

# CIT2007 Program Overview

## Tuesday, 16 October 2007

8:30–16:30 **Registration**

9:00–9:20 **Opening**  
**Chair: Toshiaki Miyazaki**  
**Venue: Auditorium**

9:20–10:20 **Keynote Address I**  
**Business Intelligence – An Industrial Perspective (Meichun Hsu)**  
**Chair: Subhash Bhalla**  
**Venue: Auditorium**

10:20–10:40  
**Break**

10:40–11:40

**Session B-1: 2**  
**Internet and Web Performance**  
**Chair: Chang-sung Jeong**  
**Venue: S5**

**Session F-1: 3**  
**Secure Framework**  
**Chair: Minyi Guo**  
**Venue: S6**

**Session I-1: 3**  
**RFID Management**  
**Chair: Zixue Cheng**  
**Venue: S7**

**Session H-1: 3**  
**Automated Testing Tools**  
**Chair: Hironori Washizaki**  
**Venue: S8**

11:40–11:50  
**Break**

11:50–13:10

**Session B-2: 4**  
**Web Analysis**  
**Chair: Vitaly Klyuev**  
**Venue: S5**

**Session F-2: 4**  
**Watermarking and Encryption**  
**Chair: Guojun Wang**  
**Venue: S6**

**Session I-2: 4**  
**Technologies for Ubiquitous Application and Network**  
**Chair: Satoshi Kurihara**  
**Venue: S7**

**Session H-2: 4**  
**Modeling and Simulation**  
**Chair: Sang Won Lim**  
**Venue: S8**

**Session E-1: 4**  
**Computer Graphics and Virtual Reality**  
**Chair: Roman Đuriković**  
**Venue: UBIC**

13:10–14:20  
**Lunch Break: University Cafeteria**

14:20–15:40

**Session B-3: 4**  
**Web Services and Applications I**  
**Chair: Shigeru Kanemoto**  
**Venue: S5**

**Session F-3: 4**  
**Network Security**  
**Chair: Takafumi Hayashi**  
**Venue: S6**

**Session I-3: 3**  
**Algorithms for Sensor Networks**  
**Chair: Anh T. Pham**  
**Venue: S7**

**Session H-3: 3**  
**Application-Specific Software Engineering**  
**Chair: Vitaly Klyuev**  
**Venue: S8**

15:40–16:30  
**Break**

16:30–  
**Reception Party : University Cafeteria**

## Wednesday, 17 October 2007

8:30–18:00 **Registration**

9:00–10:00 **Keynote Address II**  
**The IUPS Physiome Project (Peter J. Hunter)**  
**Chair: Daming Wei**  
**Venue: Auditorium**

10:00–10:10  
**Break**

10:10–11:30

**Session B-4: 4**  
**Semantic Web**  
**Chair: Ryuichi Oka**  
**Venue: S5**

**Session I-4: 3**  
**Energy Control Issue in**  
**Sensor Networks**  
**Chair: Toshiaki Miyazaki**  
**Venue: S6**

**Session C-1: 3**  
**Task and Resource**  
**Management**  
**Chair: Dongseung Kim**  
**Venue: S7**

**Session H-4: 4**  
**Software Product Line**  
**Engineering**  
**Chair: Incheon Paik**  
**Venue: S8**

11:30–11:40  
**Break**

11:40–13:00

**Session B-5: 4**  
**Web Services and**  
**Applications II**  
**Chair: Alexander**  
**Vazhenin**  
**Venue: S5**

**Session I-5: 4**  
**Sensor Network**  
**Architecture and Model**  
**Chair: Shiyong Zhang**  
**Venue: S6**

**Session E-2: 4**  
**Video Distribution and**  
**Networks**  
**Chair: Jungpil Shin**  
**Venue: S7**

**Session D-1: 3**  
**QoS and Security**  
**Chair: Baoliu Ye**  
**Venue: S8**

13:00–14:00 **Lunch Break: University Cafeteria**  
 13:10–13:50 **Luncheon Seminar : “The OpenSolaris Story” Jim Grisanzio, Sun Microsystems**  
**Chair: Incheon Paik**

14:00–15:40

**Session A-1: 5**  
**XML and DB**  
**Chair: Keitaro Naruse**  
**Venue: S5**

**Session C-2: 5**  
**HPC Application**  
**Chair: Yingwen Song**  
**Venue: S6**

**Session E-3: 5**  
**Image Processing**  
**Chair: Frank Ekpar**  
**Venue: S7**

**Session D-2: 4**  
**Protocol and Algorithms**  
**I**  
**Chair: Yongwoo Lee**  
**Venue: S8**

15:40–16:00  
**Coffee Served**

16:00–18:00

**Session A-2: 4**  
**Classification**  
**Chair: Incheon Paik**  
**Venue: S5**

**Session C-3: 6**  
**System and Architecture**  
**Chair: Hitoshi Oi**  
**Venue: S6**

**Session E-4: 5**  
**Video Processing and**  
**Analysis**  
**Chair: Hirohide Demura**  
**Venue: S7**

**Session D-3: 4**  
**Application Systems**  
**Chair: Yangwoo Ko**  
**Venue: S8**

18:00–19:00  
**Break**

19:00–  
**Conference Banquet: Aizu-Wakamatsu Washington Hotel**  
**Chair: Kazuaki Yamauchi**

