, Mignon Park, Yonsei University
Chang-Ho Hyun, Kongju National University

SA-F4  Intelligent Medical and Health Systems I  Dec. 11 (Sat)  15:00 - 16:40
Co-Chairs: Manabu Nii, Syoji Kobashi, University of Hyogo Room F

SA-F4-1: On a Voxel Based Morphometry Analysis in Neonatal Brain MR Images
Aya Hashioka, Syoji Kobashi, Kei Kuramoto, Yutaka Hata, University of Hyogo
Yuki Wakata, Kumiko Ando, Reiichi Ishikura, Shozo Hirota, Hyogo College of Medicine
Seturo Imawaki, Ishikawa Hospital

SA-F4-2: Estimation Method of Cortical Dysplasia Degree Using Neural Network in Pediatric Brain MR Images
Nobuyoshi Kawakami, Syoji Kobashi, Kei Kuramoto, Yutaka Hata, University of Hyogo
Yuri T.Kitamura, WPI Immunology Frontier Research Center
Kuriko Kagittani-Shimono, Masako Taniike, Osaka University
Seturo Imawaki, Ishikawa Hospital

SA-F4-3: An Analysis on Image Recognition in Complex-valued Synergetic Computers
Masaki Kimura, Teijiro Isokawa, Nobuyuki Matsui, University of Hyogo

SA-F4-4: Performance Analysis of Quantum-inspired Evolutionary Algorithm
Tomohisa Takata, Teijiro Isokawa, Nobuyuki Matsui, University of Hyogo

SA-F4-5: Analysis of Human Activity Monitoring Data Using Soft Computing Approach
Manabu Nii, University of Hyogo
Kazuki Nakai, Yutaka Takahashi, Osaka University
SA-C5  Knowledge Engineering and Soft Computing II
[Organizer: Takumi Ichimura]
17:00 - 18:00
Room C

Chair: Takumi Ichimura, Prefectural University of Hiroshima

SA-C5-1: Applying Visual Programming for Cellular Automaton Modeling
Kenneth J. Mackin, Tokyo University of Information Sciences

SA-C5-2: Development of Practice Support System for System Administration Based on Automatic Check Modules
Ayahiko Niimi, Kei Ito, Future University Hakodate

SA-C5-3: Adaptive Learning Algorithm in Tree-structured Self-organizing Feature Map
Takashi Yamaguchi, Kenneth James Mackin, Tokyo University of Information Sciences
Takumi Ichimura, Prefectural University of Hiroshima

SA-D5  Soft Computing in Urban and Transport Planning
[Organizer: Takamasa Akiyama]
17:00 - 18:00
Room D

Chair: Takamasa Akiyama, Kansai University

SA-D5-1: Urban Renewal Policy Evaluation in Local City by Multi-agent Approach
Takamasa Akiyama, Hiroaki Inokuchi, Kansai University

SA-D5-2: Multi Agent Simulation Model for Design of Eco-commuting Promotion Planning
Masashi Okushima, The University of Tokushima
Takamasa Akiyama, Kansai University

SA-D5-3: Practical Estimation of Carbon Dioxide Emission for Automobile by Neural Network
Hiroaki Inokuchi, Takamasa Akiyama, Kansai University

SA-E5  Education
17:00 - 18:00
Room E

Chair: 

SA-E5-1: Mahjong Beginner Support System with Augmented Reality
Hidehiko Okada, Nioka Shota, Kyoto Sangyo University

SA-E5-2: Evaluating Hemodynamic Responses of Student in e-Learning Courses by Using MPCA and SVM
Santoso Handri, Shusaku Nomura, Yoshimasa Kurosawa, Yoshiimi Hukumura, Nagaoka University of Technology
Kuniaki Yajima, Sendai National College of Technology
Nobuyuki Ogawa, Gifu National College of Technology

SA-E5-3: Programming Learning Support System with Learning Progress Monitoring Feature
Masanori Ohshiro, Kenneth J. Mackin, Kotaro Matsushita, Eiji Nunohiro, Yuako Yamakawa, Tokyo University of Information Sciences

