

# **Advance Programme for**

**KES-IDT-2012**

**KES-IIMSS-2012**

as of 2012-04-04

# Time Table

DAY1 (5/23 Wed)

Time	Int'l Conf Room	Conf Room 1	Conf Room 2	Conf Room 3	Conf Room 4	Conf Room 5
12:00-13:00	Registration					
13:00-13:30	Opening					
13:30-14:30	Keynote Speech Prof. Andrzej Skowron					
14:30-14:50	Cooffee Break					
14:50-16:30	<u>IDT-IS02</u> Bio-Inspired Computing for Decision Support Theories and Applications		<u>IMS-IS14</u> Information Service and Knowledge Sharing through Interactive Media	<u>IDT-IS01</u> Decision Making in a Changing Financial and Social Environment	<u>IDT-IS28</u> Strategic Behavior Model in MCDM Applications	
16:45-21:30	Conference Reception (Ukai: Comfort Fishing)					

DAY2 (5/24 Thu)

Time	Int'l Conf Room	Conf Room 1	Conf Room 2	Conf Room 3	Conf Room 4	Conf Room 5
8:30-9:00	Registration					
9:00-10:00	Keynote Speech Prof. Chen-Fu Chien					
10:00-10:20	Coffee Break					
10:20-12:20	<u>IMS-GEN</u> General Track for IIMSS	<u>IDT-GEN (1)</u> General Track for IDT	<u>IMS-IS07</u> Knowledge Media for Learning and Creativity	<u>IDT-IS18 (1)</u> Rough Sets and Granular Computing (RSGrC)	<u>IMS-IS08</u> Interactive Learning / Educational Systems, Services, and Environments  <u>IMS-IS09 (1)</u> Student-Centred e-Learning	<u>IMS-IS04</u> Intelligent Human- Computer Interaction
12:20-13:20	Lunch					
13:20-15:00	<u>IDT-IS03</u> Knowledge Engineering and Soft Data Analysis	<u>IDT-GEN (2)</u> General Track for IDT	<u>IMS-IS16 (1)</u> Personalization of Intelligent Interactive Systems	<u>IDT-IS18 (2)</u> Rough Sets and Granular Computing (RSGrC)  <u>IDT-IS07</u> Manufacturing Intelligence for High-Tech Industry	<u>IMS-IS09 (2)</u> Student-Centred e-Learning	<u>IDT-IS22</u> Computational intelligence in management controlling  <u>IDT-IS17 (1)</u> Optimization Models in Logistics Management and Supply Chain Management
15:00-15:20	Coffee Break					
15:20-16:40	Open Seminar	<u>IDT-IS25</u> Mathematical Decision Making under Various criteria and Its Application to Urban Problem	<u>IMS-IS16 (2)</u> Personalization of Intelligent Interactive Systems  <u>IMS-IS13</u> Risk and Cognition	<u>IDT-IS30</u> Fuzzy Rule- Based Systems	<u>IMS-IS03</u> Kukanchi - interactive human-space design and intelligence	<u>IDT-IS17 (2)</u> Optimization Models in Logistics Management and Supply Chain Management
18:30-21:00	Banquet					

DAY3 (5/25 Fri)

Time	Int'l Conf Room	Conf Room 1	Conf Room 2	Conf Room 3	Conf Room 4	Conf Room 5
8:30-9:00	Registration					
9:00-10:00	Keynote Speech Prof. Takushi Tanaka					
10:00-10:20	Coffee Break					
10:20-12:20	<u>IDT-IS32</u> System Efficiency in Business and Service Computing  <u>IDT-IS20 (1)</u> Decision Making Theory	<u>IMS-IS05</u> Intelligent Network Service	<u>IDT-IS31</u> Advanced Progress in Management Engineering	<u>IDT-IS27</u> Bilevel Programming Theory, Algorithms, and Applications	<u>IDT-IS21</u> Informatics Medicine as a option in the Medical Practitioners intervention toolkit  <u>IDT-IS24</u> Intelligent information processing for Knowledge management and mining	<u>IDT-IS23</u> Knowledge- Based Intelligent System and Application
12:20-13:20	Lunch					
13:20-15:00	<u>IDT-IS20 (2)</u> Decision Making Theory	<u>IMS-IS10</u> Social Intelligence in Human Community	<u>IDT-IS05</u> Innovative Applications of Computational Intelligent Systems	<u>IDT-IS29</u> A New Frontier of Hybrid MCDM Model and its Application	<u>IDT-IS04</u> Operations Research through Soft Computing Methodology	<u>IMS-IS06</u> Nonverbal Communication Technology for Human- Computer Interaction
15:00-15:20	Coffee Break					
15:20-16:20	Keynote Speech Prof. Mika Sato- Ilic					
16:20-16:50	Closing					