## Thursday, 18 October 2007

8:30–13:00 **Registration**

9:00–10:40

<b>Session A-3: 4</b> <b>Imprecise Data and Feature Selection</b> <b>Chair: Junya Terazono</b> <b>Venue: S5</b>	<b>Session G-1: 5</b> <b>Scheduling and Optimization</b> <b>Chair: Yuichi Okuyama</b> <b>Venue: S6</b>	<b>Session E-5: 5</b> <b>Data Processing and Interfaces</b> <b>Chair: Kamen Kanev</b> <b>Venue: S7</b>	<b>Session D-4: 3</b> <b>Protocol and Algorithms II</b> <b>Chair: Yangwoo Ko</b> <b>Venue: S8</b>
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10:40–10:50  
**Break**

10:50–12:50

<b>Session A-4: 6</b> <b>Novel Information Processing</b> <b>Chair: Shuxue Ding</b> <b>Venue: S5</b>	<b>Session G-2: 6</b> <b>Platform and Application</b> <b>Chair: Hiroshi Saito</b> <b>Venue: S6</b>	<b>Session E-6: 4</b> <b>Image Processing and Analysis</b> <b>Chair: Noriaki Asada</b> <b>Venue: S7</b>	<b>Session D-5: 3</b> <b>Protocol and Algorithms III</b> <b>Chair: Satoru Ohta</b> <b>Venue: S8</b>
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12:50–18:00  
**Lunch and Sightseeing (Bus Tour)**

## Friday, 19 October 2007

8:30–16:00 **Registration**

9:00–10:00

**Keynote Address III**  
**Large-scale Evaluation Infrastructure for Information Access Technologies Enhancement and Creativity (Noriko Kando)**  
**Chair: Vitaly Klyuev**  
**Venue: Auditorium**

**Introduction to CIT 2008**  
**Chair: Incheon Paik**

10:00–10:20  
**Break**

10:20–11:20

<b>Session A-5 : 3</b> <b>Intelligent Systems in Data Handling I</b> <b>Chair: Ryuichi Oka</b> <b>Venue: S5</b>	<b>Session D-6: 3</b> <b>Protocols and Algorithms IV</b> <b>Chair: Baoliu Ye</b> <b>Venue: S6</b>	<b>Session G-3: 3</b> <b>VLSI Design</b> <b>Chair: Kenichi Kuroda</b> <b>Venue: S7</b>	<b>Session J-1: 3</b> <b>Web Services and Technologies</b> <b>Chair: Li Guo</b> <b>Venue: S8</b>
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11:20–11:30  
**Break**

11:30–13:10

<b>Session A-6 : 5</b> <b>Intelligent Systems in Data Handling II</b> <b>Chair: Keitaro Naruse</b> <b>Venue: S5</b>	<b>Session D-7: 4</b> <b>Analysis and Evaluation</b> <b>Chair: Satoru Ohta</b> <b>Venue: S6</b>	<b>Session E-7: 5</b> <b>Text Processing and Analysis</b> <b>Chair: Dejian Ye</b> <b>Venue: S7</b>	<b>Session J-2: 4</b> <b>SOA and Grid Technologies</b> <b>Chair: Yuzhong Sun</b> <b>Venue: S8</b>
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13:10–14:00  
**Lunch Break: University Cafeteria**

14:00–16:00			
		<b>Session E-8: 4</b> <b>Static Image Segmentation</b> <b>Chair: Yue Lu</b> <b>Venue: S7</b>	<b>Session J-3: 6</b> <b>Information Technology in Biomedicine</b> <b>Chair: Eunbo Shim</b> <b>Venue: S8</b>

## Technical Sessions A: Database and Data Mining

### Session A-1: XML and DB

Active XML Schema Containment Checking based on Tree Automata Theory  
*Haitao Ma and Zhongxiao Hao*

An Efficient Detection of Conflicting Updates in Valid XML  
*Changwoo Byun, Ilkook Yun, and Seog Park*

A Journey towards More Efficient Processing of XML Data in (O)RDBMS  
*Irena Mlynkova*

Schema-aware Keyword Search over XML Streams  
*Weidong Yang and Baile Shi*

SemFilter: A Simple and Efficient Semantic Filtering of XML Messages  
*Jaehoon Kim and Seog Park*

### Session A-2: Classification

Ensembles of Region Based Classifiers  
*Sungha Choi, Byungwoo Lee, and Jihoon Yang*

Neural Network for Text Classification Based on Singular Value Decomposition  
*Cheng Hua Li and Soon Cheol Park*

An Efficient Method of Genetic Algorithm for Text Clustering Based on Singular Value Decomposition  
*Wei Song and Soon Cheol Park*

Predicting Coronary Artery Disease from Heart Rate Variability using Classification and Statistical Analysis  
*Heon Gyu Lee, Ki Yong Noh, Hong Kyu Park, and Keun Ho Ryu*

