

# **KES AMSTA 2007**

## **31.05.2007-01.06.2007**

### **Program**

#### **Wednesday, May 30th**

17.00-19.00 Registration

#### **Thursday, May 31st**

8.00-09.00 Registration

#### **9.00-9.30 Opening**

**09.30–10.30 Plenary session**  
**Chair: Prof. Toyooki Nishida**  
**Room: A**

*Rough-Granular Computing in Multiagent Systems, Andrzej Skowron*

10.30-11.00 Coffee break

**11.00-12.30 Methodological Aspects of Agent Systems – part I**  
**Chair: Prof. Noelle Carbonell**  
**Room: A**

Building Agent Service Oriented Multi-Agent Systems  
*Dan Luo, Longbing Cao, Jiarui Ni, Li Liu*

Agent-Based Approach for LabVIEW Developed Distributed Control Systems  
*Grzegorz Polaków, Mieczysław Metzger*

PrSH: A Belief Description Logic  
*Tao Jia, Wen Zhao, Lifu Wang*

Reinforcement Learning on a Futures Market Simulator  
*Koichi Moriyama, Mitsuhiro Matsumoto, Ken-ichi Fukui,  
Satoshi Kurihara, Masayuki Numao*

The Effects of Agent Synchronization in Asynchronous Search Algorithms  
*Ionel Muscalagiu, Jose M. Vidal, Vladimir Cretu, Popa Horia Emil, Manuela Panoiu*

Expressivity of STRIPS-like and HTN-like Planning  
*Marian Lekavy, Pavol Navrat*

**11.00-12.30 Agent-oriented Web Applications – part I**

**Chair: Dr. Janusz Sobecki**

**Room: B**

WSrep: A Novel Reputation Model for Web Services Selection

*Zhen Li, Sen Su, Fangchun Yang*

Performance Evaluation of Mobile Agents for Knowledge-based Web Information Services

*Yung Bok Kim, Soon Woo Lee*

An Agent Based Method for Web Page Prediction

*Debajyoti Mukhopadhyay, Priyanka Mishra, Dwaipayan Saha*

X-Binder: Path Combining System of XML Documents Based on RDBMS

*Bum-Suk Lee, Byung-Yeon Hwang*

A Digital TV Agent System for Broadcast and Web Information Hybrid

*Sangwin Oh, Jongtae Lim*

Formal Modeling of Agent-Based English Auctions Using Finite State Process Algebra

*Amelia Badica, Costin Badica*

**11.00-12.30 Mobility Aspects of Agent Systems and Ontology Management**

**Chair: Prof. Andrzej Skowron**

**Room: C**

Non-Repudiation Mechanism of Agent-based Mobile Payment Systems: Perspectives on Wireless PKI

*Chung-Ming Ou, C.R. Ou*

Agent-based Data Compression Supporting Knowledge Discovery in Mobile Environment

