

# IEA/AIE 2009 Program at-a-Glance

June 24th (Wednesday)				
Time	Room A	Room B	Room C	Room D
08:00 - 09:00	<b>Registration</b>			
09:00 - 09:15	<b>Opening Ceremony</b> (Banquet Hall, Landis A at 5F)			
09:15 - 10:15 <b>Plenary Talk</b>	A Knowledge-based Co-Location Model for Natural Language Processing Speaker: Prof. Wen-Lian Hsu (Banquet Hall, Landis A at 5F)			
10:15 - 10:45	Coffee Break			
10:45 - 11:45 <b>Plenary Talk</b>	Co-Evolutionary Learning of Game-playing Strategies Speaker: Prof. Xin Yao (Banquet Hall, Landis A at 5F)			
11:45 - 13:10	Lunch Break			
13:10 - 15:00 <b>Parallel Sessions</b>	<b>WA1</b> Computer Vision	<b>WB1</b> Data Mining and Knowledge Discovery	<b>WC1</b> Evolutionary Computation	<b>WD1</b> Integration Systems for Real Life App.
15:00 - 15:20	Coffee Break			
15:20 - 17:10 <b>Parallel Sessions</b>	<b>WA2</b> Intelligent Wireless Computing	<b>WB2</b> Neural Networks	<b>WC2</b> Mass Customization of Manufacturing Prod. using Applied Intelligent Systems	<b>WD2</b> Machine Learning
18:00 - 19:30	<b>Welcome Reception</b> (Banquet Hall, Landis B at 5F)			

June 25th (Thursday)				
Time	Room A	Room B	Room C	Room D
08:00 - 09:00	<b>Registration</b>			
09:00 - 10:00 <b>Plenary Talk</b>	How to Use Inconsistency of Knowledge in Determining Knowledge of a Collective? Speaker: Prof. Ngoc Thanh Nguyen (Room C at 4F)			
10:00 - 10:20	Coffee Break			
10:20 - 12:10 <b>Parallel Session</b>	<b>TA1</b> Autonomous Agents	<b>TB1</b> Fuzzy Logic and Uncertainty	<b>TC1</b> Mining Interesting Knowledge (I)	
12:10 - 13:20	Lunch Break			
13:20 - 15:10 <b>Parallel Sessions</b>	<b>TA2</b> Knowledge Man. and Natural Lang. Processing	<b>TB2</b> Machine Learning	<b>TC2</b> Engineering Knowledge and Semantic Systems	<b>TD2</b> Mining Interesting Knowledge (II)
15:10 - 15:30	Coffee Break			
15:30 - 17:10 <b>Parallel Sessions</b>	<b>TA3</b> Data Mining and Knowledge Discovery	<b>TB3</b> Genetic Algorithms	<b>TC3</b> Decision Support Systems	<b>TD3</b> Intelligent Design & Manufacturing

June 26th (Friday)				
Time	Room A	Room B	Room C	Room D
08:00 - 09:00	<b>Registration</b>			
09:00 - 10:00 <b>Plenary Talk</b>	Evolutionary Multi-objective Optimization and Fuzzy System Design Speaker: Prof. Hisao Ishibuchi (Room C at 4F)			
10:00 - 10:20	Coffee Break			
10:20 - 12:10 <b>Parallel Sessions</b>	<b>FA1</b> Decision Support Systems	<b>FB1</b> Intelligent Systems	<b>FC1</b> Multi-Agent Systems	
12:10 - 13:10	Lunch Break <b>ISAI Meeting</b> (Room C at 4F)			
13:10 - 14:10 <b>Plenary Talk</b>	Physiological Emotion Recognition: From Technique Development to Applications Speaker: Prof. Pau-Choo Chung (Room C at 4F)			
14:20 - 18:00	<b>Chi Mei Museum Visiting Tour</b> (Bus transport at ground level)			
18:30 - 20:30	<b>Banquet &amp; Best Papers Award Ceremony</b> (Banquet Hall, Landis A at 5F)			

June 27th (Saturday)				
Time	Room A	Room B	Room C	Room D
08:00 - 09:00	<b>Registration</b>			
09:00 - 10:20 <b>Parallel Sessions</b>	<b>SA1</b> Computer Vision	<b>SB1</b> Bio-informatics	<b>SC1</b> Intelligent Systems	<b>SD1</b> Integration Systems for Real Life App.
10:20 - 10:40	Coffee Break			
10:40 - 12:00 <b>Parallel Sessions</b>	<b>SA2</b> Multi-Agent Systems	<b>SB2</b> Planning and Scheduling	<b>SC2</b> Mining Interesting Knowledge (III)	
12:00 - 13:20	Lunch Break			
13:30 - 17:30	<b>Tainan City Tour</b> (Bus transport at ground level)			

