

18<sup>th</sup> International Conference on  
**Software Engineering  
and  
Data Engineering**  
(SEDE-2009)

**PROGRAM**

June 22 - 24, 2009

Imperial Palace Hotel and Casino  
Las Vegas, Nevada USA

Sponsored by



International Society for  
Computers and Their Applications

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Cary, NC 27511-4216

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# 18<sup>th</sup> International Conference on Software Engineering and Data Engineering (SEDE-2009)

## SPONSOR

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**International Society for Computers and Their Applications (ISCA)**  
**In cooperation with Winona State University, University of  
Houston-Clear Lake and the University of Nevada Reno**

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**Monday, June 22, 2009**

**All meeting rooms are located on the 4<sup>th</sup> Floor.**

**7:45 a.m. - 4:30 p.m. REGISTRATION – Coffee, Tea, Pastries (FUJI Foyer)**

**8:45 a.m. - 9:00 a.m. WELCOME (FUJI Room)**

**Dr. Narayan Debnath, Winona State University, USA**

**Dr. Sergiu Dascalu, University of Nevada, Reno, USA**

**9:00 a.m. – 10:00 a.m. INVITED SPEAKER – Data Engineering**

**“Reflectance Imaging: A Simple Approach to Seeing Surface Detail”**

**Dr. Tom Malzbender  
Senior Research Scientist  
Media and Mobile Systems Lab  
Hewlett-Packard Laboratories**

**Location: FUJI Room, 4<sup>th</sup> Floor**

**10:00 a.m. – 10:30 a.m. COFFEE BREAK**

**SESSION 1A:**

**DATA ENGINEERING APPLICATIONS**

Monday, June 22, 10:30 a.m. – 12:45 p.m., FUJI Room

Session Chair: Dr. Donna Hudson, University of California, San Francisco

- 1. Deletion Techniques for the ND-tree in Non-ordered Discrete Data Spaces**  
Hyun J. Seok, Qiang Zhu (The University of Michigan, USA), Gang Qian (University of Central Oklahoma, USA), Sakti Pramanik (Michigan State University, USA) and Wen-Chi Hou (Southern Illinois University, USA)
- 2. Using Shape Patterns for Clustering Unstructured Text Documents**  
Durga Toshniwal and Rishiraj Saha Roy (Indian Institute of Technology Rourkee, India)
- 3. Natural-Inspired Data Clustering: A Hybridization between Ant Clustering and Particle Swarm Optimization**  
Mohammed El-Telbany (Taif University, Saudi Arabia), Samah Rafat (Ain Shams University, Egypt) and Sultan H. Aljahdali (Taif University, Saudi Arabia)
- 4. Gene Function Prediction**  
Amal S. Perera (University of Moratuwa, Sri Lanka) and William Perrizo (North Dakota State University, USA)
- 5. The Electronic Medical Record: A Temporal Multimedia Database**  
Donna L. Hudson and Maurice E. Cohen (University of California, San Francisco, USA)

**SESSION 1B:****SIMULATION, INTERFACING AND AGENT-BASED SYSTEMS**

Monday, June 22, 10:30 a.m. – 12:45 p.m., SAMPAN Room  
Session Chair: Dr. Wahab Abdul, Nanyang Technological University

1. **Military Route Planning in Battle Field Simulations for a Multi-Agent System**  
Sharad Sharma (Bowie State University, USA)
2. **BCI++: A New Framework for Brain Computer Interface Application**  
Paolo Perego, Luca Maggi, Sergio Parini and Giuseppe Andreoni (Politecnico di Milano, Italy)
3. **Denotational Semantics for Social Communication among Agents**  
Alejandro Garcés, Ricardo Quirós, Miguel Chover, Hebert Pérez-Rosés (Jaume I University, Spain), Ianisse Quinzán and Pilar Espinosa (Universidad de Oriente, Cuba)
4. **Using Mapping Relations for XML Schema Mediation**  
Marwan Sabbouh, Daniel J. Hebert, Caleb Wan, Scott R. Bennett and Dan Potter (The MITRE Corporation, USA)
5. **Processing Schema-Optimized XPath Filters by Deterministic Automata**  
Panu Silvasti (Helsinki University of Technology, Finland), Seppo Sippu (University of Helsinki, Finland) and Eljas Soisalon-Soininen (Helsinki University of Technology, Finland)