*Romeo Mark A. Mateo, Hwang Jae-Jeong, Jaewan Lee*

eMARP: Enhanced Mobile Agent for RFID Privacy Protection and Forgery Detection

*Sang-Soo Yeo, Soo-Cheol Kim, Sung Kwon Kim*

Ontology Agent based Rule Base Fuzzy Cognitive Maps

*Alejandro Peña, Humberto Sossa, Francisco Gutierrez*

OWL-DL Based Ontology Inference Engine Assessment for Context-Aware Services

*Ohbyung Kwon, Jaemoon Sim, Myungchul Lee*

Verification of Mobile Agent Network Simulator

*Kresimir Jurasovic, Mario Kusek*

12.30-13.30 Lunch Break

**13.30-14.30 Plenary session**

**Chair: Prof. Paul Davidsson**

**Room: A**

Embodied Conversational Agents in the Knowledge Spiral, Toyooki Nishida

**14.40-16.10 Methodological Aspects of Agent Systems – part II**  
**Chair: Dr. Paolo Giorgini**  
**Room: D**

Modelling Social Attitudes of Agents

*Matteo Cristani, Elisa Burato*

Modeling the Activity of a Multi-agent System with Evolving Metadata

*Krzysztof Juszczyszyn*

Software Component Selection Algorithm Using Intelligent Agents

*Blanca Abraham Z, Jose Aguilar C*

A Methodology to Specify Multi-agent Systems

*Aguilar Jose, Cerrada Mariela, Hidrobo Francisco*

A Stochastic Process Model for Daily Travel Patterns and Traffic Information

*Yongtaek Lim , Seung Jae Lee, Joohwan Kim*

Using Data Mining Algorithms for Statistical Learning of a Software Agent

*Damian Dudek*

**14.40-16.10 Agent-oriented Web Applications –part II**  
**Chair: Dr. Jason J. Jung**  
**Room: B**

Wiki-news interface agent based on AIS methods

*Janusz Sobecki, Leszek Szczepański*

Retrieving Geospatial Information into a Web-Mapping Application using Geospatial Ontologies

*Miguel Torres, Serguei Levachkine, Marco Moreno,*

*Rolando Quintero, Giovanni Guzmán*

MWING: A Multi-agent System for Web Site Measurements

*Leszek Borzemski, Łukasz Cichocki, Mariusz Fraś, Marta Kliber, Ziemowit Nowak*

Application of Agent-based Personal Web of Trust to Local Document Ranking

*Marek Kopel, Przemysław Kazienko*

Performance of Fast TCP in Multi-Agent Systems

*Jung-Ha Kang, Hong-kyun Oh, Sung-Eon Cho, Eun-Gi Kim*

Remote Control Multi-Agent System for u-Healthcare Service

*Eunyoung Kang, Yongsoon Im, Ungmo Kim*

**14.40-16.10 Negotiating Agents**  
**Chair: Dr. Radosław Katarzyniak**  
**Room: C**

Towards an Agent-based Negotiation Platform for Cooperative Decision-Making in Construction Supply Chain

*Xiaolong Xue, Jinfeng Lu, Yaowu Wang, Qiping Shen*

A Model for Informed Negotiating Agents

*John Debenham, Simeon Simoff*

Power in Norm Negotiation

*Guido Boella, Leendert van der Torre*

Quantitative Analysis of Single-Level Single-Mediator Multi-Agent Systems

*Moon Ho Lee, Aliaksandr Birukou, Alexander Dudin,*

*Valentina Klimenok, Chang-hui Choe*

Software Agent Negotiation for Service Composition

*Claudia Di Napoli*

The CrocodileAgent: Designing a Robust Trading Agent  
for Volatile E-market Conditions

*Ana Petric, Vedran Podobnik, Gordan Jezic*

16.10-16.40 Coffee break

**16.40-18.40 Methodological Aspects of Agent Systems – part III**

**Chair: Prof Leon van der Torre**

**Room: D**

Implementation and Performance Evaluation of the Agent-Based Algorithm  
for ANN Training

*Ireneusz Czarnowski, Piotr Jędrzejowicz*

Agent-based Discovery Middleware Supporting Interoperability in Ubiquitous  
Environments

*Seung-Hyun Lee, Kyung-Soo Jang, Ho-Jin Shin, Dong-Ryeol Shin*

Manipulating Paraconsistent Knowledge in Multi-agent Systems

*Jair Minoro Abe, Kazumi Nakamatsu*

Consensus-based Evaluation Framework for Cooperative Information Retrieval Systems

*Jason J. Jung, Geun-Sik Jo*

Hierarchy of Logics of Irrational and Conflicting Agents

*Germano Resconi, Boris Kovalerchuk*

Stratified Multi-Agent HTN Planning in Dynamic Environments

*Hisashi Hayashi*

**16.40-18.40 Multi-agent Resource Allocation**

**Chair: Dr. Gordan Jezic**

**Room: B**

Multi-Resource Load Optimization Strategy in Agent-Based Systems

*Leszek Śliwko, Aleksander Zgrzywa*

Online Network Resource Management for QoS-sensitive Multimedia Services

*Sungwook Kim, Sungchun Kim*

A Resource Discovery Method Based on Multi-Agents in P2P Systems

*Yasushi Kambayashi, Yoshikuni Harada*

Agent Based Dynamic Data Storage and Distribution in Data Warehouses

*Nader Kolsi, Abdelaziz Abdellatif, Khaled Ghedira*

Semantic Data Integration in P2P Environment using Schema Mappings and Agent Technology

