

# The 2006 IEEE International Conference on Information Reuse and Integration

## IEEE IRI-2006 (Heuristic Systems Engineering)

September 16-18, 2006, Waikoloa, Hawaii, USA

### Conference Program (details)

	A	B	C	D	
Sept. 16, 2006	8:00 a.m. - 5:00 p.m. Conference Registration				
	8:00 a.m. - 8:40 a.m. Informal Meet & Greet - Coffee / Pastries				
	8:40 a.m. - 9:00 a.m. Welcome, Conference Opening Remarks				
	9:00 a.m. - 10:00 a.m. <b>KEYNOTE(1): Mo Jamshidi</b> ( <a href="#">SYSTEM OF SYSTEMS - &gt;From Definition to Architecture to Simulation to Space Applications</a> )				
	10:00 a.m. - 10:30 a.m. Break				
	10:30 a.m. - 12:00 p.m.	<b>Session 1A</b> <a href="#">Internet Computing</a> Eric Gregoire	<b>Session 1B</b> <a href="#">Space and Robotic Systems</a> Taghi M. Khoshgoftar	<b>Session 1C</b> <a href="#">Large Scale Data Integration</a> Du Zhang	<b>Session 1D</b> <a href="#">Manufacturing Systems &amp; Command and Control</a> James Joshi
	12:00 a.m. - 1:30 p.m. Lunch (provided by conference)				
	1:30 p.m. - 3:00 p.m.	<b>Session 2A</b> <a href="#">Information Assurance I</a> Naeem Seliya	<b>Session 2B</b> <a href="#">Soft Computing, Agent Based Systems I</a> Du Zhang	<b>Session 2C</b> <a href="#">Evolutionary Computing I</a> Yi Liu	<b>Session 2D</b> <a href="#">Knowledge Management I (E-Government)</a> Taghi M. Khoshgoftar
	3:00 p.m. - 3:30 p.m. Break				
	3:30 p.m. - 5:00 p.m.	<b>Session 3A</b> <a href="#">Information Assurance II</a> James Joshi	<b>Session 3B</b> <a href="#">Soft Computing, Agent Based Systems II</a> Ju -Yeon Jo	<b>Session 3C</b> <a href="#">Evolutionary Computing II</a> Eric Gregoire	<b>Session 3D</b> <a href="#">Knowledge Management II (Acquisition)</a> Du Zhang
7:00 p.m. - end Reception ( <a href="#">Open-air concert</a> by Dr. Marion Ceruti, mezzosoprano, requinto)					
Sept. 17, 2006	8:00 a.m. - 5:00 p.m. Conference Registration				
	8:00 a.m. - 9:00 a.m. Breakfast (provided by conference)				
	9:00 a.m. - 10:00 a.m. <b>KEYNOTE(2): Lt. Col. Bill Nace</b> ( <a href="#">Facilitating Research Collaborations in Asia and Australia</a> )				
	10:00 a.m. - 10:30 a.m. Break				
	10:30 a.m. - 12:00 p.m.	<b>Session 4A</b> <a href="#">Biomedical Systems I</a> James Joshi	<b>Session 4B</b> <a href="#">Component Based Design I</a> Taghi M. Khoshgoftar	<b>Session 4C</b> <a href="#">Heuristic Search &amp; Optimization I</a> Jason Van Hulse	<b>Session 4D</b> <a href="#">IEEE SACI 2006</a>
	12:00 a.m. - 1:30 p.m. Lunch (on your own)				
	1:30 p.m. - 3:00 p.m.	<b>Session 5A</b> <a href="#">Biomedical Systems II</a> Althea Liang	<b>Session 5B</b> <a href="#">Component Based Design II</a> Willie Chang	<b>Session 5C</b> <a href="#">Heuristic Search &amp; Optimization II</a> Jason Van Hulse	
	3:00 p.m. - 3:30 p.m. Break				
	3:30 p.m. - 5:00 p.m. <b>Session 6: Panel Session</b> ( <a href="#">Funding Opportunities in Information Reuse and Systems Engineering</a> )  <ul style="list-style-type: none"> <li>• <b>Stuart H. Rubin</b>, Ph.D., SPAWAR Systems Center (SSC) San Diego, USA</li> <li>• <b>Amy L. Magnus</b>, Ph.D., Air Force Office of Scientific Research (AFOSR)</li> </ul>				