# IEA/AIE 2009 Program

**Wednesday, 24 June 2009**

**Wednesday, 24 June, 08:00 - 09:00**

**Registration (Registration desk)**

**Wednesday, 24 June, 09:00 - 09:15**

**Opening Ceremony (5F, Banquet Hall, Landis A)**

**Wednesday, 24 June, 09:15 - 10:15**

**Plenary Talk 1: A Knowledge-based Co-Location Model for Natural Language Processing**

**Chair: Von-Wen Soo**

**Speaker: Wen-Lian Hsu**

**Wednesday, 24 June, 10:45 - 11:45**

**Plenary Talk 2: Co-evolutionary Learning of Game-playing Strategies**

**Chair: Jeng-Shyang Pan**

**Speaker: Xin Yao**

**Wednesday, 24 June, 13:10 - 15:00**

**Session WA1: Computer Vision (Regular)**

**Chair: Kang-Hyun Jo Co-Chair: Chuan-Yu Chang Room: A**

Intelligent Decoupled SAC-SVD Method in Color Space Transformation of Computer Vision

*Jian-Long Kuo*

An Efficient Method of Vehicle License Plate Detection Based on HSI Color Model and Histogram

*Kaushik Deb, Heechul Lim, Suk-Ju Kang, and Kang-Hyun Jo*

A Robust Method for Automatically Detecting Cracks on Noisy Concrete Surfaces

*Yusuke Fujita and Yoshihiko Hamamoto*

An Integrated System of Face Recognition

*Hwei-Jen Lin, I-Chun Pai, and Fu-Wen Yang*

Block LDA and Gradient Image for Face Recognition

*Chuan-Yu Chang and Ching-Yu Hsieh*

**Wednesday, 24 June, 13:10 - 15:00**

**Session WB1: Data Mining and Knowledge Discovery (Regular)**

**Chair: Wen-Yang Lin Co-Chair: I-Hsien Ting Room: B**

Ranking Answers by Hierarchical Topic Models

*Zengchang Qin, Marcus Thint, and Zhiheng Huang*

Using Genetic Process Mining Technology to Construct a Time-Interval Process Model

*Chieh-Yuan Tsai and I-Ching Chen*

Robust Singular Spectrum Transform

*Yasser Mohammad and Toyooki Nishida*

Hiding Predicative Association Rules on Horizontally Distributed Data

*Shyue-Liang Wang, Ting-Zheng Lai, Tzung-Pei Hong, and Yu-Lung Wu*

Incremental Mining of Ontological Association Rules in Evolving Environments

*Ming-Cheng Tseng and Wen-Yang Lin*

**Wednesday, 24 June, 13:10 - 15:00**

**Session WC1: Evolutionary Computation (Regular)**

**Chair:** *Dan E. Tamir* **Co-Chair:** *Chien-Chou Lin* **Room:** C

An Evolutionary Algorithm with Non-Random Initial Population for Path Planning of Manipulators

*Chien-Chou Lin*

An Improved Particle Swarm Optimization with Feasible-Based Rules for Constrained Optimization Problems

*Chao-li Sun, Jian-chao Zeng, and Jeng-shyang Pan*

A Trajectory-Based Point Tracker Using Chaos Evolutionary Programming

*Shu-Mei Guo, Chih-Yuan Hsu, Po-Nung Wu, and Jason Sheng-Hong Tsai*

Caching in the TSP Search Space

*David Karhi and Dan E. Tamir*

On the Continuous Control of the Acrobot via Computational Intelligence

*Sam Chau Duong, Hiroshi Kinjo, Eiho Uezato, and Tetsuhiko Yamamoto*

**Wednesday, 24 June, 13:10 - 15:00**

**Session WD1: Integration Systems for Real Life Applications (Regular)**

**Chair:** *Chao-Fu Hong* **Co-Chair:** *Hao-Chiang Koong Lin* **Room:** D

A Neural-Evolutionary Model for Case-Based Planning in Real Time Strategy Games

*Ben Niu, Haibo Wang, Peter H. F. Ng, and Simon C. K. Shiu*

Classification of Petroleum Well Drilling Operations with a Hybrid Particle Swarm/Ant Colony Algorithm