**12:45 p.m. – 2:30 p.m. LUNCH BREAK** (on your own)

**SESSION 2A:****SPECIAL SESSION: SOFTWARE ENGINEERING APPLICATIONS AND TOOLS**

Monday, June 22, 2:30 p.m. – 4:15 p.m., FUJI Room  
Session Chair: Dr. Frederick C. Harris, Jr., University of Nevada, Reno

1. **An Application for Tree Detection Using Satellite Imagery and Vegetation Data**  
David T. Brown, Roger V. Hoang, Matthew R. Sgambati and Frederick C. Harris, Jr. (University of Nevada, Reno, USA and Desert Research Institute, USA)
2. **Software Development Aspects of a Mobile Food Ordering System**  
Hrishikesh Kulkarni, Sergiu M. Dascalu and Frederick C. Harris, Jr. (University of Nevada, Reno, USA)
3. **Student's Aid: A Touchscreen Device**  
Ben Seelbinder and Sergiu M. Dascalu (University of Nevada, Reno, USA)
4. **WiELD-CAVE: Wireless Ergonomic Lightweight Device for use in the CAVE**  
Kelvin Parian, Joshua Hegie, Andrew Kimmel, Sergiu M. Dascalu and Frederick C. Harris, Jr. (University of Nevada, Reno, USA)

**SESSION 2B:****SOFTWARE ARCHITECTURE AND SOFTWARE QUALITY**

Monday, June 22, 2:30 p.m. – 4:15 p.m., SAMPAN Room  
Session Chair: Dr. Sharad Sharma, Bowie State University, USA

1. **Towards a Change Propagation Process in Software Architecture**  
Mohamed Oussama Hassan, Laurent Deruelle and Henri Basson (Université du Lille Nord de France, France)
2. **A Hybrid Heuristic Approach To Optimize Rule-Based Software Quality Estimation Models**  
Danielle Azar, Haidar M Harmanani and Rita Korkmaz (Lebanese American University, Lebanon)
3. **Rearchitecting Meta-modeling Foundation: A Formal Approach**  
Pooyan Jamshidi, Fereidoon Shams, Sedigheh Khoshnevis, R. Teimourzadegan and A. Nikravesh (Shahid Peheshti University, Iran)
4. **A Metaheuristic to Solve a Traveling Salesman Problem**  
Wu-Hsien Shen and Chwen-Tzeng Su (National Yulin University of Science, Taiwan)

**8:00 a.m. – 5:30 p.m. REGISTRATION – Coffee, Tea, Pastries**

**9:00 a.m. – 10:00 a.m. INVITED SPEAKER – Software Engineering**

**“Refinement and Optimization of Data-Flow Architectures”**

**Dr. Don Batory**

**Professor, Department of Computer Science  
University of Texas at Austin, USA**

**Location: FUJI Room, 4<sup>th</sup> Floor**

**10:00 a.m. – 10:30 a.m. COFFEE BREAK**

**SESSION 3A:**

**MODELING, UML, AND GRAPHS**

Tuesday, June 23, 10:30 a.m. – 12:15 p.m., FUJI Room

Session Chair: Dr. Antoine Rollet, Université de Bordeaux, France

- 1. Modeling and Verification of Dynamic Behavior in UML Models: A Graph Transformation Approach**  
Elhillali Kerkouche (University of Oum, Algeria), Allaoua Chaoui (University of Constantine, Algeria), and El Bay Bourennane, Ouassila Labbani (University of Bourgogne, France)
- 2. Supporting Tool Reuse with Model Transformation**  
Zekai Demirezen, Yu Sun, Jeff Gray (University of Alabama at Birmingham, USA) and Frédéric Jouault (INRIA and EMN, France)
- 3. Composite Service MetaModel**  
Anthony A Hock-koon and Mourad Oussalah (University of Nantes, France)
- 4. Test Suites Effectiveness from Sequence Diagrams and Function Call Trees**  
Pranshu Gupta and David A Gustafson (Kansas State University, USA)