		<ul style="list-style-type: none"> <li>• <b>Lt. Col. Bill Nace</b>, Ph. D., Asian Office of Aerospace Research and Development (AOARD)</li> <li>• <b>Mo Jamshidi</b>, Ph.D. Lutch Brown Endowed Chaired Professor at the University of Texas, San Antonio, USA</li> <li>• <b>Ljiljana Traykovic</b>, Ph.D. School of Engineering Science, Simon Fraser University, USA</li> <li>• <b>Shu-Ching Chen</b>, Ph.D., Florida International University, USA</li> <li>• <b>Barbara Sorensen</b>, Ph.D. USAF</li> <li>• <b>Marion Ceruti</b>, Ph. D. SPAWAR Systems Center (SSC) San Diego, USA</li> </ul>			
	7:00 p.m. - end	Banquet (authentic Hawaiian)			
Sept. 18, 2006		A	B	C	D
	8:00 a.m. - 5:00 p.m.	Conference Registration (sales of proceedings continues till 5pm)			
	8:00 a.m. - 9:00 a.m.	Breakfast (provided by conference)			
	9:00 a.m. - 10:00 a.m.	<b>KEYNOTE(3): Ljiljana Traykovic</b> (Efficient Mining of Data Through Reuse in a Public Safety Network )			
	10:00 a.m. - 10:30 a.m.	Break			
	10:30 a.m. - 12:00 p.m.	<b>Session 7A</b>  <a href="#">Multimedia Reuse and Integration</a>  James Joshi	<b>Session 7B</b>  <a href="#">Fuzzy and Neural Systems</a>  Yong S. Suh	<b>Session 7C</b>  <a href="#">Human Machine Information Systems, Knowledge Discovery</a>  Naeem Seliya	<b>Session 7D</b>  <a href="#">Data Mining and Knowledge Discovery</a>  Eric Gregoire
	12:00 a.m. - 1:30 p.m.	Lunch (on your own)			
	1:30 p.m. - end	<b>Session 8A</b>  <a href="#">Reuse in Software Engineering</a>  Zhiwei Xu	<b>Session 8B</b>  <a href="#">Natural Language Understanding, AI and Decision Support</a>  Yi Liu	<b>Session 8C</b>  <a href="#">Modeling and Simulation</a>  Ju -Yeon Jo	<b>Session 8D</b>  <a href="#">Sensory and Information Fusion</a>  Althea Liang

## September 16, 2006

8:00 a.m. - 5:00 p.m. **Conference Registration**

8:00 a.m. - 8:40 a.m. **Informal Meet & Greet - Coffee / Pastries**

8:40 a.m. - 9:00 a.m. **Welcome, Conference Opening Remarks**

9:00 a.m. - 10:00 a.m. **KEYNOTE(1):**

**Dr. Mo Jamshidi**, Lutchter Brown Endowed Chaired Professor at the University of Texas, San Antonio, USA

Title: **SYSTEM OF SYSTEMS – From Definition to Architecture to Simulation to Space Applications**

10:00 a.m. - 10:30 a.m. **Break**

10:30 a.m. - 12:00 p.m. **Session 1**

**Session 1A: Internet Computing**

**Session Chair: Eric Gregoire**

**016 DBMS for Web: The Future of Database Management**

Erico N. de Souza, Edjander Mota

*State University of Amazonas*

**042 Factors of Usability Design for Multilingual and Multicultural Websites**

Makki Kami, Greg Leppert

*University of Toledo*

**084 SSRLE: Substitution and Segment-Run Length Encoding for Binary Data in XML**

Brian Harrington, Robert Brazile, Kathleen Swigger

*Department of Computer Science and Engineering, University of North Texas*

**240 An Active Peer-to-peer System for Heterogeneous Service Provisioning**

Chi-Hung Chi<sup>1</sup>, Mu Su<sup>2</sup>, Lin Liu<sup>1</sup>, Hong Guang Wang<sup>1</sup>

(1) *School of Software, Tsinghua University*

(2) *National University of Singapore*

**Session 1B: Space and Robotic Systems**

**Session Chair: Taghi M. Khoshgoftar**

**045 Targeting and Localization for Mars Rover Operations**

Mark W. Powell<sup>1</sup>, Thomas Crockett<sup>1</sup>, Jason M. Fox<sup>1</sup>, Joseph C. Joswig<sup>1</sup>, Jeffrey S. Norris<sup>1</sup>, Kenneth J. Rabe<sup>1</sup>, Michael McCurdy<sup>2</sup>,  
Guy Pyrzak<sup>3,4</sup>

(1) *Jet Propulsion Laboratory*

(2) *NASA Ames Research Center*

(3) *San Jose State University Foundation*

(4) *NASA Ames Research Center*

**063 Fuzzy-based Error Correction Mechanism to Improve the Precision of Intelligent Maneuvering Target Tracking**

Tsung-Ying Sun, Shang -Jeng Tsai, Hung-Chun Chen and Shan -Ming Yang

*Department of Electrical Engineering, National Dong Hwa University*

**054 Using JPL Micro-Imagers for the Johnson Space Center International Space Station Cell Growth Experiment**

Alberto Behar<sup>1</sup>, Fredrik Bruhn<sup>2</sup>, Jaret Matthews<sup>1</sup>, Erin Means<sup>1</sup>

(1) *Jet Propulsion Laboratory*

(2) *Angstrom Aerospace Corp.*

**094 The Study on Intelligent Advanced Fighter Air Combat Decision Support System**

Tsung-Ying Sun, Shang -Jeng Tsai, Yan -Nian Lee, Shan -Ming Yang and Shih -Hsiang Ting

*Department of Electrical Engineering, National Dong Hwa University*

**Session 1C: Large Scale Data Integration**

**Session Chair: Du Zhang**

**204 Hybrid method for knowledge Processing, Integration and Representation**

Reena T. N. Shetty<sup>1</sup>, Pierre-Michel Riccio<sup>2</sup>, Joel Quinqueton<sup>3</sup>

(1) *LGI2P, EMA, Fontenblu, Paris*

(2) LGI2P, Site EERIE, 30035 Nimes

(3) LIRMM, Montpellier

**166 Rapid Systems of Systems Integration -- Combining an Architecture -Centric Approach with Enterprise Service Bus Infrastructure**