*Adriane B. S. Serapião and José R. P. Mendes*

A Robust Technique for Background Subtraction and Shadow Elimination in Traffic Video Sequence

*Tao Gao, Zheng-guang Liu, Wen-chun Gao, and Jun Zhang*

A Capacitated Inventory-Location Model: Formulation, Solution Approach and Preliminary Computational Results

*Shu-Hsien Liao and Chia-Lin Hsieh*

Applying Chance Discovery with Dummy Event in Technology Monitoring of Solar Cell

*Tzu-Fu Chiu, Chao-Fu Hong, Ming-Yeu Wang, Chia-Ling Hsu, and Yu-Ting Chiu*

**Wednesday, 24 June, 15:20 - 17:10**

**Session WA2: Intelligent Wireless Computing (Regular)**

**Chair:** *Roy Chaoming Hsu* **Co-Chair:** *Chow-Sing Lin* **Room:** A

RFID Technology and AI Techniques for People Location, Orientation and Guiding

*M. D. R-Moreno, B. Castaño, M. Carbajo, and A. Moreno*

Reinforcement Learning-Based Dynamic Power Management for Energy Harvesting Wireless Sensor Network

*Roy Chaoming Hsu, Cheng-ting Liu, and Wei-Ming Lee*

Spatial Exact Match Query Based on the NA-tree Approach in P2P Systems

*Ye-In Chang, Chen-Chang Wu, and Ching-I Wang*

A Direction-Sensitive Routing Protocol for Underwater Wireless Sensor Networks

*Chenn-Jung Huang, Yu-Wu Wang, Hung-Yen Shen, Kai-Wen Hu, Po-An Hsu, and Tun-Yu Chang*

A Mobility and Bandwidth Prediction Controller Using an Adaptive Neuro-Fuzzy Inference System for Mobile Ad Hoc and Sensor Networks

*Jerzy Martyna*

**Wednesday, 24 June, 15:20 - 17:10**

**Session WB2: Neural Networks (Regular)**

**Chair:** *Cheng-Fa Tsai* **Co-Chair:** *Hsin-Chang Yang* **Room:** B

A Simple Method of Forecasting Option Prices Based on Neural Networks

*Xun Liang, Haisheng Zhang, and Xiang Li*

High Speed  $k$ -Winner-Take-ALL Competitive Learning in Reconfigurable Hardware

*Hui-Ya Li, Yao-Jung Yeh, Wen-Jyi Hwang, and Cheng-Tsun Yang*

Adaptive Neurofuzzy Network Based PI Controllers with Multi-Objective Functions

*Y. F. Chan, C. W. Chan, and H. T. Mok*

Integrating Nonlinear Independent Component Analysis and Neural Network in Stock Price Prediction

*Chi-Jie Lu, Chih-Chou Chiu, and Jung-Li Yang*

ELSA: A New Image Compression Using An Expanding-Leaf Segmentation Algorithm

*Cheng-Fa Tsai and Jiun-Huang Ju*

### **Wednesday, 24 June, 15:20 - 17:10**

#### **Session WC2: (Special Session) Mass Customization of Manufacturing Products using Applied Intelligent Systems (Regular)**

**Chair:** *Tadachika Ozono* **Co-Chair:** *Shun Shiramatsu* **Room:** **C**

Generating Bidirectional Links for Web Annotation Stickies

*Hiroyuki Sano, Tadachika Ozono, and Toramatsu Shintani*

Taguchi Analysis of Milling Wear Automatic Monitoring System Based on Machine Vision Technique

*Yu-Teng Liang and Yih-Chih Chiou*

Workflow Planning in Holonic Manufacturing Systems with Extended Contract Net Protocol

*Fu-Shiung Hsieh and Chih Yi Chiang*

Machine Vision-Based Automatic Raw Fish Handling and Weighing System of Taiwan Tilapia

*Yu-Teng Liang and Yih-Chih Chiou*

Transformation of Products between Various Versions of the Rule World of a Product Configurator

*Michael Fichter, Michael Klein, and Andreas Schmidt*

Constraint Satisfaction Approach on Product Configuration with Cost Estimation

*Lin Wang, Wee Keong Ng, and Bing Song*

### **Wednesday, 24 June, 15:20 - 17:10**

#### **Session WD2: Machine Learning (Short)**

**Chair:** *Chien-Chung Chan* **Co-Chair:** *Cha-Hwa Lin* **Room:** **D**

A Model-Based Software Reasoning Approach to Software Debugging

*Rui Abreu, Peter Zoetewey, and Arjan J.C. van Gemund*

Learning Rules from Multiple Criteria Decision Tables

*Chien-Chung Chan*

A Mobile Location Algorithm with Least Range and Clustering Techniques for NLoS Environments