### Session A-3: Imprecise Data and Feature Selection

Deputy Mechanism for OLAP over Imprecise Data and Composite Measure  
*Junqiang Liu and Xiandi Yang*

CTU-Mine: An Efficient High Utility Itemset Mining Algorithm Using the Pattern Growth Approach  
*Alva Erwin, Raj P. Gopalan, and N.R. Achuthan*

An Experimental Study on Feature Subset Selection Methods  
*Chulmin Yun, Donghyuk Shin, Hyunsung Jo, Jihoon Yang, and Saejoon Kim*

Comparison of two feature selection methods in Intrusion Detection Systems  
*Mohammad Javad Fadaeieslam, Behrooz Minaei, Mahmood Fathi, and Mohsen Soryani*

### Session A-4: Novel Information Processing

Generic Component: A Generic Programming Approach  
*Chen Yewang, Zhao Wenyun, and Peng Xin*

Virtual Organization: A New Approach in IT  
*Mohammad Reza Nami and Djamshid Tavangarian*

Effective Processing over Continuous Data Stream  
*Misook Bae*

Classification Algorithm Based on Human Social Behavior  
*Arit Thammano and Jitraporn Moolwong*

A New Trajectory Search Algorithm Based on Spatio-temporal Similarity on Spatial Network  
*Jae-Woo Chang, Rabindra Bista, Ji-Hee Kim, and Young-Chang Kim*

An Efficient Method to Determine the Diagonal Loading Factor for PAM Communication System  
*Wenlong Liu and Shuxue Ding*

### **Session A-5: Intelligent Systems in Data Handling I**

Dealing with Query Contention Issue in Real-time Data Warehouses by Dynamic Multi-level Caches  
*Ziyu Lin, Dongqing Yang, Guojie Song, and Tengjiao Wang*

The Bump Hunting Method and Its Accuracy Using the Genetic Algorithm with Application to Real Customer Data  
*H. Hirose, T. Yukizane, and T. Deguchi*

User-oriented Materialized View Selection  
*Ziyu Lin, Dongqing Yang, and Tengjiao Wang*

### **Session A-6: Intelligent Systems in Data Handling II**

Implementation of the moonquake database  
*Junya Terazono*

Walking Stability by Age — A Feature Analysis Based on a Fourteen-Linkage Model  
*Bofeng Zhang, Takehiro Kanno, Wenxi Chen, Gengfeng Wu, and Daming Wei*

A Temporal Meta Database System for 3D Objects  
*Vo Thi Ngoc Chau and Suphamit Chittayasothorn*

An Efficient Goalie Strategy Using Twin Hidden Markov Models  
*T. Srinivasan, Srikanth P. Srinivasan, Shravan Kumar Alur, and Pravin Chandrasekaran*

A Mechanism for Improving Web Server Performance using Fuzzy Concept  
*Bumjoo Park, Kiejun Park, Dongmin Shin, and Sungsoo Kim*

## **Technical Sessions B: Internet and Web Application**

### **Session B-1: Internet and Web Performance**

Performance Evaluation of TD-Learning Methods for Bandwidth Provisioning  
*Mohsen Jahanshahi and Mohammad Reza Meybodi*

A Parallel Downloading Algorithm for Redundant Networks

*Ke Li, Wanlei Zhou, and Shui Yu*

## **Session B-2: Web Analysis**

Web Image Annotation based on the Decision Rules Inferred by the Statistical Analysis of Web Pages  
*Park Joohyoun, Giseok Choi, Jongwon Lee and Nang Jongho*

Semantic Retrieval of Text Documents  
*Vitaly Klyuev and Vladimir Oleshchuk*

Worrisome Rich-get-richer? Not The True Story!  
*Mingda Wu, Qiancheng Jiang, and Yan Zhang*

Component based Approach to handle Synonym and Polysemy in Folksonomy  
*Sun-Sook Lee and Hwan-Seung Yong*

## **Session B-3: Web Services and Applications I**

Automatic Web Services Composition Using Combining HTN and CSP  
*Incheon Paik and Daisuke Maruyama*

Dynamic Personalization for Book Recommendation System using Web Services and Virtual Library Enhancements  
*Takanori Kuroiwa and Subhash Bhalla*

Web-Based Interface Architecture for the Improvement of Accessibility to Computational Resources on a Cluster System  
*Huioon Kim, Kyungwon Chun, Kil Su Jung, and Youngjoo Chung*

A Multi-Clustering Hybrid Recommender System  
*Sutheera Puntheeranurak and Hidekazu Tsuji*

## **Session B-4: Semantic Web**

Proof for Multi-Agent Communication of Semantic Web Information  
*Vuong Xuan Tran and Hidekazu Tsuji*

Semantic Web Based Simulation Service Customization and Composition  
*Tong Zhang, Yun-sheng Liu, and Ya-bing Zha*

Semantic Representation and Ontology Construction in the Question Answering System  
*Ying-Hong Wang, Wen-Nan Wang, and Yi-Hsiang Yen*