SA-F5  Intelligent Medical and Health Systems II
[Organizers: Manabu Nii, Syoji Kobashi]
17:00 - 18:00
Room F

Co-Chairs: Manabu Nii, Syoji Kobashi, University of Hyogo

SA-F5-1: Classification of Nursing-care Data Using Additional Term Information
Manabu Nii, University of Hyogo
Takahumi Yamaguchi, Yutaka Takahashi, Osaka University

SA-F5-2: Development of a Waterproof Cardiography/Accelerogram Device and its Application for Human Health Monitoring
Hirokuni Hamada, Yonggang Jiang, Jun Okada, Kohei Higuchi, Maenaka Human-Sensing Fusion Project
Takayuki Fujita, Kazusuke Maenaka, University of Hyogo
Yuta Aono, Nippon Net System, Ltd.

SA-F5-3: Motion Analysis on the Bed Using Intelligent Vision Sensor
Maki Takeda, Kenji Yamada, Sachiko Shimizu, Yuko Ohno, Toshiaki Nagakura, Ken Ishihara, Osaka University
SU-A1  Rough Sets, Multisets and Non-classical Approaches to Data Processing and Analysis I  Dec. 12 (Sun)

[Organizers: Yasuo Kudo, Masahiro Inuiguchi, Tetsuya Murai]

9:00 - 10:00

**Chair:** Yasuo Kudo, Muroran Institute of Technology  Room A

**SU-A1-1:** Numerical Experiments for Rule Induction Approaches Considering Ordinal Classes
Yoshifumi Kusunoki, Masahiro Inuiguchi, Tetsuzo Tanino, Osaka University

**SU-A1-2:** A Sequence-based Approach to Uncertainty
Tetsuya Murai, Hokkaido University
Sadaaki Miyamoto, Tsukuba University
Yasu Kudo, Muroran Institute of Technology
Seiki Akama, C-Republic

**SU-A1-3:** Variable-precision Generalized Rough Set Models
Masahiro Inuiguchi, Osaka University

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SU-B1  Clustering  Dec. 12 (Sun)

9:00 - 10:20

**Chair:** Room B

**SU-B1-1:** A Descriptive Decision-making Model under Uncertainty Using Dempster-Shafer Theory and Prospect Theory
Nusrat Elhum, Koichi Yamada, Nagaoka University of Technology

**SU-B1-2:** Estimating the Number of Clusters by Distortion-ratio Map
Fujiki Morii, Nara Women's University

**SU-B1-3:** Entropy Maximization and Very Fast Deterministic Annealing Approach to Fuzzy c-Means Clustering
Makoto Yasuda, Gifu National College of Technology

**SU-B1-4:** Certainty Equivalent Representation of Binary Gambles with Segregation Expression
Yutaka Matsushita, Kanazawa Institute of Technology

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SU-C1  Intelligent Control and Signal Processing Systems  Dec. 12 (Sun)

[Organizer: Hiroshi Kinjo]

9:00 - 10:20

**Chair:** Hiroshi Kinjo, University of the Ryukyus  Room C

**SU-C1-1:** Model-based Approaches for Engine Noise Canceling
Sam Chau Duong, Hiroshi Kinjo, Naoki Oshiro, University of the Ryukyus

**SU-C1-2:** Solving the Binding Problem with Separated Extraction of Information by Oscillatory Self-organizing Neural Models
Ryota Miyata, Koji Kurata, University of the Ryukyus

**SU-C1-3:** Genetic Algorithm in State Estimation and Adaptive Control
Sam Chau Duong, Hiroshi Kinjo, Eiho Uezato, Tetsuhiko Yamamoto, University of the Ryukyus

**SU-C1-4:** Study on Suppression of Load Swing with Gust for Rotary Crane
Kunihiro Nakazono, Hiroshi Kinjo, University of the Ryukyus
Kouhei Ohnishi, Keio University
Tetsuhiko Yamamoto, Tokushima College of Technology

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SU-D1  Real-time Multi-media Signal Processing I  Dec. 12 (Sun)