*Cha-Hwa Lin, Chien-Chih Wang, and Chih-Hung Tsai*

Learning Interaction Structure Using a Hierarchy of Dynamical Systems

*Yasser Mohammad and Toyooki Nishida*

Fuzzy Assessment for Survey Defuzzified by Signed Distance Method

*Lily Lin and Huey-Ming Lee*

## **Thursday, 25 June 2009**

### **Thursday, 25 June, 09:00 - 10:00**

**Plenary Talk 3: How to Use Inconsistency of Knowledge in Determining Knowledge of a Collective?**

**Chair:** *Shyi-Ming Chen*

**Speaker:** *Ngoc Thanh Nguyen*

### **Thursday, 25 June, 10:20 - 12:10**

**Session TA1: Autonomous Agents (Regular)**

**Chair:** *Tibor Bosse* **Co-Chair:** *Chang-Shing Lee* **Room:** **A**

A General-Purpose Method for Decision-Making in Autonomous Robots  
*Mattias Wahde*

A Virtual Human Agent Model with Behaviour Based on Feeling Exhaustion  
*Jan Treur*

A Model for Criminal Decision Making Based on Hypothetical Reasoning about the Future  
*Tibor Bosse and Charlotte Gerritsen*

An Agent Model of Temporal Dynamics in Relapse and Recurrence in Depression  
*Azizi A. Aziz, Michel C. A. Klein, and Jan Treur*

Plan Repair in Conflict-Free Routing  
*Adriaan ter Mors and Cees Witteveen*

**Thursday, 25 June, 10:20 - 12:10**

**Session TB1: Fuzzy Logic and Uncertainty (Regular)**

**Chair:** *Sheng-Tun Li* **Co-Chair:** *Hei-Chia Wang* **Room: B**

Evaluating and Enhancing the Long-Term Competitiveness of a Semiconductor Product  
*Yu-Cheng Lin, Toly Chen, and Kun-Tai Li*

Realization of XOR by SIRMs Connected Fuzzy Inference Method  
*Hirosato Seki, Satoshi Watanabe, Hiroaki Ishii, and Masaharu Mizumoto*

A Robust Support Vector Regression Based on Fuzzy Clustering  
*Hornng-Lin Shieh*

Performance Evaluation of Robot Motion Incorporating Uncertainties in Sensors and Motion  
*Dong Jin Seo, Nak Yong Ko, Gwang Jin Kim, Yongseon Moon, Youngchul Bae, and Seung-Woo Lim*

Measuring Naturalness During Close Encounters Using Physiological Signal Processing  
*Yasser Mohammad and Toyoaki Nishida*

**Thursday, 25 June, 10:20 - 12:10**

**Session TC1: Special Session: Mining Interesting Knowledge (I) (Regular)**

**Chair:** *Seunghyun Im* **Room: C**

Compression-Based Measures for Mining Interesting Rules (*Invited*)  
*Einoshin Suzuki*

Optimization for Feature-Opinion Pairs in Chinese Customer Reviews  
*Yongwen Huang, Zhongshi He, and Haiyan Wang*

iTM: An Efficient Algorithm for Frequent Pattern Mining in the Incremental Database without Rescanning  
*Bi-Ru Dai and Pai-Yu Lin*

An Efficient Algorithm for Maintaining Frequent Closed Itemsets over Data Streams  
*Show-Jane Yen, Yue-Shi Lee, Cheng-Wei Wu, and Chin-Lin Lin*

**Thursday, 25 June, 13:20 - 15:10**

**Session TA2: Knowledge Management and Natural Language Processing (Regular)**

**Chair:** *Chao-Lin Liu* **Co-Chair:** *Wen-Hsiang Lu* **Room: A**

Heuristic-Based Approach for Constructing Hierarchical Knowledge Structures  
*Fu-Ching Tsai, Yi-Chung Cheng, Sheng-Tun Li, and Ciiian-Yuan Chen*

An Ontology-Based Condition Analyzer for Fault Classification on Railway Vehicles  
*Cristina De Ambrosi, Cristiano Ghersi, and Armando Tacchella*

Management of Situated Knowledge for Complex Instruments Using 3D Items Creation  
*Loic Merckel and Toyoaki Nishida*

Two Applications of Lexical Information to Computer-Assisted Item Authoring for Elementary Chinese  
*Chao-Lin Liu, Kan-Wen Tien, Yi-Hsuan Chuang, Chih-Bin Huang, and Juei-Yu Weng*