*Grażyna Brzykcy, Jerzy Bartoszek, Tadeusz Pankowski*

Intelligent Resource Allocation - Solutions and Pathways in a Workforce Planning Problem

*Botond Virginas, Marian Ursu, Edward Tsang, Gilbert Owusu, Chris Voudouris*

A Multi-Agent Architecture for Designing and Simulating Large Scale Wireless Systems  
Resource Allocation

*P.M. Papazoglou, D.A. Karras, R.C. Papademetriou*

#### **16.40-18.40 Agents for Network Management**

**Chair: Prof. Leszek Borzemski**

**Room: C**

A Misuse Detection Agent for Intrusion Detection in a Multi-Agent Architecture

*Eduardo Mosqueira-Rey, Amparo Alonso-Betanzos, Belen Baldonado del Rio,*

*Jesus Lago Pineiro*

An Agent System for Bandwidth Allocation in Reservation-based Networks using Evolutionary Computing and Vickrey Auctions

*Angel M. Perez-Bellido, Sancho Salcedo-Sanz, Jose A. Portilla-Figueras,*

*Emilio G. Ortiz-Garcia, Pilar Garcia-Diaz*

Multi-agent Approach to Network Traffic Anomalies Uncertainty Level Assessment in  
Distributed Intrusion Detection System

*Grzegorz Kołaczek*

An Algorithm for Loopless Optimum Paths Finding Agent System and Its Application to  
Multimodal Public Transit Network

*Doohee Nam, Seongil Shin, Changho Choi, Yongtaek Lim, Seung Jae Lee*

A Channel Sounding Scheme of MIMO-OFDM System for Intelligent Area Network

*Bang Hun Park, Juphil Cho, Heung Ki Baik, Jae Sang Cha*

Wireless Intelligent LBT Agents for Common Frequency Band Efficiency

*Seong-Kweon Kim*

The Study of Multi-Agent Network Flow Architecture for Application Performance Evaluation

*Zhi Xiao-fan, Lioa Zhi-cheng, Lu Jian-xiong*

20.00-24.00 Conference dinner & award ceremony

## Friday, June 1st

**08.00–09.30 Plenary session**  
**Chair: Prof. Noelle Carbonell**  
**Room: A**

*On the Integration of Agent-Based and Mathematical Optimization Techniques*  
Paul Davidsson

*Tropos: an Agent-Oriented Software Engineering Methodology*  
Paolo Giorgini

09.30-10.00 Coffee break

**10.00-11.30 Agent Approaches to Robotic Systems**  
**Chair: Prof. Zbigniew Banaszak**  
**Room: A**

Robotic Agent Control based on Adaptive Intelligent Algorithm in Ubiquitous Networks  
*Min-Jung Lee, Gi-Hyun Hwang, Won-Tae Jang, Kyung-Hwan Cha*

Saving Energy Consumption of Multi-Robots Using Higher-Order Mobile Agents  
*Munehiro Takimoto, Mayu Mizuno, Masato Kurio, Yasushi Kambayashi*

A Plan-Based Control Architecture for Intelligent Robotic Agents  
*Incheol Kim, Hangcheol Shin, Jaehyuk Choi*

Remarks on Behaviours Programming of the Interactive Therapeutic Robot KOALA Based on Fuzzy Logic Techniques  
*Krzysztof Arent, Marek Wnuk*

Design of Admissible Schedules for AGV Systems with Constraints: a Logic-Algebraic Approach  
*Grzegorz Bacewicz, Robert Wójcik, Zbigniew Banaszak*

**10.00-11.30 Market Agents and other Applications**  
**Chair: Prof. Adam Grzech**  
**Room: B**

Design and Implementation of Efficient Directory Facilitator for Context-Aware Service Discovery

*Dong-Uk Kim, Gun-Ha Lee, Kyu Min Lee, Seung-Phil Heo, Kee-Hyun Choi, Dong-Ryeol Shin*

A Study to Apply Intelligent Agents for B2C Shopping Mall  
*Ha-Jin Hwang*

Password-Only Authenticated Key Exchange Between Two Agents in the Four-Party Setting  
*Youngsook Lee, Junghyun Nam, Jin Kwak, Dongho Won*