# Detailed Programme

**5/23 13:30-14:30 Int'l Conf. Room**

**Session: Keynote Speech**

**Chair: TBA**

Rough Sets and Reasoning about Complex Vague Concepts

*Prof. Andrzej Skowron*

**5/23 14:50-16:30 Int'l Conf. Room**

**Session: Bio-Inspired Computing for Decision Support: Theories and Applications**

**Chair: Lakhmi Jain**

Activity Recognition by Fuzzy Logic System in Wireless Sensor Network for Physical Therapy

*Shu-Yin Chiang, Yao-Chiang Kan, Ying-Ching Tu, and Hsueh-Chun Lin*

Bio-inspired Image Analysis Using E-UBIAS Cognitive Systems

*Lidia Ogiela and Marek Ogiela*

Information Fusion Approach in Computer Aided Detection of Pathological Changes

*Mirosław Trzupiek and Marek Ogiela*

The Automatic Two-step Vessel Lumen Segmentation Algorithm for Carotid Bifurcation Analysis during Perfusion Examination

*Marek Ogiela and Tomasz Hachaj*

**5/23 14:50-16:30 Conf. Room 2**

**Session: Information Service and Knowledge Sharing through Interactive Media**

**Chair: Yukuo Isomoto**

Proposal of teaching material of information morals education based on goal-based scenario theory for Japanese high school students

*Kyoko Umeda, Ayako Shimoyama, Hironari Nozaki, and Tetsuro Ejima*

Design and Implementation of Computer Assisted Training System for Nursing Process Learning

*Seiichiro Takami, Toshinobu Kawai, Takako Takeuchi, Yukiko Fukuda, Satoko Kamiya, Kaori Nakajima, Setsuko Maeda, Junko Okumura, Misako Sugihara, and Yukuo Isomoto*

Stochastic Applications for E-learning System  
*Syouji Nakamura, Keiko Nakayama, and Toshio Nakagawa*

Knowledge-based System for Automatic 3D Building Generation from Building Footprint  
*Kenichi Sugihara, Xinxin Zhou, and Takahiro Murase*

Development of Agent-Based Model for Simulation on Residential Mobility Affected by Downtown Regeneration Policy  
*Zhenjiang Shen, Yan MA, Mitsuhiro Kawakami, and Tatsuya Nishino*

**5/23 14:50-16:30 Conf. Room 3**

**Session: Decision Making in a Changing Financial and Social Environment**

**Chair: Mieko Tanaka-Yamawaki**

Moment Approach for Quantitative Evaluation of Randomness based on RMT Formula  
*Mieko Tanaka-Yamawaki, Xin Yang, and Ryota Itoi*

Directional Bias between Communities of a Production Network in Japan  
*Takashi Iino and Hiroshi Iyetomi*

Detection of Comoving Groups in a Financial Market  
*Takeo Yoshikawa, Takashi Iino, and Hiroshi Iyetomi*

Modeling of Climate Data in Terms of AR(1) Process Contaminated with Noise  
*Yuta Arai and Hiroshi Iyetomi*

**5/23 14:50-16:30 Conf. Room 4**

**Session: Strategic Behavior Model in MCDM Applications**

**Chair: Mei-Chen Lo**

MCDM Method for the Behavior of Innovative New Product Development  
*Mei-Chen Lo*

Behavior Framework on the Innovative Education System for Entrepreneurship  
*Mei-Chen Lo*

Hybrid MCDM Model for the Value Evaluation of the Restoration of Historical Objects



*Mei-Chen Lo, Tadeusz Trzaskalik, Maciej Nowak, Tian-Jong Hwu, Gwo-Hshiung Tzeng, and Jerzy Michnik*

Using a Hybrid MCDM Model Combining Fuzzy DEMATEL Technique to Examine the Job Stress of Coach Driver

*Chui-Hua Liu, Gwo-Hshiung Tzeng, Ming-Huei Lee, Hao-Lin Tseng, and Po-Yan Lee*

**5/24 9:00-10:00 Int'l Conf. Room**

**Session: Keynote Speech**

**Chair: TBA**

Manufacturing Intelligence and Data Mining: From Yield Enhancement, Production Management, to Manufacturing Strategy in Semiconductor Manufacturing

*Prof. Chen-Fu Chien*

**5/24 10:20-12:20 Int'l Conf. Room**

**Session: General Track for IIMSS**

**Chair: Naohisa Takahashi**

A Study on Privacy Preserving Collaborative Filtering with Data Anonymization by Clustering

*Katsuhiro Honda, Yui Matsumoto, Arina Kawano, Akira Notsu, and Hidetomo Ichihashi*

A Way for Color Image Enhancement under Complex Luminance Conditions

*Margarita Favorskaya and Andrey Pakhirka*

Incremental Representation and Management of Recursive Types in Graph-based Data Model for Content Representation of Multimedia Data