Adjusting Occurrence Probabilities of Automatically-Generated Abbreviated Words in Spoken Dialogue Systems  
*Masaki Katsumaru, Kazunori Komatani, Tetsuya Ogata, and Hiroshi G. Okuno*

**Thursday, 25 June, 13:20 - 15:10**

**Session TB2: Machine Learning (Regular)**

**Chair:** *Vincent Shin-Mu Tseng* **Co-Chair:** *Mong-Fong Hornng* **Room: B**

Accelerating Collapsed Variational Bayesian Inference for Latent Dirichlet Allocation with Nvidia CUDA Compatible Devices

*Tomonari Masada, Tsuyoshi Hamada, Yuichiro Shibata, and Kiyoshi Oguri*

Boosting Formal Concepts to Discover Classification Rules

*Nida Meddouri and Mondher Maddouri*

Supervised Classification Algorithms Applied to the Detection of Atmospheric Pollution

*V. Delcroix, F. Delmotte, D. Gacquer, and S. Piechowiak*

A Hierarchy of Twofold Resource Allocation Automata Supporting Optimal Sampling

*Ole-Christoffer Granmo and B. John Oommen*

A Human Gait Classification Method Based on Adaboost Techniques Using Velocity Moments and Silhouette Shapes

*Chin-Shyurng Fahn, Ming-Jui Kuo, and Min-Feng Hsieh*

## Thursday, 25 June, 13:20 - 15:10

### Session TC2: Special Session: Engineering Knowledge and Semantic Systems (Regular)

**Chair:** *Dariusz Król* **Room:** C

A Dynamic Rearrangement Mechanism of Web Page Layouts Using Web Agents

*Masato Nakamura, Shohei Asami, Tadachika Ozono, and Toramatsu Shintani*

Journal Article Topic Detection Based on Semantic Features

*Hei-Chia Wang, Tian-Hsiang Huang, Jiunn-Liang Guo, and Shu-Chuan Li*

Present meets Past: Analysis of Internet Archive Quality

*Dariusz Król and Krzysztof Litwin*

Constructing Decisional DNA on Renewable Energy: A Case Study

*Cesar Sanin and Edward Szczerbicki*

A Strategy for SPN Detection Based on Biomimetic Pattern Recognition and Knowledge-Based Features

*Yan Liang, Zhongshi He, and Ying Liu*

## Thursday, 25 June, 13:20 - 15:10

### Session TD2: Special Session: Mining Interesting Knowledge (II) (Regular)

**Chair:** *Show-Jane Yen* **Room:** D

NPUST: An Efficient Clustering Algorithm Using Partition Space Technique for Large Databases

*Cheng-Fa Tsai and Heng-Fu Yeh*

A Method for Automatic Discovery of Reference Data

*Lukasz Ciszak*

Mining Non-Redundant Reclassification Rules

*Li-Shiang Tsay and Seunghyun Im*

A Hash Trie Filter Approach to Approximate String Matching for Genomic Databases

*Ye-In Chang, Jiun-Rung Chen, and Min-Tze Hsu*

Interval Regression Analysis with Soft-Margin Reduced Support Vector Machine

*Chia-Hui Huang and Han-Ying Kao*

## Thursday, 25 June, 15:30 - 17:10

### Session TA3: Data Mining and Knowledge Discovery (Short)

**Chair:** *Huang-Cheng Kuo* **Co-Chair:** *Been-Chian Chien* **Room:** A

A Time Series Case-Based Predicting Model for Reservation Forecasting

*Tsung-Hsien Tsai and Sheryl E. Kimes*

A Filtering Approach for Mining Frequent Itemsets

*Jen-Peng Huang and Huang-Cheng Kuo*

Mining Data Streams with Skewed Distribution by Static Classifier Ensemble

*Yi Wang, Yang Zhang, and Yong Wang*

Accumulative Influence Weight Collaborative Filtering Recommendation Approach

*Nan Li and Chunping Li*

RAD: A Radar-Alike Data-Clustering Algorithm for Large Databases

*Cheng-Fa Tsai and Jiun-Huang Ju*

## Thursday, 25 June, 15:30 - 17:10

### **Session TB3: Genetic Algorithms (Short)**

**Chair:** *Kesheng Wang*   **Co-Chair:** *Shing-Tai Pan*   **Room:** **B**

A Case Study of Genetic Algorithms for Quay Crane Scheduling

*Yi Wang, Yun Chen, and Kesheng Wang*

Genetic Algorithm and Time-Scale Separation on The Reduced-Order Observer-Based Control Design for A Class of Discrete systems