Ingolf H. Krueger, Michael Meisinger, Massimiliano Menarini, Stephen Pasco

*Software & Systems Architecture & Integration Team, California Institute for telecommunications and Information Technology, University of California, San Diego*

**088 Modeling Methodology for Component Reuse and System Integration for Hurricane Loss Projection Application**

Kasturi Chatterjee<sup>1</sup>, Khalid Saleem<sup>1</sup>, Na Zhao<sup>1</sup>, Min Chen<sup>1</sup>, Shu-Ching Chen<sup>1</sup>, Shahid S. Hamid<sup>2</sup>

(1) *Distributed Multimedia Information System Laboratory, School of Computing and Information Sciences, Florida International University*

(2) *Department of Finance, Florida International University*

**107 Web-based information sharing service system for E-Government**

Wen He, Peng Lu, Chao Zhou, Xuelian Lin

*Beihang University, Beijing, P.R. China*

**Session 1D: Manufacturing Systems & Command and Control**

**Session Chair: James B. D. Joshi**

**161 Maintenance integration in a modular supervision framework based on Petri net with objects. Application to a robot-driven flexible cell.**

E. Rocha Loures, E. A. P. dos Santos, M. A. Buseti de Paula

*Graduate Program in Production System Engineering – PUCPR, Curitiba-Brazil*

**108 Time Floating General Mutual Exclusion Constraints in Partial Observable Discrete Event Systems**

Achour Zied, Rezg Nidhal

*INRIA & LGIPM, Ile du Saulcy*

**083 Strengthening OV-6a Semantics with Rule-Based Meta-models in DEVS/DODAF based Life-cycle Architecture Development**

Saurabh Mittal, Amit Mitra, Amar Gupta, Bernard P. Zeigler

*ACIMS*

**086 Tabu search for the optimization of household energy consumption**

Duy Long Ha, Stephane Ploix, Eric Zamai, Mireille Jacomino

*Laboratoire d'Automatique de Grenoble*

**12:00 a.m. - 1:30 p.m. Lunch (provided by conference)**

**1:30 p.m. - 3:00 p.m. Session 2**

**Session 2A: Information Assurance I**

**Session Chair: Naeem Seliya**

**085 A Flexible Architecture for Integrating Analysis Operations Into a Scientific Data Repository**

Brian Harrington, Robert Brazile, Kathleen Swigger

*Department of Computer Science and Engineering, University of North Texas*

**239 An RDF-based Annotation Framework for Providing Web Resources Integrity**

Dejun Jiang, Chi-Hung Chi, Lin Liu

*School of Software, Tsinghua University, Beijing*

**047 Reasoning about Dynamics of Trust and Agent Beliefs**

Mehmet A. Orgun<sup>1</sup>, Chuchang Liu<sup>2</sup>

(1) *Department of Computing, Macquarie University, Sydney*

(2) *Information Networks Division, Defence Science and Technology Organisation*

**093 Role Based Access Control in Enterprise Application -- Security Administration and User Management**

Vinith Bindiganavale, Jinsong Ouyang

*California State University*

**Session 2B: Soft Computing, Agent Based Systems I**

**Session Chair: Du Zhang**

**109 Replacing full rectangles by dense rectangles: concept lattices and attribute implications**

Radim Belohlavek, Vilem Vychodil

*Dept. Comp. Science, Palacky University, Tomkova*

**148 A New Model for the Itinerary Definition of Real-Time Imprecise Mobile Agents**

Luciana Rech, Carlos Montez, Romulo de Oliveira

*Department of Automation and Systems Engineering, Programa de Pós Graduação em Engenharia Elétrica, Federal University of Santa Catarina*

**160 Environment as support for simplification, reuse and integration of processes in spatial MAS**

Denis Payet, Remy Courdier, Nicolas Sebastien, Tiana Ralambondrainy

*Université de la Réunion - Iremia*

**145 Similarity issues in attribute implications from data with fuzzy attributes**

Radim Belohlavek, Vilem Vychodil

*Dept. Comp. Science, Palacky University, Tomkova*

**Session 2C: Evolutionary Computing I**

**Session Chair: Yi Liu**

**025 A Comparison of Operator Selection Strategies in Evolutionary Optimization**

Christoph Breitschopf<sup>1</sup>, Gunther Blaschek<sup>2</sup>, Thomas Scheidl<sup>2</sup>

*(1) Department of Business Informatics – Software Engineering, Johannes Kepler University*

*(2) Institute of Pervasive Computing, Johannes Kepler University*

**035 The Assessment and Application of Lineage Information in Genetic Programs for Producing Better Models**

Gary D. Boetticher, Kim Kaminsky

*University of Houston*

**040 T2K2: A Type II KASER**

Stuart Rubin<sup>2</sup>, Shu-Ching Chen<sup>1</sup>, James Law<sup>2</sup>

*(1) School of Computer Science, Florida International University*

*(2) SSC San Diego*

**219 Selfish-gene Tolerant Generic Algorithms to solve large-scale constraint TSPs**

Yoshitaka Sakurai, Takashi Onoyama, Sen Kubota, Yoshihiro Nakamura, Setsuo Tsuruta

*School of Information Environment, Tokyo Denki University*

**Session 2D: Knowledge Management I (E-Government)**

**Session Chair: Taghi M. Khoshgoftar**

**056 The Impact of Firm Size on Knowledge Reuse and Exploration during Software Product Development: an Empirical Study**