[Organizers: Norikazu Ikoma, Kazuhioko Kawamoto]

9:00 - 10:00

**Co-Chairs:** Norikazu Ikoma, Kazuhioko Kawamoto, Kyushu Institute of Technology  Room D

**SU-D1-1:** Visual Tracking of Both Hands of Car Driver by Particle Filter
Norikazu Ikoma, Kyushu Institute of Technology

**SU-D1-2:** On Particle Filtering for Hybrid State Space Models
Kazuhioko Kawamoto, Chiba University

**SU-D1-3:** Processing of the Outliers Included in a Ship's Position Obtained from GPS via Particle Filter
Daisuke Terada, Hiroshima National College of Maritime Technology
SU-A2 Rough Sets, Multisets and Non-classical Approaches to Data Processing and Analysis II

[Organizers: Masahiro Inuiguchi, Tetsuya Murai, Yasuo Kudo]

Dec. 12 (Sun) 10:40 - 11:40

Chair: Masahiro Inuiguchi, Osaka University
Room A

SU-A2-1: A Note on Chord Progression as Sequences in Kripke Models for Non-classical Logics
Tetsuya Murai, Seiki Ubukata, Hokkaido University
Yasuo Kudo, Muroran Institute of Technology
Seiki Akama, C-Republic

SU-A2-2: A Heuristic Algorithm for Generating Decision Rules in Variable Precision Rough Set Models
Yasuo Kudo, Muroran Institute of Technology
Tetsuya Murai, Hokkaido University

SU-A2-3: Gene Expression Data Analysis Using Heuristic Attribute Reduction in Rough Set Theory
Yasuo Kudo, Yoshifumi Okada, Muroran Institute of Technology

SU-B2 Fuzzy Systems

Dec. 12 (Sun) 10:40 - 11:40

Chair: Room B

SU-B2-1: Bottom-up Strategy Planning Model by Applying Fuzzy Integral in RTS Game
Peter Ng, Y. J. Li, H. B. Wang, C. K. Shia, The Hong Kong Polytechnic University

SU-B2-2: Robust Sampled-data Stabilization for Fuzzy Systems with Nonlinear Perturbation by First-order Hold Input
Jun Yoneyama, Yuzu Uchida, Aoyama Gakuin University

SU-B2-3: Piecewise Bilinear System Control Based on Full-state Feedback Linearization
Tadanari Taniguchi, Tokai University
Michio Sugeno, European Centre for Soft Computing

SU-C2 Multi-points Search Methods in Optimization

[Organizer: Eitaro Aiyoshi]

Dec. 12 (Sun) 10:40 - 11:40

Chair: Eitaro Aiyoshi, Keio University
Room C

SU-C2-1: Determining the Control Parameter Value of Nonlinear Dynamical Systems to Generate Chaos
Kazuaki Masuda, Kenzo Kurihara, Kanagawa University

SU-C2-2: Global Optimization Using a Multi-point type Quasi-chaotic Optimization Method without Initial Sampling Parameter Tuning
Takashi Okamoto, Hironori Hirata, Chiba University

SU-C2-3: Primary Study of Vortex Dynamics Inspired Optimization
Kenichi Tamura, Keiichiro Yasuda, Tokyo Metropolitan University

SU-D2 Real-time Multi-media Signal Processing II

[Organizers: Norikazu Ikoma, Kazuhiko Kawamoto]

Dec. 12 (Sun) 10:40 - 11:40

Co-Chairs: Norikazu Ikoma, Kazuhiko Kawamoto, Kyushu Institute of Technology
Room D

SU-D2-1: Absolute Eye Gaze Tracking System with MR Images
Syoji Kobashi, Shuichi Enokida, Hyogo University

SU-D2-2: A Particle Filter Algorithm Utilized Streaming Processor
Toyohiro Hayashi, Kyushu Institute of Technology

SU-D2-3: GPU Implementation of Efficient Pedestrian Detection Based on MCMC
Jaehoon Yu, Takao Onoye, Osaka University
Hiroki Sugano, Ryusuke Miyamoto, Nara Institute of Science and Technology