*Shing-Tai Pan and Ching-Fa Chen*

AKDB—tree: An Adjustable KDB-tree for Efficiently Supporting Nearest Neighbor Queries in P2P Systems

*Ye-In Chang, Lee-Wen Huang, and Hung-Ze Liu*

Optimal Lot Sizing and Algorithm for Dynamic Pricing under Random Yield and Demand

*Guo Li, Shihua Ma, and Wenya Chou*

### **Thursday, 25 June, 15:30 - 17:10**

#### **Session TC3: Decision Support Systems (Short)**

**Chair:** *Chen-Tung Chen*   **Co-Chair:** *Pei-Chun Lin*   **Room:** **C**

Applying ELECTRE and Maximizing Deviation Method for Stock Portfolio Selection under Fuzzy Environment

*Chen-Tung Chen and Wei -Zhan Hung*

Constraint Programming Approach for a University Timetabling Decision Support System with Hard and Soft Constraints

*Li-Yen Shue, Pei-Chun Lin, and Chia-Yin Tsai*

Behavioral Scoring Model for Bank Customers Using Data Envelopment Analysis

*I-Fei Chen, Chi-Jie Lu, Tian-Shyug Lee, and Chung-Ta Lee*

Decision Support for Combinatorial Reverse Auction with Multiple Buyers and Sellers

*Fu-Shiung Hsieh and Cheng Chung Hua*

Visualization-Based Approaches to Support Context Sharing Towards Public Involvement Support System

*Shun Shiramatsu, Yuji Kubota, Kazunori Komatani, Tetsuya Ogata, Toru Takahashi, and Hiroshi G. Okuno*

### **Thursday, 25 June, 15:30 - 17:10**

#### **Session TD3: Intelligent Design & Manufacturing (Short)**

**Chair:** *Fengming M. Chang*   **Co-Chair:** *Tsung-Yen Chuang*   **Room:** **D**

Collaborative Production Machine Choice System Based on Hierarchical Case Based Reasoning

*Shian-Shyong Tseng, Fengming M. Chang, Huan-Yu Lin, Chi-Chun Hsu, Chung-Chao Ku, Jui-Pin Tsai, Jun-Ming Su*

Passive Analog Filter Design Using GP Population Control Strategies

*Mariano Chouza, Claudio Rancan, Osvaldo Clua, and Ramón García-Martínez*

Thruster Fault-Tolerant for UUVs Based on Quantum-Behaved Particle Swarm Optimization

*Jing Liu, Qi Wu and Daqi Zhu*

Intelligent System for Locating, Labeling, and Logging (*ISL*<sup>3</sup>)

*Yan Huang, Terry Griffin, and Salomon Lompo*

Probabilistic Analysis of Information Center Insecurity

*Shyue-Liang Wang, Jyun-Da Chen, Tzung-Pei Hong, and Paul Stirpe*

## **Friday, 26 June 2009**

### **Friday, 26 June, 09:00 - 10:00**

**Plenary Talk 4: Evolutionary Multi-objective Optimization and Fuzzy System Design**

**Chair:** **Frank Hsu**

**Speaker:** **Hisao Ishibuchi**

### **Friday, 26 June, 10:20 - 12:10**

#### **Session FA1: Decision Support Systems (Regular)**

**Chair:** *Chung-Hsing Yeh*   **Co-Chair:** *Mark Hoogendoorn*   **Room:** **A**

Multicriteria Group Decision Support for Information Systems Project Selection

*Chung-Hsing Yeh, Hepu Deng, Santoso Wibowo, and Yan Xu*

Utility-Based Repair of Inconsistent Requirements

*Alexander Felfernig, Markus Mairitsch, Monika Mandl, Monika Schubert, and Erich Teppan*

An Ecological Model-Based Reasoning Model to Support Nature Park Managers

*Mark Hoogendoorn, Jan Treur, and Muhammed Umair*

Calculating Decoy Items in Utility-Based Recommendation

*Erich Christian Teppan and Alexander Felfernig*

## **Friday, 26 June, 10:20 - 12:10**

### **Session FB1: Intelligent Systems (Regular)**

**Chair:** *Yubin Yang*   **Co-Chair:** *Chih-Chin Lai*   **Room:** **B**

Color Image Retrieval Based on Interactive Genetic Algorithm

*Chih-Chin Lai and Ying-Chuan Chen*

An Intelligent Tutoring System of Chinese Chess

*Bo-Nian Chen, Jian-Yu Chen, Jr-Chang Chen, Tsan-sheng Hsu, Pangfeng Liu, and Shun-Chin Hsu*