Samuel A Ajila

*Department of Systems & Computer Engineering, Carleton University*

**064 Concept-based Web Search using Domain Prediction and Parallel Query Expansion**

Rahul R. Joshi, Y. Alp Aslandogan

*Department of Computer Science and Engineering, The University of Texas at Arlington*

**116 Probabilistic RDF**

Octavian Udrea, V.S. Subrahmanian, Zoran Majkic

*University of Maryland, College Park*

**096 An Integration Approach of QA Engines depending on Answer-Class**

Hyo-Jung Oh, Yi-Gyu Hwang, Chung-Hee Lee, Changki Lee, Ji-Hyun Wang, Hyeon-Jin Kim, Myung-Gil Jang

**3:00 p.m. - 3:30 p.m. Break**

**3:30 p.m. - 5:00 p.m. Session 3**

**Session 3A: Information Assurance II**

**Session Chair: James B. D. Joshi**

**217 Applying a Layered Decision Model to the Design of Language-Based Security Systems**

Huaqiang Wei, Jim Alves-Foss

*Department of Computer Science, University of Idaho*

**229 A Similarity based Technique for Detecting Malicious Executable files for Computer Forensics**

Jun-Hyung Park<sup>1</sup>, Min -Soo Kim<sup>2</sup>, Bong -Nam Noh<sup>3</sup>, James B. D. Joshi<sup>1</sup>

(1) *School of Information Science, University of Pittsburgh*

(2) *Division of Information Engineering, Mokpo National University*

(3) *Division of Electronics Computer & Information Engineering, Chonnam National University*

**238 Empirical Study on Web Content Consistency**

Chi-Hung Chi<sup>1</sup>, Lin Liu<sup>1</sup>, Choon-Keng Chua<sup>2</sup>

(1) *School of Software, Tsinghua University*

(2) *School of Computing, National University of Singapore*

**184 Labeling Network Event Records for Intrusion Detection in a Wireless LAN**

T.M. Khoshgoftaar<sup>1</sup>, C. Seiffert<sup>1</sup>, N. Seliya<sup>2</sup>

(1) *Computer Science and Engineering, Florida Atlantic University*

(2) *Computer and Information Science, University of Michigan -Dearborn*

**Session 3B: Soft Computing, Agent Based Systems II**

**Session Chair: Ju -Yeon Jo**

**041 Relational Model of Data over Domains with Similarities: An Extension for Similarity Queries and Knowledge Extraction**

Radim Belohlavek, Vilem Vychodil

*Dept. Comp. Science, Palacky University, Tomkova*

**081 Context-Dependent Adaptability in Crowd Behavior Simulation**

Xiaolin Hu

*Computer Science Department, Georgia State University*

**154 Robust prediction of network traffic Using Quantile Regression Models**

Weibiao Wu<sup>1</sup>, Zhiwei Xu<sup>2</sup>, Yu Wang<sup>2</sup>

(1) *Department of Statistics, The University of Chicago*

(2) *Motorola Inc., Schaumburg,*

**115 Context: An Information Medium for Dynamic and Collaborative Situations**

Romain Benard, Matthieu Aubry, Pierre De Loor

*CERV European Center for Virtual Reality*

**Session 3C: Evolutionary Computing II**

**Session Chair: Eric Gregoire**

**185 Developing an Effective Validation Strategy for Genetic Programming Models Based on Multiple Datasets**

Y. Liu<sup>1</sup>, T. M. Khoshgoftaar<sup>2</sup>, J.-F. Yao<sup>3</sup>

(1) *Georgia College and State University*

(2) *Florida Atlantic University*

(3) *Georgia College and State University*

**208 Logo Drawing System applying Interactive Genetic Algorithms**

Masashi Yamada<sup>1</sup>, Takehisa Onisawa<sup>2</sup>

(1) *Onisawa Lab., Master's Program in Intelligent Interaction Technologies, Graduate Schools of Systems and Information Engineering, University of Tsukuba*

(2) *Department of Intelligent Interaction Technologies, Graduate Schools of Systems and Information Engineering, University*

*ofTsukuba*

**124 Business Rule Based Program Transformation for CRM System Evolution**

Yang Xu, Hongji Yang and Issam Amin

*Software Technology Research Laboratory, De Montfort University*

**221 A Multi-world Intelligent Genetic Algorithm to Interactively Optimize Large-scale TSP**

Yoshitaka Sakurai, Takashi Onoyama, Sen Kubota, Yoshihiro Nakamura, Setsuo Tsuruta

*School of Information Environment, Tokyo Denki University*

**Session 3D: Knowledge Management II (Acquisition)**

**Session Chair: Du Zhang**

**022 Representation and Integration of Knowledge based on Multiple Granularity of Time Using Temporal Logic**

Mehmet A. Orgun<sup>1</sup>, Chuchang Liu<sup>2</sup>, Abhaya C. Nayak<sup>1</sup>

(1) *Department of Computing, Macquarie University*

(2) *Information Networks Division Defence Science and Technology Organisation*

**052 Axiomatizing Relational Network for Knowledge Engineering - Exploring WordNet and FrameNet**

Ian Chow, TakMing Wong

*City University of Hong Kong*

**149 Increasing Design Search Relevancy using Statistical Methods in Conjunction with Ontologies**

Fabrice Alizon<sup>1</sup>, Jyotirmaya Nanda<sup>2</sup>, Steven B. Shooter<sup>1</sup>, Timothy W. Simpson<sup>2</sup>