Semantic Information System based on Web Service and Ontology for Grid Computing Environment  
*Tae-nyon Kim and Chang-Sung Jeong*

## **Session B-5: Web Services and Applications II**

A Semi-automated Negotiation Process to Improve the Usability for Online Marketplaces  
*Lung Ngai, Phil Mak, Wan-Cheng Ni, and Lian-Chen Liu*

SiteRank-Based Crawling Ordering Strategy for Search Engines  
*Qiancheng Jiang and Yan Zhang*

Preserving Consistency Based on Wall-Time Precedence in P2P DVEs  
*Gao Liping and Gu Ning*

Speech and Song Search on the Web: System Design and Implementation  
*Yuichi Yaguchi, Yoshiyuki Watanabe, Keitaro Naruse, and Ryuichi Oka*

## Technical Sessions C: High Performance Computing

### Session C-1: Task and Resource Management

Web Service-based Dynamic Resource and Job Managements for Large-scale and Long-time Grid Computations

*Yingwen Song, Yoshio Tanaka, Hiroshi Takemiya, and Satoshi Sekiguchi*

Building single fault survivable parallel algorithms for matrix operations using redundant parallel computation

*Yunfei Du, Panfeng Wang, Hongyi Fu, Haifang Zhou, and Xuejun Yang*

A Job Management System for a Large Scale Grid System

*Yong Woo Lee and Phil Doo Hong*

### Session C-2: HPC Application

Load balanced Parallel Prime Number Generator with Sieve of Eratosthenes on Cluster Computers  
*Soonwook Hwang, Kyusik Chung and Dongseung Kim*

Evaluating the Performance of Basic Linear Algebra Subroutines on a Torus Array Processor

*Ahmed Zekri and Stanislav Sedukhin*

Evolutionary Programming with Operator Adaptation

*Yong Liu*

An Integer Partition Based Algorithm for Coalition Structure Generation

*Veera Boonjing and Santit Narabin*

Visualization of Message Races in MPI Parallel Programs

*Mi-Young Park, Yong-Kee Jun, and Hyuk-Ro Park*

### Session C-3: Systems and Architecture

Design of Modular Rendering Pipeline

*Tomas Agoston, Csaba Csuprai, Juraj Onderik, and Roman Durikovic*

A Reliable Data Management Method for Parallel File System

*Yanmei Huo, Liang Hu, Kexin Yang, and Jiubin Ju*

Dedicated Disk I/O Strategies for IPTV Live Streaming Servers Supporting Timeshift Functions

*Cheng Huang, Chenjie Zhu, Yi Li, and Dejian Ye*

Implementation and Evaluation of Specific Data-Intensive Scientific Applications on the FT64 Stream Processor

*Yu Deng, Xuejun Yang, Xiaobo Yan, Ying Zhang, and Jing Du*

A Cluster File System for High Data Availability using Locality-Aware Partial Replication

*Jinseok Kim, Sangman Sim, and Sungyong Park*

## Technical Sessions D: Networking and Mobile Computing

### Session D-1: QoS and Mobile Protocol

Challenge in QoS Supporting via Integrating Differentiated Service and Multipath Routing on Mobile Ad-Hoc Network

*Mostafa Esmaeili, Hamid Alipour, Maghsoud Abbaspour, and Mahshid Rahnama*

Security and QoS Optimization for Distributed Real time Environment

*Ahmad Jalal and Mian Ahmad Zeb*

An Enhanced Dynamic and Distributed Domain-Based Handoff Scheme for Mobile IPv6

*Xuebin Ma, Tao Wen, Quan Guo, and Gang Wang*

### Session D-2: Protocols and Algorithms I

Modeling and Simulating IPv6 Mobility

*Xu Lei, YongSoo Kim, and Richard Lai*

Stochastic Model of Finite Buffer Priority Queuing System with Multi-Type Batch Arrival and General Rejection

*Attila Kőrösi, Balázs Székely, and Csaba Lukovszki*

Fast Recovery from Hidden Node Collision for IEEE 802.15.4 LR-WPANs

*Shengzhi Zhang and Sang-Jo Yoo*

Word Indexing for Mobile Device Data Representations

*Henry Larkin*

### Session D-3: Application Systems

KadStreaming: A Novel Kademlia P2P Network -based VoD Streaming Scheme

*Jie Wu, BiSheng Liu, ShiYong Zhang, ZhiHui Lu, and YiPing Zhong*

Development of i-appli for Women's Health Information Management System

*Takehiro Kanno, Wenxi Chen, and Masumi Kitazawa*

An Efficient Shared Learning Scheme for Layered Video Streaming over Application Layer Multicast

*Jongmin Park, Seungik Lee, Yangwoo Ko, and Dongman Lee*

A Context-Aware Framework for Mobile Navigation Service

*Wonik Choi, Hyunduk Kim, Jinsu Kim, and Jinseok Chae*

### Session D-4: Protocols and Algorithms II

A Predictive and Synchronized Neighborhood Tracking Scheme for Mobile Ad Hoc Networks