**SESSION 3B:**

**DATA MINING AND DATABASES**

Tuesday, June 23, 10:30 a.m. – 12:15 p.m., SAMPAN Room

Session Chair: Dr. Amal Perera, North Dakota State University

- 1. Data Warehouse Development Using MDA and 2TUP**  
Moez Essaidi (Intelligence Power and Université Paris 13, France) and Aomar Osmani (Université Paris 13, France)
- 2. SQL-Guard Design Pattern**  
Ahmed A. Bahjat, Hamoud Al-Jamaan and Mohammad Al-Shayeb (King Fahd University of Petroleum and Minerals, Saudi Arabia)
- 3. Experimental Study on Item-based P-Tree Collaborative Filtering Algorithm for Netflix Prize**  
Tingda Lu, William Perrizo, Yan Wang, Gregory Wettstein and Amal Shehan Perera (North Dakota State University, USA)
- 4. An Improved Wave Planning Technique For Material-To-Man Order Picking Operation**  
Kemal Taljanovic (Archway Marketing Services, USA) and Adnan Salihbegovic (University of Sarajevo, Bosnia)

**12:30 p.m. – 2:00 p.m. CONFERENCE LUNCHEON  
and Awards Ceremony**

**LOCATION: PEARL ROOM, 4<sup>TH</sup> Floor**

**SESSION 4A:**

**SPECIAL SESSION ON APPLICATIONS IN SOFTWARE  
ENGINEERING AND DATA ENGINEERING - I**

Tuesday, June 23, 2:15 p.m. – 3:45 p.m., FUJI Room  
Session Chair: Dr. Narayan Debnath, Winona State University, USA

- 1. Robustness Testing on Composed Timed Systems**  
Hacène Fouchal (Universite des Antilles et de Guyane, France), Antoine Rollet (Universite de Bordeaux, France) and Abbas Tarhini (Lebanese American University, Lebanon)
- 2. Speech Emotion Profiling for Inter and Intra-Cultural Assessment**  
Norhaslinda Kamaruddin and Abdul Wahab (Nanyang Technological University, Singapore)
- 3. A Strategy to Derive RSL Specification from Feature Models**  
Narayan Debnath (Winona State University, USA), Laura Felice, Maria Carmen Leonardi and Maria Virginia Mauco (Universidad Nacional del Centro, Argentina), and German A. Montejano, Daniel E. Riesco (Universidad Nacional de San Luis, Argentina).
- 4. Management Automation Specified by SPEM Work Breakdown Element using Workflow Technology**  
Daniel E. Riesco, German A. Montejano (Universidad Nacional de San Luis, Argentina), Narayan Debnath (Winona State University, USA) and Manuel Perez Cota (Universidad de Vigo, Spain)

**SESSION 4B:**

**SOFTWARE SECURITY AND PROGRAMMING TECHNIQUES**

Tuesday, June 23, 2:15 p.m. – 3:45 p.m., SAMPAN Room  
Session Chair: Dr. Brahma Dathan, Metropolitan State University, USA

- 1. Security Requirements Engineering: The Mobile Phones Context**  
Daniel D. Hein and Hossein Saiedian (University of Kansas, USA)
- 2. Checking for Liskov Substitution Principle Compliance in Java Programs**  
Brahma Dathan (Metropolitan State University, USA)
- 3. Towards a Framework for Automated Random Testing of Aspect-Oriented Programs**  
Reza Meimandi Parizi, Abdul Azim Abdul Ghani, Rusli Abdulla and Rodziah Binti Atan (University Putra Malaysia, Malaysia)
- 4. A Survey on Model Driven Software Development**  
Cobra Rahmani, Mansour Zand, Harvey Siy and Satish M. Srinivasan (University of Nebraska at Omaha, USA)

**3:45 p.m. – 4:00 p.m. COFFEE BREAK**

**SESSION 5A:**

**SPECIAL SESSION ON APPLICATIONS IN SOFTWARE  
ENGINEERING AND DATA ENGINEERING - II**

Tuesday, June 23, 4:00 p.m. – 5:30 p.m., FUJI Room

Session Chair: Dr. Narayan Debnath, Winona State University, USA

1. **Adoption of Technology Acceptance Model (TAM) to Electronic Commerce: A Statistical Meta-Analysis Approach**  
Ghassan Filimban (George Mason University, USA) and Sultan Aljahdali (Taif University, Saudi Arabia)
2. **Combination of a MANET Data Communication Protocol with a Service Discovery Protocol for Mobile Ad Hoc Networks in a Framework**  
Narayan Debnath (Winona State University, USA), Afsaneh Rahbar and Mehran Mohsenzadeh (Islamic Azad University, Iran)
3. **EEG Signals for Emotion Recognition**  
Abdul Wahab, Norhaslinda Kamaruddin and Lavan Palaniappan (Nanyang Technological University, Singapore)
4. **New Techniques and Algorithms for Text Steganography through Hindi Text**  
S. Changder (National Institute of Technology-Durgapur, India) and N. C. Debnath (Winona State University, USA)