(1) *Bucknell University*

(2) *The Pennsylvania State University*

**178 Chinese Word Segmentation with Minimal Linguistic Knowledge: An Improved Conditional Random Fields Coupled with Character Clustering and Automatically Discovered Template Matching**

Richard Tzong-Han Tsai, Hong-Jie Dai, Hsieh-Chuan Hung, Cheng-Lung Sung, Min-Yuh Day, and Wen-Lian Hsu

*Academia Sinica, Taiwan, R.O.C*

**7:00 p.m. - end**

**Reception**

## September 17, 2006

**8:00 a.m. - 5:00 p.m. Conference Registration**

**8:00 a.m. - 9:00 a.m. Breakfast (provided by conference)**

**9:00 a.m. - 10:00 a.m. KEYNOTE(2):**

**Lt. Col. Bill Nace**, Technical Director, Asian Office of Aerospace Research and Development

Title: [Facilitating Research Collaborations in Asia and Australia](#)

**10:00 a.m. - 10:30 a.m. Break**

**10:30 a.m. - 12:00 p.m. Session 4**

**Session 4A: Biomedical Systems I**

**Session Chair: James B. D. Joshi**

**090 Ontology-Based Feature Weighting for Biomedical Literature Classification**

Dan He and Xindong Wu

*Department of Computer Science, University of Vermont*

**143 A Robust Method for Biological Sequence Clustering**

Wei-Bang Chen, Chengcui Zhang

*Computer and Information Sciences Department, University of Alabama at Birmingham*

**180 Integration of Low Level Linguistic Information for Clinical Document Semantic Tagging**

Hyeju Jang<sup>1</sup>, Yun Jin<sup>2</sup>, Sung Hyon Myaeng<sup>1</sup>

(1) *Department of Computer Science, Information and Communications University, Daejeon, Korea*

(2) *Department of Computer Science, Chungnam National University, Daejeon, Korea*

**138 Efficient 3-D Visualization of Cellular Structures through Reuse of Multi-focal 2-D Images**

Sinan Kockara, Nawab Ali, Serhan Dagtas  
*University of Arkansas at Little Rock*

**Session 4B: Component Based Design I**

**Session Chair: Taghi M. Khoshgoftar**

**038 Case Study of Product Line Engineering in Insurance Company**

Jeong Ah Kim  
*Kwandong Univerity*

**046 A Component-Based Service Creation Framework for Mobile Applications**

Michael Jiang, Zhihui Yang  
*Software and System Engineering Research Lab, Motorola*

**078 A Reuse-driven approach to update Component-Based Software Architectures**

Abdelhak-Djamel Seriai<sup>1</sup>, Mourad Oussalah<sup>2</sup>, Dalila Tamzalit<sup>2</sup>, Olivier Le Goer<sup>2</sup>  
(1) *LINA CNRS FRE 2729 — Universit ´e de Nantes, Nantes Atlantique Universit ´es*  
(2) *G.I.P — Ecole des Mines de Douai, Douai, France*

**125 Incorporating Legacy System into Semantic Grid Framework**

Jianzhi Li and Hongji Yang  
*Software Technology Research Laboratory, De Montfort University*

**Session 4C: Heuristic Search & Optimization I**

**Session Chair: Jason Van Hulse**

**144 A New Heuristic-based albeit Complete Method to Extract MUCs from Unsatisfiable CSPs**

Eric Gregoire, Bertrand Mazure, Cedric Piette, Lakhdar Sais  
*CRIL CNRS & IRCICA, Universit ´e d'Artois*

**156 Redesigning Product Families using Heuristics and Shared Ontological Component Information**

Henri J. Thevenot, Jyotirmaya Nanda, Timothy W. Simpson  
*Pennsylvania State University*

**193 Randomized Local Extrema for Heuristic Selection in TSP**

Qianhui Althea Liang<sup>1</sup>, Stuart H. Rubin<sup>2</sup>  
(1) *School of Information Systems, Singapore Management University*  
(2) *SPAWAR SYSTEMS CENTER*

**195 Partitioning the Program into different regions Using dynamic and Static Approach with kernel-Assisted in Power management for embedded system**

Huang Jiangwei, Chen tianzhou, Qianjie, Liangxiao  
*College of Computer Science, Zhejiang University*

**Session 4D IEEE 1st International Workshop on Software Architectures and Components Integration (IEEE SACI 2006)**

**Workshop Chair: Roger Lee, Central Michigan University, USA**

**Co-chairs:** Jiro Tanaka, University of Tsukuba, Japan

Lawrence Chung, University of Texas-Dallas,USA

**241 Design Of Reusable Components Using Drag And Drop Mechanism**

P. Niranjana Reddy, B. Jalender  
*Kakatiya Institute of Technology & Science, Warangal, India*

**242 Toward Component Non-functional Interoperability Analysis: A UML-based and Goal-Oriented Approach**

Sam Supakkul<sup>1</sup>, Ebenezer A. Oladimeji<sup>2</sup>, and Lawrence Chung<sup>1</sup>  
(1) *The University of Texas at Dallas*  
(2) *Verizon Communications*