Traffic Forecasts Using Interacting Multiple Model Algorithm

*Yang Zhang and Yuncai Liu*

3D Scene Analysis Using UIMA Framework

*Yubin Yang, Wei Wei, Tong Lu, Yang Gao, Yao Zhang, and Chunsheng Yang*

Detect and Localize Faults in Alias-Free Programs Using Specification Knowledge

*Safeullah Soomro and Franz Wotawa*

## **Friday, 26 June, 10:20 - 12:10**

### **Session FC1: Multi-Agent Systems (Regular)**

**Chair:** *Alan Liu*   **Co-Chair:** *Chih-Hung Wu*   **Room:** **C**

A Generic Episodic Learning Model Implemented in a Cognitive Agent by Means of Temporal Pattern Mining

*Usef Faghihi, Philippe Fournier-viger, Roger Nkambou, and Pierre Poirier*

Multi-Source Signals Guiding Swarm Robots Search

*Songdong Xue, Jianchao Zeng, Jing Du, and Xiaomei Yang*

An Incentive Mechanism for Increasing Repayment Rate for Online Social Lending

*Masashi Iwakami, Takayuki Ito, and Joaquin Delgado*

A Platform System for Developing a Collaborative Mutually Adaptive Agent

*Yong Xu, Yoshimasa Ohmoto, Kazuhiro Ueda, Takanori Komatsu, Takeshi Okadome, Koji Kamei, Shogo Okada, Yasuyuki Sumi, and Toyoaki Nishida*

## **Friday, 26 June, 13:10 - 14:10**

**Plenary Talk 5: Physiological Emotion Recognition: From Technique Development to Applications**

**Chair:** *Chein-I Chang*

**Speaker:** *Pau-Choo Chung*

## **Friday, 26 June, 14:20 - 18:00**

**Visiting Tour:** *Chi-Mei Museum*

## **Friday, 26 June, 18:30 - 20:30**

**Banquet (Best Papers Award Ceremony)**

**Saturday, 27 June 2009**

**Saturday, 27 June, 09:00 - 10:20**

**Session SA1: Computer Vision (Short)**

**Chair:** *Chia-Yen Chen* **Co-Chair:** *Chen-Sen Ouyang* **Room:** **A**

An Adaptive Biometric System Based on Palm Texture Feature and LVQ Neural Network

*Chen-Sen Ouyang, Ming-Yi Ju, and Han-Lin Yang*

A Binarization Approach for Wafer ID Based on Asterisk-Shape Filter

*Hsu Wei-Chih, Yu Tsan-Ying, and Chen Kuan-Liang*

Feature Particles Tracking for the Moving Object

*Tao Gao, Zheng-guang Liu, and Jun Zhang*

Break-Segment Detection and Recognition in Broadcasting Video/Audio Based on C/S Architecture

*Xiangdong Wang, Xinhui Li, Yueliang Qian, Ying Yang, and Shouxun Lin*

**Saturday, 27 June, 09:00 - 10:20**

**Session SB1: Bio-informatics (Short)**

**Chair:** *Austin H Chen* **Co-Chair:** *Pei-Yi Hao* **Room:** **B**

An Intelligent System for Analyzing Gene Networks from Microarray Data

*Austin H Chen and Ching-Heng Lin*

Predicting Residue-Wise Contact Orders in Proteins by Support Vector Regression with Parametric-Insensitive Model

*Pei-Yi Hao and Lung-Biao Tsai*

SNP-Flankplus: SNP ID-Centric Retrieval of Flanking Sequences

*Cheng-Hong Yang, Yu-Huei Cheng, Li-Yeh Chuang, and Hsueh-Wei Chang*

Tumor Classification on Mammographies Based on BPNN and Sobel Filter

*Enrique Calot, Hernan Merlino, Claudio Rancan, and Ramon Garcia-Martinez*

**Saturday, 27 June, 09:00 - 10:20**

**Session SC1: Intelligent Systems (Short)**

**Chair:** *Huey-Ming Lee* **Co-Chair:** *Yuan-Horng Lin* **Room:** **C**

Application of Combined Forecasting Models to Intelligent Transportation Systems

*Yang Zhang and Yuncai Liu*

Fuzzy Performance Analysis Model Based on Grid Environment

*Huey-Ming Lee, Chia-Hsien Chung, Tsang-Yean Lee, and Jin-Shieh Su*

Bringing Emotions to Computer Games: A Design Experiment

*Khalil Shihab and Nida Chalabi*

Probability Reasoning Internet Assessment System with Rule Usage Structures and Similarity Comparisons