*Teruhisa Hochin, Yuki Ohira, and Hiroki Nomiya*

Intelligent Collage System

*Margarita Favorskaya, Elena Yaroslavtzeva, and Konstantin Levitin*

IEC-Based 3D Model Retrieval System

*Seiji Okajima and Yoshihiro Okada*

Topic Bridging by Identifying the Dynamics of the Spreading Topic Model

*Makoto Sato, Mina Akaishi, and Koichi Hori*

**5/24 10:20-12:20 Conf. Room 1**

**Session: General Track for IDT**

**Chair: Eizo Kinoshita**

Medical Decision Support System for Assessment of Dermatoglyphic Indices and Diagnosis of Down's Syndrome

*Hubert Wojtowicz and Wieslaw Wajs*

Line Graph for Weighted Networks toward Overlapping Community Discovery

*Tetsuya Yoshida*

A Proposal of a Japanese Input System for Mobile Terminals Enhanced by the Word Forecast Function based on the Location Information

*Ken Tarusawa, Jun Sawamoto, Eiji Sugino, and Norihisa Segawa*

Adaptive Reinforcement Learning for Dynamic Environment based on Behavioral Habit

*Akihiro Mimura, Shota Sumino, and Shohei Kato*

Bayesian Network Based Prediction Algorithm of Stock Price Return

*Yi Zuo, Masaaki Harada, Takao Mizuno, and Eisuke Kita*

Toward Learning Support for Decision Making - Utilization of Library and Lecture Data -

*Toshiro Minami and Yoko Ohura*

**5/24 10:20-12:20 Conf. Room 2**

**Session: Knowledge Media for Learning and Creativity**

**Chair: Fuminori Akiba**

Skeleton Generation for Presentation Slides based on Expression Styles

*Yuanyuan Wang and Kazutoshi Sumiya*

Generation Method of Multiple-choice Cloze Exercises in Computer-support for English-grammar Learning

*Ayse Saliha Sunar, Dai Inagi, Yuki Hayashi, and Toyohide Watanabe*

Tactile Score, a Knowledge Media of Tactile Sense for Creativity

*Yasuhiro Suzuki, Junji Watanabe, and Rieko Suzuki*

Honey Bee Optimization Based on Mimicry of Threshold Regulation in Honey Bee Foraging

*Maki Furukawa and Yasuhiro Suzuki*

Not)Myspace: Social Interaction as Detriment to Cognitive Processing and Aesthetic Experience in the Museum of Art

*Matthew Pelowski*

Can Pictures be a Candidate for Knowledge Media?

*Fuminori Akiba*

**5/24 10:20-12:20 Conf. Room 3**

**Session: Rough Sets and Granular Computing (RSGrC)**

**Chair: Andrzej Skowron**

A Descriptor-based Division Chart Table in Rough Non-deterministic Information Analysis

*Hiroshi Sakai, Hitomi Okuma, Mao Wu, and Michinori Nakata*

Application of Decision Rules, Generated on the Basis of Local Knowledge Bases, in the Process of Global Decision-making

*Małgorzata Przybyła-Kasperek and Alicja Wakulicz-Deja*

Approximating Core, Reduct and Non-reduct Attributes with Game-theoretic Rough Sets

*Nouman Azam and Jing Tao Yao*

Granule Mining and Its Application for Network Traffic Characterization

*Bin Liu, Yuefeng Li, and Kewen Wang*

Representation and Evaluation of Granular Systems

*Marcin Szczuka and Dominik Slezak*

Interactive Grammars: Toward Perception Based Computing

*Andrzej Skowron and Piotr Wasilewski*

**5/24 10:20-12:20 Conf. Room 4**

**Session: Interactive Learning / Educational Systems, Services, and Environments**

**Chair: Hisayoshi Kunimune**

Development of the Online Self-Placement Test Engine that interactively selects texts for an Extensive Reading test

*Kosuke Adachi, Mark Brierley, and Masaaki Niimura*

Proposal of an Automatic Composition Method of Piano Works for Novices based on an Analysis of Study Items in Early Stages of Piano Education

*Mio Iwaki, Hisayoshi Kunimune, and Masaaki Niimura*

Construction of Content Recording and Delivery System for Intercollegiate Distance Lecture in a University Consortium

*Takeshi Morishita, Kizuku Chino, and Masaaki Niimura*

**Session: Student-Centred e-Learning**

**Chair: Kazunori Nishino**

Problem Based Learning for US and Japan Students in a Virtual Environment

*Dana M. Barry, Hideyuki Kanematsu, Yoshimi Fukumura, Toshiro Kobayashi, Nobuyuki Ogawa, and Hirotomo Nagai*

Nuclear Energy Safety Project in Metaverse

*Hideyuki Kanematsu, Toshiro Kobayashi, Nobuyuki Ogawa, Yoshimi Fukumura, Dana M. Barry, and Hirotomo Nagai*