**243 Variability Management with ACM (Adaptable Component Model) for Insurance Product Line**

Jeong Ah Kim

*Kwandong University, Korea*

**244 A Qualitative Analysis of Privilege Escalation**

Xinyue Song, Michael Stinson, Roger Lee, and Paul Albee

*Central Michigan University*

**12:00 a.m. - 1:30 p.m. Lunch (on your own)**

**1:30 p.m. - 3:00 p.m. Session 5**

**Session 5A: Biomedical Systems II**

**Session Chair: Althea Liang**

**200 Reuse of Reconstructed Model of Human Skull for Anthropological and Anthropoid Morphological Model Estimation**

Junta Doi<sup>1</sup>, Kentaro Shimizu<sup>1</sup>, Masahiko Hoshi<sup>2</sup>

(1) *University of Tokyo*

(2) *Seven & I Holdings Co., Ltd.*

**210 DNA Algorithm of Image Recognition and its Application**

Ying Zhu<sup>1</sup>, Yongsheng Ding<sup>1</sup>, Wanggen Li<sup>1,2</sup>, Lotfi A. Zadeh<sup>3</sup>

(1) *College of Information Sciences and Technology, Donghua University*

(2) *College of Mathematics and Computer Sciences, Anhui Normal University*

(3) *Computer Science Division, University of California Berkeley*

**059 Fractal Dimension and Similarity Search in High Dimensional Spatial Databases**

Mehmet Malcok<sup>1</sup>, Y. Alp Aslandogan<sup>3</sup>, Ayin Yesildirek<sup>2</sup>

(1) *Department of Computer Science, Penn State Erie, The Behrend College*

(2) *Department of Electrical Engineering, Gannon University*

(3) *Department of Computer Science and Engineering, The University of Texas at Arlington*

**Session 5B: Component Based Design II**

**Session Chair: Willie Chang**

**162 Web Enabled Service Implementation - Telephone Directory Prototype**

Benjamin A. Balogh, Matthew W. Reed, David C. Miller, Chia-Chu Chiang

*Department of Computer Science, University of Arkansas at Little Rock*

**163 A component's framework based on the MVC pattern for the integration of data and tools on the molecular biology domain**

Luiz Roberto Lombardo, Mauro Biajiz, Antonio Francisco do Prado

*Computing Department - Federal University of São Carlos (UFSCar)*

**233 Using Markov Chain and Nearest Neighbor Criteria in a Experience Based Study Planning System with Linear Time Search and Scalability**

Juan Carlos Segura -Ramirez, Willie Chang

*California State University*

**211 Dynamic Adaptation of Software Component Structures**

Gautier Bastide<sup>1</sup>, Abdelhak Seriai<sup>1</sup>, Mourad Oussalah<sup>2</sup>

(1) *Ecole des Mines de Douai*

(2) *LINA, universit é de Nantes*

**Session 5C: Heuristic Search & Optimization II**

**Session Chair: Jason Van Hulse**

**139 Using Pseudo Gradient Search for Solving Nonlinear Multiregression Based on 2-Additive Measures**

Puttipong Mahasukhon<sup>1</sup>, Hamid Sharif<sup>1</sup>, and Zhenyuan Wang<sup>2</sup>

(1) *Computer and Electronics Engineering Department, University of Nebraska--Lincoln*

(2) *Department of Mathematics, University of Nebraska at Omaha*

**179 Integrating Genetic Algorithms with Conditional Random Fields to Enhance Question Informer Prediction**

Min-Yuh Day<sup>1,2</sup>, Chun-Hung Lu<sup>1,2</sup>, Chornng-Shyong Ong<sup>2</sup>, Shih-Hung Wu<sup>3</sup>, Wen-Lian Hsu<sup>1</sup>

(1) *Institute of Information Science, Academia Sinica, Taiwan*

(2) Department of Information Management, National Taiwan University

(3) Department of Computer Science and Information Engineering, Chaoyang University of Technology

**019 AntSeg: an Ant Approach to Disambiguation of Chinese Word Segmentation**

Qiang Lv<sup>1</sup>, Hongling Wang<sup>1</sup>, Peide Qian<sup>1</sup>, Xiaohu Luo<sup>2</sup>

(1) School of Computer Science and Technology, Soochow University

(2) Institute of Vocational Technology of Suzhou Industrial Park

**147 Some Metaheuristic Approaches for the Clustering Problem with an Application to Failure Detection**

Adriana Marcucci Bustos, Alain Gauthier Sellier

Universidad de los Andes, Colombia

**3:00 p.m. - 3:30 p.m. Break**

**3:30 p.m. - 5:00 p.m. Session 6**

**Session 6: Panel: Funding Opportunities in Information Reuse and Systems Engineering**

**Session Chair: Stuart H. Rubin, Ph.D., SPAWAR Systems Center (SSC) San Diego, USA**

**Panel Members: Amy L. Magnus, Ph.D., Air Force Office of Scientific Research (AFOSR)**

**Lt. Col. Bill Nace, Air Force Office of Scientific Research/ Asian Office of Aerospace Research and Development (AFOSR/AOARD)**