**SESSION 5B:**

**DISTRIBUTED AND REAL-TIME SYSTEMS**

Tuesday, June 23, 4:00 p.m. – 5:30 p.m., SAMPAN Room

Session Chair: Dr. Boris S. Verkhovsky, New Jersey Institute of Technology, USA

1. **Optimizing Network Deployment of Formally-Specified Distributed Systems**  
Carleton Coffrin (Brown University, USA), Laurent D. Michel, Alexander A. Shvartsman, Elaine L. Sonderegger (University of Connecticut, USA), and Pascal Van Hentenryck (Brown University, USA)
2. **(m,k)-frame: A Method to Control the Quality of Service in Distributed Multimedia Systems**  
Bechir Alaya, Claude Duvallet and Bruno Sadeg (LITIS, UFR des Sciences et Techniques, France)
3. **Internal Corporative Security: Protocols Preventing Leakage of Sensitive Information and Assuring Authorized Network Traffic in the Domain of Gaussian Integers**  
Boris S. Verkhovsky and Roberto D. Rubino (New Jersey Institute of Technology, USA)
4. **Specifying Requirements for Real-Time Systems**  
Satish Srinivasan, Scott Lancaster, Mansour Zand and Cobra Rahmani (University of Nebraska at Omaha, UDSA)

**Wednesday, JUNE 24, 2009**

9:00 a.m. – 12:00 noon    **REGISTRATION – Coffee, Tea, Pastries**

**SESSION 6A:**

**MACHINE LEARNING**

Wednesday, June 24, 9:30 a.m. – 12:00 noon, FUJI Room  
Session Chair: Dr. James McCaffrey, Microsoft MSDN / Volt VTE, USA

1.    **Evolutionary Nearest Neighbour Classification Framework**  
Amal S. Perera, D. G. Niroshinie Dayaratne (University of Moratuwa, Sri Lanka) and William Perrizo (North Dakota State University, USA)
2.    **The Universality of Nearest Neighbor Sets in Classification and Prediction**  
William Perrizo, Gregory Wettstein, Amal Shehan Perera and Tingda Lu (North Dakota State University, USA)
3.    **An Empirical Study of the Effectiveness of Partial Antirandom Testing**  
James D McCaffrey (Microsoft MSDN / Volt VTE, USA)
4.    **A Machine Learning Approach for Watermarking in Dithered Halftone Images**  
Ching-Tang Hsieh, Yeh-Kuang Wu, Kuo-Ming Hung and Chih-Yu Chang (Tamkang University, Taiwan)

**SESSION 6B:**

**FACE RECOGNITION**

Wednesday, June 24, 9:30 a.m. – 12:00 noon, SAMPAN Room  
Session Chair: Dr. Ching-Tang Hsieh, Tamkang University, Taiwan

1.    **A Lip Segmentation Using New Threshold Method Towards An Automatic Speech Recognition System**  
Ching-Tang Hsieh, Chih-Yu Chang (Tamkang University, Taiwan) and Min-Nan Hsiao (De Lin Institute of Technology, Taiwan)
3.    **Facial Image Aging Synthesis Based on the Log-Gabor Wavelet**  
Ching-Tang Hsieh, Yu-Cheng Lee (Tamkang University, Taiwan) and Min-Nan Hsiao (De Lin Institute of Technology, Taiwan)
3.    **Face Recognition Based Presentation Checking System**  
Ching-Tang Hsieh, Chang-Chu Chen (Tamkang University, Taiwan) and Min-Nan Hsiao (De Lin Institute of Technology, Taiwan)
4.    **PSO accelerated 3D face angle searching system for face recognition**  
Ching-Tang Hsieh, Meng-Shian Shih (Tamkang University, Taiwan) and Min-Nan Hsiao (De Lin Institute of Technology, Taiwan)