Supporting Continued Communication with Social Networking Service in e-Learning

*Kai LI and Yurie Iribe*

**5/24 10:20-12:20 Conf. Room 5**

**Session: Intelligent Human-Computer Interaction**

**Chair: Kazuhisa Seta**

Extraction of Vocational Aptitude from Operation Logs in Virtual Space

*Kyohei Nishide, Tateaki Komaki, Fumiko Harada, and Hiromitsu Shimakawa*

Framework of a System for Extracting Mathematical Concepts from Content MathMLBased Mathematical Expressions

*Takayuki Watabe and Yoshinori Miyazaki*

Comparison Analysis for Text Data by Integrating Two FACT-Graphs

*Ryosuke Saga and Hiroshi Tsuji*

Designing Agents that Recognise and Respond to Players' Emotions

*Weiqin Chen*

The Difference and Limitation of Cognition for Piano Playing Skill with Difference Educational Design

*Katsuko T. Nakahira, Miki Akahane, and Yukiko Fukami*

Reflection Support for Constructing Meta-cognitive Skills by Focusing on Iso-morphism between Internal Self-dialogue and Discussion Tasks  
*Risa Kurata, Kazuhisa Seta, and Mitsuru Ikeda*

**5/24 13:20-15:00 Int'l Conf. Room**

**Session: Knowledge Engineering and Soft Data Analysis**

**Chair: Mika Sato-Ilic**

ES-DM: an Expert System for an Intelligent Exploitation of the Large Data Set  
*Amel Grissa Touzi and Mohamed Amine Selmi*

A Structural Analysis based on Similarity between Fuzzy Clusters and its Application to Evaluation Data  
*Ryunosuke Chiba, Toshiaki Furutani, and Mika Sato-Ilic*

Similarity Analysis based on the Weighted Moving Window for Tissue Characterization of Plaque in Coronary Arteries  
*Gancho Vachkov and Eiji Uchino*

Symbolic Hierarchical Clustering for Pain Vector  
*Kotoe Katayama, Rui Yamaguchi, Seiya Imoto, Keiko Matsuura, Kenji Watanabe, and Satoru Miyano*

Building Linguistic Random Regression Model and Its Application  
*Sha Li, Shinya Imai, and Junzo Watada*

**5/24 13:20-15:00 Conf. Room 1**

**Session: General Track for IDT**

**Chair: Eizo Kinoshita**

Immunization of Networks via Modularity based Node Representation  
*Tetsuya Yoshida and Yuu Yamada*

Feedback GMDH-type Neural Network Algorithm using Prediction Error Criterion Defined as AIC  
*Tadashi Kondo, Junji Ueno, and Shoichiro Takao*

Context-based Decision Support for Energy Efficiency and Emissions Trading in Industry: the LifeSaver Approach  
*Rui Neves-Silva, Maria Marques, Ana Rita Campos, Christian Wolff, and Boris*

*Sucic*

A Decision Table Method for Randomness Measurement

*Nawaf Alkhaboush and Yuefeng Li*

Fuzzy Decision Making Model for Human Fall Detection and Inactivity Monitoring

*Marina Sokolova and Antonio Fernández-Caballero*

**5/24 13:20-15:00 Conf. Room 2**

**Session: Personalization of Intelligent Interactive Systems**

**Chair: Shigeki Matsubara**

Intuitive Humanoid Robot Operating System based on Recognition and Variation of Human Body Motion

*Yuya Hirose and Shohei Kato*

Character Giving Model of KANSEI Robot based on the Tendency of User's Treatment for Personalization

*Hiroki Ogasawara and Shohei Kato*

Estimation of Dialogue Moods Using the Utterance Intervals Features

*Kaoru Toyoda, Yoshihiro Miyakoshi, Ryosuke Yamanishi, and Shohei Kato*

Animated Pronunciation Generated from Speech for Pronunciation Training

*Yurie Iribe, Silasak Manosavan, Kouichi Katsurada, and Tsuneo Nitta*

Proposal of MMI-API and Library for JavaScript

*Kouichi Katsurada, Taiki Kikuchi, Yurie Iribe, and Tsuneo Nitta*

**5/24 13:20-15:00 Conf. Room 3**

**Session: Rough Sets and Granular Computing (RSGrC)**

**Chair: Andrzej Skowron**

Designing a Rule Based Expert System for Selecting Pavement Rehabilitation Treatments Using Rough-Set Theory

*Ehsan Akhlaghi and Farshid Abdi*

Visualization of Rules in Rule-based Classifiers

*Susanne Bornelöv, Stefan Enroth, and Jan Komorowski*

**Session: Manufacturing Intelligence for High-Tech Industry**  
**Chair: Chen-Fu Chien**

Building a Decision Support Tool for Taiwan's National Health Insurance Data  
- An application to Fractures Study  
*Chien-Lung Chan, Phan Dinh Van, and Nan-Ping Yang*