Diagnostic Knowledge Acquisition for Agent-Based Medical Applications

*Thomas M. Gatton, Malrey Lee, TaeEun Kim, Young-Keun Lee*

A Block Based Moving Object Detection Utilizing the Distribution of Noise

*M. Ali Akber Dewan, M. Julius Hossain, and Oksam Chae*

Multi-agent System for Hierarchical Control with Self-organising Database

*Dariusz Choiński, Witold Nocoń, Mieczysław Metzger*

**10.00-11.30 Doctoral track**

**Chair: Dr. Dariusz Król**

**Room: C**

Water Floating Self-Assembling Agents

*Shuhei Miyashita, Maik Hadorn, Peter Eggenberger Hotz*

Failure Detection Service for Large Scale Systems

*Jacek Kobusiński*

Container Handling using Multi-Agent Architecture

*Meriam Kefi, Ouajdi Korbaa, Khaled Ghedira, Pascal Yim*

Distributed Code and Data Propagation Algorithm for Longest Common Subsequence Problem Solving

*Dariusz Król, Grzegorz Stanisław Kukla*

11.30-12.00 Coffee break

**12.00-13.30 Special Session: Mobile Agent Application and its Development – part I**

**Chair: Prof. Haeng Kon Kim**

**Room: A**

Design and Evaluation of a Converting Patching Agent for VOD Services

*Sook-Jeong Ha, Ihn-Han Bae*

A Self-Organizing Cluster Agent for Routing Algorithm in Wireless Sensor Networks

*Sangjoon Jung, Younky Chung, Chonggun Kim*

Design of Intelligence Mobile Agent Lifecycle for the Progress Management and Mobile Computing

*Haeng-Kon Kim, Sun-Myoung Hwang, Eun-Ser Lee*

An Agent Environment for Contextualizing Folksonomies in a Triadic Context

*Hong-Gee Kim, Suk-Hyung Hwang, Yu-Kyung Kang, Hak-Lae Kim, Hae-Sool Yang*

Design of Knowledge Discovery Agent for a Bit-map on Ad Hoc Mobile Networks

*HangKon Kim, SungSoo Lee, ChongGun Kim*

Mobile Collaboration Framework for u-Healthcare Agent Services and Its Application Using PDAs

*Chang-Won Jeong, Dong-Ho Kim, Su-Chong Joo*

**12.00-13.30 Special Session: Agent on Networked Media and its Applications on Next-generation Convergence Network (ANM07) – part I**  
**Chair: Prof. Il Seok Ko and Prof. Yun Ji Na**  
**Room: B**

Business Model and Comparison of S/W Source Code vs. Digital License for IPRs

*ByungRae Cha*

PKG-MIB: Private-mib for Package-based Linux Systems in a Large Scale Management Domain

*Jong-Hyouk Lee, Young-Ju Han, Jong-Hyun Kim, Jung-Chan Na, Tai-Myoung Chung*

Performance of TPR-Trees for Predicting Future Positions

of Moving Objects in U-Cities

*Min-Hee Jang, Sang-Wook Kim, Miyoung Shin*

Strategy of Positioning for LBS on U-campus

*Jaegol Yim, Ilseok Ko, Jaesu Do*

Indirect DiffServ QoS for SIP in Broadband Access Networks

*Seungchul Park*

An Intelligent Positioning Scheme for Mobile Agents in Ubiquitous Networks for U-City

*Pora Kim, Sekchin Chang*

**12.00-13.30 Special Session: Intelligent and Secure Agent for Digital Content Management – part I**  
**Chair: Prof. Geuk Lee**  
**Room: C**

Traffic Signal Planning Using a Smart Agent System

*You-Sik Hong, Geuk Lee, Cheonshik Kim, Jong Won Kim*

Entity Based Message Authentication System

*Young-Soo Kim, Sung-Ja Choi, Gang-Soo Lee, Geuk Lee*

The Design and Testing of Automated signature Generation Engine for Worms Detection