**Mo Jamshidi, Ph.D., Lutchter Brown Endowed Chaired Professor at the University of Texas, San Antonio, USA**

**Ljiljana Trajkovic, Ph.D., School of Engineering Science, Simon Fraser University, USA**

**Shu-Ching Chen, Ph.D., Florida International University, USA**

**Barbara Sorensen, Ph.D., USAF**

**Marion Ceruti, Ph. D., SPAWAR Systems Center (SSC) San Diego, USA**

**7:00 p.m. - end Banquet (authentic Hawaiian)**

## September 18, 2006

**8:00 a.m. - 5:00 p.m. Conference Registration (sales of proceedings continues till 5pm)**

**8:00 a.m. - 9:00 a.m. Breakfast (provided by conference)**

**9:00 a.m. - 10:00 a.m. KEYNOTE(3):**

**Ljiljana Trajkovic, Professor, School of Engineering Science, Simon Fraser University**

Title: [Efficient Mining of Data Through Reuse in a Public Safety Network](#)

**10:00 a.m. - 10:30 a.m. Break**

**10:30 a.m. - 12:00 p.m. Session 7**

**Session 7A: Multimedia Reuse and Integration**

**Session Chair: James B. D. Joshi**

**187 Classification of Ships in Surveillance Video**

Q. Luo, T.M. Khoshgoftaar, A. Folleco

Department of Computer Science and Engineering, Florida Atlantic University

**069 An Integrated and Interactive Video Retrieval Framework with Hierarchical Learning Models and Semantic Clustering Strategy**

Na Zhao<sup>1</sup>, Shu-Ching Chen<sup>1</sup>, Mei-Ling Shyu<sup>2</sup>, Stuart H. Rubin<sup>3</sup>

(1) Distributed Multimedia Information System Laboratory, School of Computing and Information Sciences, Florida International University

(2) Department of Electrical and Computer Engineering, University of Miami

(3) Space and Naval Warfare Systems Center (SSC)

**237 Performance Modeling for Real-Time Content Adaptation Network**

Chi-Hung Chi, Lin Liu, X. Li

School of Software, Tsinghua University, Beijing, China

**136 A Transformation Efficient Three-Dimensional Multiple-View Model of Visual Memory**

Paul S. Haynes, Peter A. Robinson

Department of Computer Science, The University of Hull

**Session 7B: Fuzzy and Neural Systems**

**Session Chair: Yong S. Suh**

**065 H<sub>μ</sub> Output Feedback Control of Fuzzy Systems with Immeasurable Premise Variables**

Jun Yoneyama

*Department of Electronics and Electrical Engineering, Aoyama Gakuin University*

**079 Provide Relevant Knowledge to Specify Product Design Project Needs**

Fabrice Alizon<sup>1</sup>, Steven B. Shooter<sup>1</sup>, Timothy W. Simpson<sup>2</sup>

(1) *Bucknell University, Lewisburg*

(2) *The Pennsylvania State University, University Park*

**017 Design of Source Identification Zones for Declaring an Odor Source in Turbulent Fluid-Advected Environments**

Wei Li, Mohamound M. Elgassier, Thomas Rutledge, Joseph Sutton

*Department of Computer Science, California State University*

**150 Fuzzy Continuous Resource Allocation Mechanisms in Workflow Management Systems**

Joslaine Cristina Jeske<sup>1</sup>, Stephane Julia<sup>1</sup>, Robert Valette<sup>2</sup>

(1) *Universidade Federal de Uberlandia*

(2) *LAAS-CNRS*

**Session 7C: Human Machine Information Systems, Knowledge Discovery**

**Session Chair: Naeem Seliya**

**190 Noise Correction Using Bayesian Multiple Imputation**

J. Van Hulse, T.M. Khoshgoftaar, C. Seiffert, L. Zhao

*Empirical Software Engineering Laboratory, Department of Computer Science and Engineering  
Florida Atlantic University*

**191 Software Quality Imputation in the Presence of Noisy Data**

T.M. Khoshgoftaar, A. Folleco, J. Van Hulse, L. Bullard

*Empirical Software Engineering Laboratory, Department of Computer Science and Engineering  
Florida Atlantic University*

**171 Repurposing: Techniques for reuse and integration of interactive systems**

Les Nelson, Elizabeth F. Churchill

*Palo Alto Research Center, Inc.*

**234 Multi-Disciplinary Integrated Framework and Architecture for a Human Centered Collaborative Commerce System**

Waleed Smari<sup>1</sup>, Seung-yun Kim<sup>1</sup>, William McQuay<sup>2</sup>

(1) *Department of Electrical and Computer Engineering, University of Dayton*

(2) *Air Force Research Laboratory, Wright-Patterson AFB*

**Session 7D: Data Mining and Knowledge Discovery**

**Session Chair: Eric Gregoire**

**076 A Visual Approach for Spatio-Temporal Data Mining**

M-Tahar Kechadi, Michela Bertolotto

*School of Computer Science and Informatics, University College Dublin*

**203 Enrollment Prediction through Data Mining**

Svetlana Aksenova, Du Zhang, and Meiliu Lu

*Department of Computer Science, California State University, Sacramento*

**031 One Scan Sanitization of Informative Association Rules**

Shyue-Liang Wang, Rajeev Maskey, Ayat Jafari

*Department of Computer Science, New York Institute of Technology*

**067 Investigations into Relatedness-based Interestingness of Association Rules: A Transaction-driven Analysis**

B. Shekar<sup>1</sup>, Rajesh Natarajan<sup>2</sup>

(1) *Quantitative Methods and Information Systems Area, Indian Institute of Management Bangalore*