Manufacturing Intelligence to Forecast the Customer Order Behavior for Vendor Managed Inventory  
*Chen-Fu Chien, Chia-Yu Hsu, and Sheng Chiao Lin*

Main Branch Decision Tree Algorithm for Yield Enhancement with Class Imbalance  
*Chia-Yu Hsu, Chen-Fu Chien, and Yai-Chun Lai*

**5/24 13:20-15:00 Conf. Room 4**

**Session: Student-Centred e-Learning**  
**Chair: Kazunori Nishino**

Proposal of a Numerical Calculation Exercise System for SPI2 Test Based on Academic Ability Diagnosis  
*Shin'ichi Tsumori and Kazunori Nishino*

The Design of an Automatic Lecture Archiving System Offering Video Based on Teacher's Demands  
*Shin'nosuke Yamaguchi, Yoshimasa Ohnishi, and Kazunori Nishino*

Online Collaboration Support Tools for Blended Project-Based Learning on Embedded Software Development  
*Takashi Yukawa, Tomonori Iwazaki, Keisuke Ishida, Yuji Nishigaki, Yoshimi Fukumura, Makoto Yamazaki, Naoki Hasegawa, and Hajime Miura*

Capturing Student Real Time Facial Expression for More Realistic E-learning Environment  
*Asanka D. Dharmawansa, Katsuko T. Nakahira, and Yoshimi Fukumura*

Checklist System Based on a Web for Qualities of Distance Learning and the Operation  
*Nobuyuki Ogawa, Hideyuki Kanematsu, Yoshimi Fukumura, and Yasutaka Shimizu*

**5/24 13:20-15:00 Conf. Room 5**

**Session: Computational Intelligence in Management Controlling**

**Chair: János Botzheim**

Improving the Strategic Level Performance Measurement in Warehousing Processes

*Péter Németh and Péter Földesi and János Botzheim*

Simultaneous Optimization of Customer Satisfaction and Cost Function by Nature Inspired Computing

*János Botzheim and Péter Földesi*

**Session: Optimization Models in Logistics Management and Supply Chain Management**

**Chair: Xiangpei HU**

Research on Complexity and Evolution of Business Model Innovation

*Qian Wang*

Revenue Sharing Contract in Dual Channel Supply Chain in case of Free Riding

*Liu Yezheng and Ding Zhengping*

The Benefits of Cooperation between Retailers under Supply Uncertainties

*Jing Hou*

**5/24 15:20-16:40 Conf. Room 1**

**Session: Mathematical Decision Making under Various Criteria and Its Application to Urban Problem**

**Chair: Hiroaki Ishii**

Interactive Approach for Random Fuzzy Two-level Programming Problems through Fractile Criterion Optimization Under Possibility

*Shimpei Matsumoto, Kosuke Kato, and Hideki Katagiri*

Assignment Problem based on Mathematical Formation of Consensus

*Hiroaki Ishii and Yung Lung Lee*

Using Fuzzy MCDM Method to Exploring the Influence Degree of Project Team Effectiveness Maturity

*Yao-Feng Chang and Hiroaki Ishii*

A Proposal of Farmers Information System for Urban Markets

*Tomoko Kashima, Shimpei Matsumoto, Hiroshi Iseda, and Hiroaki Ishii*



**5/24 15:20-16:40 Conf. Room 2**

**Session: Personalization of Intelligent Interactive Systems**

**Chair: Shigeki Matsubara**

Personalized Text Formatting for E-mail Messages

*Masaki Murata, Tomohiro Ohno, and Shigeki Matsubara*

Personalization of News Speech Delivery Service based on Transformation from Written Language to Spoken Language

*Shigeki Matsubara and Yukiko Hayashi*

**Session: Risk and Cognition**

**Chair: Colette Faucher**

Building a Domain Ontology to Design a Decision Support Software to Plan Fight Actions against Marine Pollutions

*Jean-Marc Mercantini and Colette Faucher*

**5/24 15:20-16:40 Conf. Room 3**

**Session: Fuzzy Rule-Based Systems**

**Chair: Hirosato Seki**

Performance Evaluation of SIRM Models for Classification Problems

*Tomoharu Nakashima and Hirosato Seki*

GPGPU Implementation of Fuzzy Rule-based Classifiers

*Tomoharu Nakashima, Keigo Tanaka, Noriyuki Fujimoto, and Ryosuke Saga*

Medical Discriminant Analysis by Modular Fuzzy Model

*Hirosato Seki and Toshihiko Watanabe*

Some Consideration of SIRM Connected Fuzzy Inference Model with Functional Weights