*Hui Xu, Jinsung Cho, and Sungyung Lee*

A Fast Path Recovery Scheme for Publish/Subscribe in Mobile Ad Hoc Networks

*Sang-chul Moon, Yangwoo Ko, and Dongman Lee*

Scalable and Statistically Secure Fingerprinting Scheme for Mobile Game Content Distribution

*Jae Min Seol and Seong Whan Kim*

### **Session D-5: Protocols and Algorithms III**

A Novel Method for Leader Election Algorithm

*Mehdi Mirakhorli, Amir Azim Sharifloo, and Abolfaz Haghighat*

Task Allocation Adaptable to Network Topology among Cooperative Heterogeneous Agents

*Zheng Xiao, ShiYong Zhang, and Chengrong Wu*

Adapting Superpeer Size Using Particle Swam Optimization for Self-Organizing Superpeer Ring with Loosely-Consistent DHT

*Saeyoung Han and Sungyong Park*

### **Session D-6: Protocols and Algorithms IV**

Overview of LDPC Codes

*Zongjie Tu and ShiYong Zhang*

Optimal Zero-Correlation Zone Sequence Set Constructed from a Perfect Sequence

*Takafumi Hayashi*

Computing the Availability and MTTF of Shared Protection Systems

*Hirokazu Ozaki and Atsushi Kara*

### **Session D-7: Analysis and Evaluation**

Performance of SD-method Compare with OFDM Method

*Rongzhen Jin, Naoki Suehiro, and Changgao Han*

Innovative Mobile Phone Services Based on Next Generation Infrastructure in Japan — A Survey

*Akira Sasaki, Kazuaki Yamauchi, Wenxi Chen, Michael Cohen, Daming Wei, and Zixue Cheng*

Performance Evaluation of Handling Interrupts Schemes in Gigabit Networks

*Salman AlQahtani*

Performance Comparison of Contention-Based Channel Access Mechanism of IEEE 802.11 and 802.11e

*Mayank Kanthali, Apurva Gaiwak, and Prakash D Vyavahare*

## **Technical Sessions E: Data, Multimedia, and Virtual Reality**

### **Session E-1: Computer Graphics and Virtual Reality**

Spin-Around: Phase-locked Synchronized Rotation and Revolution in Multistandpoint Panoramic Browsers

*Michael Cohen, Ishara Jaysingha, and Julián Villegas*

Control of Navigable Panoramic Imagery with Information Furniture: Chair-Driven 2.5D Steering Through Multistandpoint QTVR Panoramas with Automatic Window Dilation

*Michael Cohen, Kunihiko Doi, Takayuki Hattori, Yoriobu Mine*

Synæsthetic Music, or the Ultimate Ocular Harpsichord

*Julián Villegas and Michael Cohen*

A Shader for Virtual X-Ray Imaging

*Shin Hasegawa, Hidetaka Funayama, and Daming Wei*

## **Session E-2: Video Distribution and Networks**

The Design and Implementation of a Scalable Wireless Video Streaming System Adopting TCP Transmission Mode

*Ying Chai and Dejian Ye*

Clear P2P IPTV Live Streaming System for Set-top Box Clients

*Chenjie Zhu and Dejian Ye*

A Stochastic Differential Equation Model for Queues on Network Video Traffic

*Wenyan Hu and Dejian Ye*

Packet Reversed Packet Combining Scheme

*Chandan Bhunia*

## **Session E-3: Image Processing**

Content and Illumination Invariant Blur Measures for Realtime Video Processing

*Sebastien Harasse, Laurent Bonnaud, and Michel Desvignes*

Automatic Lung Segmentation in CT Images using Anisotropic Diffusion and Morphology Operation

*Hyesuk Kim and Gueesang Lee*

Flame Temperature Field Measurement Using Improved Generalized Cross-Validation Method

*Yinghui Zhou and Dezhong Zheng*

Implementation and Evaluation of a High Speed License Plate Recognition System on an FPGA

*Takamasa Kanamori, Masatoshi Arai, Daisuke Konno, Tomomichi Nanba, Yoshiaki Ajioka, and Hideharu Amano*

Motion Estimation for Real Time Transmission on H.264/AVC

*Hyosun Yoon*

## **Session E-4: Video Processing and Analysis**

Reducing Spatial Resolution for MPEG-4 / H.264 Transcoding with Efficient Motion Reusing

*Toan Nguyen, GueeSang Lee, JaeMyung Yoo, and Sangchan Park*

Template-Based Adaptive Video Coding Algorithm in High Resolution Laptop Video Conference Systems

*Chundong Wang and Dejian Ye*

Gradient Based Error Concealment for H.264 Inter Frames

*Toan Nguyen Dinh, JaeMyeong Yoo, and GueeSang Lee*

Tracking and Motion Analysis of Impact Fragments

*Naoto Miura, Hirohide Demura, Naru Hirata, and Noriaki Asada*

Design and Implementation of A Novel P2P-based VOD System Using Media File Segments Selecting Algorithm

*ZhiHui Lu, ShiYong Zhang, Jie Wu, WeiMing Fu, and YiPing Zhong*

## **Session E-5: Data Processing and Interfaces**

Methods and Technologies for Enhancing and Optimizing Power Plant Inspection Procedures