*Sijung Kim, Geuk Lee, Bonghan Kim*

Data Conversion Agents between Heterogeneous using IC Information

*Gui-Jung Kim, Jung-Min Oh, Jung-Soo Han*

User Adaptive Game Characters using Decision trees and FSMs

*Tae Bok Yoon, Kyo Hyeon Park, Jee Hyong Lee, Keon Myung Lee*

A Location-Aware Error Control Scheme of Route Multicast for Moving Agents

*Mikyung Kang, Sang-Wook Kim, Gyung-Leen Park,*

*Min-Jae Kang, Ho-Young Kwak, Hoon Kwon, Junghoon Lee*

13.30-14.30 Lunch break

**14.30-16.30 Special Session: Mobile Agent Application and its Development – part II**  
**Chair: Prof. Haeng Kon Kim**  
**Room: A**

Developing Load Balancing System for RFID Middlewares  
using Mobile Agent Technology  
*Jian Feng Cui, Heung Seok Chae*

Design Agent for the Reliable Web Security Requirement Control  
*Eun-Ser Lee, Je-Min Bae*

Design and Implementation of an Intelligent Robot Agent System Considering the Server's  
Workload  
*Seong-Hoo Kim, Seong-Je Kim, Kyoo-Seok Park*

WANT: A Personal Knowledge Management System on Social Software Agent Technologies  
*Hak Lae Kim, Jae Hwa Choi, Hong Gee Kim, Suk Hyung Hwang*

Mobile Agents using Data mining for Diagnosis Support in Ubiquitous Healthcare  
*Romeo Mark A. Mateo, Louie F. Cervantes, Hae-Kwon Yang, Jaewan Lee*

Agent-based Approach to Distributed Ensemble Learning of Fuzzy ARTMAP Classifiers  
*Louie Cervantes, Jung-sik Lee, Jaewan Lee*

Framework for Data Aggregation and Insurance Service in Vehicle Telematics using Multi-  
Agents  
*Bobby D. Gerardo, Jaewan Lee, Malrey Lee*

**14.30-16.30 Special Session: Agent on Networked Media and its Applications on Next-  
generation Convergence Network (ANM07) – part II**  
**Chair: Prof. Il Seok Ko and Prof. Yun Ji Na**  
**Room: B**

A User Interface for Controlling Information Appliances in Smart Homes  
*Seong Joon Lee, Ilseok Ko, Min Wook Kil*

A Design of the Simulator for Web-based Load Balancing  
*Yun Ji Na, Il Seok Ko*

Remote Control of Smart Homes Using Korean Natural Language Processing  
*Seong Joon Lee, Seung Woon Kim, Kwang Seon Ahn*

A VDS Based Traffic Accident Prediction Analysis and Future Application  
*Chungwon Lee, Bong Gyou Lee, Kisu Kim, Hye Sun Lee*

An Intelligent Diversity Scheme for Accurate Positioning of Mobile Agents for U-City  
*Junseok Lee, Sekchin Chang*

A Relay-Transmission of the RFID Tag ID over the Wireless and TCP/IP with a Security Agent

*Heung-Kuk Jo, Hoon-Jae Lee*

An Agent-based Web Service Composition Using Semantic Information and QoS

*Eunjoo Lee, Byungjeong Lee*

**14.30-16.30 Special Session: Intelligent and Secure Agent for Digital Content Management – part II**

**Chair: Prof. Geuk Lee**

**Room: C**

Blur Detection of Digital Forgery Using Mathematical Morphology

*Linna Zhou, Dongming Wang, Yunbiao Guo, Jingfei Zhang*

An Efficient Authentication Protocol for Low-cost RFID Systems

*Zhen-Ai Jin, Hyun-Ju Cho, Kee-Young Yoo*

A Countermeasure of Fake Root Key Installation using One-Time Hash Chain

*Younggyo Lee, Jeonghee Ahn, Seungjoo Kim, Dongho Won*

Proposal for a Ubiquitous Virtual Enterprise Reference Model on Next-generation Convergence Network

*Yonghee Shin, Hyori Jeon, Munkee Choi*

The Hiding of Secret Data using the Run Length Matching Method

*Ki-Hyun Jung, Jae-Gil Yu, Se-Min Kim, Ki-Jong Kim, Jin-Yong Byun, Kee-Young Yoo*

Agent-based Connection Control for Digital Content Service

*Dragan Jevtic, Marijan Kunstic, Kresimir Cunko*

**16.30-17.00 Closing**

**Room A**