*Hirosato Seki and Tomoharu Nakashima*

**5/24 15:20-16:40 Conf. Room 4**

**Session: Kukanchi - Interactive Human-space Design and Intelligence**

**Chair: Naoyuki Kubota**

Genetic Ensemble Biased ARTMAP Method of ECG based Emotion Classifica-

tion

*Chu Kiong Loo, Wei Shiung Liew, and M. Shohel Sayeed*

A Decision Making for a Robot Based on Simple Interaction with Human

*Hiroyuki Masuta, Yasuto Tamura, and Hun-ok Lim*

Locomotion Design of Artificial Creatures in Edutainment

*Kyohei Toyoda, Takamichi Yuasa, Toshio Nakamura, Kentaro Onishi, Shunshuke Ozawa, and Kunihiro Yamada*

Path Planning in Probabilistic Environment by Bacterial Memetic Algorithm

*Janos Botzheim, Yuichiro Toda, and Naoyuki Kubota*

**5/24 15:20-16:40 Conf. Room 5**

**Session: Optimization Models in Logistics Management and Supply Chain Management**

**Chair: Xiangpei HU**

A Dynamic Programming Decision-making Model of Investment Policy for Unconventional Oil Exploitation

*Jinfeng Sun and Xiangpei Hu*

Research on Emergency Crowd Behavior Based on Epidemic Dynamics

*Yingchao Pei and Guangmou Wu*

A Compromise Decision-Making Model to Recover Emergency Logistics Network

*Yiping Jiang and Lindu Zhao*

An Approach to the Real-time Risk Analysis for Hazardous Material Transportation

*Linlin Liu, Lijun Sun, Jianming Li, Chao Li, and Xiangpei Hu*

**5/25 9:00-10:00 Int'l Conf. Room**

**Session: Keynote Speech**

**Chair: TBA**

Handmade Satellite NIWAKA (FITSAT-1)

*Prof. Takushi Tanaka*

**5/25 10:20-12:20 Int'l Conf. Room**

**Session: System Efficiency in Business and Service Computing**

**Chair: Hyerim Bae**

Stepwise Benchmarking Path Selection in DEA

*Jaehun Park, Hyerim Bae, and Sungmook Lim*

Parallel Servers Scheduling with Dynamic Sequence-dependent Setup Time

*Thanh-Cong Dinh and Hyerim Bae*

On a Patent Analysis Method for Identifying Core Technologies

*Chulhyun Kim and Hyeonju Seol*

Case of Process Mining from Business Execution Log Data

*Joonsoo Bae and Young Ki Kang*

**Session: Decision Making Theory**

**Chair: Eizo Kinoshita**

Decision Making on the Optimization of Budget Allocation for Safety

*Yuji Sato*

A Study of Maslow's Hierarchy of Needs and Decision-making

*Hiroyuki Kishi, Koji Ito, Shin Sugiura, and Eizo Kinoshita*

**5/25 10:20-12:20 Conf. Room 1**

**Session: Intelligent Network Service**

**Chair: Naohisa Takahashi**

A Fusion of Multiple Focuses on a Focus+Glue+Context Map

*Hiroya Mizutani, Daisuke Yamamoto, and Naohisa Takahashi*

Encoding Travel Traces by using Road Networks and Routing Algorithms

*Pablo Martinez Lerin, Daisuke Yamamoto, and Naohisa Takahashi*

A Map Matching Algorithm for Sharing Map Information among Refugees in Disaster Areas

*Koichi Asakura, Masayoshi Takeuchi, and Toyohide Watanabe*

Multistep Search Algorithm for Sum k-Nearest Neighbor Queries on Remote Spatial Databases

*Hideki Sato and Ryoichi Narita*

Fundamental Functions of Dynamic Teaching Materials System  
*George Moroni Teixeira Batista, Mayu Urata, and Takami Yasuda*

Online News Browsing over Interrelated Target Events  
*Yusuke Koyanagi and Toyohide Watanabe*

**5/25 10:20-12:20 Conf. Room 2**

**Session: Advanced Progress in Management Engineering**  
**Chair: Junzo Watada**

Developing Marketing Strategies based on Taste Analysis of Mineral Water  
*Le Yu, Junzo Watada, and Munehira Shibata*

Building a Type II Fuzzy Qualitative Regression Model  
*Yicheng Wei and Junzo Watada*

Building Fuzzy Random Autoregression Model and Its Application  
*Lu Shao, You-Hsi Tsai, Junzo Watada, and Shuming Wang*

Hot Fomentation of the Lower-back for Stress Relief in Students Preparing for  
a National Examination of Medical Technologist  
*Hanachiyo Nagata, Junzo Watada, Ito Yushi, Takao Shindo, Masasuke Takefu,  
Masahiro Nakano, Kumiko Satou, Yoriko Hasimoto, Sadahiro Kumamoto, Sumiko  
Oki, Fusako Fujii, Yukmitu Satou, and Norio Akaike*