*Kamen Kanev, Zixue Cheng, and Nikolay Mirenkov*

Design of a Clinical Knowledge Base for Heart Disease Detection  
*Ki-Hyeon Kim and Ho-Jin Choi*

Performance Evaluation of a Temporal Sequence Learning Spiking Neural Network  
*Taiki Ichishita and Robert H. Fujii*

Design and Implementation of a Real-time Video Player on Tiled-Display System  
*Giseok Choe, Jeongsoo Yu, Jeonghoon Choi, and Jongho Nang*

On the Interactive Visualization of Very Large Image Data Sets  
*Frank Ekpár, Masaaki Yoneda, and Hiroyuki Hase*

### **Session E-6: Image Processing and Analysis**

A Leaf Image Retrieval Scheme Based On Partial Dynamic Time Warping and Two-Level Filtering  
*Yoon-Sik Tak and Een-Jun Hwang*

Local Binary Patterns on Hexagonal Image Structure  
*Xiangjian He, Jianmin Li, Wenjing Jia, Qiang Wu and Tom Hintz*

A Flexible Non-Linear PCA Encoder for Still Image Compression  
*Lu Chuanfeng, Zhao Qiangfu and Liu Zhiwen*

Influence of Imaging Condition on Matching Point Detection  
*Tomoki Hodokuma, Naru Hirata, Hirohide Demura and Noriaki Asada*

### **Session E-7: Text Processing and Analysis**

Identification of Japanese and English Script from a Single Document Page  
*Sukalpa Chanda, Umapada Pal, and Fumitaka Kimura*

Word Segmentation for the Sequences Emitted from a Word-Valued Source  
*Takashi Ishida, Toshiyasu Matsushima, and Shigeichi Hirasawa*

Using Contour Analysis to Improve Feature Extraction in Thai Handwritten Character Recognition Systems  
*Jarernsri Mitranont and Urairat Limkonglap*

Statistical Evaluation of Measure and Distance on Document Classification Problems in Text Mining  
*Masayuki Goto, Takashi Ishida, and Shigeichi Hirasawa*

Image Skew Detection for Formulas without Fraction Bars Using Connected Components Analysis  
*Lichun Zhang, Yue Lu, and Patrick Wang*

### **Session E-8: Static Image Segmentation**

Recognition Algorithm for Topographic Features  
*Naoto Harada, Takafumi Hayashi, Naru Hirata, Hirohide Demura, and Noriaki Asada*

Unsupervised Image Segmentation Using Automated Fuzzy c-Means  
*Supatra Sahaphong and Nualsawat Hiransakolwong*

Vector Image Segmentation for Content-Based Vector Image Retrieval  
*Takahiro Hayashi, Rikio Onai, and Koji Abe*

Segmentation by Morphological Reconstruction and Non-Linear Diffusion  
*JaeMyeong Yoo and GueeSang Lee*

## Technical Sessions F: Information Security

### Session F-1: Secure Framework

The Automatic Defense Mechanism for Malicious Injection Attack

*Jin-Cherng Lin and Jan-Min Chen*

Botnet Detection by Monitoring Group Activities in DNS Traffic

*Hyunsang Choi, Hanwoo Lee, Heejo Lee, and Hyogon Kim*

An Internet Voting Protocol with Receipt-free and Coercion-Resistant

*Bo Meng*

### Session F-2: Watermarking and Encryption

Towards Quantization Index Modulation Strategies on Content-based Watermarking Schemes

*Pedro Martins and Paulo Carvalho*

Exploiting X.509 Certificate and Multi-Agent System Architecture for Role-based Access Control and Authentication Management

*Somchart Fugkeaw, Piyawit Manpanpanich, and Sekpon Juntapremjitt*

Implementation of an Audio Watermarking System using CDMA Modulations

*Ghnimi Said and Cherif Adnen*

DWT-Based Audio Watermarking Resistant to Desynchronization

*Haiyan Liu, Xuefeng Zheng, and Ying Wang*

### Session F-3: Network Security

An Effective Trust Establishment Scheme for Authentication in Mobile Ad-Hoc Networks

*Guojun Wang, Qiong Wang, Jiannong Cao, and Minyi Guo*

Home Network Framework based on OSGi Service Platform Using SSL Component Bundle

*Eun-Ae Cho, Chang-Joo Moon, Dae-Ha Park, and Doo-Kwon Baik*

An Approach for Network Security Analysis using Logic Exploitation Graph

*Mao Handong, Zhang Weiming, and Chen Feng*

Information Security: End User Behavior and Corporate Culture

*Steven Woodhouse*

## Technical Sessions G: Embedded Systems and VLSI Design

### Session G-1: Scheduling and Optimization

A Dataflow Analysis for Mode Set Optimization in DSP Instruction Sets

*Jiho Chu, Youngsun Han, and Seon Wook Kim*

Name-based Write Barriers in Real-Time Java

*Teresa Higuera-Toledano*

Swap-aware Garbage Collection for NAND Flash Memory Based Embedded Systems  
*Ohhoon Kwon and Kern Koh*