*Yuan-Horng Lin*

**Saturday, 27 June, 09:00 - 10:20**

**Session SD1: Integration Systems for Real Life Applications (Short)**

**Chair:** *Chen-Hao Liu* **Co-Chair:** *Richie Hoch* **Room:** **D**

Combining Genetic Algorithm and Simulated Annealing to Design  $H_2/H_\infty$ -Deconvolution Filter with Missing Observations

*Jui-Chung Hung and Wei-Chi Lee*

The Hybrid Model Development of Clustering and Back Propagation Network in Printed Circuit Board Sales Forecasting

*Yen-Wen Wang, Chen-Hao Liu, and Chin-Yuan Fan*

Toward the Knowledge Circulation between Institutions and Public Audiences with Virtual Agents

*Hung-Hsuan Huang, Hidekazu Kubota, and Toyooki Nishida*

Muon Tomography Algorithms for Nuclear Threat Detection

*Richard Hoch, Debasis Mitra, Kondo Gnanvo, and Marcus Hohlmann*

**Saturday, 27 June, 10:40 - 12:00**

**Session SA2: Multi-Agent Systems (Short)**

**Chair:** *Mark Hoogendoorn* **Co-Chair:** *Tibor Bosse* **Room:** **A**

Multi- Mobile Agent based Virtual Alliance Formation (MAVAF) Platform

*Chang Yu Chiang and Chuan Jun Su*

On Supporting Cross-Platform Statistical Data Analysis Using JADE

*Chien-Ho Wu, Yuehjen E. Shao, Jeng-Fu Liu, and Tsair-Yuan Chang*

Building Agents that Learn by Observing Other Agents Performing a Task: A Sequential Pattern Mining Approach

*Philippe Fournier-Viger, Roger Nkambou, Engelbert Mephu Nguifo, and Usef Faghihi*

A Multi-Agent System Architecture for Personal Support during Demanding Tasks

*Tibor Bosse, Rob Duell, Mark Hoogendoorn, Michel Klein, Rianne van Lambalgen, Andy van der Mee, Rogier Oorburg, Alexei Sharpanskykh, Jan Treur, and Michael de Vos*

## **Saturday, 27 June, 10:40 - 12:00**

### **Session SB2: Planning and Scheduling (Short)**

**Chair:** *Koun-Tem Sun*   **Co-Chair:** *Ming-Yi Ju*   **Room:** **B**

The Selective Traveling Salesman Problem with Regular Working Time Windows

*Hu Qin, Andrew Lim, and Dongsheng Xu*

Scheduling for Dedicated Machine Constraint Using the Shortest Paths in Graphs

*Huy Nguyen Anh Pham, Arthur Shr, Peter P. Chen, and Alan Liu*

Comparing Path Length by Boundary Following Fast Matching Method and Bug Algorithms for Path Planning

*Chia Hsun Chiang, Jing-Sin Liu, and Yo-Shing Chou*

A Capacitated Vehicle Routing Problem with Toll-By-Weight Rule

*Chenghao Shen, Hu Qin, and Andrew Lim*

## **Saturday, 27 June, 10:40 - 12:00**

### **Session SC2: Special Session: Mining Interesting Knowledge (III) (Short)**

**Chair:** *Hiroshi Tsuji*   **Co-Chair:** *Tang-Kai Yin*   **Room:** **C**

A Novel Multidimensional Scaling Technique for Mapping Word-Of-Mouth Discussions

*B. John Oommen, Ole-Christoffer Granmo, and Zuoyuan Liang*

Comprehensible Knowledge Discovery Using Particle Swarm Optimization with Monotonicity Constraints

*Chih-Chuan Chen, Chao-Chin Hsu, Yi-Chung Cheng, Sheng-Tun Li, and Ying-Fang Chan*

Incorporation of Adapted Real World Tournament Selection into Artificial Immune Recognition System

*Shahram Golzari, Shyamala Doraisamy, Md Nasir Sulaiman, and Nur Izura Udzir*

Competition State Visualization for Sales Record Mining

*Yoshihiro Hayashi, Ryosuke Saga, and Hiroshi Tsuji*

On Covering Based Approximations of Classifications of Sets

*B. K. Tripathy and G. K. Panda*