Celebrities as Marketing Enhancer: Case Analysis of the Alternative Food Move-  
ment and “Eco-chic” Lifestyle Advocacy  
*Shinichiro Terasaki and Shin’ya Nagasawa*

A Model Study on Emotional Communication in a Mono-brand Fashion Store:  
Application of the Lens Model in the Fashion Industry  
*Zhiqing Jiang and Shin’ya Nagasawa*

**5/25 10:20-12:20 Conf. Room 3**

**Session: Bilevel Programming: Theory, Algorithms, and Applications**  
**Chair: Vyacheslav Kalashnikov**

A Method of Internet-analysis by the Tools of Graph Theory  
*Sergii Kavun, Irina Mykhalchuk, Nataliya Kalashnykova, and Olexander Zyma*

Enterprise Insider Detection as an Integer Programming Problem  
*Sergii Kavun, Ivan Sorbat, and Vyacheslav Kalashnikov*

Bilevel Toll Optimization Problems: A Heuristic Algorithm Based Upon Sensitivity Analysis

*Nataliya Kalashnykova, Vyacheslav Kalashnikov, and Roberto Herrera Maldonado*

Consistent Conjectures in Mixed Oligopoly With Discontinuous Demand Function

*Nataliya Kalashnykova, Vyacheslav Kalashnikov, and Mario Ovando Montantes*

An Alternative View of Uncertainty in Bilateral Bargaining Models with Incomplete Information

*Javier Gonzalez and Vitaliy Kalashnikov*

Application of the Cournot and Stackelberg Mixed Duopoly Models For Mexican Real Estate Market

*Vitaliy Kalashnikov, Daniel Flores Curiel, and Javier Gonzalez*

**5/25 10:20-12:20 Conf. Room 4**

**Session: Informatics Medicine as an Option in the Medical Practitioners Intervention Toolkit**

**Chair: John Ronczka**

Ontology-based CIS Design using Three-stage Development Approach

*Nan-Chen Hsieh, Huan-Chao Keh, Chien-Hui Chan, and Szu-Ting Wang*

Biorheological Delivery Engines in the Context of Facial Harmony

*Tarik Ozkul and Haluk Ozkul*

Develop an Intelligence Analysis Tool for Abdominal Aortic Aneurysm

*Nan-Chen Hsieh, Jui-Fa Chen, and Hsin-Che Tsai*

Informatics Medicine as an Intervention that uses Medicine Informatics Data Systems

*John Ronczka*

**Session: Intelligent Information Processing for Knowledge Management and Mining**

**Chair: Daocheng Hong**

Understanding Post-acceptance Usage Behaviors - an Ambidexterity View

*Yumei Luo, Hong Ling, Chenghong Zhang, and Zhengchuan Xu*

An Exploration of Individual Level Tacit Knowledge Integration  
*Dao Cheng Hong, Hong Ling, and Cheng Hong Zhang*

**5/25 10:20-12:20 Conf. Room 5**

**Session: Knowledge-Based Intelligent System and Application**

**Chair: Yuji Iwahori**

Voice Communication Aid with Personal Digital Assistant for Autistic Children  
*Ippei Torii, Kaoruko Ohtani, Nahoko Shirahama, Takahito Niwa, and Naohiro Ishii*

Estimation of Subjective Stress via Simplified Biosignal Measurement  
*Yoshihito Maki, Genma Sano, Yusuke Kobashi, Tsuyoshi Nakamura, Masayoshi Kanoh, and Koji Yamada*

Formalization of Decentralized Cooperation Model for Disaster Simulation  
*Bipin Khanal, Nobuhiro Ito, Kazunori Iwata, and Naohiro Ishii*

Improved Defect Classification of Printed Circuit Board Using SVM  
*Yuji Iwahori, Deepak Kumar, Takuya Nakagawa, and M. K. Bhuyan*

Evolution of Friendship Networks and Transition of Their Properties  
*Hiroshi Matsushima and Nobuhiro Inuzuka*

**5/25 13:20-15:00 Int'l Conf. Room**

**Session: Decision Making Theory**

**Chair: Eizo Kinoshita**

Adjustment Mechanism of Concurrent Convergence Method Models  
*Shin Sugiura and Eizo Kinoshita*

Convergence Properties of Criteria Weights of Dominant AHP with Solving Equations of Interchangeability  
*Takafumi Mizuno, Shin Sugiura, and Eizo Kinoshita*

Super Pairwise Comparison Matrix in the Multiple Dominant AHP  
*Takao Ohya and Eizo Kinoshita*

A New Way to Make Decisions with Paired Comparisons  
*Youichi Iida*

Normalization Method based on Dummy Alternative with Perfect Evaluation

Score in AHP and ANP  
*Kazutomo Nishizawa*

**5/25 13:20-15:00 Conf. Room 1**

**Session: Social Intelligence in Human Community**  
**Chair: Taketoshi Ushiyama**

A Traffic Flow Prediction Approach Based on Aggregated Information of Spatio-temporal Data Streams  
*Jun Feng, Zhonghua Zhu, and Rongwei Xu*