Deadline Scheduling with Processor Affinity and Feasibility Check on Uniform Parallel Machines  
*Vahid Salmani, Mahmoud Naghibzadeh, and Mohsen Kahani*

System-level Power Management for Mobile Devices  
*Gerard Bosch Creus and Petri Niska*

## **Session G-2: Platform and Application**

A Visual Modeling Environment for Embedded Component Systems  
*Takuya Azum, Shimpei Yamada, Hiroshi Oyama, Yukikazu Nakamoto, and Hiroaki Takada*

Enabling Reconfigurable SoC in Multimedia Processing  
*Ying Wang, Wei-Nan Chen, Xiao-Wei Wang, Hong-Jun You, and Cheng-Lian Peng*

A Low-Power Application Specific Instruction Set Processor Architecture Using Asynchronous Function Units  
*Yong Li, Zhi-ying Wang, and Kui Dai*

Implementation of Architecture Concepts for Hardware Agent Systems  
*Joerg Schneider, Marcel Naggatz, and Rainer Spallek*

Compiler Construction for Lockstep Execution of Multithreaded Processors  
*Huong Giang Nguyen, Seokjoong Hwang, and Seon Wook Kim*

Performance Comparison of Camera Interface Methods in a Mobile Handset  
*Minyoung Eom, Yeoung Kyu Lim, and Tae-ik Kang*

## **Session G-3: VLSI Design**

Indirect Tag Search Mechanism for Instruction Window Energy Reduction  
*Shingo Watanabe, Akihiro Chiyonobu and Toshinori Sato*

A Control Circuit Synthesis Method for Asynchronous Circuits in Bundled-Data Implementation  
*Takao Konishi, Naohiro Hamada, and Hiroshi Saito*

Adaptive Optical Proximity Correction Using an Optimization Method  
*Tetsuaki Matsunawa, Hirokazu Nosato, Hidenori Sakanashi, Masahiro Murakawa, Eiichi Takahashi, Tsuneo Terasawa, Toshihiko Tanaka, Osamu Suga, and Tetsuya Higuchi*

# Technical Sessions H: Software Engineering

## **Session H-1: Automated Testing Tools**

An Automatic Tool for Generating Test Cases from the System's Requirements  
*Rosziati Ibrahim, Mohd Zainura Saringat, Noraini Ibrahim, and Noraida Ismail*

An automatic software test-data generation scheme based on data flow criteria and genetic algorithms  
*Andreas Andreou, Kypros Economides, and Anastasis Sofokleous*

Generating Wizards for Initializing Software Components  
*Hironori Washizaki, Takao Adachi, and Yoshiaki Fukazawa*

## **Session H-2: Modeling and Simulation**

FMBP (A Method to Generate Feature Model from Business Process Model for Business Applications)  
*Jongsu Bae and Sungwon Kang*

The Value Gap Model: Value-Based Requirements Elicitation  
*Sang Won Lim, Taek Lee, and Hoh Peter In*

Runtime Service Discovery and Reconfiguration using OWL-S based Semantic Web Service  
*Jinhan Kim, Jaejeong Lee, and Byungjeong Lee*

Constructing a Reference Model of a Grouped-Metadata Object and its Change Model  
*Liangli Ma and Yongjie Li*

## **Session H-3: Application-Specific Software Engineering**

A Robot Programming Based on Frame Representation of Knowledge  
*Shigeto Aramaki, Tatsuichirou Nagai, Masato Kawamura, and Yasutaka Hatada*

Representation and Programming for Robotic Assembly Task Using an Assembly Structure  
*Tatsuichiro Nagai, Shigeto Aramaki, and Isao Nagasawa*

A Method for Solving a Bipartite-graph Clustering Problem  
*Keiu Harada, Takuya Ishioka, Ikuo Suzuki, and Masashi Furukawa*

## **Session H-4: Software Product Line Engineering**

Towards a Formal Framework for Product Line Test Development  
*Sungwon Kang, Jihyun Lee, Myungchul Kim, and Woojin Lee*

A Metamodeling Approach to Tracing Variability between Requirements and Architecture in Software Product Lines  
*Mikyeong Moon and Heung Seok Chae*

A Formal Approach to Verify Mapping Relation in a Software Product Line  
*Tonny Kurniadi Satyananda, Danhyung Lee, and Sungwon Kang*

The Design of a Multimedia Protocol Analysis Software Environment  
*Tony Tsang, Yong Soo Kim, and Richard Lai*

## **Technical Sessions I: Ubiquitous and Sensor Network**

### **Session I-1: RFID Management**

A Secure Communication Protocol for Low-Cost RFID System  
*Jung-Hyun Oh, Hyun-Seok Kim, and Jin-Young Choi*

Design of an Aspect-Based Framework to Improve the Dynamic Management of RFID Middleware  
*Hee Joung Hwang and Jin Tak Choi*

Design and Implementation of an Active RFID System for Fast Tag Collection  
*Won-Ju Yoon, Sang-Hwa Chung, Seong-Joon Lee, and Young-Sik Moon*