(2) *Business Analytics Group Cognizant Technology Solutions*

**12:00 a.m. - 1:30 p.m. Lunch (on your own)**

**1:30 p.m. - 3:00 p.m. Session 8**

**Session 8A: Reuse in Software Engineering**

**Session Chair: Zhiwei Xu**

**126 Aspectizing Database Connection Pooling for Improved Run-Time Performance Measures in Web Applications**

Lamya A. Othman, Hoda M. Hosny, and Sherif G. Aly  
Department of Computer Science, American University, Cairo

**169 Ontology Proposal for Quality Oriented Reuse**

Pamela Ghiotto, Maryoly Ortega, Anna Griman, Luis Mendoza, Maria Perez  
*Universidad Simón Bolívar, Departamento de Procesos y Sistemas*

**189 Capturing and Reusing Functional and Non-functional Requirements Knowledge: A Goal -Object Pattern Approach**

Lawrence Chung, Sam Supakkul  
*University of Texas at Dallas*

**165 Towards a Model-based Application Integration Framework for Smart Oilfields**

Cong Zhang<sup>1</sup>, Amol Bakshi<sup>1</sup>, Viktor Prasanna<sup>1</sup>, Will Da Sie<sup>2</sup>  
(1) *EE-Systems, USC*  
(2) *Chevron*

**Session 8B: Natural Language Understanding, AI and Decision Support**

**Session Chair: Yi Liu**

**225 A Cross-Cluster Approach for Measuring Semantic Similarity between Concepts**

Hisham Al-Mubaid, Hoa A. Nguyen  
*Department of Computer Science. University of Houston*

**103 Automatic Morphological Tagging of Contemporary Uighur Corpus**

Gulila Altenbek  
*Xinjiang University, Xinjiang, P.R.China*

**198 HYBRID CHINESE TEXT CHUNKING**

PanPan Liao, Ying Liu, Lin Chen  
*Department of Chinese Language and Literature, Tsinghua University*

**192 Enhancing Search Engine Performance Using Expert Systems**

Stan Lovic<sup>1</sup>, Meiliu Lu<sup>2</sup>, Du Zhang<sup>2</sup>  
(1) *Intel Corp.*  
(2) *Computer Science Department, California State University*

**Session 8C: Modeling and Simulation**

**Session Chair: Ju-Yeon Jo**

**066 Vehicle Tracking Using Template Matching based on Feature Points**

Jong-Ho Choi<sup>1</sup>, Kang-Ho Lee<sup>2</sup>, Kuk-Chan Cha<sup>3</sup>, Jun-Sik Kwon<sup>4</sup>, Dong-Wook Kim<sup>5</sup>, Ho-Keun Song<sup>6</sup>  
(1) *Department of Electronic Engineering, Kangnam University*  
(2) *Dept. Computer Information Security, Korea National College of Rehabilitation and Welfare*  
(3) *Department of Computer Science & Engineering, Konyang University*  
(4) *Department of Electrical Engineering, Semyung University*  
(5) *Department of Information & Communication Engineering, Jeonju University*  
(6) *Department of Computer & Information Science, Hanseo University*

**091 AR Squarsh game**

Seok-Han Lee<sup>1</sup>, Yong-In Yoon<sup>1</sup>, Jong-Ho Choi<sup>2</sup>, Chil-Woo Lee<sup>3</sup>, Jin-Tae Kim<sup>4</sup>, Jong-Soo Choi<sup>1</sup>  
(1) *Dept. of Image Engineering, Chung-Ang University*  
(2) *Dept. of Electronics Engineering, Kangnam University*

- (3) *Dept. of Computer Engineering, Chonnam National University*  
(4) *Dept. of Computer & Information Science, Hanseo University*

**202 Reconstructing Polyhedral Swept Volumes from a Single-View Sketch**

Yong S. Suh  
*Department of Mechanical Engineering, California State University, Sacramento*

**164 A Negotiation Model for Large Scale Multi-Agent Systems**

Behrouz Far, Tom Wanyama, Sidi O. Soueina  
*Department of Electrical and Computer Engineering, University of Calgary*

**Session 8D: Sensory and Information Fusion**

**Session Chair: Althea Liang**

**008 Sensing Super-position: Human Sensing Beyond the Visual Spectrum**

David A. Maluf, Peter Tran  
*NASA Ames Research Center*

**039 Contrast Enhancement with Histogram-Adaptive Image Segmentation**

Stuart H. Rubin<sup>1</sup>, Roumen Kountchev<sup>2</sup>, Vladimir Todorov<sup>3</sup>, Roumiana Kountcheva<sup>3</sup>  
(1) *SSC San Diego*  
(2) *Radio Communications Department, Technical University of Bulgaria*  
(3) *T&K Engineering Department, Technical University of Bulgaria*

**235 A Methodology and Design Process for System Generated User Interruption based on Context, Preferences, and Situation Awareness**

Ashish Godbole, Waleed W. Smari  
*Department of Electrical and Computer Engineering, University of Dayton*

**224 A Combination-Based Semantic Similarity Measure Using Multiple Information Sources**

Hisham Al-Mubaid, Hoa A. Nguyen  
*Department of Computer Science. University of Houston*