Taxi Demand Forecasting based on Taxi Probe Data by Neural Network  
*Naoto Mukai and Naoto Yoden*

DOSR: A Method of Domain-Oriented Semantic Retrieval in XML Data  
*Jun Feng, Zhixian Tang, and Ruchun Huang*

A Method for Supporting Presentation Planning based on Presentation Strategies  
*Koichi Hanaue and Toyohide Watanabe*

**5/25 13:20-15:00 Conf. Room 2**

**Session: Innovative Applications of Computational Intelligent Systems**  
**Chair: Bala M. Balachandran**

Intelligent Community Embedded Speech Recognition System research  
*Zhanhong Mo, Jiangyan Qi, and Cunmi Song*

A Multi-agent Decision Support System for Path Planning under Reciprocal Constraints  
*Miri Weiss Cohen, Gidon Avigad, and Erella Eisenstadt*

Network Security Evaluation Method via Attack Graphs and Fuzzy Cognitive Maps  
*Aodah Diamah, Masoud Mohammadian, and Bala Balachandran*

An Intelligent Agent Framework to Manage Web Services Security  
*Bala Balachandran, Dharmendra Sharma, and Chris Peiris*

Temporal Perspective for the Software Testing Decision Support Framework  
*Masoud Mohammadian, Bala Balachandran, and Deane Larkin*

**5/25 13:20-15:00 Conf. Room 3**

**Session: A New Frontier of Hybrid MCDM Model and its Application**  
**Chair: Gow-Hshiung Tzeng**

Strategies for Promoting Tourism Competitiveness using a Hybrid MCDM Model  
*Kua-Hsin Peng and Gwo-Hshiung Tzeng*

How to Deal with Overgood and Underbad Alternatives in Bipolar Method  
*Tadeusz Trzaskalik and Sebastian Sitarz*

Evaluating Cloud Computing Based Telecommunications Service Quality Enhancement by Using a New Hybrid MCDM Model  
*Chi-Yo Huang, Pei-Chu Hsu, and Gwo-Hshiung Tzeng*

Evaluating Top Services-prepackaged Software Firms in Standard and Poor's 500 index by Using a Multiple Objective Programming Based Data Envelopment Analysis  
*Chi-Yo Huang, Po-Yen Wang, and Gwo-Hshiung Tzeng*

Derivations of Factors Influencing the Technology Acceptance of Smart TV by Using the DEMATEL Based Network Process  
*Chi-Yo Huang, Yu-Wei Liu, and Gwo-Hshiung Tzeng*

**5/25 13:20-15:00 Conf. Room 4**

**Session: Operations Research through Soft Computing Methodology**  
**Chair: Hideki Katagiri**

An Interactive Fuzzy Satisficing Method for Multiobjective Stochastic Linear Programming Problems Considering Both Probability Maximization and Fractile Optimization  
*Hitoshi Yano*

Ranking Alternatives under FWA by Riemann Integral Based Mean of Removals  
*Ta-Chung Chu and Sophy Lach*

A Stackelberg Location on a Network with Fuzzy Random Demand Quantities using Possibility Measure  
*Takeshi Uno, Hideki Katagiri, and Kosuke Kato*

Analysis of Tourist Subjective Data in Smartphone based Participatory Sensing System by Interactive Growing Hierarchical SOM  
*Takumi Ichimura, Shin Kamada, and Kousuke Kato*



Entropy Model of a Fuzzy Random Portfolio Selection Problem  
*Takashi Hasuike and Hideki Katagiri*

**5/25 13:20-15:00 Conf. Room 5**

**Session: Nonverbal Communication Technology for Human-Computer Interaction**

**Chair: Tomoko Kojiri**

Construction of a Local Attraction Map according to Social Visual Attention  
*Ichiro Ide, Jiani Wang, Masafumi Noda, Tomokazu Takahashi, Daisuke Deguchi, and Hiroshi Murase*

Data Embedding and Extraction Method for Printed Images by Log Polar Mapping  
*Kimitoshi Tamaki, Mitsuji Muneyasu, and Yoshiko Hanada*

Prototypical Design of Learner Support Materials based on the Analysis of Non-verbal Elements in Presentation  
*Kiyota Hashimoto and Kazuhiro Takeuchi*

Presentation Story Estimation from Slides for Detecting Inappropriate Slide Structure  
*Tomoko Kojiri and Fumihiko Yamazoe*

**5/25 15:20-16:20 Int'l Conf. Room**

**Session: Keynote Speech**

**Chair: TBA**

Cluster-based Scaling for Symbolic Data and its Applications in Decision Making  
*Prof. Mika Sato-Ilic*