### **Session I-2: Technologies for Ubiquitous Application and Network**

Probabilistic Isolation of Malicious Vehicles in Pseudonym Changing VANETs

*Bisheng Liu, YiPing Zhong, and ShiYong Zhang*

ANFIS for Adaptive Personal Space Determination for Ubiquitous Robots

*Janaka Chaminda Balasuriya, Chandrajith Ashuboda Marasinghe, and Keigo Watanabe*

Effective Service Decision using Ambient-based HHMM in Smart Home System

*Jiyong Park, Dohoon Kim, Taek Lee, and Hoh Peter In*

Dynamic Activity Lifecycle Management in Ubiquitous Computing Environments

*Hokyum Kim, Insuk Park, Soonju Hyun, and Dongman Lee*

### **Session I-3: Algorithms for Sensor Networks**

A Matrix-based Random Key Pre-distribution Scheme for Wireless Sensor Networks

*Ting Yuan, Shiyong Zhang, and YiPing Zhong*

Distributed Coloring Algorithm for Wireless Sensor Networks and Its Applications

*Ryouhei Kawano and Toshiaki Miyazaki*

A Novel Reference Node Selection Algorithm Based on Trilateration for Indoor Sensor Networks

*Guangjie Han, Deokjai Choi, and Wontaek Lim*

### **Session I-4: Energy Control Issue in Sensor Networks**

A Two Base Stations Algorithm for Energy Balanced Data Propagation in Smart Home Sensor Networks

*Bao Nguyen Nguyen and Deokjai Choi*

Game Theoretic Distributed Energy Control in Sensor Networks

*Jia Zeng and Chundi Mu*

An Aggregation Tree Constructing Algorithm Based on Energy Consumption Assessment

*Dayang Sun, Yanheng Liu, and Aimin Wang*

### **Session I-5: Sensor Network Architecture and Model**

A System Architecture for Monitoring Sensor Data Stream

*Yang Koo Lee, Ling Wang, and Keun Ho Ryu*

Product Line Approach to Role-based Middleware Development for Ubiquitous Sensor Network

*Woojin Lee, and Sungwon Kang*

e-Petri Net Model for Programming Integrated Network of Wireless Sensor Networks and Grids

*Adi Mallikarjuna Reddy V, A V U Phani Kumar, and D. Janakiram*

New Join Operator Definitions and Implementation Methods for Sensor Networks

*Seungjae Lee, Changhwa Kim, and Sangkyung Kim*

## **Technical Sessions J: Service Oriented Computing and E-Technologies**

### **Session J-1: Web Services and Technologies**

An Adaptive Resource Flowing Scheme Amongst VMs in a VM-Based Utility Computing

*Ying Song, Yuzhong Sun, Hui Wang, and Xining Song*

Using Moodle and Other Software Tools In EFL Courses In a Japanese IT University  
*John Brine, Ian Wilson, and Debopriyo Roy*

A Formal Framework for Description of Semantic Web services  
*Jiang Zhixiong, Qian Leqiu, and Pen Xin*

## **Session J-2: SOA and Grid Technologies**

A Fault Detection Mechanism for Service-Oriented Architecture Based on Queueing Theory  
*Hao-peng Chen and Cheng Zhang*

Enabling QoS for Service-Oriented Workflow on GRID  
*L. Guo, A. S. McGough, A. Akram, D. Colling, J. Martyniak, and M. Krznaric*

A Messaging Network to Realize an SOA-based System  
*Takafumi Hayashi, Hideyuki Fukuhara, Ryutaroh Fuijta, Toshiaki Miyazaki, and Senroh Saito*

Ontology Based User Profiling in Personalized Information Service Agent  
*Jianguo Pan, Bofeng Zhang, Shufeng Wang, Genfeng Wu, and Daming Wei*

## **Session J-3: Information Technology in Biomedicine**

A Development of Ubiquitous Biomedical Interface for Facilitating Medical Device Connectivity  
*Tung Tran, Hwa-Sun Kim, and Hune Cho*

Development of P300 Detection Algorithm for Brain Computer Interface in Single Trial  
*Hiroyuki Ishita, Motoki Sakai, Ji'nei Watanabe, Wenxi Chen, and Daming Wei*

Pathological Voice Classification Based on a Single Vowel's Acoustic Features  
*Ce Peng, Wenxi Chen, Xin Zhu, Baikun Wan, and Daming Wei*

Web Based Injury Surveillance System (WBISS) for Road Traffic Injuries  
*Achala Upendra Jayatilleke, Chandrajith Ashubodha Marasinghe, Shinji Nakahara, ST Nandasara, Achini Jayatilleke, and Masamine Jimba*

R $\beta$ Hpred: Prediction of Right-Handed  $\beta$ -helix Fold from Protein Sequence Using SVM and Protein Threading  
*Siddharth Singh, Krishnan Hajela, and Ashwini Ramani*

Development of Digital Image Surface and Its Application to Derived 12-lead ECG  
*Kunio Takahashi and Daming Wei*